Twin Towers and Amoy Gardens: mobilities, risks and choices

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Twin Towers and Amoy Gardens[1]: mobilities, risks and choices

Stephen Little, Open University Business School, U.K.

Introduction:

This chapter looks at two events that, by replacing predictability with uncertainty, increased the perceived risk of travel and changed collective understandings of the relationship between place, transport and accessibility. The events demonstrated the vulnerability of core urban systems to threats previously regarded as problems of the periphery.

Just as the Japanese attack on Pearl Harbor represented a pivotal point in U.S. foreign relations and ultimately the emergence of a Pacific Century, so the attack on the World Trade Center towers already represents a pivotal point in the relationship of the United States to the international community. 9/11 shifted the paradigm of hijacking which had become almost institutionalised in North America. The expectation, established in the nineteen sixties and seventies, that political hijackers would seize aircraft in order to make specific demands had been overturned by the time the fourth aircraft hijacked on 9/11 crashed during an attempt by passengers to regain control. The attacks triggered an immediate shut-down of U.S. aviation which had consequences for both U.S. inter-urban travel and for the global civil aviation system.

The disruption of international travel and trade caused by the SARS outbreak in 2003 was equally damaging for the global economy and impacted equally on transport and communications across East Asia. The rapid diffusion of SARS across and beyond

East Asia led to a significant impact on investor confidence, tourism and business travel and was equally disruptive in economic terms. As with the disruption of commerce and trade in New York, companies operating in Hong Kong suspended operations and the Hong Kong and Shanghai Bank (HSBC) implemented a disaster recovery operation with a backup trading floor at an alternate location.

This chapter examines the implications of these traumatic events for the key issues for transport policy and individual decision making. The continuing "war on terror" holds significant implications for longer distance travel and international mobility, however, heightened perception of the risk of terrorism and disease produced responses of relevance to both long distance and local transport.

The proposition that the price of mobility is eternal surveillance is examined through a consideration of risk perception, the mechanisms of recovery and response and their consequences.

Reframing Mobility

The consequences of 9/11continue with varying levels of alert and conflicting demands for security innovations ranging from armed sky marshals on flights to the deployment of new biometric technologies for the identification of passengers.

While these initiatives may or may not be counterproductive, an association between global terrorism and hyper-mobility was forged by the destruction of the twin towers of the New York World Trade Center. Terrorists commandeered the civil transport infrastructure as a counter to the remote application of American power through

cruise missile strikes on Afghanistan and Sudan. This subversion of a dominant technology by the marginalised had been foreshadowed by Johnston (2000) in his discussion of "blowback" from clandestine foreign policy interventions and by Lindqvist (2001) in his analysis of the development and application of military aviation in the twentieth century.

The 9/11 attacks created a new understanding of the nature of co-presence and the dual use of technology. In the context of the unreflective application of technical superiority, particularly air-power, these acts represent a violent repositioning of concepts usually associated with the issues of the global divide and the information divide and the notion of appropriate and appropriated technologies (c.f. Little, Holmes and Grieco, 2001). Terrorists unexpectedly appropriated technologies of air transport to bridge the global divide and appropriated the global media to broadcast a gruesome message with the world's undivided attention.

Innovations in information and communication technologies facilitated the current mode of globalisation. Over shorter distances transportation and communication technologies were critical determinants of the western form of urban development and its variants within the global economy (Banham, 1960; 1971; Mazlish, 1965). The suburban railroad and tramway and the telephone and elevator allowed a combination of high-density business districts and lower density residential settlement.

This model of urbanism became the mode of colonial and post-colonial urban development. In Hong Kong, for example, almost uniformly high density development is supported by a world class public transport system, but density also

creates problems for the prevention of disease transmission. The 2003 outbreak of SARS (severe acute respiratory syndrome) was centred on four 35 storey high-rise block of flats in a district comprising nineteen in total. These contained 350 cases of SARS and were subject to quarantine. It was the vertical transportation within the blocks – the elevators –that turned out to be the key to the spread of infection. Local authorities delivered food and other supplies to the building, but the police eventually discovered that half of the occupants had fled. The governments of both China and the Hong Kong Special Administrative Region subsequently implemented quarantine camps for SARS patients.

Before the emergence of SARS a range of transport and communication vectors had already been identified in the spread of infectious disease:

- As an economy measure, airlines reduce the rate of cabin air change in long distance aircraft. This has been cited both as a vector for diseases and a contributing factor in passenger misbehaviour in the form of "air rage" (Andersen, 1999; Sahiar, 1994).
- In addition to long-haul aviation, both long and short distance passenger rail transport in the United States have been identified as the vector for multiply drug resistant forms of tuberculosis originating in Siberia (Boseley, 2004; Reichman and Tanne, 2001).
- Military grade anthrax has been distributed via the U.S., mail, one reason for initial speculation that SARS might be a form of bio-terrorism.

Both new and old, now multiply resistant, communicable diseases will have as profound an impact on risk perception and choices for communication and transport

in this century as terrorism. While some argue that risk is a defining characteristic of the current period (Beck, 1992), in a broader historical context, we are returning to a more normal situation in which risk and mobility are intimately related.

Govers and Go (2004) suggest that the response to the threat of SARS was disproportionate to the actual risk. The post 9/11 down-turn in air travel and the use of substitute forms of communication evident in the United States was driven as much by the potential disruption likely in the event of a second attack as by concern for direct individual danger. However, the rapid distribution of SARS via air transportation and the draconian measures taken to control it at locations remote from its origin – in particular the impact on Toronto and the Canadian economy – ensured a significant response from urban populations in affected regions.

Medical prophylaxis was as essential as the gun-boat to the extension of Western influence at the height of European colonial expansion, particularly in sub-Saharan Africa (Headrick, 1981). Without this protection, mortality rates ranging from fifty to seventy percent in West Africa confined Western presence to coastal trading settlements. Conversely western diseases to which indigenous populations had no resistance were critical in the undermining of existing cultures and patterns of trade and settlement in advance of direct contact with Western intruders (Reynolds, 1981).

Currently the mobility of international labour as a component of the low wage service sectors of major urban centres bring fears of both disease and violence from the periphery to the core. For Western travellers, both the over-crowded short distance metro and the fully-booked long distance flight now holds risk not associated with

mobility for many years. These shifts in understanding of exposure to risk and disease can be examined usefully in terms first formulated by Perrow (1984).

Mobility, Risk and Complexity

Perrow introduces the concept of dread and attempts to improve upon cost-benefit analysis and its underlying economic rationality by considering cognitive and social rationalities too.

Perrow is concerned to account for the difference in risk perception between the professionals responsible for the formal accounting of the risk inherent in large scale high technology projects and that of the general population exposed to that risk. He argues that people place some importance on the detail or manner of a fatality or accident, and do not confine their evaluation to the measurable outcomes of absolute rationality, that is the simple statistical probability of outcomes. He argues that these differences in formal and informal evaluation reflect a lay understanding of "disaster potential".

Perrow draws on work reported by Pfund (1984) comparing the risk perceptions of expert risk assessors and a non-expert group. This shows that though a particular risk such as nuclear power might present few or no casualties in a given year, when non-expert test subjects were asked to think about a "bad year", the respondents revealed an understanding of the scale of possible casualties in situations prone to systems accidents.

The test subjects were also able to rate the different activities in terms of criteria of voluntary participation, scientific understanding, familiarity, lethality etc very closely to the experts. However, the experts seemed not to regard characteristics such as "involuntary, delayed, unknown, uncontrollable, unfamiliar, catastrophic, dreaded and fatal" (the rating of nuclear power) as relevant to the issue of riskiness of the activity while for lay observers these were significant considerations.

Perrow presents the results of a larger follow up study of 90 hazards and 18 risk characteristics. Using factor analysis, three principal factors were identified: the most important was a "dread factor" which was discovered to be associated with:

- lack of control over activity

- fatal consequences of some sort of mishap

- high catastrophic potential

- reactions of dread

- inequitable distribution of risks and benefits
  (including the transfer of risks to future generations)
- the belief that risk is increasing and not easily reducible.

The second factor was labelled "unknown risk" by the researchers and involved risks that are:

- unknown

- unobservable

- new

- delayed in their manifestation.

Examples given in 1984 were DNA research food irradiation and nuclear power. Clearly a current listing would include Deep Vein Thrombosis and SARS, plus potential bio-terrorism

The third cluster consisted of risks characterised by "societal and personal exposure" such as motor vehicle accidents, smoking and pesticides, in which there is some degree of control over exposure.

Perrow points out that all these criteria are characteristics of the complex and tightly coupled systems which are the focus of his book. Perrow identifies two dimensions: complexity and coupling. Linear systems are easier to manage than those that are complex and have unanticipated relationships between components. Loose coupling allows slack to deal with problems, tightly coupled systems immediately propagate the consequences of a mishap, and may turn it into a catastrophe. For Perrow systems which combine tight coupling with complex interactions are problematic. Features of the coupling and complexity described by Perrow are present in the urban regions of developed countries, for example, in the interaction between structural adjustment and the decline in public health standards in the developing countries which are delivering labour for the urban infrastructure.

The narrow economic structural adjustment imposed by Western agencies on developing economies has reversed colonial and post-colonial public health gains (Bello, 1999). Migration patterns have delivered the consequences to the developed

world. Resistant strains of tuberculosis originating in the far eastern provinces of the former Soviet Union where health services, particularly in the prison system, have effectively collapsed had already been identified in New York and New Jersey. Corresponding reductions in the social wage have undermined health care delivery in developed economies so that the incomplete application of antibiotic drugs has increased the risk of established diseases through the creation of multiply drug resistant variants (NIC 2000). TB treatment is now delivered as directly observed therapy (DOT), to overcome the problems created by unsupervised antibiotic treatments.

Other disease risks are emerging with global warming altering the distribution and range of a number of plant, animal and human diseases[2]. Speculation that pandemics may result from the release from polar ice of micro organisms that have not been in the atmosphere for hundreds of thousands of years take these concerns into the realms of Perrow's dread factor.

Bringing it All Back Home: Global Mobilities, Local Risks

At the local level perceived risks from terrorism and from infectious diseases influence decisions about the use of urban mass public transport. At a global level the movement of populations in response to economic and social pressure and the consequent potential for the propagation of both disease and deliberate disruption is expected to continue to increase over the next decade (NIC, 2000, 2001). In assessing the risks to the United States from global migration up to 2015 the National Intelligence Committee identifies terrorist and organised crime groups exploiting co-ethnic migrant flows and weak migration control.

Globalisation as currently understood (Ohmae, 1995; Dicken, 2003) proceeded from the mid- point of the twentieth century on the back of new information and communication technologies. Nineteenth century technologies had delivered regularity and predictability through the key technologies of steamship and electric telegraph (Hirst and Thompson, 1996). Twentieth century technologies produced near instantaneous communication which created new forms of adjacency which offered to replace or supplement physical presence for many purposes.

Large scale population movements and migration are driven by inequities in development. While tele-working has allowed the outsourcing of jobs from developed to developing locations, a counter-flow continues as evidenced by those casualties of 9/11 who were engaged in key low-wage activities within the World Trade Center. This unevenness of development within and between economies threatens the achievement of sustainability as defined by writers such as Welford (1995) who cities the Bruntland report from the World Commission on Environment and Development (Bruntland, 1987).

Unevenness in development is reflected in the interpenetration of the developed centre and the periphery, in terms both of the coordination of dispersed activities through new communication technologies and the physical co-location of high and low value activities. The end of the Cold War allowed rapid acceleration of global economic integration. Disparate national and regional cultures are increasingly interacting within networked and globalised economic systems and organisations. Ohmae (1995) refers to the removal of the "bi-polar discipline" of the Cold War which had obscured

differences within and between members of the Eastern and Western blocs and consigned the remainder of humanity to the disparagingly termed "Third World". Delamaide (1994) explores the synergies flowing from the re-assertion of historical cultural and economic linkages, offering an alternative understanding to Ohmae's "zebra strategies" (Ohmae, 1995). Ohmae argues that governments should which play to the relative strength of the most developed components of national economies in order to create regional synergies. Delamaide suggests that emergent super-region of Europe represents the reactivation of much older pre-existing geopolitical relationships. The last minute restrictions on the free movement of new citizens of the twenty-five member European Union is to some degree an acknowledgement of both dynamics.

From both perspectives, however, differentials in development are entrenched through dependence upon a global infrastructure constructed around the priorities of the dominant developed economies and the resulting inequities undermine the legitimacy of some national states. As a consequence, globalisation and deregulation of economies is producing nomadic communities. These are emerging in response to a complex process of layering of labour markets, both internal and external to the developed economies driving this process. Attali (1991) predicts the emergence of a nomadic international elite, in line with the examples provided by Webber (1964) but movement is not restricted to the elite employees of trans-national corporations. A range of skilled, semi-skilled and unskilled workers, legal and illegal are moving into and between both rural and urban areas of the more developed economies in growing numbers (Castles and Miller, 1993)

Migration patterns and improved physical and electronic communications have produced transcontinental extended families in all types of society, and the anxiety and confusion between categories such as asylum and economic migration point to the tensions produced by the growing scale of physical movement within the globalising system. Remittances from these workers to their relatives and dependants in the home country have become a significant component of global financial flows and they represent a very different form of global workforce from that posited in the mid twentieth century by writers such as Webber (1964).

Workforce availability and cost in developed economies has been moderated by a degree of tolerance of illegal movement which has become institutionalised to a degree. According to Kling, Olin and Poster (1991) areas of Orange County, California, the quintessential Reaganite environment, are no-go areas to the INS (Immigration and Naturalisation Service). As economic migration has become conflated with asylum seeking with terrorism the permeability of U.S. borders has become a key concern

Monitoring Mobility

By the end of the first post Cold War decade it had become clear that a number of institutions were reassessing their roles, just as enforcement institutions shifted their attention from alcohol to other drugs after the repeal of prohibition laws in the United States (Grinspoon, 1994). The U.S. National Security Agency (NSA[3]) became involved in the development of data verification and encryption during the nineteen nineties, to the extent of proposing standards for commercial transactions which would enable them to monitor traffic. Information networks are emerging as the social

milieu of non-place communities. Policy veterans from the Cold War are viewing this non-space arena of global communications as their new fiefdom.

The NSA proposals were vigorously opposed by groups such as Computer Professionals for Social Responsibility (CPSR[4]). However, in the post 9/11 environment calls for the electronic surveillance of either targeted groups, or entire civil populations have gained greater legitimacy. Electronic identity cards which had been promoted in the late nineteen eighties (Clarke, 1989) have again become the solution to the myriad problems of security and control. The need to identify SARS carriers has led to the deployment of infra-red scanning technologies to screen travellers for raised body temperatures. Developments in biometric technologies mean that iris recognition technology is being advanced for both technical reasons - greater accuracy than fingerprints - and cultural reasons - it only requires observation of the eyes, an advantage where individuals adhere to strict religious dress codes.

Significantly the SARS outbreak triggered a co-ordinated global response. Both the Center for Disease Control (CDC) in Atlanta[5] and the World Health Organisation[6] provide on-line information on the progress of SARS. An overview of the threat and progress of SARS can be seen at the Globalchange site[7] which makes a comparison between the responses of front-line health workers to the SARS threat to that of the front-line rescue workers on 9/11.

The US Department of Defense maintains a Global Emerging Infections Surveillance and Response system[8] and APEC (Asia Pacific Economic Cooperation) provides an Emerging Infection network[9] which includes on-line courses. A world SARS map was

established by maptell.com[10] and the measures put in place by various national governments were also published on the world wide web. The space, organization and management of the continuing response to SARS can be monitored from any point (Little and Grieco, in press). As a consequence the reappearance of SARS was met with a prompt and transparent response.

In keeping with the globalised, distributed response, grid computing[11] was being utilised in the analysis of SARS data, as with the SETI at Home distributed screen saver[12] which harnesses the spare capacity of networked PCs in the search for extra-terrestrial intelligence.

Security is also premised on information tracking, control and metagovernance and, the most high profile information tracking and control arrangements are found in the War on Terror. The National Commission on Terrorist Attacks on the United States maintains a web site[13] which presents evidence and findings on-line and both the CIA view[14] and the FBI view[15] are readily available.

However, these are countered by expressions of concern over the widening of definitions of "terrorism"[16]. The emergence of the al Jazeera news network[17] has led to the provision of an English language version of their web site. This provides a contrast to the perspective and the images delivered by Western media. It represents a legitimate and selective use of dominant infrastructures in order to provide a voice for the excluded and demonstrates a reversibility of surveillance relationships.

Recovery, Responses and Consequences

Terror and infection have become new sources of uncertainty in travel and communication and both are intertwined in the prospect of bio-terrorism. These threats are both inherent in travel, but also delivered through the movement of "others". The propagation of terror and disease both reflect global mobilities facilitated by ICTs, the enabling technologies of a globalising economy.

A military definition of security has been perpetuated from the cold war environment in which surveillance is combined with military intervention in order to achieve some form of stability.

As a result of the civil-military communication problems on 9/11 the US civil Air Traffic control systems is now mirrored in real time at the air defence headquarters in Colorado Springs. The imperial origins of transport and communication infrastructures are described by Headrick (1981) and the military origins of the Internet have been well rehearsed, and are the key to its robustness. However, tensions between military and civil paradigms are implicit in the less obvious surveillance aspects of this infrastructure. The potential for a surveillance society through "dataveillance" was identified by Clarke, (1989).

The civil paradigm draws on the fruits of 1980's projects in artificial intelligence and "knowledge extraction" in the form of social network analysis (Carley and Gasser, 1999).

The military paradigm involves high tech weaponry and information warfare, ranging from electronic countermeasures to broadcast propaganda and ultimately cruise missile diplomacy. It remains a top down approach built on the assumption of the

ultimate superiority of high level abstract data. The US is promoting a "network centric defense" system among its allies. This complex and comprehensive military infrastructure depends upon a highly sophisticated and tightly integrated communication, command and control system. This in turn requires expensive specialised equipment constructed to standards dictated by the Pentagon. The United Kingdom is committing a significant proportion of its defence budget to achieve compatibility (Dawes, 2003). This decision is already impacting as "rationalisation" of front line units is proposed while these same units are engage in the deteriorating occupation of Iraq (Norton-Taylor and Watt, 2004).

Regime change in Iraq was a policy which pre-dated the 9/11 attacks, and was integral to the Project for an American Century[18] in which the United States was the only "superpower". However, the post-9/11 "war on terror" was the justification for the invasion of both Afghanistan and Iraq. Nation states, whether regarded as ideologically intransigent, corrupt or failing, are poor approximations of an amorphous and mobile enemy.

Despite the US-led western occupation of both Afghanistan and Iraq, terrorist attacks have continued within Muslim countries. The targets were mobile representatives of Western interests, whether tourists among the Indonesian minority Hindu population in Bali or business travellers around Western banks and consulates in Turkey a key secular Muslim country.

Tourist travellers had already been targeted by a number of similar campaigns: from the separatist Kurdish movement within Turkey, ETA in pursuit of the cause of

Basque separatism in Spain and the IRA seeking economic disruption among the seaside resorts of mainland Britain. In the post-9/11 era, the tourist function of the major urban regions of the developed world is seen as another vector of vulnerability through which risk in the form of terror or disease can penetrate the core.

Surveillance is being promoted as necessary to the management of permissive mobility in the twenty-first century. The United Kingdom has the largest population of electronically tagged offenders in the European Community – in excess of 10,000 - and is seeking the development of national identity cards. smart cards and ID cards.

Transport innovations such as the smart cards pioneered in Hong Kong as Octopus and subsequently introduced in London as Oyster give opportunity for further monitoring in addition to credit card tracking and other forms of monitoring electronic transactions. A GPS locator function has been a requirement for all US cell phones since before 9/11. This allows tracking of the user to within a few metres. This facility can be used to deliver location specific services in high density environments, or for search and rescue in low density environments. It also permits extremely fine-grained real-time surveillance of the movement of selected individuals.

Conclusion: another route to secure mobilities

The collective global tracking of SARS offers a view of more forms of international co-operation than those driven by the war on Terror. New international relationships have emerged as the potential of the key technologies have become recognised. China is joining the European Galileo GPS system which offers an alternative to the U.S.

system and which is central to both mobile commerce and to security (People's Daily, 2003). This is an acknowledgement of the potential of a new form of digital divide in which the most developed surveillance systems – those of the United States and Britain - conduct real-time monitoring of global internet connectivity patterns creating a new definition of information rich and poor.

However, many target populations exist with the more pressing problem of "information asymmetries" formulated by Lamberton (1995). This raises a wider problem than the "digital divide". The former concept encompasses the significant proportion of humanity living in communities more than forty minutes travelling time from even basic telephonic communication: "information justice" is required (Lamberton, 1995), yet through current patterns of migration these populations may have only one or two degrees of separation from the urban heartlands.

The ubiquity of the base technology of the Internet means that access to non-place community does not depend on large investment, nor on esoteric technical skills. Otherwise justifiable criticisms of technological optimism often miss this. ICTs already support the social and economic functioning of diasporic communities which bridge the global divides (Little Holmes & Grieco, 2000; 2001).

The components of a bottom-up and networked response to the issues raised in this chapter are already in place. This new paradigm could provide the feedback loop of systems theory and cybernetics (Beer, 1981) which would facilitate the development

of an inclusive urbanism linking the core and the periphery. This would counter risk

and build security though inclusion and engagement rather than deploying the same

technology in the vain pursuit of security through an exclusion no longer possible in a

globally networked urban form.

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Notes

[1] Amoy Gardens is the 35 storey high-rise block of flats in Hong Kong in which some 230 people were quarantined for 10 days during the 2003 SARS outbreak.

[2] The World Health Organisation suggests that "a temperature rise of only 1-2°C over the next 50 years could extend the range of malarial mosquitoes further north – increasing the proportion of the world's population at risk of malaria and other mosquito-borne diseases such as dengue and lymphatic filariasis" (http://www.who.int/infectious-disease-report/pages/ch9text.html accessed 01 December 2004)

[3] See http://www.nsa.org/ for the Agency's view of 'preparing for the future" (accessed 01 December 2004)

[4] See http://www.cpsr.net/ (accessed 01 December 2004)

[5] See http://www.cdc.gov/ncidod/sars/ (accessed 01 December 2004)

[6] See http://www.who.int/csr/sars/en/ (accessed 01 December 2004)

[7] See http://www.globalchange.com/sars.htm (accessed 01 December 2004)

[8] See http://www.geis.fhp.osd.mil/ (accessed 01 December 2004)

[9] See http://depts.washington.edu/apecein/ (accessed 01 December 2004)

[10] See http://www.maptell.com/maps/webmap/world/worldsars.htm (accessed 01 December 2004)

[11] See http://www.wired.com/news/medtech/0,1286,58678,00.html (accessed 01 December 2004)

[12] See http://setiathome.ssl.berkeley.edu/ (accessed 01 December 2004)

[13] See http://www.9-11commission.gov/archive/index.htm (accessed 01 December 2004)

[14] See http://www.cia.gov/terrorism/ (accessed 01 December 2004)

[15] See http://www.fbi.gov/terrorinfo/terrorism.htm (accessed 01 December 2004)

[16] See http://sf.indymedia.org/news/2002/01/114450.php (accessed 01 December 2004)

[17] See http://english.aljazeera.net/ (accessed 01 December 2004)

[18] See http://www.newamericancentury.org (accessed 01 December 2004)