2
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MAPPING URBAN COMPLEXITY IN AN ASIAN CONTEXT

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Contents

Mapping Urban Complexity in an Asian Context

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This second issue of 'Footprint' sets out to examine some of the techniques being used to map urban complexity in Asia. The nine papers included here explore the urban environments of China and Japan, as well as those of South Asia, namely India, Bangladesh and Sri Lanka. They also examine the cultural phenomena that underpin these cities' identity and urban expression.

But first we may need to ask: why Asia? Deyan Sudjic has pointed out that when the Petronas Towers in Malaysia's capital Kuala Lumpur were finished in February 1996 something interesting had happened to the global balance of cultural power. For the first time since the Gothic cathedral, the world's tallest structure was no longer in the West (Deyan Sudjic, *The Edifice Complex,* 2005). The tallest towers in the world are now being built in cities that few Westerners can even find on a map: Pusan in South Korea, Tianjin and Guangzhou in China. And seven years after the Petronas Towers had been completed they were surpassed – by another Asian building – Taipei 101 in Taiwan is approximately one hundred feet taller.

Asia is one of the fastest-growing regions in the world, and the new paradigm for the shifting geopolitical configurations typical of our times. China's efforts to emulate the Japanese 'economic miracle' has seen it rejoin the global network with a vengeance; the twenty-first century has even begun to be called the 'Chinese Century'. China has the world's fourth largest economy, the result of a growth rate of about ten percent per annum over the last thirty years. As a country it is now second only to the United States and Germany in terms of international trade, having surpassed Japan. In fact, China's economy has accounted for approximately twelve percent of all growth in world trade in recent years. With over one fifth of the world's population, China has been called the world's workshop, but not because it is home to the cheapest workforce, rather because it offers reliable and capable workers. Urbanisation has been a major source of the country's staggering growth, and is likely to remain so as an estimated two hundred million people migrate from the countryside to the cities in the first decade of the twenty-first century. And although we suspect it will be some time yet before America's global hegemony will be challenged in any meaningful way, perhaps a more interesting relationship to watch will be that of Asia's two burgeoning superpowers: China and India, as they follow very different paths under their contrasting political systems: China's strict governmental control versus India's democratic *laissez faire*.

Secondly, why mapping? The map as an instrument of power/knowledge, according to Michel Foucault, spans three successive chronological thresholds in the West: Greek measurement; medieval inquiry; and eighteenth-century examination (Michel Foucault, *Power/Knowledge*, 1980). While there is a clear historical succession in these three techniques, they did not remain isolated from one another. Foucault was of course interested in exploring the distinctions between examination

and inquiry as reproducing the distinction between social sciences and the science of nature, but what he was in fact really interested in was seeing how inquiry came to serve as a matrix for the great eighteenth-century art of surveying, where people (i.e. Europeans) travelled the world in order to gather information about it. These explorers didn't collect raw data: they 'inquired'. And they put whatever it was they saw, and collected, neatly in place. In short, they 'collated' this information into schemas designed to help them better understand the world around them. This exercise enabled them not only to shape their own view of the world, but in fact re-shaped the world according to the view they had formed of it. This was colonialism's greatest strength, and the source of its devastating power. It wasn't just the Gatling gun and the King James Bible that enabled the British to extend their massive empire across a quarter of the globe; it was the power they had to impose their way of seeing the world on other, invariably subject, peoples. As John Darwin says: 'without the military and political leverage that the British enjoyed in India after 1760, British knowledge of Indians would have been much smaller in volume as well as *different in kind*' (John Darwin, *Empire*, 2007 – editors' italics). According to Darwin, Europe's intense curiosity about the rest of the world may well have been because it lay at the edge of it, not at its centre. This small outcrop of the vast Eurasian landmass was no happily placed 'Middle Kingdom'; far from it, it found itself on the periphery, squeezed between hazardous seas, arid tundra and wealthier and more sophisticated (and powerful) neighbours to the south-east.

With the explosive increase in Europeans' sea travel from the fifteenth century onwards, reports brought back by brave mariners quickly found a large audience, and an influential one. The practical and pecuniary interests of merchants and colonisers increased this demand for knowledge of other places. Geographical data was a valuable commodity; in fact, according to David Harvey, King Philip II of Spain thought his maps sufficiently valuable (and subversive) to keep them under lock and key (David Harvey, *The Condition of Postmodernity,* 2000). This was the era of the celebrated 'voyages of discovery' (though in fact the Europeans weren't 'discovering' anything – the sea lanes they were so painstakingly mapping had already been in use for centuries by Arabs traders and, until the early fifteenth century, the Chinese).

Knowledge about the wider world was something that had to be absorbed, and represented. The potential for commercial controversy (e.g. whether a country's government should export gold or silver or not) meant that information on Asian and/or African trade, not to mention the more established colonial part of the world where most of this gold and silver was coming from, New Spain, had a practical importance. But perhaps even more importantly, this new-found knowledge, and the need to be able to represent it, meant that maps and map-making assumed an increasingly important role, leading, as Foucault has noted, to the eighteenth century's systematic collection of geographical knowledge. Captain Cook's voyages of discovery in the 1770s were highpoints of this 'scientific' travel, where the careful observation of human and natural phenomena became hugely prestigious. The cost of cartographic ignorance, military as well as commercial, was dangerously high. Harvey states that the incentive to procure good maps overwhelmed any other reservations, and he quotes Landes as saying: 'In the international contest for access to the riches of the Indies, maps were money, and secret agents of aspiring powers paid gold for good copies of the carefully guarded Portuguese *padrons*'.

Maps became a means to a very practical end because they imparted such accurate information – a merchant's livelihood, even his very life, could depend on them. Gone were the days when they sported quaint pictures of sea creatures or mermaids, gone were the warnings that 'here be

monsters'. Yet even these quaint devices had served a function. Now dismissed as mere decoration, these figures, according to Tim Ingold, were actually the fragments of story-telling: they literally illustrated the hazards of the journey, much like Ulysses' wanderings in Homer's *Iliad* containing information for the safe navigation of the Mediterranean Sea. They were intended as a reminder of the incidents that had taken place on a given journey; in effect they were a trace, sometimes fanciful, but these stories helped seal the memory in the mind of those experiencing the travelling (Tim Ingold, *The Perception of the Environment*, 2005).

It was at the point when maps ceased to feature these pretty artefacts, the by-product of a map's story-telling function, that they came into their own as the purveyors of cold hard fact: data, in other words, and its projection of a spatial reality. What we saw was a differentiation between mapping and map-making. The map-maker may have banished the pretty pictorial fragments from his map because the information they contained was too vague, too fanciful – inaccurate even, a danger to the traveller – and yet is Mercator's famous projection not also just that, a projection? See how it, too, distorts reality, making the Congo seem as big (or as small) as Belgium. Is the Mercator Projection any more accurate than the 'here be monsters' warning? And would not the head-hunting cannibals of the Carib tribe, or the Dyaks of Borneo with their head-shrinking horrors, have seemed monstrous to any God-fearing European? And been marked as such on a map?

The map, in short, became divorced from the bodily experience of movement. Yet what we are seeing again now is an increased interest in these different sorts of mappings. James Corner's 'The Agency of Mapping: Speculation, Critique and Invention' directs our attention to the failure of bureaucratic regimes in cities to embrace the full complexity and fluidity of urbanism. While there is no shortage of theories of mapping, the problem is how to 'translate' these theories into meaningful practices and new operational techniques. Corner stresses mapping as a creative process; it unfolds potential, it re-makes territory, it uncovers realities previously unseen or even imagined. And, in spite of what could be considered an over-exposure of the international media and a growing interest of intellectual and academic circles in the reality of Asian urbanities in recent times, there remain many under-exposed – and even covert – phenomena within these regions that, invariably, point towards the utterly complex and imbricate nature of their urban environs.

All of the papers in this issue deal with mapping urban complexity in Asia, and given that the Beijing Summer Olympics are almost upon us it is only appropriate that most of them actually deal with China. The first is Xing Ruan's 'Ephemeral China/ Handmade China' which quotes Lin Yutang's praise of idleness in the author's ironic overview of China's frenzied economic boom, which he claims is ephemeral. Following are two papers about Beijing: the first is Robin Visser's 'Diagnosing Beijing', an attempt to map what she calls the ungovernable city; the second, 'Spatial Complexity' by Sheng Qiang, is an analysis of the evolution of Beijing's movement network and the effects it has had, and is still having, on urban function. Staying in China, we move to that other great metropolis, Shanghai, with three papers. The first, by Non Arkaraprasertkul is called 'Politicisation and the Rhetoric of Shanghai Urbanism' and deals with the new Pudong area as well as examining the *lilong* of the older city; 'Performing Mimetic Mapping', by Anastasia Karandinou & Leonidas Koutsoumpos, maps the course of Shanghai's 'other' river, the Suzhou, in a thought-provoking and beautifully rendered project; while Neeraj Bhatia's 'The Rise of the Private' examines Shanghai's transforming housing typologies, particularly the prevalence of the gated community. The final paper on China is 'Caves of Steel', by Jonathan

Solomon, which takes a quote from science-fiction master Isaac Azimov as its point of departure in its investigation of the development of Hong Kong, particularly Victoria Harbour. We then move further east, to Tokyo, with Raymond Lucas's 'Getting Lost in Tokyo', a short paper which examines the act of inscription through architectural drawing and movement notation as a part of fieldwork in the study of urban phenomenology. And finally, we move south to India with Kelly Shannon's 'The Agency of Mapping in South Asia', which examines cities and landscapes in India, Bangladesh and Sri Lanka.

All of these papers draw our attention to the staggering pace of change to be seen in most of Asia's urban environments. Many of them attempt to map these processes, some of them in the sort of new and creative ways outlined by Corner. Not all of these efforts translate into coherent wholes, but we as editors can only applaud these authors' efforts as part of the creative process that is unfolding potential and uncovering the realities that have previously remained unseen. We hope you enjoy them.

Ephemeral China/Handmade China

Xing Ruan

I must warn the reader at the outset that this short essay, though it attempts to gain some understanding of China's rapid urbanisation and its resultant architectural 'flowering' in the past two decades, does not exclusively discuss urban problems. On the surface only the first half of the essay is related to the topic, which I call 'ephemeral China'; the second half, which is given the subtitle 'handmade China', goes beyond the disciplinary bounds, however, to touch upon a Chinese temperament. By coining it *handmade*, both as a literal matter and in its literary manner, I hope I have depicted a different China, one that is not quite visible, and yet enduring. At the risk making an unfashionable prediction, this China will inevitably ensure that the current boundless explosion of urbanisation in the country, or for that matter in other parts of the globe, is but a 'temporary historical detour', for the handmade, as the latter part of this essay suggests, does not happen to be a Chinese cultural specificity.

I cannot avoid a biographic undertone in the preamble since I grew up in China in the second half of the twentieth century. But the risk of using one's personal experience to wrestle with an academic problem is that I may give the reader too high expectations, which I cannot possibly match – that is, an inside knowledge of China. Before I show you a glimpse of China via my personal and biased viewfinder, let me briefly comment on this. I must confess that I possess no inside knowledge. My knowledge of China, I should like to think, is no different from that of my readers, which is not necessarily gained from within. This is a point to which I will return later. When I left China in 1991, at the age of 26, I had never been interested in the country, and was only hungry to know more about the West – the so-called outside world that I never had opportunities to venture into until that point. Soon after I left China, I was immediately under pressure to be Chinese in the post-modern West. Ethnicity and place-identity were buzzwords from highbrow cultural circles to the popular media; I was once again left in despair, for I realised that I knew very little about my own culture. What you will read in the following does not carry the sort of cultural specificity that is often promised by a specialist, not only because it is not inside knowledge, but also that it is not based on the social-science method of relying on socio-economic data (though I do have a few statistics). Rather they are personal observations of events and on literature, and are therefore neither laudatory nor critical, but are narratives as seen by an individual and portrayed with love and irony. I did, after all, spend the first 26 years of my life in China. Much of the story, needless to say, is from within my own professional bounds, that of architecture, which seems to represent a visible China that is no longer interested in the handmade, neither literally nor metaphorically. But, as the story goes, this impression may not reflect the true China. So please bear with me.

Ephemeral China

Firstly, I would like to present the reader with a China that is now all too familiar: a vast country in a fren-

zied state of economic boom and potential social instability, most vividly represented in its architectural and urban developments. I hope I will convince you that this China is ephemeral. A quite different China, perhaps not so visible as its new buildings and cities, is metaphorically 'handmade'. I should also like to extend the meaning of the handmade to the more stable and longer lasting attitudes towards social life, and even mortality. My sources for this second China come partially from literature.

Let me begin with a brief background story regarding my recently published book *New China Architecture*,[1] which may just serve the purpose of presenting this first China. Although I am not a China specialist (in fact I never aspired to be any kind of specialist), the appeal for writing such a book is obvious: I have always felt that there has not been much Western discourse on China's architecture in the twentieth century.

The situation has, along with the construction boom, changed of course since the mid 1990s: mainstream Western architectural journals and galleries have been racing to expose new architecture in China; celebrity Western architects (including some Dutch architects) have been winning major commissions in China. The 2008 Beijing Olympic Games is one example: all the major buildings have been won by international architects. The swimming complex (which is printed on the cover of my book), the so-called Water Cube, for example, has been won and designed by Sydney-based architectural firm PTW, Arup Group's Sydney office in collaboration with China State Construction Engineering Corporation. In fact, most of the recent major public buildings and infrastructure projects in China have been commissioned to architects and engineers of international renown.

There have been two typical responses to such architectural and urban frenzy. One, quite expectedly, is what I call an ecstasy of glorification: after more than half a century of stagnation, China is now able to achieve what the West saw in the twentieth century, but only bigger and better. China hence is where the action is, and the twentieth-century cry of 'Go West' should now be turned into 'Go East in the Twenty-First Century', as the celebrity Dutch architect Rem Koolhaas has repeatedly reminded us.[2] One is surely tantalised to learn more from Koolhaas about what exactly is his venture in China, other than turn a high-rise building – China's Central Television Tower in Beijing – into a Möbius strip, which contributes to a city centre that is increasingly becoming a gigantic sculpture garden, packed with isolated architectural objects in a gymnastics contest.[3]

Two, the response has been tinted with a sense of despair. The sheer quantity and speed of China's development, as evidenced in architecture and urbanization, causes an 'unbearable lightness of being' (to paraphrase Milan Kundera). Hence, the tone of newspaper articles in the West makes us sit up: the dust from the Chinese construction sites will eventually reach our shores… A cartoonist's collage of three mega cities – Beijing, Shanghai and Guangzhou – offers a glimpse [fig. 1]: iconic buildings, most of them newly built in the past decade, plus a few old ones, from each city are juxtaposed together with only an elevated freeway to separate them. The scene is, on the one hand, compellingly real, for each city, and its buildings, are easily recognizable. Yet, on the other hand, it is surreal, as if the buildings in these cities were displayed like animals in a zoo. My sense is that anyone who sees this three-city collage would smile, but one does not quite know how to react to it; what at first may seem to be amusing could quickly turn into a slight sense of melancholy. Not only intellectuals, but also capitalists, would worry at some point about this 'unbearable lightness of being' caused by an architectural-zoo contest that may lead towards a drain on our limited environmental resources, and subsequently to an uncontrollable and monstrous

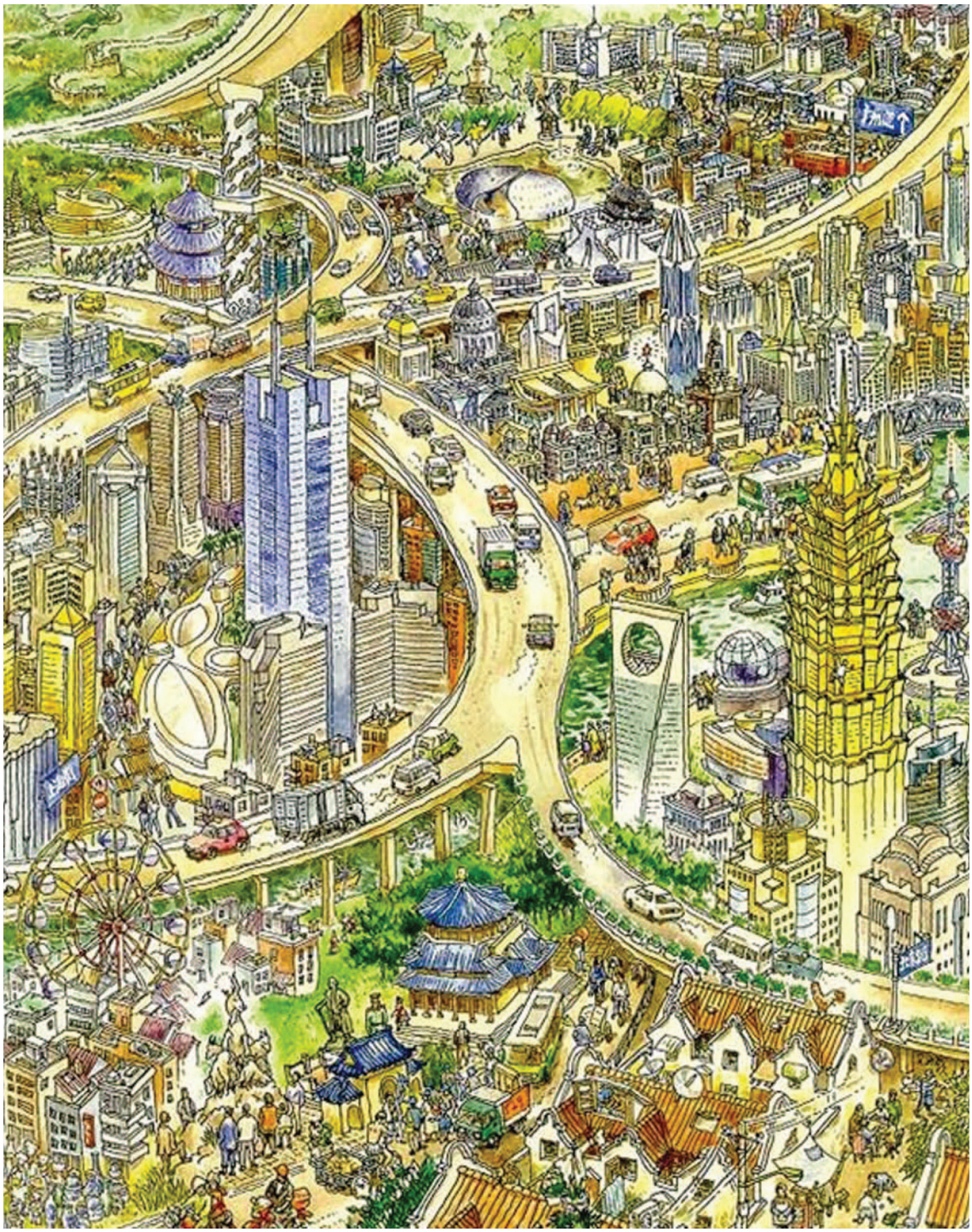

Fig. 1 ‘Beijing, Shanghai, Guangzhou’, by Wang Fangji, from *Time + Architecture* (Shanghai: Tongji University, 2002-03)

explosion.

To compound this speculation, we need only look at a few statistics: Shanghai, a city with a population of 20 million, has more than 2,800 high-rise buildings that are above 18 storeys; there are approximately 2,000 more of these buildings about to be constructed. China's current total expenditure on building construction is about 375 billion U.S. dollars, which count for up to 16% of the country's total GDP. From a global perspective, China now consumes 54.7% of the world's total cement production, 36.1% of the steel and 30.4% of the coal production. As for future statistics, we need only consider the scale of China's urbanization in the next 20 years; there will be 200 million farmers moving from the countryside to the cities.[4]

But what would be even worse for the intellectuals is that this splendid built world may be achieved at the expense of a potential collapse of the moral edifice. What then is the good? In the sense that Iris Murdoch would have put it.[5] We tend to assume that this sort of 'delirious lightness' (more than Kundera's 'unbearable lightness'), caused mainly by the sheer speed and quantity of urban and architectural progress, is unprecedented. But let us pause and look into history: In late-medieval France, collective pride led to foolish competitions for the tallest vaults or spires, disregarding the laws of engineering, hence the collapse of a cathedral vault that had soared 157 feet, 3 inches. 'Pride', says Yi-Fu Tuan, 'is the deadliest sin. In raising religious edifices, the architect-engineers and their patrons demonstrated how easy it was to mask pride under the claim of glorifying God.'[6]

There is, of course, no God to be glorified in twenty-first-century China, rather only capital and national pride. After more than three decades of ideological battles with the West, and a stagnant state-controlled economy, the economic development in the last twenty years means, first and foremost, a long-overdue affluence that is much needed in order to sustain stability for the life of the individual as well as the state, since the astronomical levels of affluence and technological development in the West have become much desired. The scale of economic development can best be measured by China's urbanization and building construction. Does all of this then suggest that China, as solidified in its buildings and cities, is no longer 'handmade' in the sense that memory and a sense of history are redundant (particularly for a country that has a recorded history going back more than 5,000 years, which happens to have been so lovingly recorded in handmade artefacts; buildings and cities included)? Hence there is no such need to resort to handmade objects, ranging from a grandmother's jade bracelet, a fifteenth-century solid-wood chair, a family house of three generations, to Beijing's city wall which dated back to the thirteenth century. Yes it is true that the Chinese, unlike Europeans, have always, and rather unsentimentally, demolished their buildings and cities when a new dynasty was established. The much-accelerated demolition of the country's architectural heritage in the last two decades is nothing new. Here I must share with you this compelling story of the demolition of the gigantic handmade city wall in the middle of twentieth-century Beijing.

In the early 1950s, driven by a self-imposed mission to revitalize China's pre-modern architecture, and indeed mixed with an optimism for the new Communist government, the US-trained Liang Sicheng, China's pre-eminent architectural historian and architect in the twentieth century, along with his UK-trained colleague Chen Zhanxiang, proposed building the new government administration district outside of old Beijing to the west, thereby saving the integrity of the imperial city. The idea was rejected by an impatient government and future-orientated technocrats, both of whom wanted to expand Tiananmen Square into the world's largest, and to build grand-scale monumental buildings within the

Ming and Qing city fabric. As a last resort, Liang Sicheng hoped that the least the new regime could do was to save the magnificent city wall (dated back to 1264 CE when the Yuan dynasty began to build its imperial capital) by turning it into a civic park for the leisure time of the citizens of the new era [fig.2]. Indulging in his hopeless romanticism, Liang Sicheng wanted to give the new republic's capital a splendid 'green necklace' of almost 40 kilometres (actually 39.75), by greening the city wall that had enclosed imperial Beijing with lawns and plants. This would be the world's only city-ring-park in the sky; it was not only to be a civic place, but it would also serve the fine Chinese habit of 'climbing high to inspect the horizon'. I would like to think that generations of future citizens could have been cultivated with an acute sense of civic idealism if the proposal had materialized, for the idea of civic life and place rarely existed throughout the many thousands of years of China's imperial history. Who then would care about its hybrid kitsch look? It would look, if anything, heroically cosmopolitan, and yet handmade.

Legend has it that Chairman Mao Zedong, at the birth of the new republic, stood on the Tiananmen – the Gate of Heavenly Peace, while facing a sea of red flags, he imagined a forest of tall industrial chimneys with black smoke coming out of them on Beijing's horizon. Liang Sicheng was devastated! The government went ahead and tore down the entire city wall to make way for roads and subways – the symbol of industrialization, and indeed modernity. This essay is of course not the place to ventilate any bitterness; I tend to think that Liang Sicheng's fate, dying in solitude and regret, is not merely the result of the brutal regime during his lifetime, but also of the image of modernity which has made the idea, and the essence, trivialized.

Indeed the image of modernity, not the idea, has been taken to a new height as a 'beauty contest' in architecture, which denies the profound meaning of the handmade, that of a stable shell which offers comfort to life's elusiveness, be they the grandmother's jade bracelet or Beijing's ancient city wall. In stark contrast, the China Central Television Tower, designed by Rem Koolhaas as earlier mentioned, as well as the Olympic projects in Beijing, which are all under construction or nearing completion at the time of writing, seem to capture a moment of joyful explosion, like that of fireworks, yet are frozen in a static structure. The irony is that all these new visual spectacles in architecture may appear ephemeral, but they are not! They are static and very expensive structures. Worse still, these buildings, though still largely handmade, are prone to fashion and technological advancement,[7] hence they may look embarrassingly out of vogue before long as they become dated. But how is it possible to represent a state of ecstasy in the man-made artefact, buildings included, against the primordial meaning of the handmade? A mental state of ecstasy never lasts for too long! The true meaning of the handmade, which absorbs labour – 'the honour of labour' as Joseph Conrad lovingly put it in *The Mirror of the Sea*,[8] as well as memory, like that of home, is a static artefact, which harbours our changing emotions, the frailties of human life, and indeed, the growing awareness that comes with time of our own mortality: the handmade offers the necessary enshrinement of life's vulnerability. Let me reiterate yet again my risky prediction: that the seemingly fast-changing China, as represented in its new architecture and city forms, as well as in its frenzied urbanization and booming economy, is but a smoke screen. It is, in other words, ephemeral. The other China is, or has to be, handmade.

Handmade China

In the 1930s, the Chinese author Dr Lin Yutang was astonished to find that the biggest sin in American life was efficiency and the relentless chase for success, hence change: 'How busy the successful American men are!' he sighed. He then wrote a book, entitled *The Importance of Living*, to tell the

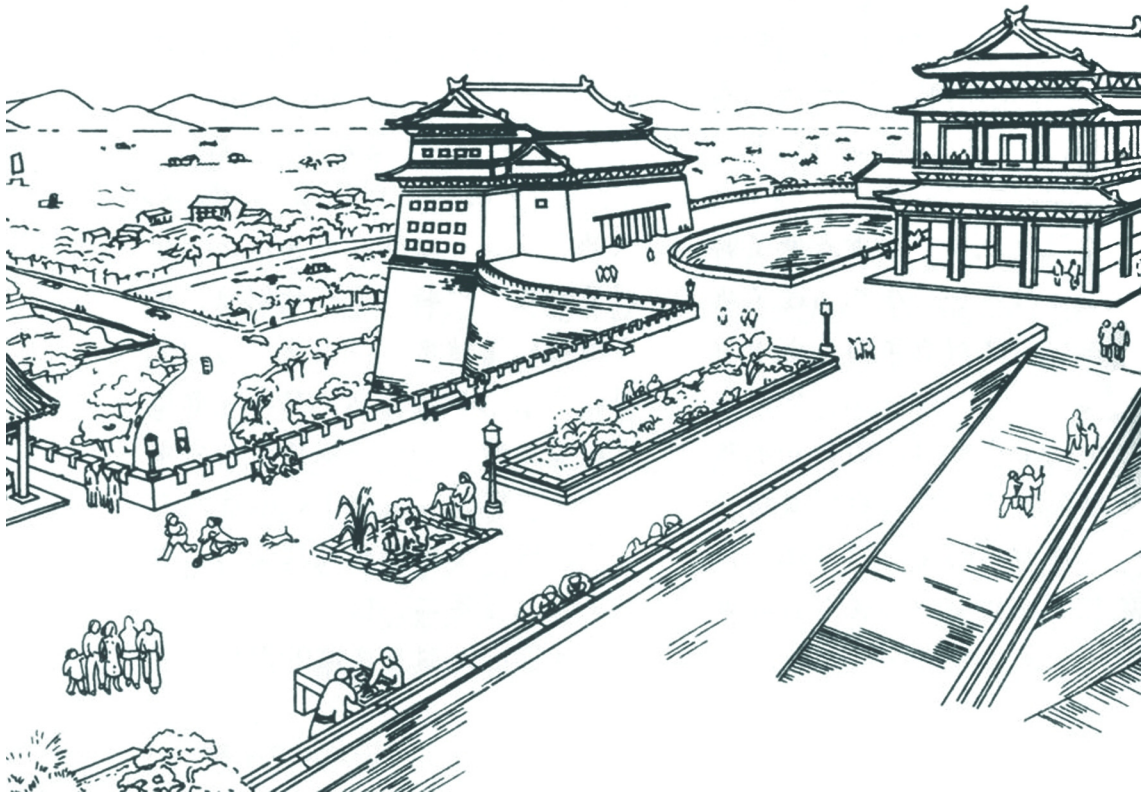

Fig. 2: The city-wall-park proposed by Liang Sicheng, 1951. From Wang Jun, *Chengji* (Beijing: Shenghuo, Dushu, Xingzhi, 2003), p. 110.

Americans that the wiser mentality towards life is to have a perfectly useless afternoon spent in a perfectly useless manner (I should add here: better still, to have a beautifully handmade, but useless, thing to fumble with). In other words, the scamp is the ideal; one ought to become idle, a loafer, so that one can take time, slowly, to savour and marvel at life and its beautiful things.[9] A large part of that life is contributed to by the handmade, which, as alluded to earlier, absorbs not only body sweat, but also stores memory through a stable shell. Consider the lingering voice of your grandfather in a house owned by your family for three generations. The idle mentality, according Lin Yutang, is like blood in the Chinese temperament. It is an artistic temperament that is part realism, part idealism, but a little wayward, a little incalculable, and with good humour. This is the reason why China never produced serious philosophers, but the Chinese are philosophic with free spirit. Such temperament is in stark contrast to the rationalised, disciplined, regimented, uniformed, and patriotic coolies. Again I should like to add that the free spirits ('monkeys' as Lin called them) need the stable handmade objects to calm their elusiveness, whilst the rationalised 'cows' need an ever-changing world of economic forecast and terrorist threat.

One of the American vices, Lin Yutang observed, is that they have to pick up their mail from the post office everyday and answer those letters promptly. 'On the whole,' Lin said, 'if one answers letter promptly, the result is about as good or as bad as if he had never answered them at all. After all, nothing happens, and while one may have missed a few good appointments, one may have also avoided a few unpleasant ones. Most of the letters are not worth answering, if you keep them in your drawer for three months; reading them three months afterwards, one might realize how utterly futile and what a waste of time it would have been to answer them all.'[10] At this point, I can't help saying this to his lingering free spirit in the Heaven: how about emails, Dr Lin?

What then did the Chinese loafers spent time on if they did not answer letters? Lin Yutang translated in his book the thirty-three happy moments described by the seventeenth-century Chinese scamp Chin Shengt'an, who was also the author of the famous play 'Western Chamber'. Some of the happy moments may be a little unbearable for our moderns living in a clinically hygienic world. Chin for example said: 'To keep three or four sports of eczema in a private part of my body and now and then scald or bathe it with hot water behind closed doors. Ah, is this not happiness?'[11] Forgive me for this wayward sally. Let me return to the handmade and happiness. Three of Chin's thirty-three happy moments are worth quoting fully:

To find accidentally a handwritten letter of some old friend in a trunk. Ah, is this not happiness?

When a good piece of old porcelain is broken, you know there is no hope of repairing it. The more you turn it about and look at it, the more you are exasperated. I then hand it to the cook, asking him to use it as any old vessel, and give orders that he shall never let that broken porcelain bowl come within my sight again. Ah, is this not happiness?

A traveller returns home after a long journey, and he sees the old city gate and hears the women and children on both banks of the river talking his own dialect. Ah, is this not happiness?[12]

The mellowness and static nature of the handmade provided, albeit metaphorically, a *home* for the happy-go-lucky and vagabond-spirited Chinese. The meaning of a home, architecturally as well as symbolically, must be handmade to last, to age, and most importantly, to stay the same. Without a home, Gaston Bachelard warned, a man is a dispersed being.[13] The handmade is symbolically a home! 'It is evident anyway that the Chinese as a nation are more philosophic than efficient,' so Lin Yutang argued, 'and that if it were otherwise, no nation

could have survived the high blood pressure of an efficient life for four thousand years. Four thousand years of efficient living would ruin any nation.'[14]

But how ironic is this: in just more than half a century, it is now possible to envisage that some Americans may wish to spend a long and leisurely afternoon lying on the grass under a big tree to have a picnic, and to listen to children's laughter and birds' singing; writing from Sydney surrounded by sparkling waters, I note that many Australians do spend long and leisurely afternoons lolling on its Bondi Beach. When the waves of Chinese tourists come to pay their whistle-stop visit to Bondi, this time they are the ones who sigh: How lazy the Aussies are! While still clad in business suits, they quickly take off their shoes, sink into the warm sands, take a dozen digital shots, and off they go…

By now the reader must have realised that Joseph Conrad, Gaston Bachelard, Iris Murdoch, and Milan Kundera are in their temperament very Chinese, or to be precise, they are the kindred spirits of a Chinese idleness that lasted until very recently. Kundera actually wrote a novel called *Slowness*; Lin Yutang sounds all too familiar as Henry David Thoreau in *Walden*. Perhaps this has nothing to do with any Chinese specificity. Yin Yutang at the outset of his book *The Importance of Living* had this to say: 'But I cannot help feeling that this view of life is essentially true, and since we are alike under the skin, what touches the human heart in one country touches all.'[15] Let me now return to the point that I made at the beginning: whether or not I have inside knowledge about China is beside the point. I know many of us in the West feel a little ambivalent about China's headlong march, but many also want to be part of it (not to miss the boat, so to speak). That is, I suppose, a reasonable justification for this special issue on Asia's urbanisation. Let me indulge myself to be a little didactic and offer this piece of advice: First, arm yourself with absolutely *NO* sense of cultural guilt. Have faith in what is commonly *good*. Don't pretend that some instant 'cultural lessons' would afford you with a 'cultural sensibility' – though it is in my view a complex business of subtlety, but one that may take a lifetime to learn! I know this only too well as a 'migrant worker' living in Sydney. But what I can tell you is that the Chinese, perhaps subconsciously, have always used culture as some sort of camouflage to trap you into something that you do not necessarily believe. If you have something good to offer, take it to the Chinese and preach it with confidence.

Second: be hopeful that the currently frenzied China is ephemeral (if the Chinese do not ruin themselves as a civilization!). Let me share this Chinese philosophical riddle with you: there is a man who dislikes his own shadow; he tries to leave his shadow behind by running away from it. The faster he runs, the closer the shadow seems to chase him. Sage Zhuang Zi (about 300 to 200 BC) has this to say to the busy man: all he needs to do is to take a break under a big tree and his shadow will disappear! The Chinese, I am afraid, are chasing their shadow at the moment. But let us hope, beneath the glittering metallic sheen of their new buildings and cities, that China is still handmade.

Acknoweldgements

This essay is a modified version of a keynote address, with the same title 'Ephemeral China/Handmade China', delivered by the author at the 'Smart Works: design and the handmade international symposium', Powerhouse Museum, Sydney, 30 March 2007.

Notes

1. Xing Ruan, *New China Architecture* (Singapore: Periplus, 2006).
2. This is based on the author's recollection of the Koolhass lecture that preceded the round-table discussion, at which the author was one of the invited discussants - the 10th IIAS Annual Lecture by Rem Koolhaas, Leiden University, Amsterdam, 17 November 2005.
3. Here I refer to Yi-Fu Tuan's observations on new

city centres in China. See Yi-Fu Tuan, 'Time, Space, and Architecture: Some Philosophical Musings', in *Topophilia and Topophobia: Reflections on Twentieth-century Human Habitat,* ed. by Xing Ruan and Paul Hogben (London and New York: Routledge, 2007), pp. 22-30.

4. These statistics were provided by the *China Architecture and Building Press* in 2005.
5. Iris Murdoch, *The Sovereignty of Good* (London and New York: Routledge, 1970).
6. Yi-Fu Tuan, *Morality and Imagination* (Madison and London: The University of Wisconsin Press, 1989), p. 97.
7. Yi-Fu Tuan, 'Time, Space, and Architecture'
8. Joseph Conrad, *A Personal Record and The Mirror of the Sea,* first published in 1912 and 1916, (London: Penguin Books, 1998), p.155.
9. Lin Yutang, *The Importance of Living*, (Oxford: Oxford University Press, first Australian edition, 1946).
10. Ibid. p. 175.
11. Ibid. p. 145.
12. Ibid. pp. 141-48.
13. Gaston Bachelard, *The Poetics of Space*, trans. by Maria Jolas (Boston: Beacon Press, 1969), pp. 6-7.
14. Lin Yutang, *The Importance of Living*, pp. 3-4.
15. Ibid. p.1.

Biography

Xing Ruan is Professor of Architecture, and Chair of the Architecture Discipline Group at the University of New South Wales, Sydney. His recent books include *Allegorical Architecture* (2007), *New China Architecture* (2006), and *Topophilia and Topophobia*: *Reflections on Twentieth-century Human Habitat* (2007, co-edited with Paul Hogben). Xing Ruan has written on a wide range of topics concerning legible relations between humans and the built world; he has also published in some of the world's leading scholarly journals, as well as professional magazines. He is co-editor, with Ronald Knapp, of the book series *Spatial Habitus: Making and Meaning in Asia's Architecture*. Born in China, he received his architectural education from the Southeast University in Nanjing.

Diagnosing Beijing 2020: Mapping the Ungovernable City

Robin Visser

Urban theory regularly formulates and individuates the city as inherently ungovernable. By this I mean that the city is a space comprised of social actors that elude the embrace of government. 'The city is thus both a problem for government and a permanent incitement to government', write Engin Isin, Thomas Osborne and Nikolas Rose in their insightful paper, 'Governing Cities'.[1] For them the notion of the diagram is particularly illuminating as something not merely ideological or ideal, but as something that is functional yet somehow intrinsic to its effects. Examining these effects in urban mapping can guide our diagnosis of the city through attention to 'the particular lines of force each diagram imagines between the virtuous and vicious powers immanent to the city'.[2] Such lines of force cannot be read directly, but must be diagnosed from histories, symptoms and surfaces. More often than not the maps generated by urban planners fail to explicitly identify these competing force-fields; labels instead evoke the prevalent metaphors for governance ideals. From the garden city of the late nineteenth century, to the streets-in-the-sky proposed by modernism to today's new urban villages, each presupposes a particular form of civil disorder: those elements hidden from surveillance must be made transparent; the illegibility inciting confusion and chaos must be ordered; the alienation of individualism and privatisation must be stemmed by invoking earlier social aspirations.

If one traces the genesis of urban theory and its diagrams from conceptions of the Greek *polis*, as do Isin *et al*, 'it might be said that the specificity of the nineteenth-century problematisation of the city occurs at the point at which the city ceases to be *a model for good government* and becomes concretised as a *milieu of government*'.[3] As we turn to Beijing, however, in an attempt to diagnose a city through its imagined future, we should first understand that the two terms have always been co-terminous in Beijing's conceptualisation. For this reason urban theory ideals derived from the knowledge structures of the European Enlightenment and Western modernisms find resonance in China today, particularly in the wake of the resurgence of scientific rationality during the Reform Era (1978-1989). Chinese planning, which John Friedmann has characterised as 'orthogonal' or 'Euclidean', generally presents itself as value neutral and engineering-based, incapable of addressing the 'wicked problems' inherent in market-based development.[4] In recent years a confluence of pressures infusing the Chinese city has led Chinese planners to adopt the postmodern discourse of sustainability, however these strategic aims are largely superimposed upon earlier modernist statist practices.

Not only do modernist epistemologies remain largely unexamined amongst Chinese urban theorists and practitioners to date[5], but 'good governance' is animated by alternate valences. The ideal did not mean, in the Athenian sense, debates conducted within the *agora*, but rather, in the Confucian signification, the paternalistic patterning of empire – spatially embodied in the ordering of

the imperial city – after familial hierarchies. Many of the historic patterns in the spatial administration and design of Chinese cities – uniformity, regularity, hierarchy, cellularity, and ritual symbolism of urban space – continue to support governmental control of society: 'Chinese cities are bound into a regional and national system of governance that extends below the municipal level down to that of the street and household'.[6] Beijing, now characterised by the 'off-ground' architecture distinguishing neo-liberal privatisation, is attempting to mitigate the damaging effects of rampant development on the social fabric, cultural heritage and the environment by practicing sustainable urban planning. Yet we may wonder, as in the more general case of the city diagram, whether these new mappings of Beijing function primarily as strategic rhetorical metaphors that mask unnamed, imminent threats to governance.

Before examining Beijing through its future mappings, it is instructive to consider how urban historians assess the current relationship of the capital to its historic diagrams. In *Beijing: The Nature and Planning of a Chinese Capital City*, Victor F.S. Sit examines its three thousand year history, including eight hundred years as China's capital and cultural and political centre of the Liao, Jin, Yuan, Ming, and Qing dynasties. At its very inception Beijing was laid out according to the rules for a 'ruler city' (*wang cheng*) as prescribed in the *Zhouli Kaogongji*, a planning and construction text based on Confucian principles. Maps of Dadu, the 'Great Capital' of the Yuan dynasty (1279-1368), reveal a close adherence to the *Zhouli* prescription of a 'nine-*li* square, three gates on the sides, divided by a grid of nine paths horizontally and laterally with Imperial Ancestral Temple to the east and Alters of Soil and Grain to the west, an outer court to the south and marketplaces to the north'.[7] In such a plan the ideal of *lizhi* – the use of ritual action to rule a country – established the sanctity of imperial rule, with the north-south axis design representing the authority of the state. In this sense, Beijing contained key elements of what Victor Sit terms 'the ideal Chinese City as reflecting the traditional world view of Confucianism' in its:

1. site (a central location relative to subjects and natural environs)
2. orientation (facing south, the direction of potency)
3. layout (square and orderly, conforming with the orderliness of nature)
4. central location of palace or administration (symbolising centralisation of power and the mandate from Heaven to rule)
5. ceremonial building of the Ancestral Hall and Altar of Grains and Soils (reflecting the lineage of the sovereign to the sage kings)
6. the wall (symbolising the sovereign's reign on earth)
7. location of the market to the north (representing the lesser significance of trade and merchant classes in an agrarian economy).[8]

The traditional Chinese urban form, concludes Sit, was a utilitarian setting in which society functioned while also providing a symbolic function for the state to inform and guide human behaviour. In this sense, he argues, Beijing's traditional role as the national centre of communication and control is mirrored in its recent development as a global city at the centre of finance and corporate decisions, providing communication and financial controls over material production and consumption rather than engaging in productive activities.[9]

Other urban theorists writing in the late twentieth century locate Beijing's historical continuity in the symbolism of Tiananmen Square. In 'Beijing: The Expression of a National Political Ideology', Zhu Zixuan and Reginald Yin-Wang Kwok sanction contemporary Beijing urban planning, particularly in relation to the city centre:

Positioned at the centre of Beijing's traditional north-

south axis and the new east-west axis, Tiananmen Square is the heart of the capital. Surrounded by carefully selected and designed structures, the square has taken on immense political and ideological meaning, symbolizing not only the authority but the historical continuity of the state, with the imperial dynasty replaced by the socialist republic. As Beijing moves toward the twenty-first century, Tiananmen Square is truly at the nation's centre, in both symbolic and utilitarian terms.[10] [fig. 1]

Tsinghua University architectural historian Wu Huanjia goes even further, expansively endorsing Beijing's development by celebrating its historical continuity in creating urban forms that signal regime change. The Qing Dynasty (1644-1911) emperors, on the other hand, come in for criticism for abdicating their stewardship of Beijing as rulers by leaving it largely unchanged.[11] 'According to [Wu Huanjia's] logic', writes Daniel Abramson in his critique of Anne-Marie Broudehoux's *The Making and Selling of Post-Mao Beijing*, 'it is precisely the current destruction and remaking of Beijing that affirms most strongly its permanence as the seat of China's national government'.[12]

In order to affirm its legitimacy, the Communist Party transformed Beijing into a beacon of socialism via symbolism associated, in particular, with the sacred space of Tiananmen Square. Art historian Wu Hung opens *Remaking Beijing: Tiananmen Square and the Creation of a Political Space* by implying that the choices of this regime signalled the city's utter decimation: 'As soon as Beijing was made the capital of the People's Republic of China this ancient city reached a fatal moment in its survival'.[13] Wu Hung's analysis begs the question of what immanence of the city will fail to survive, and invites comparison with the opening line of a book that locates the urban in the intangible. Italo Calvino begins *Invisible Cities* with 'Kublai Khan does not necessarily believe everything Marco Polo says when he describes the cities visited on his expeditions, but … only in Marco Polo's accounts was Kublai Khan able to discern, through the walls and towers destined to crumble, the tracery of a pattern so subtle it could escape the termites' gnawing'. The Khan discerned this timeless pattern even in that 'desperate moment when we discover that this empire, which had seemed to us the sum of all wonders, is an endless, formless ruin, that corruption's gangrene has spread too far to be healed by our sceptre, that the triumph over enemy sovereigns has made us the heirs of their long undoing'.[14] These fictional metaphysical musings between the emperor and his envoy become weighty when considering the present fate of the ancient capital of Beijing, one of the Khan's domains when it was named Dadu and proclaimed capital of the Yuan Dynasty in 1271. Whether something inherent to the city will survive radical alterations to its governing polity and urban fabric remains an open question. The imminent sociability that is the city may govern it after all.

Many know the details and aftermath of the Party's decision not to adopt Liang Sicheng's and Chen Zhanxiang's 1950's plan to locate the administrative centre to the west of the Old City. The story of how Liang wept at the destruction of the ancient city walls in 1952 (eventually replaced by the Second Ringroad) has entered the realm of urban lore. But fifty years later, when journalist and urban historian Wang Jun revisited the debate in his best-selling book *Chengji* (*City Records*, its title also translated as *An Evolutionary History of Beijing City*), Mao Zedong's missed opportunity particularly resonated with Chinese citizens suffering from pollution, congestion, and needless loss of cultural heritage.[15] Wu Hung insists that the consequences of Mao's decision cannot be exaggerated: 'all the subsequent destruction and construction of Beijing were fundamentally determined at this moment …. In short, Beijing's fate was sealed by locating the government in the old city'.[16] The 'concentric circles with one centre' pattern of development has resulted

Fig. 1: The Forbidden City and Tiananmen Square remain the ideological and physical center of the municipality today.

in endless downtown traffic jams in an area comprising twelve per cent of the city but carrying a fourth of the total traffic flow to the four hundred government organs and institutions crowded within it. Meanwhile, the incessant 'ringing' of Beijing continues, with a Sixth Ringroad (20 km from the city centre) completed in 2005 and a Seventh Ringroad extending beyond the city limits in the works.

By the twenty-first century outrage at the opportunistic redevelopment of Beijing and other Chinese cities was ubiquitous.[17] A 2004 report published by China Development Press lambasted China's grossly underdeveloped urban planning theory, skills, law and practice, and went so far as to quote Tianjin writer Feng Jicai's fierce deprecation of officials for destroying the nation's cultural heritage:

Whether superficially pursuing instant modernization, frenetically accumulating political accomplishments, or purely fixated on economic gain, city administrators have wantonly handed over piece after piece of urban real estate to developers. The vast majority of these officials have absolutely no knowledge of the cultural heritage of these cities, and no desire to learn about it. So in a mere decade the unique features, historical ethos, and cultural attractions of many cities have been utterly destroyed. The cultural losses are enormous! How many cities in the world preserve their ancient features as a source of pride? We, on the other hand, show off the appalling 'marvel' of 'changing the map every three months'! It is no exaggeration to state that every single minute a significant portion of our historical cultural heritage is destroyed by an excavator. Yet the distinctiveness of each city is only formed after hundreds and thousands of years of accumulated human creativity.[18]

Civic activism among artists, intellectuals, journalists, and other citizens in Beijing gained an audience, and in May of 2006 the Chinese Minister of Culture, Sun Jiazheng, became the first high-level minister to publicly apologise for the government's destruction of traditional Beijing as part of its relentless push to modernise. He confessed that the government had broken its own rules in allowing redevelopment of the country's cultural heritage, saying 'some cities have unilaterally gone all out to get a new look and have not done enough to protect old buildings … There are things that I should have done and did not do, meetings I should have attended and did not attend'.[19] *Urban China* editor Jiang Jun credits civic activism and consciousness-raising efforts such as *City Records*, for its impact on the attitudes of government officials: 'many officials confessed to Wang Jun that they were highly ashamed of their neglect of preservation'.[20]

The 'model for good government' ideal looms large as municipal officials are subject to intensifying public scrutiny. Deep cultural values around 'face' and the responsibility of upright officials to the people have coalesced into plans to curb further destruction of the 'milieu of government'. The history and symptoms engendering the Beijing 2020 diagrams suggest that the political expediency of 'sustainability' places it into direct conflict with its alleged goals. As the formation of civil society becomes a real possibility in urban China, officials increasingly insist upon maintaining the spatial centrality of the seat of government vis-à-vis its municipal environs, symbolising the centralisation of power and the mandate from Heaven to rule. Sustainable development is further undermined by the general hostility of neo-liberal development strategies to metropolitan and regional level planning place. The 2020 Plans for Beijing Municipality, transparently displayed (in part) in the Beijing Planning Exhibition Hall, speak less to a moral rectification of the planning process than to the immanence of destabilising factors.

Sustainable Beijing 2020

Since the opening of the Beijing Planning Exhibition Hall in 2004, Beijing Municipality has showcased the key features of its 2020 master plan to the general

public, a major policy shift from previous plans which were shrouded in secrecy. [fig. 2] The 2020 master plan prominently adopts the 'sustainable city' ideal which permeates global urban planning and practice. Planning, in general, and the natural/scientific basis of the sustainable urban development ideal, in particular, may be socially legitimised on the basis of expert knowledge and rational explanation, but it makes permanent recourse to abstract metaphors. Peter Brand explains the effectiveness of metaphors in planning: 'in contrast to rational analysis … metaphors are not analytical in the sense of disaggregating problems and uncovering causal relations; rather, they condense meaning and symbolize aspirations'.[21] The steady abstraction of the idea of sustainability since the 1987 Brundtland Commission Report supports the idea that 'sustainability' evokes rather than denotes. Whereas the earliest uses of the term referred to the objective condition of natural resources systems, sustainable urban development became increasingly associated with a social subjectivity concerning the quality of life, interdependency, welfare, inclusion and cohesion. An expanded definition of the term, which synthesises its connotations by 2000, reads 'development that does not require resources beyond its environmental capacity, is equitable, promotes social justice, and is created through inclusive decision-making procedures'.[22] As such, argues Brand, the sustainable city becomes 'a virtual metaphor for reanimating earlier social aspirations' in the new context of postmodern individuality and privatisation, while also 'insistently profiling the future in counterpoint to the mesmerising uncertainties of an ever-changing present'.[23]

In post-revolutionary China, pressure from dystopian sentiments over the rising Gini coefficient and the loss of socialist egalitarianism yielded proposals for a 'New Socialist Countryside' in 2005, equitable labour laws in 2006, and rural health care initiatives legislated during the 17th Party Congress in 2007. In a country where the urban-rural dichotomy remains systematically intact, despite its radical urbanisation from 18% in 1978 to 43% in 2005,[24] the metaphors animating rural and urban development connote differently. Programs such as the 'New Socialist Countryside', which are clearly 'virtual metaphors for earlier social aspirations' under Maoism, mark urgent attempts by the government to sustain the present (i.e., maintain social stability) rather than to 'profile the future'. The metaphors used for urban development, on the other hand, serve to pacify fears among urban elite about contamination, overcrowding and environmental degradation by 'insistently profiling the future in counterpoint'. Diagrams such as the 2020 Plans for Beijing Municipality are rich sources for diagnosing the planning rhetoric of 'sustaining the environment' and 'reclaiming social justice', timely figures for rational governance of the immanent ecological destruction and social chaos wrought by radical and uneven urban development.

Shi Xiaodong, a planner with the Beijing Municipal Institute of City Planning and Design, recently introduced four of these plans to an academic audience in the United States as follows:

Beijing's fast growth during the last two decades has been accompanied by a broad set of issues such as sprawling and congested metropolitan areas, limited space resources, degrading environments, and skyrocketing housing prices. In facing these issues, decision-makers began to realize that pursuing economic growth in a single dimension would not be sustainable. Recent efforts have manifested Beijing's determination in developing the city in a more sustainable way. The most important recent planning efforts carried out by city planners include:

Beijing 2006-2015 'Rail Transit Plan' for Compact City
Beijing 2005-2020 'Underground Space Plan' for Alternative Space

Beijing 2006-2020 'Undevelopable Area Plan' for Ecological Responsibility
Beijing 2006-2010 'Low-income Housing Plan' for Affordability and Livability.[25]

Entitled 'Scientific Growth for Chinese Cities: Experiences from Beijing', Shi Xiaodong's presentation detailed plans to actualise the metaphors of sustainable development by creating a 'compact city' with 'alternative space' which is 'ecologically responsible' and 'livable'. These metaphors, adopted in a literal sense, enliven plans to reduce objectively defined problems of overcrowding, environmental degradation, and social inequity. Each of these plans materialised from dozens of municipality mappings synthesising extensive scientific analysis.

The Beijing 2006-2020 'Restricted Development Area Plan' for Ecological Responsibility, for example, incorporates boundary maps, topographical maps, construction land distribution maps, and vital landmark distribution maps into its analysis. Unique within China, this plan is intended to lead the way for other Chinese cities to preserve green space and water resources, reduce the greenbelt heat island, and stem urban sprawl. The composite map of the 16,410 square kilometre municipality depicts three categories: 'land which cannot be developed' (32.2%, primarily a forest reserve in the northeast); land subject to 'controlled construction' (64.6% providing pipeline protection, greenbelt protection, earthquake risk management, flood regulation, surface water protection, contaminant treatment protection), and land 'suitable for construction' (3.2%, primarily the historic city and the eleven new towns surrounding it concentrically).

The diagram, while rhetorically and visually persuasive, masks three pervasive threats to municipal (and by extension, national) governance in relation to its urbanisation process. The first, as detailed below, are critiques proffered by planning experts on precisely the same grounds that the plan is being promoted: namely, its cost to 'livability', a 'compact city', and 'ecological responsibility'. The second is the charge, largely levied against the government by the populace, particularly by domestic elites, that the plan continues to sacrifice cultural heritage and the natural environment to short-term political gains and profiteering. The third, and perhaps the most vital not only to the stability of the city but of the nation, is the rising social unrest due to farmland being confiscated by the government and the resulting unemployment among the former agricultural population. This plan ostensibly protects agricultural lands from further unjust development, yet it aims to cleanse the first-tier city of its undesirable elements, such as disenfranchised migrant workers, and paves the way for a two-tiered city system to form which, in large part, replaces the urban-rural *hukou*, or 'household registration' system that previously spatially divided the urban and rural populations. The plan thus evokes the historical spectre of China's 'marauding masses', incited to rebellion by cataclysmic natural disasters and disenfranchisement. The 'spectre' of 'peasant rebellions' rampaging the cities manifested prior to the 2008 Chinese New Year when power outages due to historic blizzards stranded 5.8 million migrants at transportation stations, with some erupting in violent clashes with authorities. Premier Wen Jiabao appeared in person at the Guangzhou Railway Station to appease the masses, where one angry online commentator summed up the tensions: 'What caused 600,000 people to be stranded at the train station? It's not the heavy snow for days, nor is it the delayed or cancelled bus service. The problem is our old, two-tiered urban-rural divide'.[26]

The mapping of controlled construction in Beijing Municipality, although presented as scientifically rational, displays subtle differences from assumptions prevailing in many countries, namely, that it is the 'failure of effective governance within cities that explains the poor environmental performance

Fig. 2: The Beijing Planning Exhibition Hall opened in 2004 to showcase key features of the Beijing Municipality 2020 Master Plan to the public. Source: BBC

of so many cities rather than an inherent characteristic of cities in general'.[27] Instead, we encounter a rare case where the 'opposing force fields' of this plan were explicitly identified on one of Shi's slides of the plan, labelled 'a competition between the urban and the ecological environment'. Beijing 2020 conceives of the city, by definition, as an immanent threat to the environment. The anti-urban bias of the Maoist regime is well established, and a legacy of antagonistic understandings of the city, which many officials conceive of as receptacles for capital accumulation and *potemkinism*, lingers in the mind of its planners.[28] Shi's presentation of Beijing 2020 to a U.S. audience emphasised its environmental awareness, explicitly avoiding discussion of the massive redevelopment of the urban core for the 2008 Olympics and the construction of eleven new towns to house some 5.7 million people relocated from the city proper, which aims to limit its population to 18 million. The 2007 ratification of the plan for the eleven new towns, posted on the municipal website, similarly sugar-coats its appeal to a domestic audience, highlighting the symmetry, harmony, and beauty of eleven 'bright pearls' that 'ring' the urban core like a 'jade necklace'.[29] Such euphemisms immediately evoke traditional symbols of good governance and harmonious urban aesthetics, glossing over the radical reconfiguration of China's traditionally sustainable, walking-scale milieus and lifestyles.

Again, when presenting the Beijing 2006-2015 'Rail Transit Plan' for Compact City, Shi focused on increasing reliance on public transportation rather than the fact that these railways connect eleven new towns to the city centre. Most planning experts on Asian megacities such as Beijing recommend against the reinforcement of urban decentralising processes through planned satellite developments. Rather, planned urban extensions along public transport-based axes, such as those in Singapore, are considered more successful in limiting urban sprawl across the whole metropolitan region.[30] As a case in point, in 2005 the Beijing Municipal Commission for Urban Planning (BMCUP), recognising the need to fine-tune its 2020 plan to account for variables such as economic and population growth and market forces, commissioned a team of U.S. experts to provide an assessment of alternative development futures. The scenarios generated by the task force predicted that the greatest environmental and lifestyle benefits would result from high density and contiguous urban development in the existing urban area rather than building new satellite towns at the far fringe, and from developing sub-regional job-housing balance along transportation corridors to encourage efficient commuting, improve employee productivity, and alleviate the current severe traffic congestion.[31]

University of North Carolina task force member Yan Song correctly anticipated, however, that BMCUP would not heed recommendations to restrict Beijing's current 'pancake' development pattern of ring roads. The main reason Beijing continues its concentric development, she says, are that it is politically risky to raise car or fuel taxes or restrict car ownership, as decade-old policies encouraging the growth of road construction and the automobile industry continue to prioritise the car above public transit: 'This is how local officials get promoted to higher ranks; it's not a conspiracy theory; it's reality'.[32] Rather than promoting social and ecological sustainability, the residents of the new towns, some of which already serve as bedroom communities for the lower income populations, will continue their long commutes into the city centre or provide cheap labour for the multinational corporations building manufacturing plants in the neighbouring areas, while car ownership among the elites will rise. Rather than creating a polynucleated urban form, as intended, the commuting distances and lower quality of life in the new towns will likely create two-tiered urban environments, intensifying pressure on the urban core. Further, studies indicate that in many 'megacity' regions the most likely

result of new 'growth poles', planned to relieve the population pressures on the central city, is sprawl on a gigantic scale, resulting from the longer-term mobility patterns between and around the new and existing centres. The planned depopulation of the historic core and the expansion of the outer city to absorb migrants from rural areas and the inner city radically reconfigures social forms of social and spatial organisation that are already sustainable.

Such calculations do not concern most Chinese planners. In the words of Yang Xifeng, Vice Director of Lingang New City Administrative Committee located in Shanghai Municipality 75 km from the city centre, 'if we build it, they will come'.[33] Lingang, one of four hundred new Chinese cities planned to support populations of 500,000-800,000 by 2020, is primarily a capital accumulation fix that serves as an industrial basis to support the currently unemployed rural population. These cities are nonetheless enthusiastically promoted as 'education cities', 'tourism resorts', or 'artist towns' to attract FDI. For all the rhetoric of education, tourism and culture, most urban experts remain sceptical. For example, when a group visited Lingang New City prior to its 'official opening' a Fudan University doctoral student exclaimed in disbelief, 'educated people won't relocate to such a remote area – they'll run right back to Beijing or Shanghai – we don't work as hard as we do only to end up in a cultural backwater!' Yang Xifeng conceded that most residents will be rural workers employed by the local industries, along with resort owners and a smaller number of transient young engineers and managers 'willing to sacrifice a few years to contribute to nation-building'.[34]

The Beijing 2006-2010 'Low-Income Housing Plan' for Affordability and Livability conveniently enables the municipality to apply sustainability rhetoric to its ongoing relocation of residents to the new towns and periphery. A distribution map must qualify the label it applies to 'guaranteed housing' by acknowledging it is 'mixed *to a certain degree* to boost social equity and inclusion', as this housing is located exclusively in the far fringes and new towns. Far from embodying the sustainability ideals of social justice, this plan reinforces the idea of a second-class citizenry that will remain disconnected from the cultural vitality of the urban core. The urban elite will inevitably migrate back into the major cultural centres, creating a multi-tiered socio-economic regional development directly based upon proximity from the core. Given such dynamics, unless draconian restrictions on urban migration are reinstated, the unidirectional 'drift' of the 'floating population' to first-tier cities is likely to continue unabated.

Finally, the Beijing 2005-2020 'Underground Space Plan' for Resource-saving and the Beijing 2006-2015 'Rail Transit Plan' for a Compact City reveal the extent to which the metaphor 'compact city' can be both literally applied and loosely interpreted. Peter Brand is again instructive in his apt characterisation of the inherent appeal of the term:

The compact city is an even more powerful metaphor [than the sustainable city], more resonant and connected to today's consumer culture. It is, after all, a contemporary of the compact disc – it feeds off the latter's connotations of leading edge technology, the latest in lifestyle, and push-button efficiency. The compact city puts itself in tacit opposition to the tawdriness of sprawl (of cities, or cathode tubes, or overweight bodies and ill-focused lives).[35]

The Beijing plans for a compact city diagram the effects of scarcity and inefficiency. Its corresponding schematic diagrams evoke the provocative hyperdensity imagined by the 2005 'Beijing Boom Towers' model proposed by the Dutch concern Dynamic City Foundation. One of the most aggressive underground space plans in the world, it maximises development use rights in the urban core by allotting 430 million square metres in the shallow layer (up to 10 metres underground) and

630 million square meters in the middle layer (10-30 metres underground), largely clustered around traffic hubs and subway transfer stations. In a classic case of interests driving planning, these use rights are primarily granted to the private developers underwriting Beijing's massive public transportation system to serve the new towns. When pressed, Mr. Shi allowed that one-third of the construction costs of the Number 4 Subway Line, for example, is being underwritten by the Hong Kong Metro Corporation, which gains land use and operating rights from the deal. The municipal investment in the underground space plan is further rationalised by a chart correlating rising GDP levels to the ability to fund sustainable development. This space will 'expand the frontiers' of the city through 'saving land resources, facilitating public transportation, providing underground parking, expanding storage space, reducing pollution, saving energy, protecting open space, protecting cultural heritage'. What this rhetoric masks is the plan's compensation for municipal development of space-wasting American-style new urbanism and planning gated communities on agricultural land in the periphery. Such practices result in far less compact urban form than would high density and contiguous development in the existing urban area.

Diagnosing Beijing 2008

Prevailing theories of globalisation portray cities as spaces of cultural homogenisation where place and community are disappearing. Yet cities are characterised not so much by homogeneity as unevenness, in places which anchor concrete social, political, and spatial projects. Because the dynamics governing China's urban transformation are embedded in neo-liberal global processes that extend beyond local interests or systems, but have been induced by the devolution of power to the localities, a series of contradictions have ensued. Since the rise of neo-liberalism in the 1980s, sustainable development worldwide has been undermined by a shift in the focus of spatial planning away from regional equality to the 'city in itself'. In 1983 China initiated a structural change in administration to 'cities leading counties' (*shi dai xian*) intended to launch the economic dismantling of the urban-rural dichotomy. By transferring the subordinate counties of prefectures to the leadership of cities, 'the leading role of the city was explicitly established to usher in an epoch of city-led regional development for the first time in Chinese history'.[36]

Yet contradictions in neo-liberal capitalism have resulted in competition between cities and the second-tier county seats and towns located within the huge municipal regions under their jurisdictions. With intense global competition for export-oriented development, neo-liberal policymakers argue against disturbing the market determination of the relationship between location and economic activity: 'planning should facilitate national economic growth and gains in inter-personal equity rather than being concerned with misguided attempts to achieve convergence of regional incomes and service provision'.[37] Cities, seen as 'engines of growth', were to add value to rural products, yet the new regionalism that emerged as cities and regions prioritised their investments according to global trade blocs such as ASEAN or NAFTA has driven cities and their regions into competition against each other in increasingly liberalised markets. Although the Party continues to present Chinese market reforms as gradualism, or 'socialism with Chinese characteristics', the notion that its current problems are merely transitional side effects on the road to an eventual unproblematic state of development must be largely discounted.[38] It is possible, and some think probable, that the central government will lose control over its decentralised agents who become 'predatory' instead of developmentalist, creating a crisis of legitimacy for the state.[39]

In a persuasive argument against gradualism, Daniel Abramson shows that despite the fact that current planning practices have not been very

cognisant of community and property in their adoption of market-based strategies, these concerns have pushed Chinese planning to evolve dialectically. 'Each act of conflict-resolution depends on the immediate application of a set of existing principles – the outcome of which may require a questioning of those principles as well as a redefinition of the developmental goal'.[40] In the process, Abramson says, the nature of government itself may be redefined, including, for example, the role of political parties. In what amounts to a 'meta-mapping' of China's city plans, he draws a schematic of changing PRC urban planning practices in which he explicitly identifies current challenges to governance. In his diagram, Abramson juxtaposes the regime's 'unintended outcome' of 'popular resistance to urban expansion and redevelopment' against the 'intended outcome' of 'sustainable growth'. Immanent effects, or what we have described as 'lines of force', emerge from governmental processes of building community, clarifying property rights, and protecting the environment through stronger regulation. Abramson predicts that the next generation of planning modes to emerge from the synthesis of this current dialectic is community enablement, incentivisation, and advocacy. By this he means the evolution of planning toward the representation of public community interests in determining the form of cities, where the disposition of property is its ultimate subject. China's future planning may retain its current form of governmental regulations on property development or it may develop *incentives* for it; it may continue to promote governmental or non-governmental design or it may *advocate* for it by enabling community formation. What Abramson imagines in his diagram approaches the immanent form of the city-state, where authority grows out of the populace.

This form of authority is increasingly advocated by the cultural elite in China today. Civic activism is on the rise in a wide variety of forums. Socially committed filmmakers such as Jia Zhangke raise awareness of the human and ecological costs of unsustainable development; journalists such Wang Jun highlight the consequences of forging political symbolisms at the cost of the historical and aesthetic integrity of the city, and the avant-garde art community stimulates public debate over ethics. Huang Rui, co-organiser of the 2006 Dashanzi Arts Festival, 'Beijing and Its Background' (*Beijing Beijing*), conceived of the theme as a public forum for reflecting on the possibility of genuine civic culture in Beijing. In a recent interview Huang told me:

Despite the fact that Beijing dates back to the Yuan Dynasty, it has always been governed by peasants, from the Mongolians to the Communists, who perceived a vibrant civic urban culture as a challenge to political authority. These days even government leaders realize they need to infuse culture back into the city's cells, given the destruction of the old urban fabric. But old habits die hard; despite their best intentions they habitually destroy the very sources of culture that they are now trying to nourish. The authorities need to stop thinking like peasants and start realizing that both the leadership and the populace would benefit from genuine urban culture, that it would actually enhance their political power. If Beijing cannot succeed in this, other Chinese cities are doomed as well.[41]

Huang Rui's reflections suggest that government legitimacy should depend not only on the pursuit of policies that strive to realise collective aspirations, but also on the ability of the government work to reformulate its principles to resolve the contradictions that arise from these aspirations. The resistance of Beijing municipal planners to adopt sustainability plans which would alter the symmetry of Tiananmen Square in the municipality may have been culturally determined by the historical primacy of the State's spatial ideology, but a confluence of civic forces that may think otherwise is growing. Rather than mapping Beijing's future, a diagram-

matics of Beijing planning illuminates which form of spontaneity preoccupies the nation at this historical juncture, disclosing the imminence of ungovernable elements in the city. As stated earlier, whether something inherent to the city will survive radical alterations to its governing polity and urban fabric remains an open question. The imminent sociability that is the city may govern it after all.

Notes

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3. Ibid. p. 6.
4. Daniel Abramson, 'The Dialectics of Urban Planning in China', in *China's Emerging Cities: The Making of New Urbanism*, edited by Fulong Wu (London: Routledge, 2007), p. 70. See also John Friedmann, 'Toward a Non-Euclidian mode of planning', *Journal of the American Planning Association*, 59, 4 (1993), pp. 482-485.
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10. Zhu Zixuan and Reginald Yin-Wang Kwok, 'Beijing: The Expression of National Political Ideology', p. 147.
11. Wu Huanjia, '*Lun Zhongguo chengshi huanjing de xin yu jiu: yi Beijing wei li*' ('On the Old and the New in Chinese Urban Environments: the case of Beijing'), *Jianzhu xuebao* (Architectural scholar), 6 (1988), pp. 33-37.
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13. Wu Hung, R*emaking Beijing: Tiananmen Square and the Creation of a Political Space* (University of Chicago Press, 2005), p. 7.
14. Italo Calvino, *Invisible Cities* (Le città invisibili), trans. by William Weaver (New York: Harcourt, 1974), p. 5.
15. For an overview of the debates over the Liang-Chen plan see Chapter Three of Wang Jun, *Chengji* (City Records) (Beijing: Xinhua Shudian, 2003) or Thomas J. Campanella, *The Concrete Dragon: China's Urban Revolution and What It Means for the World* (Princeton: Princeton Architectural Press, 2008), pp. 100-106.
16. Wu Hung, *Remaking Beijing: Tiananmen Square and the Creation of a Political Space* (University of Chicago Press, 2005), pp. 8-9.
17. Robin Visser, 'Conceiving the Post-Socialist City: Urban Planning and Its Discontents', *3rd Great Asian Streets Symposium* Conference Proceedings (Centre of Advanced Studies in Architecture, School of Design and Environment, National University of Singapore, 2004), pp. 102-112, and Robin Visser, 'Spaces of Disappearance: Aesthetic Responses to Contemporary Beijing City Planning', *Journal of Contemporary China*, 13, 39 (May 2004), pp. 277-310.
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23. Peter Brand, 'The Environment and Postmodern Spatial Consciousness: A Sociology of Urban Environmental Agendas', *Journal of Environmental Planning and Management*, 42, 5 (1999), pp. 631-648.
24. *China Statistic Yearbook*, 2005 (Beijing: China Statistic Press, 2006).
25. Presentation slides provided by Shi Xiaodong, 'Scientific Growth for Chinese Cities: Experiences from Beijing,' sponsored by the Centre for Urban Studies, the University of North Carolina at Chapel Hill, 25 January 2008.
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30. Tony Lloyd Jones, 'Compact City Policies for Megacities: Core Areas and Metropolitan Regions' in *Compact Cities: Sustainable Urban Forms for Developing Countries,* ed. by Mike Jenks and Rod Burgess (London: Spon Press, 2000), p. 46.
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33. Yang Xifeng (Vice Director of the Shanghai Lingang New City Administrative Committee Land and Planning Department), interview with the author, Lingang, Shanghai, 5 November 2006.
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35. Peter Brand, 'The Sustainable City as Metaphor', p. 93.
36. Jieming Zhu, *The Transition of China's Urban Development: From Plan-Controlled to Market-Led* (Westport, CN: Praeger, 1999), p. 30.
37. Rod Burgess, 'The Compact City Debate: A Global Perspective' in *Compact Cities: Sustainable Urban Forms for Developing Countries*, edited by Mike Jenks and Rod Burgess (London: Spon Press, 2000), pp. 22-23.
38. Prominent intellectual historian Wang Hui is especially critical of using the term 'transition' to characterise China's development: '"Transition" is the crucial unspoken premise of the contemporary discourse on

Chinese society – it presupposes a necessary connection between the process of current inequality and an ultimate ideal'. 'The 1989 Social Movement and the Historical Roots of China's Neoliberalism' in *China's New Order: Society, Politics, and Economy in Transition*, edited by Theodore Huters (Cambridge, MA.: Harvard University Press, 2003), p. 44.

39. Minxin Pei, *China's Trapped Transition: The Limits of Developmental Autocracy* (Cambridge, MA: Harvard University Press, 2006), p. 44.
40. Daniel Abramson, Figure 4.1 'Dialectical logic of changing urban planning practice in China' in 'The Dialectics of Urban Planning in China', p. 74.
41. Huang Rui (Beijing artist and activist), interview with the author, Shanghai, 11 November 2006.

Biography

Robin Visser, Assistant Professor in the Department of Asian Studies, the University of North Carolina at Chapel Hill, teaches courses in modern Chinese literature, film, and urban studies. She has book chapters in English and Chinese. Her forthcoming book explores how the postsocialist transformation of Chinese cities shapes the cultural imagination as manifest in urban design, architecture, literature, film and art.

Spatial 'Complexity': Analysis of the Evolution of Beijing's Movement Network and its Effects on Urban Functions

Qiang Sheng

Introduction: why focus on movement network?

It is almost a cliché to talk about the rapid economical development in China and its effect on big cities like Beijing in recent decades. Under this market-driven process, many historical districts have been demolished and replaced by large urban projects or modern apartments. Parallel with numerous and increasing appeals for the preservation of the physical environment of the old town, recently scholars have also criticised the loss of street life and sense of place in Beijing. However, most of these discourses focus either on social and economical aspects, or too much on the architectural aspect (i.e. talking about the aesthetics of traditional elements or the effects of the street section, height of buildings, etc.). With regard to the first school, the use of public space and the vitality of street life are undoubtedly connected with the economic and social aspect, but the role of urban space is neglected when one understands shops and other public functions emerging as an economy based on movement.[1] As for the second school, there is obviously a limitation to their understanding of space as architectural, Cartesian space. Of course the aesthetic aspect matters, but more for the tourist camera, and less for the everyday life of people. Practically, this kind of formalist approach leads to a twofold mistake: sometimes it will overestimate the roll of urban images, and sometimes it will underestimate the regenerating power of urban places which look boring and uninteresting (from a designer's point of view) but are still full of public activities.

As mentioned before, one may look at urban place or the use of public space as an emerging effect based on the configuration of movement networks as the technological construction enabling and framing movement. Thus the stability and changes of urban functions like shops and other public activities should be studied through the way in which these technologies, and the ways they frame movement, change how people move on inter- and intra-city networks. In the following paragraphs I will describe, firstly, how I look at Beijing's traditional urban fabric as a clearly defined hierarchical space, both on the local scale as well as on the regional and city scale, and then show how it changes towards a city with a modern movement-network constructed by ringroads and highways. Finally, I will focus on a number of cases in detail to illustrate the effects of these changes.

An ideal city: isomorphic structure and spatial hierarchy

Beijing is a good example of a capital city well planned according to the ancient Chinese planning codes, as a combination of technical requirements and social hierarchy.[2] According to ancient Chinese philosophy, things have to be placed in the right position to obey the natural order, and this order can be defined in various scales. By way of a simple introduction to how this effects architecture and urbanism, I simply emphasise that there is an 'isomorphic structure'[3] from the micro-scale, such as the sitting arrangement around the dinner table (parents to the north, the elder son and his

wife to the east, the younger son and his wife to the west, and the children to the south), to the layout of buildings around a courtyard (the main building, where the parents live, located again to the north, the elder son to the east, the younger to the west, and the servants to the south, nearby the entrance to the courtyard), and finally the design of the city. In Beijing, in the area known as the 'inner city' (the north part of the old city) lived the royal family, as well as the high officials and noble families; most poor people lived to the south in the 'outer city'. Another interesting concept that needs emphasis is 'spatial depth', when considering how individuals move in this 'isomorphic structure' of different scales. For instance, a courtyard house may consist of many courtyards: the one connecting directly with the street (the shallowest) is a waiting area for guests, the central living courtyards are located in the middle, with the unmarried daughters live in the deepest courtyard. The number of courtyards also reflects the social status of a family: the more they have the higher their status is. A similar ordering from private to public applies when one goes from the courtyard house to the city. The first type of street one encounters is called *hutong* or *tiao*, (some poor families might even open their gate onto a small alley connecting to the *hutong* or *tiao*). A high-ranking officer could build something like a wall across from the entrance and even a gate-structure at the junction where the *hutong* meets the outside street to mark his territory, although in principle everyone could pass through the *hutong*. The next spatial depth would be the *xiang* or *jie* (street), the difference being that a *xiang* is normally more local than a *jie*. Considering the fact that the traditional courtyard house has a strong preference to face south, most *hutong* and *tiao* are east-west in orientation, while *xiang* and *jie* are normally oriented in a north-south direction.

Not surprisingly, most urban functions would locate themselves on *jie* and *xiang* space. Although commercial activity was strictly controlled in old Beijing (i.e. before 1911), presumably these regulations disappeared with the old empire. An important difference between *jie* and *xiang* is that the former are not only normally much longer, but they are also connected to the city gates. In 1934, and although the old empire had already collapsed, Beijing's spatial structure and the city' urban fabric remained almost untouched.

The inner city (in the north) and outer city (in the south) seemed to function as two separate cities connected by only three gates. For the inner city, considering the location of the Forbidden City in its middle as a huge barrier, the city scale movement assembled itself into a 'doughnut' like structure. Its east and west wings (*dongsidajie* and *xisidajie*, respectively) are both city-scale movement-carriers, as they are both very long streets in the urban fabric (*dajie* means 'great street'), and as mentioned before directly connect the inner and outer cities by two gates (Chongwenmen and Xuanwumen). Since historically the inner city was inhabited by nobles, its urban fabric appeared very regular and ordered. For the outer city, Guangan Street (as it is called today) and Qianmendajie (the north end of Qianmendajie not only connects to the inner city, but also to where the old train station is located, which further intensified its regional role) function as both regional- and city-scale networks, forming a 'crossroads' structure. Since the outer city was historically inhabited by poor people, its local fabric appeared less ordered, sometimes even chaotic. To be more precise, when there is no *jie* (normally it is planned) to regulate the street pattern, the urban fabric only reveals a local order, which no longer adheres to the normal orientations. Combining these, one can see that Beijing's movement structure of 1934, where some regional roads coming from the gateways of the city hit the city-scale network in the middle of the city, functions similarly to today's ringroads. The form of the tramlines at that time also justified this model somewhat. The Dongsidajie, Xisidajie and Qianmen areas were all important commercial

areas for Beijing at that period, and they were all obligatory points of passage for people travelling between the inner and outer cities. Qianmen, as it was the gateway for most people coming from a larger region (the train station being located at the northern end of the street) was the busiest of these three streets.

Towards a grid city: construction of city-scale grids, ringroads and highways

In this part of the paper I will focus on the development of Beijing from the 1950s to the present. After deciding to build a new capital based on the old city, Beijing's city wall was demolished. To facilitate the new housing district constructed to the west of the old city, Changan Street was expanded, and became a representative street for the new communist country, since most of the important new public buildings were built on that street. In 1958, a masterplan was made by the central government. Beijing's spatial structure was based on several circles of ringroads and a number of highways connecting with small towns nearby, forming a spider's web regional in scale. However, due to the influence of the Korean War (1950-53) and the Cultural Revolution (1966-69), the implementation of this plan reveals different speeds for the regional and the city scale.

On the one hand, on the regional scale most highways and ringroads were constructed after 1980. For instance, the Second Ringroad[4] was still far from being completed in 1968, while three-quarters of the Third Ringroad had already been built. After the 1990s, there was a sudden increase in the number of ringroads, from the completion of the Second Ringroad to the Sixth Ringroad, and now even a Seventh Ringroad is already under construction. Many highways built after 1987 have started to function as 'hyperlinks' between Beijing and other big cities, like Tianjing, Shijiazhuang, Kailuan and even Shenyang. In most cases they just intensified the existing links between those cities; sometimes they created new links, and a previous one was by-passed. For instance, there is an increasing demand for a rapid link between Beijing and the port city of Tianjing in the south-east. After the Jingjintang Highway and another city train (almost finished) will be completed, Tongzhou's role as an important regional node could be slightly weakened. While this intervention opens up new potentials in the south-east corner of Beijing, I shall not go into the details now, since it is the task of the next paragraph to illustrate the effects of changing movement networks.

On the other hand, compared to the late development on a regional scale, it seems that nothing could delay Beijing's process of transforming into a modern grid city on the city scale. Parallel with Changan Street, mentioned earlier, several interventions were made to strengthen the east-west link. Consequentially, a regularly formed city-scale grid became more and more dominant. The construction and formation of this city-scale grid was supposed to meet the urgent needs of car traffic and the bus system, both of which play vital roles in people's intra-city movement.

As a conclusion to this part, I must emphasise that my central concern here is not so much with the change in transportation modes from pedestrian- and bike-based to bus- and private-car-based modes, but more with changing patterns relating to different scales of movement. Specific technical systems, such as buses, the metro or highways, and even the walls and gates of old Beijing are all agencies or indicators for us to sort the movement networks at different scales. Fig. 1 illustrates the morphology of these movement networks based on the regional and city scale in 1934, 1968, 1987 and 2006 respectively. From this model one can clearly see the expansion of the regional network. With this expansion some streets previously used by people travelling at the regional scale are now used for movement within the city only. As I mentioned at

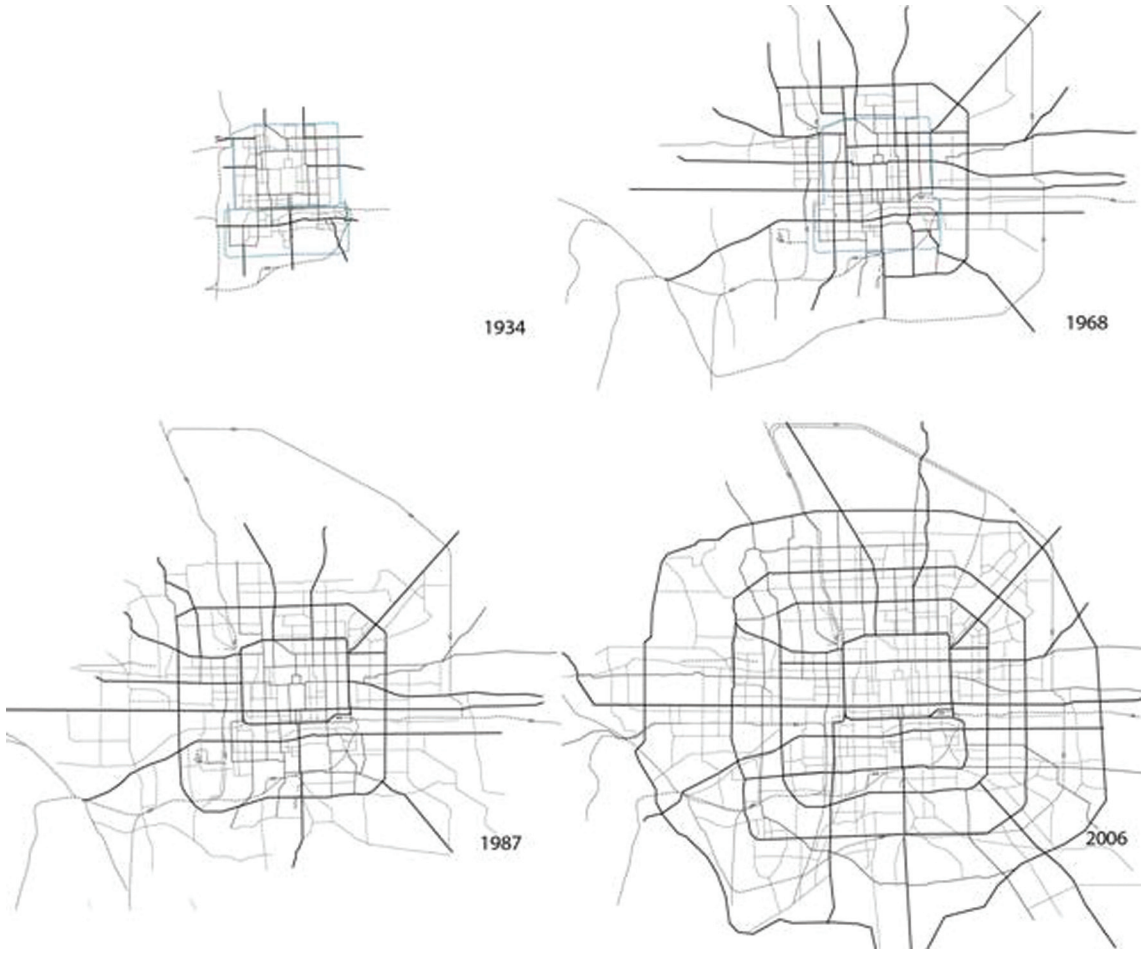

Fig. 1: Layered movement network model of Beijing in different periods.

the beginning of this paper, I believe that the transformation of the movement network is essential for urban functions and the activities emerging from it. In the following paragraph I will analyse this movement-based logic by focusing on the distribution of different scale shops in 1987 and 2006. In addition, a comparative case study will further illustrate the variations inside each scale of network and also represent how local everyday life appropriates the contemporary urban space of Beijing.

Changing centralities as effects of movement networks' rescaling

In this part of the paper, I will start with an analysis of the changing pattern of regional/metropolitan scale urban functions relating to the regional scale movement network in 1987 and 2006. From this analysis I will extract some general principles which will be used for a detailed case study. In the end this will not be a study restricted to economy and space, but also include social aspects in terms of intimate small-scale social activities. Again, a general pattern will be extracted to compare how these activities are located in old Beijing's urban fabric. Then one can see what this transformation in the regional- and city-scale structures means for local life, and what is the specificity of this superimposition of modern and old spatial structures in Beijing.

Let me start with the regional movement network and examine its influence on an agglomeration of metropolitan functions. Fig. 2 depicts networks that afforded regional movement in 1987 and 2006. From left to right their capacities are indicated by thickness of line; for instance, in 2006 the newly built highways appear as the thickest lines. As the map shows, one crucial difference in movement network is the shifting regional role from the old Second Ringroad to the Third Ringroad. Consequently, many 'new' shopping areas emerged near the Third Ringroad, especially close to where the new 'hyperlink' was made, or the original regional movement network was intensified. For example, Huangsi near G1, Maliandao near G3, the antique markets near G6 and G10. It is a pity that I do not have the data for the area near the Jingkai Highway (G4 on the map), but many new developments are taking place there as well. Some old metropolitan functions near the Second Ringroad disappeared or were downgraded to serve customers from the city or local scale. For example, Deshengmen Market near G1, Guangan-men market near G3, Yongdingmen market near G5. Another phenomenon clearly illustrated on the map is the east-west links that have been built or intensified. With the intensification of Changan Street (by the new extension of Metro No.1) and the construction of Pingan Street (by cutting through several housing blocks), the role of Chaofu Street as one important regional route for through traffic in Beijing's inner city has been weakened. A famous case related to this process is the downgrading of Longfusi shopping area in recent decades. On the other hand, the intensification of Changan Street helped to consolidate the existing shopping street in Xisi and Dongsi (Wangfujing), while the construction of Pingan Street opened up opportunities for Nanluoguxiang as a newly emerging fashion street with bars for international tourists.

I need to emphasise two points here: firstly, the fact that Xisi and Dongsi were historically shopping streets should not be treated as a given. It should be remembered that they also formed two of the three links between the outer and inner cities and therefore were part of the regional network. Their function as metropolitan-scale shopping areas could be sustained because Changan Street, which became increasingly important for regional through traffic, directly crossed them. Secondly, as has been mentioned, a *xiang* is normally a well-used local street comparing with a *jie*, and that was exactly the case for Nanluoguxiang. It was only after the construction of Pingan Street that is was made easily accessible and visible for regional flow. Summing up, one can already see some simple and clear spatial logics emerging from the changing

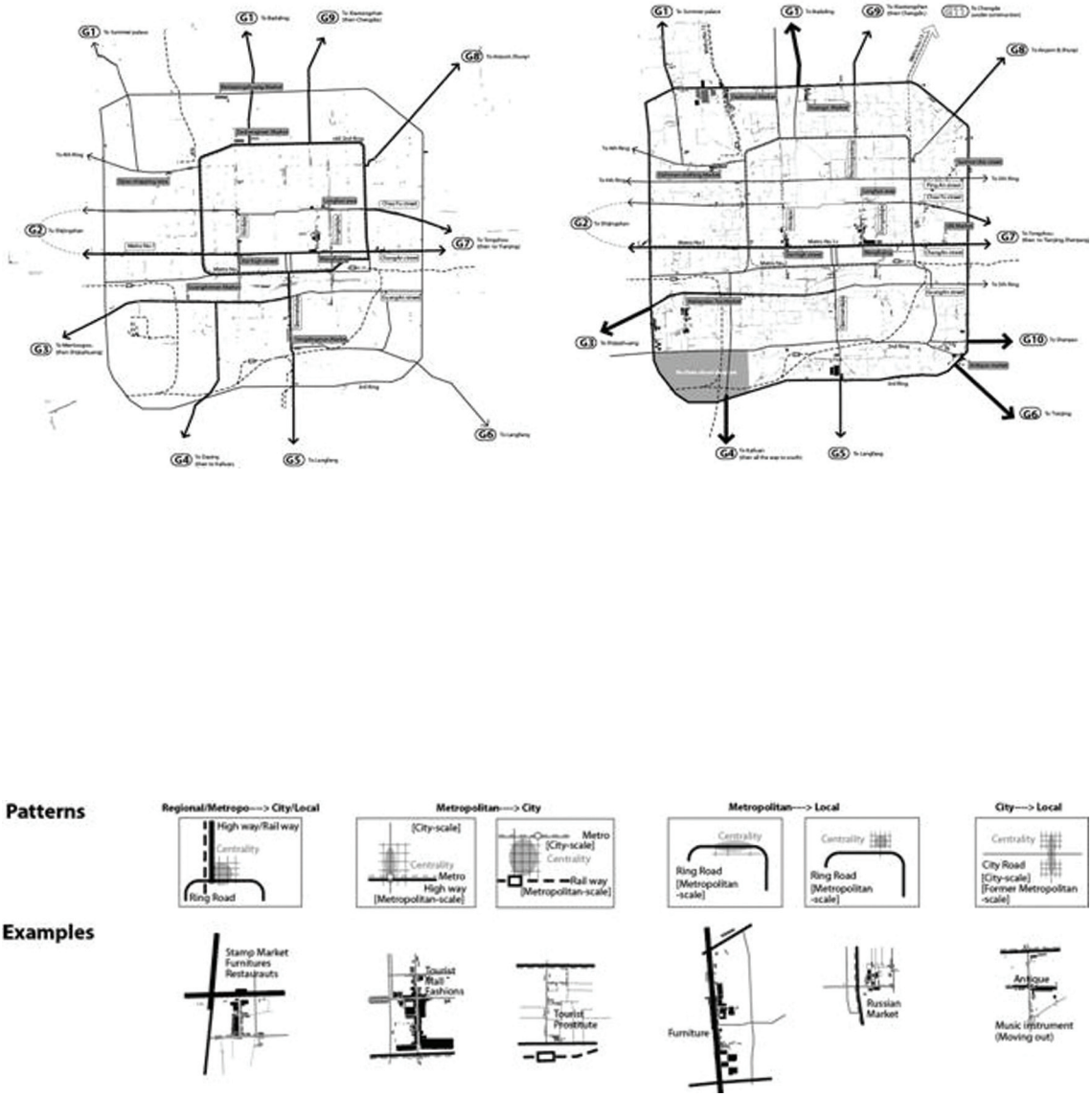

Fig. 2: Changing regional-movement network and related urban functions in 1987 and 2006 Black lines with different thicknesses indicate scale: the thicker, the larger. Black rectangles are metropolitan-scale functions, such as shopping malls or markets; spatial patterns for the location of metropolitan scale functions listed at the bottom.

metropolitan functions during these two years. That is, metropolitan urban functions tend to emerge on the regional network or in proximity to where the regional meets the city-scale network (especially city-scale networks which previously had a certain amount of regional importance as well, as used in the local sense). In most cases in Beijing, these functions form a seepage-like structure towards the lower scale. In the next part of this paper I will use a case study to illustrate the detail variations and transformations of urban functions, as well as other small-scale social activities related to movement networks in certain areas.

Two cases have been selected inside the Third Ringroad for a comparative study. [fig. 3] Case A (the Qianmen-Hufangqiao area) and Case B (the Yongdingmen-Muxiyuan area) are located along Qianmendajie (Qianmen Street). There are three reasons for choosing these particular cases: 1) both of them have strong agglomerations of metropolitan commercial functions and also locally-based functions. 2) Case A represents an old city/metropolitan shopping area which has been transformed by booming tourism, while Case B represents emerging new city/metropolitan shopping areas for people who live in Beijing and its larger region. Therefore a comparative study will demonstrate perfectly the shifting centralities from the centre to the Third Ringroad. 3, these two case areas also contain three types of neighbourhoods in terms of building typology and urban fabric: the north part of Case A is well preserved both in its architecture and street pattern; the south part of Case A has most of its traditional architecture demolished, but the street system is preserved; in most parts of Case B, both architecture and street system are new. As I mentioned in the introduction, I do not believe that architectural typology can have much influence here, so these cases will serve as counter arguments.

The comparative study started with an analysis of changing metropolitan functions within movement networks to give a general image of the sites. Later I will shift my focus to how local people use public spaces by mapping local markets, street vendors, local clubs and also some local activities, such as playing Chinese Chess or Mahjong in the street.

In what follows, I will analyse the metropolitan functions that can be found in each case. First, I will look at both cases from east to west, where these are located between Qianmendajie (mentioned before as one of the important crossroads in the outer city) and Taipingjie-Xinhuajie (the north-south road to the west). Taipingjie-Xinhuajie is part of the city-scale grid, while Qianmendajie somehow has retained its regional importance due to the Third Ringroad to which it is connected. Furthermore, because Qianmendajie is the central axis of Beijing, it has been extended to the south, and in this sense it is similar to Changan Street. As a result, most metropolitan functions are either originally located near Qianmen, or move towards it. While most specialised functions, such as the musical instrument street, are leaving Taipingjie-Xinhuajie because of its weakening role as part of the regional/metropolitan networks. (It used to be the regional network of old Beijing.) One exception is the Liulichang antique market, which still holds its position. However, this is because of the great investment made on that street. Even though, in terms of customer numbers, it still shows a tendency towards decline. (Again, beautiful traditional-looking architecture cannot help it much).

Secondly, I will compare two cases from north to west. As mentioned earlier, since the shopping centrality for non-tourists has moved toward the Third Ringroad, the north part of Case A (using Guanan Street as a dividing line) has become more and more tourist oriented. Most tourists come from the metro station (which is also close to Tiananmen Square). Intensely formed small-scale local fabric perfectly allows for pedestrian movement. When one moves to the south part of Case A, there is a

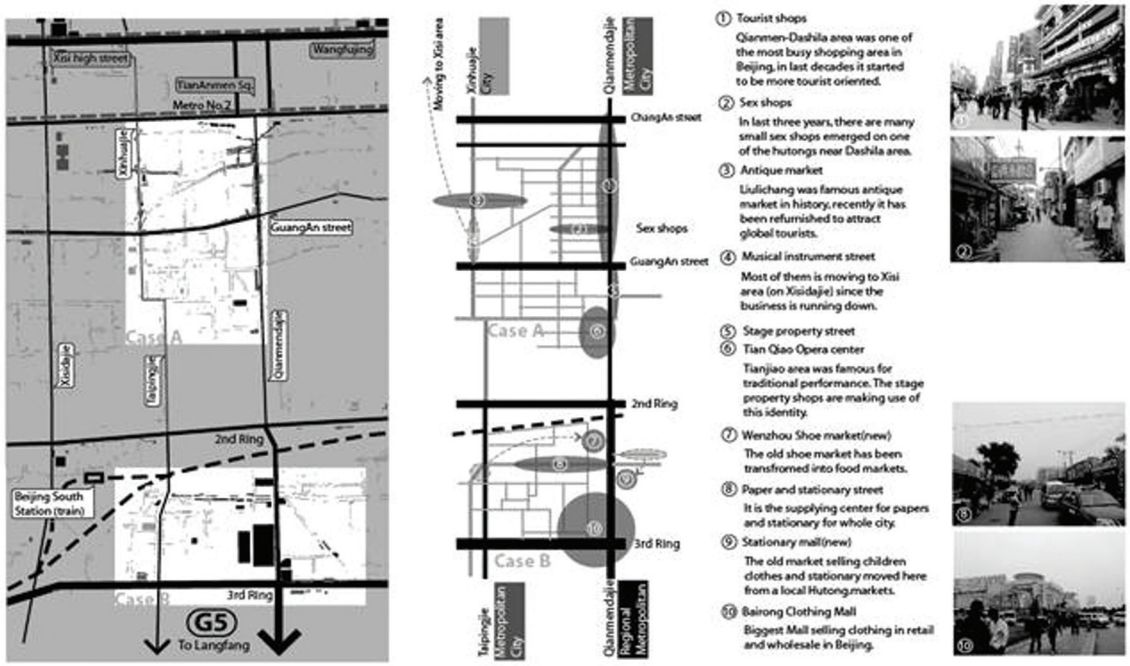

Fig. 3: Case A and Case B; Metropolitan functions.

sudden drop in tourist presence due the barrier effect of Guangan Street as an urban highway. However, the area still retains a certain level of centrality for local inhabitants. Since in this part I can only be concerned with the metropolitan-scale function, I will mention this part of the site later. Case B is located in a highly commercialised area, with different businesses selling specific goods compete for limited land. This used to be the situation in Case A fifty years ago. Now the biggest wholesale centre for clothing is situated here, and also the biggest paper and stationary wholesale centre in Beijing. In addition, it is close to where Wenzhou immigrants used to live in an 'urban village', (the so-called 'Zhejiang Village', named for the province they came from; I doubt whether many of them still live here). Now a Wenzhou Shoe Mall still functions well on the site (moved from Taipingjie-Xinhuajie to Qianmendajie). In general, one clearly see the changing intensity from both east to west and north to south, which is closely related to the scale structure of movement networks.

Now I will move onto local functions and activities. My central concern is how local people appropriate space in a site that has been heavily commercialised, either for tourism or metropolitan-scale shopping. What I would like to illustrate is a local spatial strategy and its emerging spatial pattern, instead of the influence of architecture typologies. As Stan Allen claims, '[f]orm matters, but only on what it can do rather than how it is looks like.'[5] Similarly, neither is high-rise housing nor courtyard housing, what is of account here is only how it affects the movement pattern, or to put it simply, how individuals move from private space towards outside public space.

The indicators I chose for the presence of local activity are food markets, groceries or other locally oriented economies, and also specific social activities, such as gathering to play Chinese Chess or Mahjong. At present these activities are being formalised by the emergence of many local clubs. Therefore this is also an important indicator.

The distribution of local shops and activities in Case A show that -in the northern part- the local spaces appeared in the middle of the block, stepping away from the high-scale functioning spaces. The spatial compositions of Liulichang (as an antique market) and Yanshoujie (as a local market) form a clear example of the sharp transition between these two types of spaces belonging to different scales. For local inhabitants, it is obvious that Liulichang should be a better place for local shops since it has a direct link to the outside, but considering the fact that the first choice had been occupied by metropolitan functions as a seepage into the local fabric, Yanshoujie logically became an ideal second choice. Another reason for Yanshoujie to serve as a local centre is its geometrical form as the space where many *hutong* meet. This is such an ideal typology for a *xiang*, although named a *jie*, that I believe it is not a mistake made by ancient Chinese people. From some of the old shops located here I can infer that this street indeed must have functioned as a city-scale street, or at least that it had city-scale functions as a seepage. As a phenomenon this is similar to what I already described as the down-scaling of several old regional networks to the city scale. It is clear that the labyrinthine spaces of the local fabric play an important role in preventing penetration from the urban flow, and leave spaces for local activities to retreat to. As a result, one can see a clear distinction between the local and the urban. However, this is not the case for the south part of Case A.

The south part of Case A (what I call the Tianqiao area) has quite a different local fabric compared to the north part and also to the inner city. This local fabric has been preserved in a housing redevelopment project. Here one sees a highly mixed pattern of different scales that is hard to classify. Xiangchanglu Market is possibly the only one that could be classified as very local, even though it is still

easily penetrated by urban flow in the north-south direction. Similarly, on Taipingjie (at the city scale at least), one sees a typical socialist-style public building (named the Beijing Technology Interchange Centre), which is in use as a local supermarket. One can also see that in comparison with the north part, the Tianqiao area has more overlapping streets for urban and local flows. As an effect, this kind of hybrid, or even chaotic, structure shows great resilience. Even with some blocks being totally rebuilt as modern high-rise apartments, on the ground the vitality of the street life rapidly returned. In the next case (Case B), I will focus on the pattern of local life in newly developed areas with a typical 'modernist' spatial structure.

The western part of Case B is a busy commercial area, a wholesale centre for clothing, paper, stationary and shoes, while there are also many apartments in this block. Although in general the local fabric is quite different from Case A, the western part of Case B still resembles the northern part of Case A in its clearly differentiated scales of activities within its space. Of course, there is also a gradual transformation taking place on one street; for example, on Gexinjie from east to west, functions change from a food market to agglomerations of shops and malls selling paper and stationary, but this is due to the configuration of the metropolitan- and city-scale structures which was explained earlier. And there are also some fake local gatherings, if I just base my judgment on certain functions. For instance, there are many food vendors near the parking area on Gexinlu, but most of them merely serve the passing customers and employees of the stationery shops. In this sense, they are principally no different from those specialised transportation agencies gathered around the Bairong Clothing Mall. When one focuses on where local activities are gathered, most of them are located in a T-shaped road to the south of Gexinjie. Here one finds many food and grocery shops, and also people playing cards, Mahjong and chess during the summer. From the network analysis one can clearly see that most high-rise apartments have their entrances on the 'T' road, which makes it an obligatory point of passage for the inhabitants travelling in and out. The functionalism embedded in the design of these apartments leads to this highly ordered but less flexible spatial use.

As a contrast, the eastern area in Case B appears as the reversal of the process visible in the northern part of Case A. Liulijinglu now functions as a good local street, while a few years ago it was famous for selling children's clothing, stationery and toys. As I mentioned before, due to the rescaling of regional and metropolitan networks nearby, most of these functions moved to Qianmendajie. Later on there was also an attempt to open a flower market, which was closed down again not much later, due to the fact that the existing spatial structure no longer allowed for this function. Therefore, what is taking place in the street in recent years, is that the markets have started to become used as local shops and clubs. The eastern end of the street is now being used as a rather large and informal food market, while in Case A it is the metropolitan function that occupies the niche for local function and has forced the latter to retreat into an even deeper local one. In this case it is the metropolitan function that has left out niches for the local to occupy. However, there are some differences between Case A (north) and Case B (east), as their street patterns demonstrate. Compared to Yanshoujie, Liulijinglu is very penetrable from the city-scale network. In this sense, the latter is 'doomed' to be local, while the former has more flexibility. This type of flexibility (or local resilience as I call it) depends both on how the street is constructed in the network as a whole, and on its local form (a kind of interfaceability with the city scale).

When focusing on how they reacted to the rescaling of metropolitan/city networks, it becomes clear that all of these cases demonstrated a certain

amount of resilience as living organisms. However, there are some differences based on their local fabrics. For the traditional local fabric (Case A's northern part) as a densely built grid with a clear hierarchy, certain scale functions just shifted back and forth to occupy the optimal available spatial condition; for the modernism fabric (Case B's western part), since there are far less public streets than traditional ones (many of them are gated tree-like structures) and the metropolitan/city and local fabric are very separated, there is little margin left for functions to shift. In this sense I can say its resilience to change is poor. For the traditional fabric with a less clear spatial hierarchy (Case A's southern part), the local area is both well integrated in itself and within the city scale, which means that during change it is not one scale of possible functions replacing others, but that all scales can co-exist and benefit from each other. As one can see, since the commercial centre moved to the Third Ringroad, and this area is relatively far from a metro station, the metropolitan function is being downgraded. However, even after the mass redevelopment (which is usually accused of murdering street vitality), this area is still full of street life, although in general the shops serve a smaller scale of customer. Practically speaking, the well-meshed street pattern offers many alternative passages for car and pedestrian movement, and local shops indeed benefit from being located near the city- and metropolitan-scale function, since they bring with them additional potential customers. As to local centralities, they normally prefer to be located one step away from the city-scale network.

In terms of this interface location preference, I do not see any difference between Beijing and western cities. It is rather the form of this interface that is different. In most western city centres, the interface of Case A's southern part as a specific case in Beijing is actually a general pattern to be found. In the last part of this paper I would like to reflect on Beijing's movement network development, and illustrate this alternative form of interface for shops to emerge based on the different local fabric.

Conclusion: Deep spatial structure in Beijing

In this paper I started with the spatial hierarchy of Beijing's inner-city fabric as a well-planned city with its movement-scale structure clearly defined and regulated by gates (both gates to the rural hinterland and gates connecting the inner and outer cities). Under the pressure of increasing car usage and urban expansion itself, the intra-city movement network evolved into a regular grid form, while the inter-city movement network started to include more ringroads and highways. This new spatial pattern transformed Beijing into a modern metropolis with an open grid system which can be easily used by people travelling inside and outside the city. In the latter part of this paper I have also clearly seen that the metropolitan functions followed the growth of its equivalent scale structure very well. In this sense this is exactly the same process one see taking place in most other cities today.

On the other hand, transformations which are normally criticised are taking place on the local scale as well. Many new residential districts have been built as gated communities. This modernist housing development seems to follow the same traditional spatial principle as a clearly defined hierarchy, but they are actually different with regard to the interfaceability with the outside: for traditional fabric, its smaller size and complex form offered a certain margin for local activities and urban-scale functions to be located as seepages; for modern ones, its limited space and huge size left little margin to absorb changes. In general, those productive interfaces in Beijing (no matter whether one focuses on urban- or local-scale centrality) emerged as a much more fragmented pattern compared to western counterparts and even some Chinese cities with less of a history of city planning. In the latter ones, those interfaces emerged as a network form in their own right, while in Beijing, they mostly function as seepages into the local, while barely having any

relationship to one another.

To describe this process in terms of spatial form, I can say that on the city and metropolitan scale, with the hyperlink effect of highways and city-scale grid structures, Beijing is becoming more and more flat and (topologically) shallow, while at the local scale its deep structure still remains. This local spatial pattern could explain the form/formation of public spaces in Beijing which surprise us as tourists when one encounters these 'hidden' places. Meanwhile, it also leads to traffic problems for the city and metropolitan scale, since there is definitely a shortage of second-level grid structure to help reduce congestion. However, to offer a solution for a traffic problem is not the aim of this paper; what I have tried to do is to give a description of the modernisation process in Beijing, and to find the underlying principle on which the morphology of movement networks is based.

Notes

1. Bill Hillier, 'Centrality as a process: accounting for attraction inequalities in deformed grids', in *Urban Design International*, 4(3&4), (1999) pp.107-127.
2. In *KaoGongJi* (a technical book on architecture and urban planning written 3,000 years ago), most regulations deal with the spatial arrangement of government buildings, markets, width and number of roads, based on a hierarchical division of cities (from imperial capital, provincial capital, to small city).
3. Chang, *Y. FeiChang|JianZhu*, (China: Heilongjiang Science and Technology Press, 1996).
4. The Second Ringroad is located on the former city wall. For a long time after the wall had been demolished the site was in use as a rubbish dump. Only certain parts of it were used as part of the city-scale network. By the way, there is no First Ringroad, even today. This might be because the tram system in old Beijing functioned as a first ring, as has been mentioned earlier.
5. Stan Allen, 'Infrastructure Urbanism', in *Points+lines: diagrams and projects for the city*, (Princeton: Princeton Architectural Press, 1999).

Biography

Qiang Sheng has been undertaking Ph.D. research at Spacelab, TU Delft, since 2006. His work examines the relationship between changing centralities and movement networks. He graduated from TU Delft in 2004 with an M.Sc., and his thesis was entitled 'Urban Labyrinth', it also examined a similar subject and methodolgy. Before he came to the Netherlands in 2002 he studied Architecture at Harbin Architecture University and also won 1st prize in the National Architectural Student Competition (2000), 3rd prize in the Tianzhuo Architecture Competition (2000), and 2nd prize in the 'Liangsicheng' Cup Competition, (2001).

Politicisation and the Rhetoric of Shanghai Urbanism

Non Arkaraprasertkul

Introduction

Shanghai – China's largest city – is strategically situated along the banks of the Yangtze River. Once serving as a major Treaty Port, Shanghai represents China's colonial legacy as well as the point of origin for the country's recent phenomenal economic growth. Its relatively short urban history sprang to life in the late 19th century when the arrival of European and American investors created an influx of capital and expertise. After 1949, Shanghai was transformed into a centrally-planned industrial powerhouse. It was not until 1978's Open Door Policy that Shanghai's potential as a gateway to wealth and modernity started to emerge. Today, this topographically flat city accommodates some 15 million people[1] (which continues to float) within an area of two thousand square miles. Shanghai's gross domestic income is higher than that of Beijing, and its growth rate is higher than China's national average. The Pudong New Development Zone, where the Lujiazui CBD is located, opened for business in 1992. This area serves as a portrait of a modern China for the rest of the world, appearing in mainstream media, most notably in 2006's *Mission Impossible 3*. As a city with unabashed global ambitions, Shanghai has been among the fastest growing cities in the world, especially during the last decade of the 20th century. Although Shanghai's population growth has slowed considerably since 2000,[2] the city is still expanding, chasing Bangkok as the consumer-driven cosmopolis of Asia.

Shanghai's rapid population growth, driven primarily by immigration from other (more rural) parts of China and made possible by a relaxation of the *hukou* system[3] has had unforeseen consequences on urbanism and urban form. In addition to Deng's Open Door modernisation the progressive politics of Shanghai's local government enabled the rise of these consequences. The unique sensibility of the Chinese, nurtured by the pragmatism of its integration of socialist market principles along the lines of national characteristics, further enabled change to take place. Yet, Shanghai's Pudong area ultimately owes its existence to the soft cultural infrastructure of Shanghai's cosmopolitanism and its facilitation of the city's heterogeneous nature. It seems like architecture and urban form are, and will continue to be, utilised as tangible representations of the city's expected growth – the physical articulations of the perceptions of global progress. This paper aims to present a series of observations identifying its rationale, pointing out the conditions that not only underlay the making of this urban complexity, but also characterise the reality of the city.

It is first useful to understand the goals of the city as underpinning the specific 'cause' that transforms its physicality. Can Shanghai really be *the* global metropolis for the 21st century? The answer to this question lies in how 'global metropolis' is defined and what is to be expected from it. According to Saskia Sassen, a global city is 'an urban space with new economic and political potentialities, which formulates the transnational identity and communicates … connecting sites that are not geographically prox-

imate yet are intensely connected to each other'.[4] By this measure, even without advanced technologies, Shanghai has always been a global city. The definition of a 'global 21st-century' city, however, is ambiguous, although it can be thought of as a future of free-market competition. In this sense the extensive Chinese workforce can also be added to the equation.[5] In order to achieve the goal in a theoretical sense, the development of Shanghai's urbanism corresponds to the parameters of a compact urban place that provides the soft cultural infrastructure, the organisational structure that allows diverse architectural cultures to represent different cultural norms while still maintaining their representational integrity by means of architectural and urban orderings. The integrity of 'form', or urban identity, is required to establish a tangible perception to which everyone can relate. The result of this process is the making of a cosmopolitan city that can compete in a globalised economic context.

Urbanism and urban form

An aerial view of Puxi, which faces Pudong across the river to the west, reveals a series of high-rise commercial towers and highways that are superimposed on the old fabric of *lilong*, low-rise row houses adapted from the Western tradition to accommodate the families of Chinese workers.[6] The stark contrast between low-rise *lilong* houses and corporate high-rises is primarily a result of lax (and/or absent) zoning practices and height restrictions at the beginning of Deng's economic reform. As polar opposites of urban form – old low-rise fabric and the new high-rise buildings – the current fabric creates a problematic discourse between old forms of inhabitation and the new corporate culture. Whereas the gridiron structure and the fabric of existing *lilong* houses could have been used by contemporary developers as cultural elements upon which to expand, they were instead considered as obsolete and, as such, prime targets for demolition.

What epitomises this perspective is Charpentier's Century Avenue, Lujiazui's main spine. The false premise of the avenue begins with the determination of its width to be exactly 'one metre wider than the Champs Élysées' in order to denote the triumph of the making of this physically significant urban element. Its penetration through the diagonal super block of parallel housing in Pudong creates irregular plot shapes. The programming and anticipated use of the space in Pudong has never been made clear. Although the Municipal Planning Bureau has developed comprehensive zoning regulations and infrastructure plans, the District Authority Control's process of refining those plans with respect to the particular district's details, i.e. Floor Area Ratio and coverage, results in a changing of urban form. Moreover, when the plan comes down to the Controlled Detailed Planning Section, whose job it is to execute decisions, grant permission for buildings, and regulate the formal quality of each plot, a series of performative rules and regulations re-define the final form of the physical design without taking into consideration any of the original planning attempts. In other words, there is no central organisation that gives a comprehensive overview of planning for the three planning units, working independently from above.[7]

So, if we compare the proposed Avenue to its built reality, the continuous platform of buildings along its length is absent. Charpentier designed Century Boulevard to be the primary component that gives an appropriate scale to the streets in order to facilitate interaction at the base of the buildings before getting into the super high-rise buildings. If the plan had been faithfully executed, it could have created a reasonably strong urban characteristic. In Lujiazui, however, not only is the ground that mediates the perpendicular change missing, but the arbitrary execution of its open space is also disruptive to any sense of coherence, conjuring instead a monotonous experience in urban space [figs.1 and 2].[8]

This monotony of the urban space is the result

Fig. 1: Century Avenue, as originally designed by Arte, Jean Marie Charpentier et Associés. Image: Shanghai Planning Museum, Shanghai, P.R.China

Fig. 2: Century Avenue in reality. Photograph by Peter G. Rowe.

of a lack of development at the pedestrian scale, which might have something to do with the attempt to make Lujiazui into another Manhattan. Yet, while downtown Manhattan's dense skyscrapers are absorbed within the grid, and its lively street life directed by the hyper-dense environment of a financial-scape, Pudong's skyscrapers stand out as scattered markers of individual buildings. The substantial distances between the buildings, between the building and the open space, and between the building and the pavement creates a lifeless street scene, almost depriving the city of its exuberant life. While these actions have served to order the amalgamation of the city's urban form, in practice they have overlooked a more important concern about the social stratification of a newly developed urban place – the issue of politics in the making of a civic reality.

Urbanism and building imagery

Confronted by a jungle of glittering high-rises reminiscent of a science-fiction movie, visitors to Shanghai might easily come to the conclusion that it is a very rich city. Yet these buildings are far from being fully occupied, and thus from this perspective, the tall buildings in Lujiazui become purely symbolic. The decision to position a handful of iconic skyscrapers side by side as a means of visual competition with other dense cities in the West is telling. The original master plan called for some skyscrapers to be grouped together in the heart of the CBD, while other high-rise buildings were to be scattered randomly on both the eastern and western sides of Century Boulevard. Such a distribution would have accentuated the role of the towers as signifiers explicitly reinforcing an instant identity. These skyscrapers do for Shanghai what the Eiffel Tower does for Paris. As Roland Barthes puts it, not only does built form generate meanings that constitute the conception of the city, but the impact of the materialisation of ideas also prompts the creation of a new civic realm.[9] The idea of making a great cityscape consisting of high-rise buildings and monumental elements is essential in the making of Lujiazui. Yet, this district's tall buildings were not built to satisfy the need for vertical expansion due to any lack of horizontal space, rather they were built for the purpose of generating monumental symbolic value.[10] The monumentality of these urban elements are the unsubtle evidence of the actions taken by municipal government, and fulfilled by the developer and designer, in the making of the particular 'form' that recalls the patriotic past of China. It is not surprising that their pragmatism would lead to the easiest way of establishing a level economic playing field, if not a superior economic playing field, by building the highest skyscrapers: the players being Shanghai's competitors seeking global-city status.

This is evident from the attempt by Shanghai's authority, and its development partner, to make the Jin Mao Tower and the World Financial Centre the tallest buildings in the world, and to be located in the Lujiazui master plan. Both designs come from elite American architectural firms, and are programmed to be mixed-use developments, consisting of office space, hotel rooms, conference halls, observation decks, with shopping complexes on their ground floors. For the Jin Mao Tower, the upper part of its trunk is simply an ultra-high atrium surrounded by the corridors of hotel rooms, wrapped by a curtain-wall skin. The elevation of the building to that extreme height is an obvious manifestation of monumentality. Considering that labour in China is inexpensive, the construction of both these buildings does not require as much financial investment as would have been the case if they were to be erected in America or Europe.[11]

The semiotic quality of both buildings is obviously intended in yet another manner: the local expressive references and the deliberate acquisition of visible symbols of progress.[12] It is as if their building is concrete proof of the ability to match Western architecture style in height and grandeur, while simultaneously leaving a unique indelible mark.

The 88-story high Jin Mao Tower was designed to resemble the ancient *Kaifang* pagoda (the legendary 11th-century Chinese brick pagoda in Henan province) to instil a sense of nationalism in the local population. The design of the 460-metre tall World Financial Centre has been the object of debate over the abstract connotations of the circular void on the top of the building. This, by chance, hit on a sensitive issue between China and Japan. *The New York Times* journalist Howard French comments:

The representative of Mr. Minoru Mori [one of Japan's foremost real estate developers who funded the building of the World Financial Centre] gamely protested that the circle with the sky ride was based on a traditional Chinese symbol – the moon gate – but in the end they quietly backed down, replacing the hole with a squarish slot.[13]

Also, even after the design had been finalised, some ten to twenty additional floors were added to the building. This is because the clients demanded that the building be not only a World Financial Centre, but also the world's tallest building.[14] The confidence of modern Chinese capitalism was confirmed in the making of 'form' – the envelope that uses the marvel of engineering technology.[15]

What this perspective evokes is not the uniqueness of urban semiotics in Shanghai, but the certain way in which high-rise buildings are pre-conceptualised with a simple inference of power manifestation at work.

Urbanism and streetscapes

The skyline iconography makes one wonder how people on the street experience it. Leaving aside the issue of mimicking Manhattan, since we cannot assume the planner of Lujiazui had in mind the necessity of socialisation at the pavement level, one can conclude that the streets in Lujiazui are not efficiently used given their excessive width. Century Boulevard has eight traffic lanes, one traffic island, four bicycle lanes (two each way), and two pavements that are as wide as the traffic lanes, all comprising a total width of more than 330 feet. All the streets that branch off the Boulevard are half this width. The district is not dense, hence the public activity encouraged by urban theorists such as Jane Jacobs does not exist.[16] This problem has been observed by the Shanghai municipality, which has since retrofitted the pavements by embedding them with a series of pocket landscape parks in order to humanise their size.

Despite the fact that Lujiazui is deserted at first glance, what might shed light on the situation is a comparison between the condition of streets in Lujiazui and 'pre-Lujiazui' Shanghai. Street life is fostered by human-scale elements (both planned and ad hoc) corresponding to the nature of the dwellers' norms of inhabitation. This observation takes the methods by which the street was functionally and culturally conceived in pre-Lujiazui Shanghai as a point of reference. Prior to the development of Pudong in the early 1990s, Pudong was basically an undeveloped territory with scatted permanent settlements. To understand the interaction between architecture and the urban form in terms of how its people perceive their city, it is essential also to look at how streets in Puxi have historically formed and performed over time.

In 1930's Puxi, the main interactions between the building and the street were business transactions. Pavements served as the mediation. Beyond the mediating pavement, however, labour activities, as well as various modes of transport, were taking place. There were always Chinese labourers loading and unloading cargo from ships, pulling rickshaws and, waiting for customers, walking along the street hoping to get itinerant employment. The Bund was usually crowded, but it was never overcrowded, since the major public and commercial spaces were located in the inner parts of the city, in the foreign settlements. One of the most fashion-

able vistas was from the top of a building on the West Bund, looking down to a street that curves to the east. Here, the Custom House and the Bank of China were the monumental landmarks. Five modes of transportation were used on the Bund, according to the status of the passengers: foot, bicycle, rickshaw, tram, and car. In contrast to the streets of the Bund, the streets of Lujiazui are confined to a single narrative. While the Bund embraced energetic street dynamism by its functioning as a reception point and travel corridor, Lujiazui streets are usually empty and deserted, illustrating the complete failure to relate the scale of the building to the scale of the pavement. The size of streets in Pudong is not defined by prevailing modes of transportation or commercial requirements; instead, it is demarcated by a political agenda: to convey monumentality that helps to reinforce a sense of nationalism.[17]

Urbanism and the visualisation of the skylines

Both skylines, facing each other across the river, are important icons of this former Treaty Port city. The similarity between the two is that the images of both are meant to display the expectant future of this urban place. For the Bund, it was the commercial value of individual business on the Treaty Port's shore, which the appearance of a Western environment could reinforce. The making of the Bund skyline comes from an internal need: the need for visual representation using built form was necessitated by the establishment of the various external cultures that existed in Shanghai from the opening of the Treaty Port. In contrast, the visual representation of Pudong is a result of an external push. As the Bund is a linear corridor, the appearance of the building is vividly experienced as a panorama – the height of a building is not as important as the degree to which it can be seen from afar; a building can be clearly perceived no matter where the viewers are. But for Pudong, with a setting that spans the large urban space, the height and size of buildings are essential, which is why the planning of Pudong favours high-rise buildings. Though specifically designed for effect, their effect is weaker than that of the ad hoc Bund.

In Kevin Lynch's terms, this understanding resonates with the 'pre-conceived imagery – something to which the observer can relate by virtue of its spatial relations to the observer.'[18] The Bund is a skyline that allows both visual and physical interactions between the city and its people, for the image one sees and the physical interactions with the buildings are firmly reinforced by its inhabitable quality. Pudong's skyline, however, is relatively abstract. Not only is the composition of the Pudong skyline too complex to be perceived comprehensively (only outlines and gestures are expressed through visuals), but the human scale is also lost in the overwhelmingly vast and pedestrian-unfriendly planning of its public space. For instance, Century Avenue is too wide given the height of the surrounding buildings, and its lack of public functions. Considering the vastness of the space unrelated to Everyman's sense of scale, it is difficult to imagine how a person would be able to coherently conceive and remember the physical space by its urban characteristics. Yet, Pudong is not without living beings. Coming up from a subway station, visitors encounter the lack of directional indicators; they might not even have any clue that they have arrived in Pudong. Despite the clarity of Pudong's high-rise buildings when viewed from the Puxi shore, they do not help to orient people because they are placed arbitrarily in the vast concrete landscape of Lujiazui, which does not enable visitors to relate themselves to anything familiar. Then, as they start to walk from the Oriental Pearl Tower, at the north-western end of Century Avenue, to Lujiazui Park, the area's central park, it takes fifteen minutes. The distance between these vertical and horizontal icons of the city is more than enough for the impression of the monumentality of the vertical to disappear and to be replaced by the flatness of the horizon without a single remnant of the mental image of the city. The size of the Avenue and the location of the buildings do fulfil the intended

political posturing, but the overwhelming scale fragments any visual effect.

The much-celebrated image of Pudong is apparent only when viewed from a distance. Regarding its principal connotation of progress by means of built form, Pudong needs the entire environment. While the Bund does not need a major iconic building to define its symbolic significance, the image of Pudong is dominated by the unorthodox appearance of the 'Pearl', the pagoda-shaped skyscraper, and the series of modern reflective-skin buildings. The inevitable emergence of modern and contemporary building typologies disturbs the cultural identity and the way in which people conceive their meanings. Both the Bund and Pudong are case studies of how complicated uses of architecture as visuals in a city construct meaning vis-à-vis global narrative. Notwithstanding the tradition of naively mimicking skylines, because 'Manhattan has many skyscrapers', the fact that they are really 'assembling' it without a thorough understanding of their own need is critical. This causes new cities to look like one another. A fact re-asserted by *The Economist*: 'No wonder that swathes of Seoul look like swathes of Shanghai. Even the most ambitious buildings, many designed by trophy architects who flit from one country to the next, often seem alien to their *environs*.'[19]

Whether they fail or not, it is certain that they are trying to convey to the world their own messages of monumentality in service to a larger agenda of the identities of power. Observed by Jennie Chen: 'It [Shanghai] has been torn asunder by colonialism, war, political exhaustion, economic ebbs and flows, and social implosions. Yet look at it now; it is spectacular by all visual standards.'[20]

Conclusion

The selling point of Shanghai's tourism in the early twentieth century was the elegant image that replicated Western neo-classical styles. The insistent focus on the monumental, iconic representation of Shanghai consistently obscured its human scale, especially the sense of inhabitation of the city. Historically, the Bund was on the tourist map because of its iconographic nature. Its accommodation of many intruding cultures did not succeed in mediating between tradition and modernity, but rather inclined toward abrupt representations of external cultural norms. Also apparent in a microcosmic perspective, the inherent contradiction between local and foreign notions of open space – observed from the street scenes – represented the other notion of a modern Chinese city, particularised by the tension between the leap towards Western modernity and finding a new Chinese identity through a mixture of diversified cultures.

What the observations in this paper suggest is a fourfold conclusion. Firstly, that there was a lack of coordination in the planning process, which resulted in a fragmented urban fabric. Secondly, the overwhelming reliance on the monumentality of urban elements, such as high-rise buildings, without any concern for their utilitarian role in the city, is not conducive to a felicitous distribution of density in Shanghai's current urban environment. Thirdly, there is an absence of the human scale in the streetscape that diminishes contact, the sense of security, and the pedestrian energy level of the city. And fourthly, the production of the city as an image creates, as suggested by the first conclusion, a fragmented urban form and urban spatial organisation. This is the reality of Lujiazui.

Whether or not pedestrians saw the monumental buildings along the Bund as urban icons of which they should be proud, or as a mimicry of the Western metropolis that eroded their Chinese identity, is important to the holistic understanding of Shanghai, which has to be contextualised and understood from every possible angle. Knowing how and from where we view the history of Shanghai enables us to see beyond the veneer of the magnificent scenery of the

Bund and approach the fuller 'reality' of Shanghai.

Notes

1. Shanghai's populations as of 2007 is just shy of 15 million according to the UN's *World Urbanization Prospects 2007 Revision*, accessible online here - http://esa.un.org/unup/index.asp?panel=4
2. According to the *UN World Urbanization Prospects 2007 Revision*, Shanghai's population grew about 4.8% annually between 1990 and 2000, however the rate has since slowed to about 1.7%, still roughly 3 times the national growth rate.
3. The *hukou* system is a registration system that afforded residents access to local government benefits like education, health care, and welfare, but restricted in-country migration as these benefits were only available in the locale where a citizen was registered (e.g. if you were a resident of Beijing, you could not move to Shanghai and receive government benefits nor easily gain employment, and vice versa). As China has modernised and opened its borders per se, the hukou system is fading into obscurity, allowing massive in-country migration, usually to where employment is plentiful.
4. Saskia Sassen, *Cities in a World Economy* (London: Pine Forge Press, 2006), p. 73.
5. Jyoti Thottam, 'On the Job in China' and 'The Growing Dangers of the China Trade', *Time*, 170, 2, (2007) pp. 27-31.
6. For a detailed study of *lilong* see Non Arkaraprasertkul, 'Toward Shanghai's Urban Housing: Re-Defining Shanghai's *Lilong*', in *Proceeding of the Sixth China Urban Housing Conference in Beijing, P.R. China*, Hong Kong: Center of Housing Innovations at the Chinese University of Hong Kong and Ministry of Construction, P.R. China. 2007; and Non Arkaraprasertkul and Reilly Rabitaille, 'Contemporary *Lilong*: Revitalizing Shanghai's Ingenious Housing', *Proceeding of the Fourth International Conference of Planning and Design in Tainan, R.C.China*. Tainan, Taiwan: College of Planning and Design, National Cheng Kung University, 2007.
7. In his research, urban planner Tingwei Zhang refers to these levels in the administrative structure of Shanghai as the municipal government (for the Municipal Planning Bureau), urban district (a district may have more than one million population; the largest district in Shanghai has 1.6 million population; for District Authority Control), and street offices (sub-district government, with a size approximately equal to a company in U.S. cities; for Controlled Detailed Planning Section). See Tingwei Zhang, 'Urban Development and a Socialist Pro-Growth Coalition in Shanghai', in *Urban Affairs Review* 37, 475 (2002), p. 485.
8. Dong Nan Nan and Stephanie Ruff, 'Managing Urban Growth in Shanghai', in *City Strategies*, 58 (2007), p. 32.
9. Roland Barthes, *The Eiffel Tower, and Other Mythologies*, trans. by Richard Howard, (Berkeley: University of California Press, 1997). Also partially re-published in Neil Leach, *Rethinking Architecture*, pp.172-80.
10. Ma Qingyun asserts 'Pudong has certain existing dimensions of symbolic quality, to represent ambition and achievement in its new form of urbanization.' See Louisa Lim, *Shanghai Urban Development: The Future Is Now*, http://www.npr.org/templates/story/story.php?storyId=6600367 [accessed July 8, 2007]
11. Read more about criticisms and comments on modern towers in China in Layla Dawson, 'Towers to People', in *China's New Dawn: An Architectural Transformation* (New York: Prestel, 2005), pp.16-33.
12. Peter G. Rowe, *East Asia Modern: Shaping the Contemporary City* (London: Reaktion, 2005), p. 137.
13. Howard French, 'Shanghai Journal', in 'World Skyscraper Race, It Isn't Lonely at the Top', *The New York Times*, 8 May 2007. http://select.nytimes.com/gst/abstract.html?res=FB0A15F83D550C7B8CDDAC0894DF404482 [accessed: 11 May 2007]
14. Ibid. The core of the article reads: 'while diplomatic, the explanation strains creditability, especially for anyone who knows the history. The Shanghai building was originally designed to have 94 floors, rising to roughly 1,509 feet, but has quietly grown since then, with more floors added, as well as more height to each floor, resulting in about 105 extra feet.'
15. See detail about the projects, renderings, and criticisms of both buildings in Xing Ruan, *New China*

Architecture (Hong Kong: Periplus, 2006), pp. 125-31, Dawson, *New Dawn*, pp. 74-7, and Bernard Chan, *New Architecture in China* (New York; Merrell, 2005), pp. 6-15.

16. Jane Jacobs, 'The Use of Sidewalks: Contacts', in *The Death and Life of the Great American Cities*, (New York: Vintage, 1961), pp. 55-73.
17. Rowe, *East Asia*, pp. 134-7.
18. Kevin Lynch, T*he Image of the City* (Cambridge; MA: MIT Press, 1960), p. 8.
19. 'In Place of God: Culture Replaces Religion', *The Economist*, 383 (8527, 5-11 May 2007), pp.14.
20. Jennie Chen, 'Urban Architextures: A Search for an Authentic Shanghai' (M.A. Thesis, McGill University, 2003), p. 59.

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Biography

Non Arkaraprasertkul is Visiting Lecturer in Architecture and Urban Design at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts. Trained in History, Theory, Criticism and Urban Design at MIT, Arkaraprasertkul is a Bangkok-based practicing architect, urban designer and Adjunct Lecturer in Architecture and Urbanism at Chulalongkorn University. His interests concern issues of contemporary architecture and urbanism, specifically the effects of cultural construction on built form.

Performing Mimetic Mapping
A Non-Visualisable Map of the Suzhou River Area of Shanghai

Anastasia Karandinou and Leonidas Koutsoumpos

Introduction

In this paper we examine a process of mapping the Suzhou River area of Shanghai, focusing on the procedure of its making as well as on the re-exploration of the city as performed through the map, rather than on its material outcome as a final object. We argue that the map is actually the mimetic re-performance of the exploration and experience of the Suzhou River area. Through the description of the processes involved we analyse the position of this particular map within contemporary discourse about mapping. We also question the purpose of the process, its desired outcome, the consciousness of the significance of each event within this procedure, and the possible significance of the final traces that the map will leave behind.

This map was created by a group of four map-makers who were postgraduate students of architecture at the University of Edinburgh, and it was part of the M.Arch./M.Sc. course requirements. The overall procedure was not predetermined from the beginning; the strategy was not specified in detail and the sequence of activities, involving and evolving the map, was intended to be mainly intuitive. The mapping was a re-exploration, a re-visiting and navigation within the part of Shanghai under study. As a result, we suggest that the map-making process is a 'mimesis', in the sense that it re-performed the physical exploration of the actual site that had taken place earlier. Mimesis, as a 'conscious' repetition and creative evolution of an action (rather than a pure imitation or tracing), is a key concept that will be discussed in further detail throughout the paper.

After the mapping had been carried out, the procedure was analysed, post-rationalised, justified, and partly documented. In this paper we also question the methods and reasons for these later practices, as well as their possible meaning, purpose, demands and/or context. This paper presents the map in detail, sidetracking where necessary in order to give information about the Suzhou River area, as well as about the academic course as the context within which the mapping was carried out. In this way it interprets the map-makers' gestures and reveals possible links between their performance and this area of Shanghai itself.

Mapping procedure 1

The part of the city selected for mapping

The physical object was not intended to be a conventional cartographic map (carto meaning 'written-on-paper'), rather it was to be a multilayered model. Everything started on a piece of plywood (approximate size 1 x 1.7m) upon which a series of interventions were layered using a variety of materials and techniques [fig.1].

The mapping process presents the map-makers' experience of the Suzhou River area. The Suzhou River had always been a significant boundary in Shanghai; connecting and separating territories, neighbourhoods, activities and people. During the last two centuries both sides of the river have been

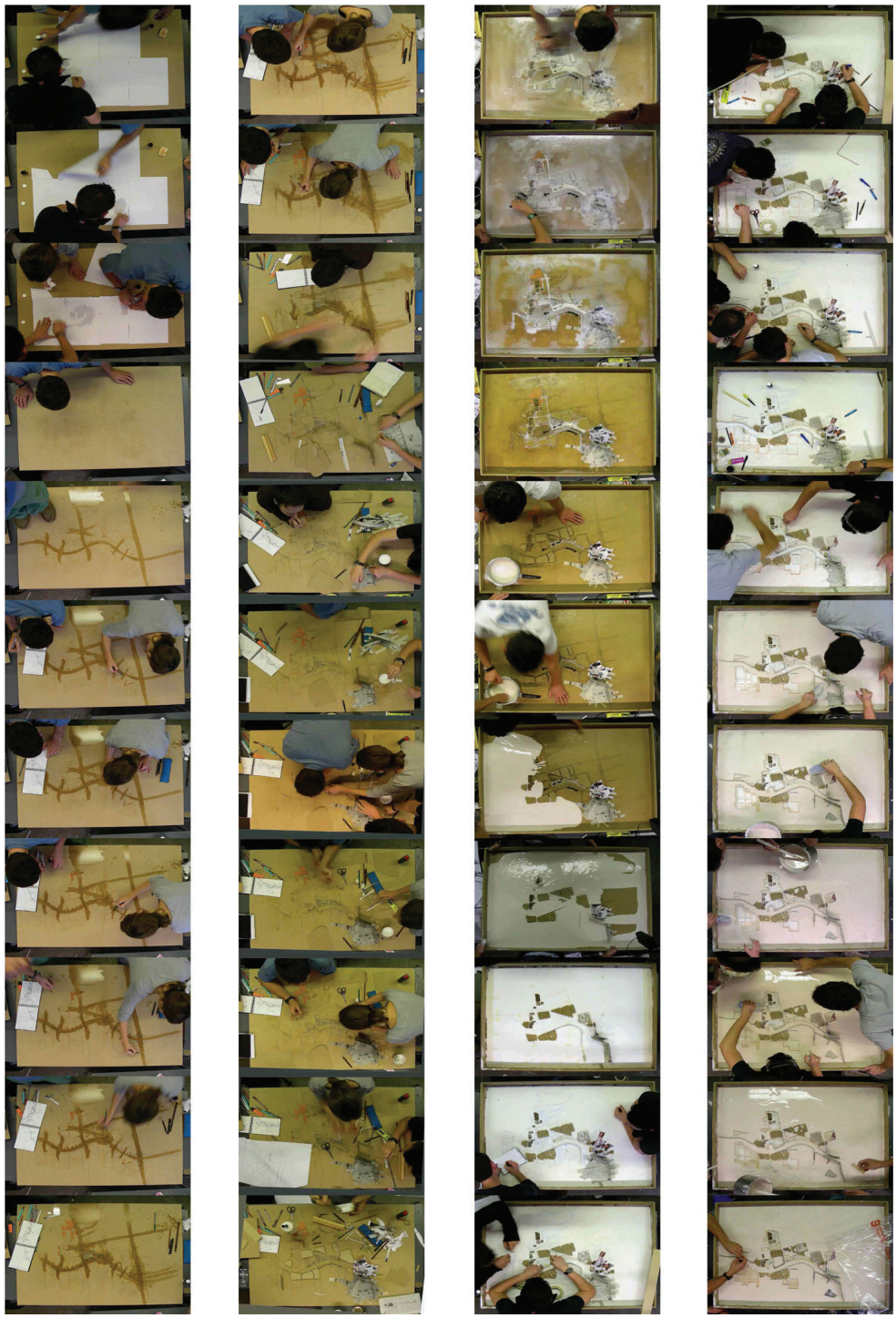

Fig. 1: Model-making process. Photo courtesy of the authors.

connected and disconnected several times; the layout of the activities occupying the neighbouring zones were also rearranged. During the foreign concession era (1842 to 1943), for example, the regions on either side of the river were completely separated. The southern side had been part of the British settlement and the northern part of the American one. At that time several bridges had been demolished and transport between the two sides either forbidden or controlled. Since there were no connections, the Suzhou River area turned into the 'back' side of both regions, and functioned as an industrial zone with small factories and storage spaces. The transport systems on either side developed independently, and even the building typology on either side is different. Later on, when the concession era officially ended (in 1943), the banks of the river started to get gradually reconnected; the demolished bridges were rebuilt and new ones were constructed. The city 'turns' once again towards the river, and many activities started to take place there, such as commerce, transportation, and everyday activities like cooking and recreation (e.g. tai-chi).

Over the past few decades this part of Shanghai has been developing rapidly. Several activities – varying along the waterway – take place, but traces of the past are visible too. The older buildings are different on the two sides, and the road network is very busy and inefficient, partly due to the fact that it was developed independently on either side. Many of the inhabitants of the Suzhou River area are immigrants from other parts of China – some from the Three Gorges region[1] and others from other rural areas.

Mapping procedure 2

The context of the mapping-procedure place (the game-board rules)

The place where the mapping is carried out inevitably affects the procedure a lot; the spatial, conceptual and physical context matters. The reason for the mapping, although not easily definable, emerges (at least partly) out of the course's and the individual students' orientation, the course's guidelines and the students' own interests and inquiries.

The map was created within the design studio of the M.Arch.[2] program of the University of Edinburgh, during the academic year 2005-2006. The course organiser was Dorian Wiszniewski and the authors were engaged in the course as tutor and student. The title of the overall project was 'Architecture in Borderlands – Borderlands in Shanghai' and its general aim was the study of the city of Shanghai, the production of maps and drawings and the designing of spatial interventions. The wider project or 'thesis' consisted of a series of smaller projects described by a series of handouts, which progressively disclosed parts of the project to the students. In detail, the project consisted of:

(1) A small conference that introduced the city of Shanghai to the students.

(2) A visit to the city itself.

(3) An 'hypo-thesis' – drawing maps of the city and fragment interventions that suggested a scenario of territoriality, out of which the map under examination was created.

(4) A 'proto-thesis' that tested the previous propositions by designing sequences of oscillation between the concrete and the abstract at a range of scales.

(5) The 'thesis' itself, which mainly consisted of a building design (including 'its own footprint and its technological imprint').[3]

(6) Finally, the 'thesis closure' allowed a re-framing of the 'thesis' by revisions, the creation of a drawing report and the presentation of the overall project.

One of the last handouts given to the students summarised the project as follows:

Remember, the enquiry into Borderlands is a question of territoriality. Borderlands are in-between conditions – areas between areas of resolute difference, areas of territorial dispute or areas formed by utter indifference. They are understood through questions of limit, connection and discontinu-

ity, inside and outside and, although they may be political or philosophical in character, they always have architectural manifestations that have circulatory possibilities and limits. A Borderland of course may be considered a threshold condition, but, under the specific deterritorialisation and reterritorialisation strategies that the enquiry of Architecture in Borderland initiates, Tectonics in Borderlands takes a positive outlook and speculates into the possible architectural manifestations of new limits and thresholds that emerge from renegotiating the political and philosophical tensions in Borderland.[4]

As is obvious from the quote above, the course adopts a Deleuzian terminology/worldview both implicitly and explicitly, and it has a clear orientation towards creative map-making. Mapping was not just a separate analytic phase of the design process, the map-making process was already interpreting the site and intervening in it.

Mapping, as a generative process, has become central to the focus of architecture, suggesting – as Mark Dorrian calls it – a 'cartographic turn'.[5] According to this view, Deleuze and Guattari provide the philosophical background that backs up the cartographic turn and with it the 'end' of man, humanism and architecture as stable entities that have a fixed representable meaning. The interest shifts, thus, to what the representation does; how representation changes the city itself. Within this approach, the mimetic process is not a one-way mechanism of the map imitating the city; it is a two-way interaction which acknowledges a mutual interface between the city and the map. In this way, the cartographer can never master the map, and neither can he dominate the terrain.[6] The strategy is not to implant architecture within the site, but rather to 'unground it, to detach it from its accommodation to the dominant discourses within which the identity of the site is constructed.'[7] Mark Dorrian proposes a schema that sees Eisenman and Libeskind as paradigmatic figures who made a major contribution towards the 'cartographic turn' in architecture, either as a pursuit of the exile of the human from the anthropocentric functionalism (Eisenman), or in an attempt to re-establish a 'phenomenological' bringing forth into visibility, memory and historicity (Libeskind).

Mapping procedure 3

The first move (the 'Icarus' conventions and beyond)

The first thing that was done within this mapping process was the tracing of a conventional urban planning map onto the plywood surface. The urban planning map was printed onto A4 paper sheets and then printed onto the base surface by acetone.

This stage already sets the question of scale, orientation, size, and of the initial information drawn onto the map surface. The overall size derived from the size of the drawing table; the place where the map was made – the design studio of the particular school, the industrial design dimensions of such tables, etc. – although of no significance to the represented place (the Suzhou River area), mattered at this stage of the mapping procedure. The tracing of an urban planning map is also an issue worth noticing. The starting point, quite often, is the most ordinary or conventional information about a place; its plan. By plan we mean the traditionally known drawing (to scale) which presents the outlines of the built forms, the edge of roads and rivers. Even before 'starting' our mapping we already encountered the 'ordinary', some fundamental and useful (at least in the everyday life of architects and designers) ways of representing, understanding and communicating some 'objective' aspects of the place. This choice already brings forth, in the context wherein we work, a map made up of lines that present information that is generally used – for the majority of building interventions carried out in the western world – for the documenting of a site or a plot. At the same time, the fact that it is (intuitively) considered as 'given' indicates the group's intention to go (or draw) beyond that.

The selection of the plan as a first gesture is already a strong decision; it is not a video, a story or a book that is mapping the experience of that space – it is a *plan*, a simulation of a visual overview. The tracing, made here, represents some of the experience that 'Icarus' would have had from above the city. If we follow Michel de Certeau's distinction between experiencing the city from above (like Icarus) and from within, walking and exploring it step by step, this tracing provides a kind of 'overview'. It is not a complete overview since it only gives the geometrical shapes of the built blocks, the roads, and the outline of the river, at a certain (spatial) scale; nevertheless, neither is it the route of a *flaneur*.

The following performances of the map-makers, as we will later see, challenge this first gesture of capturing the overview, and attempt to re-perform the routes of a *flaneur*. Their practice is the mimesis of the experience of the city – simultaneously – both from above and from within; both from far away through ('overview') maps and photos, and from within (the recalling and re-practising of the memory of the actual experience of the place step by step). It is – at all times – a struggle between the desired understanding or overview and the experiential immediacy that only the actual physical experience on the site can offer. The inevitable conflict between (1) experiencing the place without knowing the overview, and (2) re-experiencing the place with the knowledge of this overview, seems to be an intriguing point in this process. In other words, it challenges the impossible situation of experiencing a place with and without knowing what the next step brings.

Mapping procedure 4

The first improvisation (performance)

The second activity carried out was to draw the routes that the map-makers walked, with water – using a brush. The longer the time spent along an actual route, the slower the brush stroke. The faster and more complicated the turns and routes, the faster the brush strokes. The parts of the route that were traversed several times during the group's visit to Shanghai were drawn (with water) several times as well.

The water evaporated within a few seconds or minutes; the time for it to evaporate and disappear depended upon the amount of water applied to the plywood surface. While the brush was re-visiting a road (or part of a route) it might find traces of a previous visit, if it was an intense or slow one, or had been repeated several times; or else the trace of the previous crossing(s) had already vanished. The time it takes for the water to evaporate could be proportionally equivalent to the intensity or duration of a memory, either of the atmosphere, or of small details of the place.

The point where the description ends and the interpretation or justification starts is not clear. What the map-makers had in mind while making the map, and interpreting their activity after the map-making process, are two series of thoughts and activities not easily distinguishable. What was carried out by intuition or by some spontaneous reasoning, might have been forgotten in the meantime, and replaced by some other justification, reasoning or interpretation that suddenly appeared obvious after the initial drawing activity was accomplished.

An old Shanghainese man used to walk along the part of the Suzhou River under study every day, carrying a brush and a bottle of water. Every day, at the same time (and sometimes, if the weather was good, twice a day), he used to write with his brush and water a phrase that had been spoken by Mao Zedong when fighting against the Japanese during the 2nd Sino-Japanese war, in which he had taken part when he was young. As he told us, he was doing this calligraphy exercise regularly in order to practice his body and his mind. The phrase was ten to fifteen metres long and took fifteen minutes

to write. While he is writing the last few characters of the phrase, on a sunny autumn morning with a temperature of 15°C, the first ones start fading. This story can be narrated in several different ways and accordingly related to the map-making technique in various ways.

It becomes apparent that there is some sort of mimetic relation between the old Shanghainese man and the map-makers. One interpretation could be that by their mimetic practice, the map-makers 'affect' the city itself. They rewrite it again and again, and re-perform in the studio something that they encountered on site. This is not dissimilar from our earlier analysis of the cartographic turn, as a wish to invert the one-way mimetic power of the city towards the map. Assimilated to magic, mimesis expresses this power of representing the order/disorder of a cosmos through re-enaction.[8]

The performance of an activity reflecting the practice of the Shanghainese man, can also be interpreted in another (parallel) way: by drawing routes with water, a few seconds later one does not have in front of one an overview of the complete experience or route; one only has traces of the most intense or recent moments of the route. The overall labyrinthine navigation within the city is not visualised in this way, which may, at this stage, be a desired thing. Although the map-makers could already have an overview of their routes, they chose to have their previous 'steps' erased or, rather, evaporated.

Mapping procedure 5
Exploring the Suzhou River area on foot (embodiment)

After performing several routes with water, the map-makers re-performed some particular ones with pencils, ink and colours; they also drew certain buildings of the studied area by various means. Buildings of the same typology, the same time of construction, or function, are mapped in an equivalent way. The buildings, thus, have been mapped by different tools according to the characteristics of their various aspects. The territories on either sides of the river – the British and the American settlements – are drawn, thus, by different means; not because of the tracing of historical maps, but because of the differences noticed on the site. The information drawn on the map was collected mainly through the experience of the site from within; by walking it. At some stages of the map-making process, the areas on either side of the river were re-performed by different map-makers – by different members of the group. The fact that the two sides had been for a long time separated was being re-performed by the strategy and procedure of their mapping.

One member of the group of map-makers drew the roads with intense commercial activity using a black pencil. He also mapped the area where people practiced tai-chi, using small pieces of wood directed towards the river. Another member drew with colour the buildings accommodating companies, amongst which were several western ones. By use of other pens and materials, other attributes of the space were mapped; the place of the residential buildings (according to the explorer's observations), the place of intense commercial activity, the public places that accommodated everyday family activities (such as cooking or washing clothes), etc.

The map-makers were re-performing (through their minds and hands) the routes that they had followed on the site and thus re-experienced the city. This event could be characterised as 'mimesis', in the sense that the map-makers were re-performing themselves; re-visiting and re-embodying the experience of the city, re-performing the visit and exploration of the site, this time, on the plywood map-space.

The analysis of the map through the concept of mimesis takes as its starting point the classical Aristotelian view that sees mimesis as a fundamental concept of artistic creation. Every art according to

Aristotle (especially tragedy) is a mimesis of a praxis. In the second chapter of the *Poetics* he makes clear that the 'objects' of poetic mimesis are 'men in action' (*μιμούνται οι μιμούμενοι πράττοντας*).[9] For this we employ the concept of mimesis as a strategy towards knowledge, interpretation and understanding: 'Like is known by like' writes Aristotle, citing Empedocles.[10] Mimesis for Aristotle is constituted by mythos and praxis, which are both close to time and action. This view of mimesis should be seen in opposition to Plato's understanding of this concept, which is closer to image, imagination and imitation.[11] For Plato the issue of mimesis is related to the theory of forms where the distinction between ideas and appearances is clear: all appearances copy the divine forms (the appearances are in the darkness of the cave while the forms are in the light above). Within this view, the artistic mimesis – e.g. the painting of a chair – is a double mediation; the carpenter imitates the 'Ideal Form' and the painter imitates its imitation. Accordingly, the map of the Suzhou River can be considered as a map of an image of the city. By contrast, within the Aristotelian understanding of mimesis, the map under examination can be considered as an active re-enactment of human life, as was perceived during the students' visit to Shanghai. The focus of our analysis is the active participation in the mimetic phenomenon of map-making, and not the mapping as a final-product-oriented process.

Mapping procedure 6

Floating population, floating boundaries, floating buildings (demolishing and re-building the model)

While the group visited Shanghai, a new bridge, connecting both sides of the Suzhou River, was being built. The bridge-in-progress and the surrounding bank of the river (under reconstruction) were mapped by vertical cardboard elements, and covered by strips of recent Chinese newspapers. To be more precise, what was actually mapped were the vertical obstacles that prevented the map-makers from crossing the construction site. The group learned about the bridge from local people and the local newspapers. What is being mapped (in the first place) is not the (non-visible) bridge-under-construction, but the blocking elements and the blocked, inaccessible territory. What is mapped, thus, is what was actually experienced by the members of the group on site. The newspapers were bought and read in Shanghai. Then, they were taken to Edinburgh by the map-makers, together with pencils, inks, brushes and other things and tools.

Part of the wall of the riverside is represented by vertical cardboard. Some parts of this wall (the ones represented on the map) are quite high, blocking the view of the river. They serve, thus, as a 'back' for several outdoor public activities, such as commerce, cooking, hanging clothes to dry, etc. They might also act as a precaution against humidity; in the past the walls along the longer parts of the river were high, possibly to prevent it from flooding.

The newer buildings, that – as far as the group members were informed – were not meant to be demolished, were mapped as blocks of wood stuck onto the plywood surface. Their height on the map doesn't represent their actual height; the wooden blocks indicate the field of land they occupy. The territories that were being demolished and those which were being rebuilt or were soon to be re-built, were drawn in outline using ink.

The buildings which were being demolished while the group was in Shanghai were drawn and constructed by blocks of wood, and then erased or removed by water or carving tools. As the map makers noticed (and as they were also informed before visiting the city), during the last few years the Suzhou River area has been changing extremely rapidly. Small old houses and blocks are being demolished and new high-rise buildings are being constructed, while the inhabitants of the demolished

ones move to other parts of the city. While the plots remain unbuilt – after the demolition but before the construction of new buildings – they are temporarily inhabited by Chinese people (mainly migrants) who build their own sheds out of wood, and tents. Pockets of the population float from one area to another, the value of the land changes rapidly, and the spatio-temporal mix and sequence of situations becomes more and more complex. While luxurious flats are being built and inhabited, small houses are being demolished (and their inhabitants look for affordable accommodation in other, mainly suburban, places), and in the meantime temporary constructions house moving populations. The layout of the built territories, and also the layout of groups of inhabitants, shifts from day to day.

Within these last few steps of the mapping process a range of information and spatial elements was mapped, represented or re-performed using various ways and means. The mapped aspects were the ones recorded or remembered by the map-makers; this was due either to randomness or to their significance. Randomness and possible significance were, thus, the two parameters that brought the above-mentioned information to the map-making field (without the identification of one or the other always being possible).

Mapping procedure 7
Re-exploring, re-performing, re-concealing

After some stages of re-performing the experience of the actual place onto the mapping-place, the group covered everything with a fine layer of Vaseline. Then, plaster was poured onto the model and most of it covered. The Vaseline allowed the possibility of removal, if desired, later on. What resulted was, thus, a white surface with which to re-start mapping; the previous practices are there – not visible though, and not easily accessible either. At this stage, the plaster covered everything, rendering it invisible, apart from the wooden blocks presenting the seemingly permanent buildings, and some (seemingly permanent) parts of the river wall too.

After the plaster dried, the group retraced some of the lines from the urban planning map mentioned at the beginning. They knew, thus, the precise position of their previous mapping interventions. Using some carving tools, they ‘dug’ into the plaster and removed bits that covered certain territories, such as the busy riverside public space where tai-chi, commerce and everyday recreation took place. The previous notation of these places again became visible on the surface.

At the same time, the group members placed some vertical plastic planes enclosing the territories of buildings being demolished or of the ones recently demolished (and where new ones are going to be built). On these territories, as mentioned earlier, there are people living in small temporary sheds that they built themselves. These temporary ‘floating’ spaces of the floating population are being notated by an enclosure that prevents them from being flooded by the following layer of plaster.

A second layer of plaster was poured onto the map. This time, within the enclosed spaces one can see the thickness of the plaster layer just poured, as well as the upper surface of the previous one. A large part of the map again became a blank for further study, performance or mapping – apart from the above-mentioned territories-in-progress. Those remained ‘excavated’, uncovered, while the rest of the place would need to be carved and literally excavated in order to be brought (once again) to the surface.

Thus, if the map was to be ‘read’, the ‘reading’ activity would include carving, scratching and breaking, in order to uncover and make visible parts of the mapping process. The one who reads the map, at the same time creates it too; he gets inevitably involved in the map-making process. The map-makers also read the map they create, and when

needed, cover it and re-reveal it. The 'play' of the memory and the conflict between the whole and the fragmented experience, re-emerges as a challenge to hide and reveal parts of the (re)experience of the Suzhou River area.

Mapping procedure 8
Re-viewing the mapping and the mimesis

The issues mapped or presented by the map-performing are some of the events and conditions of the studied site; not the only ones and not necessarily the most important. They are, though, of some significance to the activity of exploration. It is a re-exploration of the place, and as such it makes visible – at least for a while – some of its qualities. As a re-exploration, it addresses issues that the map-makers came across either consciously or not, through their journey. Some of the information was put on the map-board straight away, and some others emerged out of the overlaying of multiple representations and actions. As James Corner mentions, referring to Robinson and Petchenik's arguments, 'there are some phenomena that can only achieve visibility through representation rather than through direct experience'.[12]

'The map 'gathers' and 'shows' things presently (and always) invisible, things which may appear incongruous or untimely but which may also harbour enormous potential for the unfolding of alternative events'.[13] What is mapped does not indicate what there is or what happens on the studied site; the map indicates qualities and it functions as an active milieu itself, so as to engage not only with the actual reality of the place but also with the potential ones. Italo Calvino's room with the glass spheres could be considered, thus, as a kind of map of the city; the spheres presented the future of the city as each one of the inhabitants had imagined it, and which was never realised as such.

The map's significance, as Mark Dorrian mentions, referring to Deleuze and Guattari, turns out to be related more to what the map as 'architectural strategy/representation does rather than what it means'.[14] In our case the map-in-progress presents and conceals itself. It also signifies, in the sense that it creates a situation against which the possible viewer has to re-act (by the cutting, carving and digging mentioned earlier), in order to experience the map's potential. According to Deleuze and Guattari, '[t]he map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by the individual, group or social formation.'[15]

Here comes the question about the use, the function and the readability of a map or mapping process. Some geographical maps are tracings, and although they might not give more information than one would find on the site, they are of some use. Their production does not reveal; it is not an exploratory experience for the map-makers. The outcome, though, that the physical map produced, will be used by travellers and visitors to the place. Other kinds of maps provide an enlightening experience for their makers, since the map-makers re-explore the place and reveal or bring forth interesting things and experiences. These kinds of maps may have the potential to be experienced by other people rather than their makers, or not.

In our case, the map does not exist (in some sense) as a final object; it is a procedure or re-performing of the experience of the site. There is, though, the video recording of the mapping process, and also the map-board, left in the state it was in when the mapping process stopped. The mapping procedure as such, though, cannot be re-visited, since its being lies in the making of that map, in the being-involved in the making and not in the viewing of it, or of its video recording. If the purpose of that map was, as we argue, the better understanding of the place and the re-experience or re-performance of it, by a creative mimesis, then

the map cannot have a receiver, a reader anyway. Having said that, one might still argue that this map does have receivers, since we are now presenting it. Our presentation, though, is another map, and its existence depends fully upon our narration. Without our narration that map is almost unreadable.

Deleuze and Guattari, referring to the map, argue that '[i]t can be drawn on the wall, conceived of as a work of art, constructed as a political action or as a meditation'.[16] According to their arguments, the map can have any form – it can be of any nature desired. Within this field of thought we can name as 'map' the experience of the mapping, or the potential experience of the map re-visited: a viewing of the map that would involve its physical deconstruction in order to gain a rich physical and conceptual experience of its nature and making. Still, we could argue that the map as such, as a means without an end, is a pure 'gesture.' Giorgio Agamben describes gesture as a kind of activity that opposes Aristotelian teleology:

…if producing is a means in view of an end and praxis is an end without means, the gesture then breaks with the false alternative between ends and means that paralyzes morality and presents instead means that, as such, evade the orbit of mediality without becoming, for this reason, ends.[17]

As we have already mentioned, Deleuze and Guattari are key-figures in the cartographic turn in architecture. Especially with the example of the orchid and the wasp[18] they expose the limitations of mimesis as mere imitation. Nevertheless they still mention the mimetic characteristics as part of the semiotic chains that the rhizome connects.[19] Referring to maps in particular, they pose the question: 'Does not a multiplicity have strata upon which unifications and totalisations, massifications, mimetic mechanisms, signifying power takeovers, and subjective attributions take root?'[20] But they quickly affirm that the opposite is also true, exposing the dangers of simple dualisms of tracing: 'The imitator always creates the model, and attracts it. The tracing has already translated the map into an image;' Finally, they acknowledge that the entire understanding of their book as disseminating and dispersing its unity through mimetic procedures between each plateau. This view of mimesis and mapping is not dissimilar to contemporary approaches that relate mimesis to play;[21] play is related again through the game-board mapping to the educational aspect of the map:

In the case of the child, gestural, mimetic, ludic, and other semiotic systems regain their freedom and extricate themselves from the 'tracing,' that is, from the dominant competence of the teacher's language a microscopic event upsets the local balance of power.[22]

Although the course required an 'active' map to be presented, the map under examination was not a map-to-be-presented. It was a 'game' played by the group members (the map-makers) in order to re-visit, understand and interpret the city and particularly the part of Shanghai that was studied. The map-making was a field for discussion, interaction and interpretation – for a game; it was a field for events that were not to be presented as an object map-outcome.

In order to understand mimesis as a play/game one has to understand the shift that Nietzsche brought forth by going beyond the Greek philosophers (Plato and Aristotle), focusing on the 'performative' aspects of mimesis. The 'performative' mimesis becomes a play as a 'dramatic representation where the artist takes art personally.'[23] For Nietzsche the art-as-play is the only way for humans to find the truth, a truth that is different from truth-as-correspondence. 'Nietzsche's notion of play was radical, since he ultimately understood it through a cosmic (rather than human) disinterestedness.'[24] This disinterestedness is a characteristic of the child's attitude and (in our case) becomes prominent in the way that the map was actually left

aside half/non-finished. It is considered here as half-finished in opposition the 'finished' or the expected which would consist of a visible material (possibly readable) map.

The fact that mimesis creates a second nature (physis), has been identified as a major philosophical problem even from the early treatises on the topic. Plato, recognising the power of mimesis, privileged it as a fundamental way of educating the noble quality of men in his ideal city, since the mimesis of their outlook can 'settle down into habits and second nature in the body, the speech, and the thought.'[25] Nevertheless, for the same reason Plato actually prevented the poets from joining his Ideal state, because through the mimetic acts of poetry and theatre 'one forgets his own role or duty in the state, for if a guard always mimes foreign characters, his soul would be split up between these untrue lives.'[26] In another instance, Plato argues that in order for Ion to recite Homer, his *nous*, or his self awareness, is not with him anymore.[27]

Within the context of this mimetic mapping, it could be argued that mimesis was a way of approaching the other in order to establish a dialogue with it – where 'unconscious strata of culture are built into social routines as bodily disposition.'[28] It could be argued that the mimesis of the old Shanghainese man writing with water (by applying the same gesture onto the map) made the map-makers step out of themselves in order to become temporarily the other. Performing a mimetic action, in this sense, is an instantaneous trip to the Other, becoming the other for a while and coming back again, changed only by the experience of being someone else. What is gained through this mimetic activity is not a tangible outcome that can be rationally measured as such. In some sense it is – by nature – against rationality:

Mimesis on the other hand [of rationality which is abstract, oppositional and hierarchical], is responsive and concrete. It works through images rather than concepts and approaches the other (nature, the unconscious, social others) as something different yet related, more 'powerful' than the self. It responds emotionally, intuitively. Through gesture and movements it sets forth the self's experience of what it feels apart from yet also a part of, assuming -for the moment- the features of the other.[29]

The map-makers were inspired by the old Shanghainese man's technique, onto which they projected their own thoughts and metaphors. The reason for engaging in such a practice is not clear, neither is it absolutely nor rationally justified. It is a mimesis of praxis within a different context. The difference of the context already shifts the situation, the reason and the possible meanings or significance of the praxis. Thus, apart from the experience of the other's self that the mimesis (to some extent) provides, the repetition of the praxis in a different context provides a better understanding of both contexts as such.

After the map

Arguably, the mimetic aspect of mapping has been over-emphasised in an attempt to apply it to heterogeneous and even contradictory processes. To some extent, in contrast with the map-makers' practice (who performed mimetically without being aware of it), the use of mimesis in this paper is intentionally amplified: a mimetic excess.[30] This excess is a subversive mechanism that wishes to challenge and question the suppression of mimesis in western 'civilised' societies.[31] This unprompted revival of the mimetic practices by the students brings forth a trajectory of pre-reflective human activity. By putting mimesis back into the game, the map-makers spontaneously transgressed the conventional binary oppositions (subject/object) and offered an accessible re-narration of Shanghai.

Within this paper our aim was to revisit the map-making process described, revisiting at the same time the part of Shanghai that was studied. Our

aim was to understand, explore and interpret some aspects of the city. What revealed or interpreted Shanghai, was the narration of the creation of the map, rather than the object-outcome of the map-making process. The narration of the map-makers' practices and choices brought into question issues concerning the map-making practice as such: its purpose, techniques, readability and recipients. The mapping described was accomplished as a mimetic process of their actual experience of Shanghai. The mapping was revisited and narrated, here, as a mimesis (again) of the map-makers' process, through textual description and interpretation. The map, thus, cannot be seen but can only be interpreted again and again; just like the city. The map does not represent the city; it does the city.

Notes

1. There is a hydroelectric dam being constructed at the Three Gorges area. Because of that, a vast region is being flooded and the inhabitants of the numerous towns and villages are being relocated, some within the same province (Hubei Province), whereas many others to other eastern and central provinces.
2. The M.Arch. course in the university of Edinburgh has the special characteristic of being a two year (four semesters) course that is dealing with one single big project, the 'thesis'. For most of the students this is the 5th or 6th year of their architectural education, whereas for some others it is part of their postgraduate M.Sc. degree. The M.Arch. is formally divided into two years (M.Arch. 1 and M.Arch. 2). The first semester, formally called Architectural Design Opening, introduces the course; semesters 2 and 3 form the main body of the course named M.Arch. 'Thesis'; the fourth and last semester allows for 'wrapping up' and is named *Architectural Design Thesis Closure*, giving also the opportunity to the students to prepare an Academic Portfolio. Two further lecture-based courses run parallel to M.Arch. 'Thesis' entitled 'Studies in Contemporary Architectural Theory' and 'Architectural Man'.
   The mapping described in this paper has been carried out by the group consisting of: Will Flint, Gregor Horn, Anastasia Karandinou, and Jeremy Lewin (M.Arch. and M.Sc. students).
3. Dorrian Wiszniewsky, 'Closure Thesis Handout, MArch, Architectural Design', Architecture Faculty, University of Edinburgh, 2007, p. 4.
4. Ibid. p. 2 [bold in the original]
5. Mark Dorrian, 'Architecture's 'Cartographic Turn', in *Figures de la Ville, et Construction des Saviour*, edited by Frederic Pousin (Paris: CNRS Editions, 2005). p. 61
6. Before controlling/understanding things have to be internalised through mimetic actions (mimesis is a kind of autism).
7. Mark Dorrian, 'Architecture's 'Cartographic Turn', p. 61.
8. '…mimesis is a creative imitation where something that exists potentially is recognized and re-enacted as something actual. For example, movement can be recognized and re-enacted as a significant gesture; sound, as song or music; visible reality, as image or picture; and ideas, as an articulated and structured experience. In its most original sense, mimesis is a re-enactment of order.' See: Dalibor Vesely, 'Architecture and the Question of Technology', in *Architecture, Ethics and Technology*, edited by Alberto Perez-Gomez and Louis Pelletier (Montreal: McGill-Queens University Press, 1994), p. 33.
9. Göran Sörbom, *Mimesis and Art: Studies in the Origin and Early Development of an Aesthetic Vocabulary* (Bonniers: Svenska Bokförlaget, 1966). p. 189-190.
10. David Appelbaum, *Disruption* (Albany: State University of New York Press, 1996). p.103.
11. Arne Merlberg, 'Theories of Mimesis', in *Literature, Culture, Theory*, edited by Richard Macksey and Michael Sprinker, (Cambridge: University of Cambridge, 1995). p. 44.
12. James Corner, 'The Agency of Mapping', in *Mappings*, edited by Denis Cosgrove (London: Reaktion, 2002), p. 229; see also: 'Mapping is neither secondary nor representational but doubly operative: digging, finding, and exposing on the one hand, and relating, connecting and structuring on the other. Through visual disclosure, mapping both sets up and puts into effect complex sets

of relationship that remain to be more fully actualized. Thus mapping is not subsequent to but prior to landscape and urban formations. In this sense, mapping is returned to its origins as a process of exploration discovery and enablement. This is less a case of mapping to assert authority, stability and control, and more one of searching, disclosing and engendering new sets of possibility. Like a nomadic grazer, the explanatory mapper detours around the obvious so as to engage what remains hidden.' Ibid. p. 225.

13. Ibid. p. 225.
14. Mark Dorrian, 'Architecture's 'Cartographic Turn'.
15. Gilles Deleuze, *A Thousand Plateaus: Capitalism and Schizophrenia* (Athlone Press, 1987), pp.13-14.
16. Ibid. p. 14.
17. Giorgio Agamben, Vincenzo Binetti, and Cesare Casarino, 'Means without End : Notes on Politics', *Theory out of Bounds*; V. 20 (Minneapolis ; London: University of Minnesota Press, 2000), p. 57.
18. Ibid. p. 11.
19. Ibid. p. 8.
20. Ibid. p. 14 [our italics].
21. Miahi Spariosu, 'Mimesis in Contemporary Theory and Interdisciplinary Approach', in *Imitation and Play in Western Culture*, Vol. I, edited by Miahi Spariosu and Giuseppe Mazzotta (Hohn Benjamins Publishing Company, 1984),.p. x; p. 78.
22. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus, Capitalism and Schizophrenia*, Vol. 2, trans. by Brian Massumi, (London & New York: Continuum, 2004/1980), p. 16.
23. Kwok-kui Wong, 'Nietzsche, Plato and Aristotle on Mimesis', (2003), in *DOGMA*, edited by Angèle Kremer Marietti and Thierry Simonelli: http://dogma.free.fr/txt/KwokKuiNietzschePlatoAristotle.htm. (accessed 9 May 2007).
24. Alberto Pérez-Gómez, *Built Upon Love, Architectural Longing after Ethics and Aesthetics* (Cambridge Massachusetts; London, England: The MIT Press, 2006). p. 24.
25. Plato, *Republic* 395d1-3.
26. Kwok-kui Wong, 'Nietzsche, Plato and Aristotle on Mimesis'.
27. Plato, *Ion* 534b5-6.
28. Michael Taussig, *Mimesis and Alterity: A Particular History of the Senses*, (New York, London: Routledge, 1993), p. 25.
29. Karla L. Schultz, *Mimesis on the Move: Theodor W. Adorno's Concept of Imitation* (Berne, Frankfurt am Main, New York, Paris: Peter Lang, 1990), p. 16.
30. 'Mimetic excess as a form of human capacity potentiated by post-coloniality provides a welcome opportunity to live subjunctively as neither subject nor object of history but both, at one and the same time. Mimetic excess provides access to understanding the unbearable truths of make-believe as foundation of an all-too-seriously serious reality, manipulated but also manipulatable.' In Michael Taussig, *Mimesis and Alterity,* p. 255.
31. 'Civilization has replaced the organic adaptation to others and mimetic behaviour proper, by organized control of mimesis, in the magical phase; and, finally, by rational practice, by work, in the historical phase. Uncontrolled mimesis is outlawed.' In Theodor Adorno and Max Horkheimer, *Dialectic of Enlightenment*, Verso Classics (London, New York: Verso, 1997), p.180.

Biographies

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The Rise of the Private: Shanghai's Transforming Housing Typologies

Neeraj Bhatia

Rising tides of the private

'On top of the sea' is the literal translation of Shanghai, whose urban structure was built around thin canals that crossed the city. These canals, just like the traditional streets in Chinese culture, were able to move people and goods while creating a public arena for interaction. It was infrastructure – streets and canals – that formed the basis for the city's morphology and the architectural typologies housed within it. As the rivers and streets eventually grew, merged, and monumentalised, they created separation. Thus, infrastructure, which once was used to collect, now divided – as is witnessed in the new six- (or more) lane-streets, or the Huangpu River, isolating Puxi from Pudong. This transforming notion of infrastructure is directly linked to changes in Shanghai's housing typologies. The traditional *lilong* housing structure is comprised of a unit that multiplies through group linkages to create streets. In these *lilong* dwellings, the street and the architectural typology are one. More recently, an influx of high-rise apartment typologies has dislocated the relationship between infrastructure and building. Here, infrastructure is used to subdivide massive plots onto which built form is whimsically placed. The disconnection and monumentalisation of infrastructure that corresponds to these shifting building typologies reveals an even deeper transformation of the public sphere. It is here that we witness the rise of the Private and the emerging loss of public life.

Oriental Manhattan

Shanghai is a city that has redefined the notion of rapid urbanisation. This new urbanisation is directly linked to the end of Maoism in 1978 and the succeeding Open Door Policy implemented by the Communist Party. Before the reform of the economic system, housing in Shanghai was considerably dilapidated and in dire need of infrastructural improvements. Between 1949 and 1978, ownership was viewed as a Capitalist tendency,[1] encouraging few Shanghai residents to own property. The government, public institutions, or employers housed most residents. At the time, government investment was being poured into production rather than consumption, leaving little means to improve existing housing conditions or provide new housing. Furthermore, the proliferation of migrants from rural areas created vast increases in population with inadequate housing[2] – between 1949 and 1965, the per capita living space in Shanghai declined from 3.7 to 2.15 square meters.[3] To give an idea of the magnitude of the dilemma – in the late 1970s, Shanghai's population was five times that of London, while the city stood devoid of high-rise housing.[4]

In April of 1984, the city was offered a renewed spirit of urbanisation when the government announced the opening of the Shanghai markets. Meager improvements to the city's over-crowding, infrastructure, and physical appearance during the Maoist era left the city in disarray during the 1980s. Not only was housing in crisis, Shanghai as a city needed to remake its image to match the world-class

Fig. 1: New housing developments tower over the old row houses.

cities that it hoped to compete with. The rebuilding of Shanghai was part of a strategic plan to create a forward-looking city that eradicated most signs of the past while simultaneously striving to resurrect Shanghai's cosmopolitan image. Former Mayor of Shanghai, Huang Ju, confirmed this sentiment in a speech that made front-page headlines:

'Shanghai of the future must be a metropolis equal to New York or London,' said Mayor Huang Ju as he outlined revisions to the city's development plan designed to create an 'oriental Manhattan'… He was addressing the City Planning Meeting, the third since 1949…. Marking the city government's efforts to revive the past glories of Shanghai and make the city an international metropolis in the 21st century.'[5]

The rebuilding of Shanghai into a metropolis occurred and is occurring at an unprecedented rate. The form of the new metropolis – the 'Oriental Manhattan' – was to be comprised of endless towers. A symbol of progress and open-market capitalism, the tower typology satisfied the needs of Shanghai's rapid re-urbanisation. These towers were deployed across the urban landscape at a speed that would frighten most city planners – in 1980, a mere 11 towers between 16 and 29 storeys graced the skyline (and none above 30 storeys), while just fifteen years later the city was infiltrated with 811 towers between 16-29 storeys, and a further 53 with more than 30 storeys.[6] Not only were towers the iconic symbol of the new Shanghai, they provided much needed relief to the housing crisis. This rapid development has been successful at ameliorating the living conditions that were stagnant during the Maoist era: more new housing was built in Shanghai between 1979-89 (40 million square metres) than between 1950-80 (23.13 million square meters).[7] Better living conditions naturally implied more living space per person – which rose dramatically from 5.2 square metres in 1985 to 8.8 square metres in 1997.[8] Residents of demolished housing were relegated to either remote suburban areas or into tower developments that remained in the city. These residents make up a significant part of the Shanghai population – 25% of residents live in new housing with 1.5 million living in homes built between 1993-1995.[9] The two forms of settlement that accompany this urbanisation – the tower and suburban dwelling – have significant ramifications for the public sphere. Suburban sprawl has been extensively documented, particularly in the North American context, and more importantly does not concern the urban condition. What is of particular importance here is how the urban public sphere has transformed with the shift from *lilong* housing to the tower. Both housing types are characteristic of their respective time periods and were endlessly and furiously implemented across the urban landscape. It is the dramatic supplantation of one typology by another that carries powerful repercussions for the public sphere.

De-invididualise and de-privatise

How has the public realm changed in the light of recent rapid development in Shanghai? I believe Hannah Arendt's definition of the Public is both eloquently precise and offers insight into this discourse. According to Arendt, the public realm characterises a form of reality. People put forth ideas and thoughts into the public sphere once these are internally digested and ready to be presented. This act – of putting forth a part of oneself to be seen and heard – is what constitutes a form of reality. Arendt states, 'Compared with the reality which comes from being seen and heard, even the greatest forces of intimate life – the passions of the heart, the thoughts of the mind, the delights of the senses – lead an uncertain, shadowy kind of existence unless and until they are transformed, de-privatized and de-invidualised, as it were, into a shape to fit them for public appearance.'[10] For Arendt, the reality that ensues from making something public both assures us of the common world and ourselves. Arendt's second definition of the public realm resides in the world that connects and simultaneously separates

us. She uses the metaphor of a group of strangers sitting around a table. For Arendt, the table is the public sphere – it is the world that gives us a common platform to understand one another, yet allows us to be individuals. The continual concern for the same object – the common world – despite the rise of pluralist values, is the basis for the public realm. The decreasing concern for the common world is directly related to the rise of the Private. Arendt's definition of the public realm is important, for, as I shall argue, the transformation from the *lilong* to tower housing typology corresponds to both the rise of the Private as well as a loss of the arena to form reality.

Points of contact

The *lilong* typology that is characteristic of the 'old' Shanghai is intriguing because it presents a vivid public realm that is inherently attached to the typological form. Developed predominantly during the 19th and 20th century, *lilong* housing is a hybrid between two- to three-storey row houses of Western tradition and the classical courtyard house.[11] The word itself describes its housing structure – *Li*: neighbourhoods, *Long*: lanes – an urban typology that combines the street, and all its associated activities, within its form. The influx of population in the late-19th and early-20th centuries, created a housing shortage that favoured the notion of communal living. Built chiefly by the English, *lilong* are characterised by a unique hybrid of foreign and local influences. The notion of the row house was characteristically English, while the courtyard and allocation of public space on the street was largely Chinese. Initially built in 1842, *lilong* housing comprised 60% of the total dwelling area in Shanghai by 1949.[12]

Most *lilong* developments consist of both commercial (including service and small production) and housing units. The housing units are arranged into rows within the interior block, while the commercial units line the edges. Separated only by archways, the busy commercial street often bleeds into the tiny alleyways that form the neighbourhood. Each gateway demarcates the ends of the main lanes, which comprise the public circulation zone. Side-lanes, placed perpendicular to the main lanes, lead to the housing units. Often dead-ends, the side-lanes do not instigate through-circulation and therefore provide a degree of privacy. This 'fish-bone' circulation has a built-in mechanism for the subtle mediation between private, semi-private, and public zones. Furthermore, the mixed programs – commercial and housing – form diversity within the settlement.

Similar to the current proliferation of apartment blocks, the new-type[13] *lilong* were built at a fervent pace between the 1920s and 1940s to host the influx of population after the collapse of the Chinese empire in 1911. Despite the modest two- to three-metre lane widths, the street developed into the gathering zone for families and neighbours.[14] In *lilong* housing developments the street becomes a place of gathering, conversation, debate, selling and movement. It alludes to many of the characteristics Jane Jacobs felt nostalgic for during American modernism. Intriguingly, the street attached to the *lilong* also contains many seemingly private domestic functions – kitchens, bathrooms, laundry, etc. These functions that normally are categorised as private within housing typologies are extracted and placed in the public realm of the street. Of course, this has more to do with economic constraints on the plebeian population, but what inadvertently ensues is a thriving public realm – a street programmatically filled with 'private' functions, forcing neighbours to intersect and interact. By presenting elements of privacy into the public realm, residents are forced to de-privatised and de-individualise even their most private domestic experiences. In Arendt's reading, this enables the reaffirmation of reality and the continual concern for the common object – the public realm.

The affirmation of reality through street life

promotes the notion of gathering and trust. It is this sense of sharing that Richard Sennett so eloquently speaks of in *Uses of Disorde*r[15] that enables the breakdown of the 'other' in poorer populations. Sennett's premise is that communities of economic scarcity do not have the ability to control their boundaries or internal composition. What results is tolerance and trust through the acceptance of diversity or the breakdown of the 'other'. Sennett's analysis goes further – he reveals that in poorer communities the notion of sharing such things as appliances or food is necessary for survival. Direct social interaction through sharing at these 'contact points', Sennett believes, creates a community of trust.

Economic scarcity of *lilong* dwellers often accounts for contact points of interaction. A sample inspection of Shi-ku-men *lilong*s found that 56.2% of households had no private kitchens; 72.5% had no gas-supplying appliances (and depend on briquette stoves which are often shared); and over 99% do not have toilet facilities.[16] The sharing of resources unintentionally creates a sense of understanding and trust between neighbours. Neighbours are often witnessed playing mahjong or watching each other's kids and stores. Moreover, shared street programs – kitchens, laundry, washrooms, etc. – create points of contact that promote understanding, diversity and the eradication of the 'other'. Infrastructure becomes the place of gathering and is linked and framed by built form. The interweaving of social, economic and private programs – residential and commercial – creates interaction between different demographics and promotes street activity. I do not want to make the mistake of romanticising the lilong settlements, as there are many detrimental problems in their design, such as bad infrastructure (water supply, electricity, etc.), limited space, lack of privacy, and difficult access. What the lilong does provide, however, is a unique typology that reaffirms a sense of reality and place in the public realm. Jos Gamble's ethnographic research on this subject is very telling. Through interviews with informants he received the following response regarding the shift to apartment towers:

Informants commented that although living conditions in Nanshi (a lilong district) were poor, relationships between neighbours were good – they all knew each other and would help each other, for example, to look after the children. On one occasion, I visited Nanshi accompanied by a former resident who now lived in a high-rise flat. He felt nostalgic for life in Nanshi and missed the closeness of relationships between neighbours and the frequent visits they made with each other. He contrasted this situation with his new accommodation where there was little or no contact with neighbours.[17]

In 1941, when Shanghai fell under the control of the Japanese, development of the *lilong* housing ceased. Economy and real estate slowed down until eventually Mao took control in 1949. During the Maoist era, *lilong* were considered non-competitive and inefficient in construction and delivery compared to modern apartment buildings.[18] Furthermore, *lilong* developments were not regarded as shang, or nice areas, which were typically characterised by a lower population density, and by being more clean and quiet.[19] The development of *lilong* lasted from 1842 to 1949. In the wake of the alienation that has often been associated with Modernism or suburban sprawl, the *lilong* provided a unique template for the formation of a common public realm in architectural form.

Private modernisation

As Shanghai modernised and individuals were 'emancipated' with more disposable wealth, a shift occurred in the predominant housing typology. The *lilong* were reminiscent of the 'old' Shanghai, riddled with poverty, and its associated pitfalls. Instead, the new Shanghai opted for a differing typology – the tower. The proliferation of towers throughout the city, each gleaming in the utopian skies of modern-

	1978	1985	1997
Income and consumption (urban)			
Indices			
Disposable income per capita	100	160	312
Retail Sales	100	239	2,031
Per Capita living space (sq.m)	3.6	5.2	8.8
Natural gas use (piped and bottled) (%)	14	22	76
Consumer durables per 100 households			
Washing machines	6	48	89
Refrigerators	0	7	76
Sofas	89	132	205
Soft beds	..	6	42
TV, b/w	32	67	26
TV, colour	..	17	100
Urban telephones (in 100,000s)	28	48	554
Long distance telephone lines (in 1,000s)	19	38	1,146
Mobile telephones (in 1,000s)	0	0	1,323

Fig. 2: Income Consumption. (For indices 1978=100, and subsequent increases are adjusted for inflation (data not available) Source: SSB: (1998a, pp.24-5, 128, 324, 325, 327, 568, 754, 1998b, p.128, 1997a, p.537; 1996, pp.26)

ism, in fact realised Le Corbusier's Plan Voisin. This remarkable shift – essentially from the medieval city to modernism – now used the infrastructure of the street to subdivide vast plots in which the towers were placed. These new streets, often six or more lanes, were monumentalised to the point of creating separation, with each tower complex isolated onto its own island block. The street – the traditional public space in China – is now replaced with the park, alluding to the romantic American notion of arcadia. What the tower in fact did was to separate the public zone of the street from the architectural form, leading to the emergence of the Private.

In Chinese culture, as in many traditions, the degree of enclosedness is associated with status. One need not look further than the countless enclosures in the Forbidden City that advocate the power of the Emperor. Enclosure also has a relationship to chaos (*luan*) in Chinese beliefs, wherein walls and boundaries are thought to prevent *luan*.[20] Many of the old housing settlements in Shanghai are thought to be imbued with *luan*. The reformation of the economic structure, and its associated affluence, allowed for the atomisation of Chinese households into new ordered structures. Not only did families no longer need to share amenities, they now did not need to share any communal space. Furthermore, affluence allowed for the acquisition of new technologies that promulgated the notion of separation. Increasing sales of television sets and air-conditioning[21] promoted the retraction of each family to their individual household. Even within households, increased floor space per person allowed for increased privacy [fig. 2]. If the old housing villages were infested with *luan*, the apartment tower marked a transition into a rationalised lifestyle. Fitted with proper plumbing, wiring, etc., and each a self-contained unit complete with kitchen, laundry and washroom, the tower did not require the interaction of its neighbours. Gamble's ethnographic survey is revealing:

Many informants told me that people preferred the new high-rise housing because it was 'one flat, one household', that is, each household has its own kitchen and toilet. This separation reduced the number of arguments between neighbors; contact between them was now so infrequent than they might not even recognize each other.[22]

Unlike the housing developments linked to the street, the stacking nature of the tower typology only allows for one point of gathering – the elevator. The disconnection of the street – infrastructure – from the unit means that each household is able to carry on in private. The parks that engulf these developments are often vast and devoid of life. Whereas the *lilong* alleyways were filled with sales activities, leisure, and discourse all within a small space, the parks at most have a few children playing or seniors carrying out their morning exercises. These parks have lost the diversity of street programs, reduced to either residential living or leisure – two activities that do not necessarily require the interaction of strangers. Not having to interact was a new luxury provided by increased wealth and a sign of the rising of the Private. This rise of the Private has also had its effects on the feeling of security and trust within the new developments.

Apartment block developments are often gated, literally separating the park space from the adjacent developments. Gates are commonly viewed as 'keeping people out', whereas in this case they in fact 'keep people in'. Largely rationalised as a mechanism for safety, despite the fact that Shanghai is one of the safest cities in China, if not one of the safest metropolises in the world. Neighbourhood surveillance is difficult in apartment dwellings as few doors face onto the street. More importantly, fewer relationships exist between neighbours within apartment dwellings, making neighbourhood surveillance difficult to carry out. What the gate in fact represents is the breakdown of trust. Gates are therefore used because of the threat of the 'other',

Fig. 3: Typical public activities that occur on the street in *Lilong* housing development. Photo courtesy of the author.

the threat of the chaos outside. Intriguingly, gates are also used as a symbolic artifact of ownership. This new importance placed on the symbolisation of ownership brought out with the opening markets of 1978, is nothing more than a symbolic representation of the rising power of the Private: to be Private was to be modern.

Cycles of destruction

So what has the rising of the private in fact done to the public realm and individual in China? According to Sennett, privatisation of the psyche creates a disconnection of the individual from the public realm.[23] The more privatised the individual, the more difficulty they have in expressing feeling and in understanding the public realm. In Arendt's terms, privatisation essentially dissolves the concern for the common platform on which the public realm depends. Furthermore, a loss of the public demonstrates a decreased sense of reality. What ensues is often a sense of alienation and isolation that is characteristic of American suburbia. It is this alienation that many philosophers and sociologists attribute to the machinery of Capitalism, and one could argue, began in China with the economic reform. Residents of apartments often describe their experience as 'isolating' and 'alienating'.[24] What affluence and shifting typologies have done is to dissolve the points of contact in the city. Without these points of contact, reality turns into alienation and trust into fear.

Intriguingly, the history of China is one that could be described as 'cycles of destruction'. As each dynasty succeeded another, time and architecture were often reset with a new vision. Shanghai is still a young city – the ground of its rapid development is still malleable. The speed of development is exciting, especially when compared to stagnant and nostalgic American cities. The speed of development, however, allows little or no time for reflection. Within a mere twenty years, Shanghai has fundamentally been rebuilt. The rapid loss of the Public and the associated sense of Reality is a result of this speed. Just as Shanghai was feverishly developed, it can be rebuilt again. Proposals for urbanisation anticipate approximately 20 million square metres of future development each year, equating to the addition of a 'Shanghai of 1949' every two years.[25] The first wave of urbanisation addressed many pragmatic concerns for a housing situation that was in crisis. Now, as the crisis has subsided, new emphasis needs to be placed on the Public realm within the housing typologies. It is this public realm that distinguishes a city from a mere grouping of people.

Notes

1. Wang Yaping, and Alan Murie, 'The process of Commercialization of Urban Housing in China', in *Urban Studies*, 33, 6 (1996), pp. 971- 989.
2. Ibid. p. 973.
3. Jos Gamble, *Shanghai in Transition—Changing perspectives and social contours of a Chinese Metropolis* (London and New York: Routledge Curzon, 2003), p. 127.
4. Ibid. p.111.
5. From: 'City of Future', *Shanghai Star* (July 2, 1993), p.1. See also, Jos Gamble, *Shanghai in Transition—Changing perspectives and social contours of a Chinese Metropolis*, p. 10.
6. Jos Gamble, *Shanghai in Transition*, p. 132. See also *Statistical Yearbook of Shanghai* (Shanghai Municipal Statistics Bureau. China Publishing House, 1996), p. 108.
7. Deborah Davis, 'My Mother's House', in *Unofficial China: Popular Culture and Thought in the PRC.*, edited by P. Link, R. Madsen, and P.G. Pickowicz, (Boulder: Westview Press, 1989), pp.88-100; see also D. Pellow, 'No place to live, no place to love: coping in Shanghai', in *Urban Anthropology in China*, edited by G.E Guldin and A.Southall (Leiden: E.J. Brill, 1993), pp. 396-424.
8. Targets by the year 2000 were to be 10 sq.m/ person. See Jos Gamble, *Shanghai in Transition—Changing perspectives and social contours of a Chinese*

Metropolis, p. 132; and Wenfang Tang and William L. Parish, *Chinese Urban Life under Reform - The Changing Social Contract* (Cambridge: Cambridge University Press, 1999), p. 39.

9. Jos Gamble, *Shanghai in Transition*, p. 118. See also: BBC Summary of the World Broadcasts – Asia Pacific. January, 1996.
10. Arendt, Hannah, 'The Public Realm: The Common' in T*he Human Condition* (Chicago: University of Chicago Press, 1958), p. 50.
11. Peter G. Rowe, 'Housing Density, Type, and Urban Life in Contemporary China', *Harvard Design Magazine*, (Summer 1999), pp. 40-45.
12. Qian Guan, *Lilong Housing: A Traditional Settlement Form*. (Montreal: McGill University School of Architecture, 1996) [Section: background]. See also: Wang Shaozhou, *Shanghai Modern Architecture* (Jiangsu, P.R. China: Science and Technology Printing Service, 1989), p. 6.
13. There are several categories of *lilong* housing; for the lack of space in the article, I will focus on the predominant *lilong,* characterised as the "new-type" *lilong.* These *lilong* comprise most of the remaining lilong in Shanghai.
14. Qian Guan, *Lilong Housing,* Section: 3.1; see also: Sheng Hua, *Shanghai Lilong Housing* (Shanghai, P.R. China: Chinese Architectural Industry Printing Service, 1987), p. 34.
15. Richard Sennett, *The Uses of Disorder: Personal Identity and City Life* (London: Faber and Faber, 1996), p. 48, p. 141.
16. Yu Minfei, 'A Puzzle in the Renovation of the Old Residential Areas in Shanghai', in *The Research on Human Settlements in Shanghai*, ed. by Zheng Shiling (Shanghai: Tongji University Press, 1992), pp. 146-153.
17. Jos Gamble, *Shanghai in Transition*, p. 132.
18. Qian Guan, *Lilong Housing,* Section: 2.4.
19. Ibid. p.113.
20. Ibid. p.120.
21. In 1993 there were only five air conditioners per hundred households; by 1996 this had increased to fifty. (Source: *Financial Times Survey: Shanghai*, May 19, 1998, p. 19.)
22. Jos Gamble, *Shanghai in Transition*, p. 133.
23. Richard Sennett, *The Fall of Public Man* (New York: Norton and Company, 1975), p. 4.
24. Qian Guan, *Lilong Housing,* Section: 4.1.
25. Zheng Shiling. 'Shanghai Transformations' in *Urban Age: Shanghai, The Fastest City?* (London: London School of Economics, and Deutsche Bank, 2006), p.10.

Biography

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Caves of Steel: Mapping Hong Kong in the 21st Century

Jonathan D. Solomon

The use of underground space

Beneath the city are many man-made underground spaces comprising the basements of buildings and conduits for highways, rail links and various utility services. Given the difficulties of providing new land for surface developments and high land values, studies have been undertaken for developing rock caverns for a wide variety of uses related to the social and economic needs of the community ... during the next stage of our studies, proposals will be considered in more detail.[1]

Hong Kong's urban areas are the densest in the world. The result of a uniquely inflexible geography, unregulated economy, and unpredictable political history, the city is often represented in cramped housing conditions, unusual sectional conditions, and juxtapositions of culture. These observations have become so prevalent in works of film, photography, and art and in contemporary mappings by architects as to be read as a kind of cultural shorthand for a generic otherness that obfuscates its unique qualities.[2] The description of Hong Kong as heterotopic, dense, and complex contributes to a sense that it is fundamentally unmappable by traditional means, and can only be understood through reinvention of mapping techniques. Despite this important realisation, no convincing new methodology has been presented.[3] The thesis of this exercise then is to propose just such an analytical framework for mapping Hong Kong as the result of simultaneously infrastructural and topological forms at play at any given moment in the city fabric.

The title of this essay is borrowed from the 1954 mystery novel *The Caves of Steel* and its sequel, *The Naked Sun*, by science fiction master Isaac Azimov. Chasing a murderer through the corridors of a dense mazelike underground city and over the vast, abandoned surface, the protagonist Elijah Bayley confronts a clash between societies of intensive confinement and extensive frontier. In such a landscape Bayley's investigations tread as much on criminology as psychology, as he peels back not only the particulars of a murder but also the spatial determinants of two societies' neuroses by effecting interfaces between them. In Hong Kong caves of steel (dense interiorised infrastructure of multilevel shopping warrens) and naked sun (vast open topology of country parks, new towns, and industrial estates) exist often in immediate proximity without means of interface.

The literary analogy to *The Caves of Steel* facilitates an observation of this phenomenon but it does not provide us with the terms for qualifying or specifying it. The distinction between infrastructural and topological space is perhaps better understood through Manuel DeLanda's application of the terms 'intensive' and 'extensive' from the physical sciences to a description of abstract space, via a reading of Deleuze and Guattari.[4] Through Reiser 'intensive' and 'extensive' properties may be understood in the urban context as competing and collaborating infrastructural and topological conditions.[5] These three texts, DeLanda, Deleuze and Reiser, together lay out a working vocabulary of the intensive and

extensive which is more directly applicable to urban space in Hong Kong and gives us, such as it is, the terms of a map.

From intensive/extensive to infrastructural/topological, a philosophy of space in Hong Kong

Using these new concepts we can define the sense in which the metric space we inhabit emerges from a nonmetric continuum through a cascade of broken symmetries.
Manuel DeLanda[6]

In his *Intensive Science and Virtual Philosophy*, Manuel DeLanda problematises the properties of matter and energy described by the physicist's terms: extensive, intrinsically divisible properties (weight, length, mass); and intensive, those properties only divisible through changes in state (temperature, speed).[7] Extensive properties when split result in two properties each half the value of the original, while intensive properties result in two properties each of the full value of the original. A classic example of this is extensive duration and intensive speed: an hour split in half yields two half hours; an arrow travelling at speed x, if split midair, would yield two halves of an arrow each travelling at speed x, not at x/2.

Manuel DeLanda's text is an extension of the project by Deleuze and Guattari to explain the genesis of real space as a historical process rather than as essences.[8] As part of this project DeLanda interrogates the behaviour of both matter and geometry as they appear in Deleuze and Guattari's works. Within this matrix, DeLanda understands intensive space as 'a space defined by continuous intensive properties', which via a process of progressive differentiation eventually gives rise to extensive structures 'discontinuous structures with definite extensive qualities'.[9]

Jesse Reiser problematises this project for architects by applying DeLanda's philosophical structural to a different material paradigm. Reiser's readings of the terms intensive and extensive differs from DeLanda's, though his architectural interpretations are as steadfastly Deleuzian as DeLanda's philosophical interest.[10] Reiser proposes an interpretation of intensive and extensive properties which addresses the relationship of geometry to matter directly. 'The legacy of the essentialist approach to architecture, which elevates rationality (mainly in the lineaments of geometry) above matter, precludes the productive and rich capacity of matter to define or influence geometry'.[11] Reiser's example of the automobile engine describes the intensive as a diagram of the limits of matter and energy operating within an envelope of functional constraints.

Given the very real limits exerted on the one hand by the envelope of the car (the extensive limit) and on the other hand, by the necessary proximity of mechanical, chemical, and electrical components of propulsion (the intensive limits), a mediating assembly such as an engine block must accommodate and incorporate these functions and influences within a limited space. In doing so it moulds tightly around cylinders and crank shafts, while sprouting numerous appendages and attachment points for the systems that feed its organs, all the while growing within a highly defined limit of the body shell.[12]

Reiser's description of the extensive, or internally constrained system of an office program describes a similar equation.

[L]ooking at the process in reverse, when intensive limits are loosened, extensive controls increase. For example, as information technologies become dematerialized (paradoxically, by becoming more intense), the typical office program ceases to have a one-to-one relationship with the technologies that function within it. Paraphernalia and function, in taking up space, simultaneously force the workplace to represent what it does. With the dematerialization

of function, hardware shrinks, and the fit between program and space becomes looser.[13]

Where DeLanda sees intensive space and extensive structures occupying either ends of a continuum, or 'abstract scenario leading to the birth of real space',[14] Reiser inverts this reading to classify a space not based on its own properties, but on how it affects systems at work within it. Under this classification, DeLanda's 'intensive' space exerts no constraints upon systems operating within it, and would be for Reiser understood as 'extensive'. Similarly, DeLanda's 'extensive' space operates on systems overlaid on it as a set of restrictive, external constraints, making it under Reiser's construction 'intensive'.

Reiser's inversions open the door to a dangerous commingling of intensive and interior or extensive and exterior which we must swiftly shut. An interior space may well be extensive providing it is free enough of constraints to allow a given system's internal limits to govern—the universal space of Ludwig Mies van der Rohe is one of Reiser's examples—and an exterior space may likewise be intensive, if it exerts sufficient constraint to subdue internal limits.[15]

But if this danger can be avoided, reading these inverse texts together we can understand DeLanda's 'continuous intensive properties' to be the result of intensive constraints governing, and 'discontinuous structures with definite metric properties' to be the result of extensive constraints governing. The two states indeed do exist within continua of inversion, the one leading to the other and reinforcing the former through a process of oscillation. From DeLanda we receive a description of topology as the 'least differentiated geometry'.[16] Yet it will be here that we find the most discontinuous structures.

Finally we come to a set of usable terms for our map. We choose 'infrastructural' to describe the progressively differentiated and continuous spaces resulting from intensive or applied constraints found in Hong Kong's caves of steel, and 'topological' to describe the undifferentiated and discontinuous space of extensive or internally generated limits found under the naked sun.

We differentiate the infrastructural, space that forms as a result of intensive constraints, from the intensive, space which exerts constraints. A small plot of land reclaimed from the harbour and hemmed in by existing development and road systems is an intensive space when it exerts constraints on the construction of an infrastructural podium level shopping concourse, footbridge network and bus terminal.

A space becomes intensive only with the insertion of a second system into it; for it is only in such a case that the potential for constraint is actualised. Thus in Hong Kong we can understand that certain landscapes, such as steep hillsides, introduce governing constraints on a system of roads, while the roads' own internal limits of radius, super-elevation and slope still govern only within the envelope prescribed by the landscape. Recognising however that such landscapes bear the potential to exert intensive constraint, we may classify them as potential intensive.

The continual oscillation of these spaces, the one propagating the other indefinitely, actualises DeLanda's cascade of broken symmetries in an urban metric that neither conforms to nor purports to break down the binary conditions of traditional planning practices: interior and exterior, public and private, new and old, that persist in the mapping of Asian cities. The importance of this discovery will become clearer when infrastructural and topological measures are brought to bear as tools of analytical mapping themselves on the fabric of Hong Kong.

Fig. 1: Naked Sun; the Hong Kong Wetland Park, Tin Shui Wai, Yuen Long, New Territories. Photo courtesy of the author.

Caves of Steel

It could roof itself in, gird itself about, burrow itself under. It became a steel cave, a tremendous, self contained cave of steel and concrete.
Isaac Azimov[17]

Azimov's detective story plays itself out in an anxious landscape as familiar to readers of Stanislaw Lem and Kobo Abe as to those of Kafka.[18] Neurosis and infrastructure go hand in hand in Hong Kong as well, which can be seen in the city's long history as a military encampment. More recently, Hong Kong's caves of steel emerge out of political, economic, and even military anxiety.

The Airport Core Program, a HK$160.2 billion public works project completed in the 1990s, was enacted by British authorities in order to restore confidence in the city's future stability following the Tiananmen Square protests.[19] The ten core projects of the HKACP are the Hong Kong International Airport at Chek Lap Kok; Tung Chung New Town; Airport Rail; North Lantau Expressway; Lantau Link bridges; Route 3; West Kowloon Expressway; West Kowloon Reclamation; Western Harbour Crossing, and Central Reclamation. Begun in 1989 under then Governor David Wilson, the HKACP is a 34km urban corridor connecting the new airport to Central Hong Kong through a string of projects organised linearly along the program's rail and road infrastructure. With the exception of the airport itself, built by the Airport Authority, the Airport Rail built by the MTR Corporation, and the Western Harbour Crossing, built under a 30-year BOT franchise, the entire project was funded and built by the Hong Kong Government. The HKACP is managed by the New Airport Projects Co-ordination Office (NAPCO), under the Works Bureau.[20]

Naonori Matsuda has pointed out that the scale of the HKACP far overshadows the infrastructure necessary to accommodate the construction of a new airport alone, and demonstrates how the motivations of the plan lay as much in an effort by the colonial government to perpetuate Hong Kong as an international metropolis after the handover of the colony to China, as in the accommodation of transit.[21]

Hong Kong's 'caves of steel' follow the same logic as the ACP, even as they may propagate at smaller scales. At the easternmost extent of the ACP, the terminus of the Airport Rail is situated in a multifunctional transportation intermode in Hong Kong Island's Central Business District. The Airport Rail Station is linked directly to the International Financial Centre (IFC) corporate, hotel, and retail complex, which itself radiates out a series of pedestrian ways that form a progressively differentiating continuity between bus, ferry and taxi terminals, the MTR urban rail system, and an older network of corporate lobbies and shopping malls.

While the IFC effectively separates many functional flows, it does so through progressive differentiations within a space of continuity, assuring for instance a single-grade journey from the Airport Express Rail terminus to the taxi queue and from the space of air travel to train travel to pedestrian travel to automobile progressively. A similar experience defines the infrastructural spaces of Kowloon, where the borders between hotel lobbies, shopping arcades, Mass Transit Rail stations, corporate office cores, commuter bus and train depots are progressively differentiated along a continuity of pedestrian access, which intensify by weaving through applied constraints of a dense context.

There is an extraordinary investment in dedicated pedestrian routes as the ether conducting these differentiations. The Airport Core Program is an infrastructural space that overcomes the topography of the harbour and the country parks, temporally by speeding travel over and past them and physically by tunnelling under them and filling them in. Routing, the defining and programming

of paths, is the defining character of infrastructural space. It is a vector urbanism defined not by qualities of an area, but by the effectiveness of a route.

The Naked Sun

Besides, what can be more open than the Harbour?
Winston Ka Sun Chu [22]

Just as the propagation of space in Hong Kong can be described as a perpetual unravelling of intensive and extensive qualities, the existence of infrastructural and topological space in discontinuous proximity is reinforced in Hong Kong by realities of geography and by a history of land management. Infrastructural and topological metrics therefore correspond to infrastructural and topological forces. The map of space becomes the generator of space and further cascades ramify.

If the infrastructural is the space of anxiety, then the topological is its opposite, a space of assertive abandon. Topological space is not simply less dense. It is the raster to infrastructure's vector, a space in which generic qualities of a given area – terms such as 'open space' and 'cultural heritage' abound – lend it intrinsic value.

Hong Kong is a territory of seven million people located on 1,104 square kilometres of land. Nearly 81% of Hong Kong's natural terrain is undeveloped. The built-up area of the city accounts for only 89 square kilometres, of which barely 67 are residential land. The result of this calculus is a density of just under one metre of residential land area per person. At the other extreme of Hong Kong's 'caves of steel' are a set of wholly extensive, topological regions. Hong Kong's density is a result less of territorial extents than of physical geography and land planning. 79.2% of Hong Kong's territory is undeveloped land. This includes the approximately 5% of Hong Kong's territory which is technically arable, of which 1.1% is used for cropping. By far the majority of the empty land in Hong Kong is steep hillside, woodland and grassland. Nearly half of this space, 415.82sq.m, is held in country parks and special areas nearly inaccessible from urban areas.[23]

For nearly a hundred years following the founding of the British colony, land policy in Hong Kong relied on two infrastructural methods for expansion: land reclamation and hillside construction. In each case, a difficult and expensive process yielded tightly constrained plots in immediate adjacency to exiting development. The only notable exception to these policies was an extensive territorial acquisition in 1898, the leasing of Lantau Island and the New Territories and later the establishment of a system of New Towns in these outlying areas to absorb an influx of immigrants that began following the Second World War and continued through the Cultural Revolution. These policies continued through more or less to the end of British rule in 1997, and it is the results of their implementation which are largely seen in form of the city today—the results of a history of dense infrastructural development along reclaimed sites in the core areas culminated in the 1990s with Metroplan, a proposal of the Strategic Planning Unit ultimately curtailed into a few large-scale infrastructure projects such as the port expansion and the Airport Core Program.

1997 is a date which is as significant for the handover of sovereignty to Communist China on July 1, as for the passing on June 30 of the Protection of the Harbour Ordinance, which froze all land reclamation in Victoria Harbour except in cases of overriding public need.[24] This was the end of Metroplan. The collapse of the infrastructural solution at the harbour's edge came at a time when construction on Hong Kong's steep terrain also reached a limit of feasibility under structural, economic, and social constraints.[25] Meanwhile, an awakening of civil society in Hong Kong following 1997 produced a series of reactionary movements ranging from a nascent preservation culture (described here as

'cultural heritage') to an increased environmental awareness manifest in objections to specific urban forms such as 'wall effect' towers, to a general public acceptance that 'open space' constitutes an unambiguous, if wholly unspecified, public good.[26]

Each of these movements proposes an extensive revision of Hong Kong's fabric in pursuit of a political, cultural, or environmental agenda by pursuing a new spatial agenda. Recent proposals for the development of a variety of high profile sites in the city, the Central Harbour Waterfront, the West Kowloon Cultural Centre, and the former Kai Tak Airport site, reveal an altogether different psychology of space than proposals for the same sites 20 years earlier under Metroplan. Maximum development plans, a pure expression of internal limits of economics, structural integrity and buildings code pressing against the limits of intensive conditions are rejected in favour of internally generated extensive factors and undifferentiated topological forms.

Metroplan, drawn up at the wane of British rule, included broadly infrastructural aims, such as improved logistics and more even distribution of urban resources achieved through routing, a 'multichoice, high capacity transport system that is financially and economically viable'[27] as well as 'liberal provisions ground and grade separated pedestrian circulation systems linked, where possible, into imaginatively designed open spaces within the urban fabric'.[28] Extensive harbour reclamation was a showpiece of the plan, with over 1,200 hectares proposed[29] The Central Harbour Front, West Kowloon and the Kai Tak site are all explicitly illustrated as three-dimensional networks of pedestrian footbridges linking podium block towers.[30]

When Winston Chu, founder of the Society for Protection of the Harbour, writes that 'the direction of Hong Kong's future growth does not lie in the metro areas but in the New Territories',[31] he makes explicit the implicit link between the end of land reclamation in Victoria Harbour and the end of the infrastructural model of urban space in Hong Kong. Chu presents the harbour itself as the ultimate topological space: it is the idea of the space, rather than its function, that defines its ultimate value. 'Victoria Harbour is an extraordinary natural asset for Hong Kong, and a key cultural and historic icon of our city', these are the words of Margaret Kennedy, chairwoman of the organising committee of Hong Kong's second annual Harbour Day celebrations in 1997; 'we aim to showcase our vibrant and beautiful harbour, and to enable the entire community to enjoy it from a range of perspectives'.[32] Accordingly, while attention has gone to ensuring the harbour itself is not encroached upon by further reclamation and great efforts mounted (unsuccessfully) to save existing historic structures from demolition at its shore, plans for the development of the Central Harbour front site itself bear out as undefined provisions of undifferentiated open space.

Where the infrastructural tends to be the result of *laissez-faire* regulatory environments and hierarchical planning authorities, public participation is the hallmark of these new topological spaces. The results are more general goals: in the public review process for the planning of the former Kai Tak site, 'commenters advocate for more distinct urban design concept with local character'.[33] At Kai Tak the public has called for both lower density developments and more open space, amid protest from planners that sufficient density would not be reached to support the proposed infrastructural improvements, such as the Shatin Central Link rail.[34] Topological forms proliferate in the official proposals, a 24-hectare multi-purpose stadium complex, cruise terminal, refuse transfer station and sewage screening plant are among the programs to be included in the development.[35] Publicly solicited suggestions tend towards the topological as well: convention and exhibition centre, factory outlet, car racing ground, and world exposition are all mentioned.[36]

Fig. 2: ‘Caves of Steel’; the International Financial Center Mall, Central, Hong Kong. Photo courtesy of the author.

The *Executive Summary of the West Kowloon Cultural District Public Engagement Exercise* includes rhetoric such as calls for 'ample open space and vibrant harbour front for public enjoyment' as well as concrete restrictions on building height and density, limiting the entire site to a plot ratio of 1.81, capping residential development at no more than 20% of the total GFA, and limiting building heights at between 50 and 100 metres.[37] 23 of the site's 40 hectares are reserved for open space, while the rest will be devoted to arts and performance venues.

Unlike the investment in routing observed in infrastructural space, the space of the topological is, like DeLanda's classifications of geometry, the least differentiated. Topological space does not perform, it simply is. It does not enact, it represents. Yet its values are, as shown in the transformation of the three proposals above, as potent factors in the evolution of space in Hong Kong as the pressures of economy and limits of geography.

Mapping in a critical context

So far, the sum total of ad-hoc local reactions to larger order forces of urban modernization has produced a local physical urbanity that is both locally distinctive and different in notable ways from that found in other regions of the world, especially in the developed West.
Peter G. Rowe[38]

It is increasingly clear that the most highly valued spaces in global city cores are being provided with their own dedicated, high-quality infrastructural connections. These are configured to maximise the ease of connecting to other global city cores around the world. At the same time they are increasingly organised to carefully filter out unwanted connections with the surrounding metropolis—those that are judged to be 'threatening' or deemed to be irrelevant to the direct needs of the glocal enclave.[39]

In situating Modernism's endgame in Asia, Peter G. Rowe's formulation implies that the 'massive forces of urbanisation' at work in Asian cities produce a modern vernacular, an urban form both unique and distinct from modernism's western origins, but one which is generally aligned with its core principles, while Graham and Marvin see a collapse of the "modern infrastructural ideal" and a troubling stratification of urban form into hierarchical enclaves.[40] Either way, the unique map of urban space in Hong Kong fails to fit smoothly into either critical category.

New and old, empowered and exploited, public and private, global and local; none of these traditional methods for mapping divisions in Asian cities overlaps comfortably with the division of infrastructural and topological space or with the neurosis of anxiety and abandon at work within them. The lack of an existing theoretical construct for this division contributes to the difficulty in mapping we observed at the start of our exercise. Now that we have defined terms to accurately describe the conditions we observe, we seek a value system for situating them within a critical context.

Recent interest in Hong Kong's cultural heritage focuses on preserving limited examples of historic structures or urban fabrics, but these fabrics can as easily be infrastructural, as in the case of the Central Police Headquarters complex, as topological, as in the case of the protection of the harbour ordinance. Thus a distinction between contemporary development on the one hand and traditional fabric on the other does not seem to provide a functioning critical context for the distinction between infrastructural and topological space. However, the inability for distinctions to meet neatly begins to generate a critique of its own. The newly constructed Wetlands Park in Tin Shui Wai is an excellent example of a contemporary topological facility, while the traditional urban shop house represents a classical infrastructural typology. Leslie Lu describes 'a lack

of clear spatial divisions and boundaries between urban phenomena' that the 800m Central and Mid-Levels Escalator engenders in the older fabric through which it passes.[41] 'Urban regeneration is a by-product of the escalator's impact', writes Lawrence Liauw. 'However, there is a danger that the excessive mono-typological redevelopment of towers along the escalator could backfire against its regeneration effect'.[42] The binary poles of the infrastructural and the topological continue to oscillate.

The gap between the space of the empowered and the exploited is another common thread in contemporary urban criticism. Riccardo Patrella establishes this dichotomy as a set of 'mental maps'; one map of a 'wealthy archipelago of city-regions... surrounded by an impoverished *lumpenplanet*'; a familiar entrenchment of the privileged classes against an increasingly disenfranchised and exploited other; and one map in which 'global civil society that has emerged with the information age in all the major city-regions links together across fading national boundaries to balance the myopic commercialism of the merchant class with a global social contract'.[43] Certain characteristics of the infrastructural engage in a calculated exploitation, in so much as they press against intensive limits to achieve maximum/minimum conditions of cost and return, as Zhang, Lau and Lee have observed.[44] Yet neither the infrastructural nor the topological is fundamentally empowered or exploited space. Rather, we again observe an oscillation between the two. Zhang, Lau and Lee describe Statue Square, an infrastructural open space developed out of the pressures of intensive forces, as an accidentally empowered space: 'Statue Square would not exist if it was not of strategic advantage for Hong Kong Bank to keep the area in front of its headquarters building open, and its function as a public urban space is only incidental to this very commercial purpose'.[45]

Graham and Marvin address the increasingly splintering public and private spheres of the city and the divisive results on urban form and organisation in their discussion of the 'highly uneven warping of time and space in highly localized and valued places' that leads to the 'tunnel effect' of the new regionalism. 'To some, these trends mean that the old territorial identity of the city economy, as the heart of its hinterland, has been totally lost'.[46] This would seem to set up a neat match for our terms, yet infrastructural space and topological space are as frequently found under public ownership as under private as under both. Neither distinction overlaps cleanly with the dialogue over either the structures of ownership or the limits of use of urban space. Hong Kong's well-known Central and Mid-Levels escalator is owned and operated by the Government of the Hong Kong Special Administrative Region. One can walk from its terminus, without touching ground, through caves of steel owned and operated by Hang Seng Bank Ltd., Hong Kong Land, The Mass Transit Railway Corporation, Henderson Group, Hysan Development Ltd., Gamon Construction Ltd.—the list of private developers, public services, and public-private partnership goes on.

The distinction between global and local spaces in 'Asia's World City' suggests a final potential context. Laura Ruggeri is correct when she observes that 'in Hong Kong it is no longer possible to distinguish what is local and what is not' in her study of a topological space, the enclave housing estates of Yuen Long.[47] Gutierrez and Portefaix come to the same conclusion in seeking to understand Hong Kong's multiple 'platforms for exchange' including the ACP.[48] The collapse of the distinction between global and local in Hong Kong occurs across both infrastructural and topological space.

While there is no single existing theoretical construct to contain the infrastructural/topological division in the space of Hong Kong, elements of a variety of contemporary urban critiques reinforce

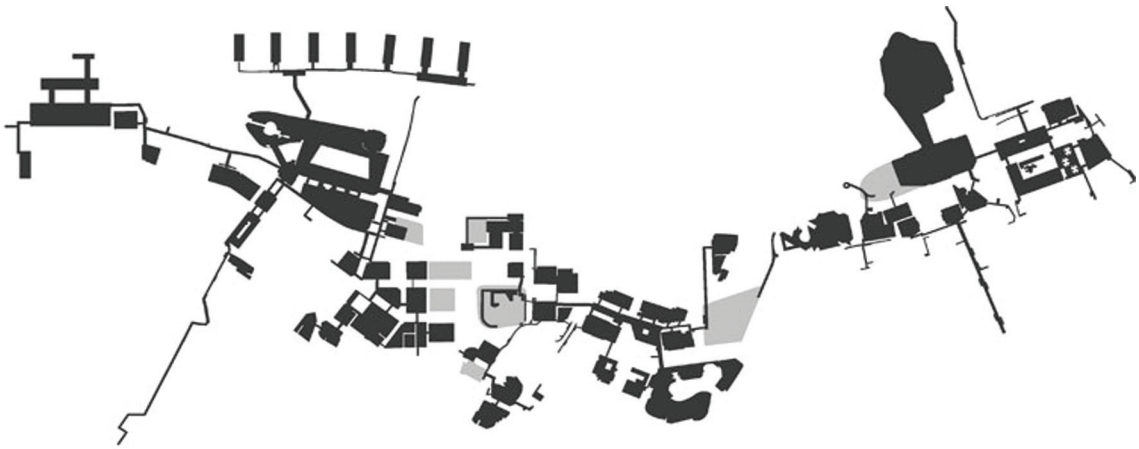

Fig. 3: Flyover Diagram. For 5 kilometers along the North Shore of Hong Kong Island, a network of underground passages and overhead bridges link the different spaces and programs of the city in a progressively differentiated continuity. Image courtesy of the author.

the observed phenomena that we attribute to this new construct. Despite the collapse of binary dualisms that Graham and Marvin perceive through the works of Sandercock, Aneglil and Klingmann, and Gandy, the duality between infrastructural and topological space is a useful reality for understanding how to map space in Hong Kong.[49] Beyond the regional modernism proposed by Rowe, the psychological imbalances that modernism would seek to sublimate, infrastructural and topological space express.

Conclusions

We began with the thesis that Hong Kong is not, as conventionally understood, an unmappable complexity; it is just very difficult to map. We understood this difficulty in the inability to integrate the diverging categories of infrastructural and topological space, terms we defined by hopping between literature, philosophy and psychology. Seeking the integration of this spatial duality, we found a deeper need to integrate the psychological duality that accompanies it, that of anxiety and abandon. We observed these two dualities first as self-fulfilling; as the city becomes more difficult to know, the separation between the infrastructural and the topological becomes more pronounced. When placed within different critical contexts, however, we observed a more complex relationship between the two, an oscillation which approaches a mapping of Hong Kong.

There is a particular usefulness in knowing when to let go of words. The scale of Hong Kong's growth, its demonstrated feats of density, its absence of a stable ground plane or plan-based spatial order, its juxtapositions of culture – amid assurances of 'public space', and 'cultural heritage' in 'Asia's World City', all these phenomena are a potent reminder of the inability of the word to guarantee the concept. Yet Hong Kong must not be abandoned to the indescribable. To do so yields to the generic (no matter how specific we insist the particular indescribable may be) and eventually will lead to the loss of the wonder of discovery in specific cause and effect, the value of Hong Kong as an exemplar in the study of urbanism. Mapping is the key to this specificity and words are the key to establishing the criteria for a map.

Notes

1. Hong Kong Government, 'Metroplan, the Foundations and the Framework', Strategic Planning Unit; Planning, Environment and Lands Branch. (Hong Kong: The Government Printer, January 1990), p. 44.
2. See *Great Leap Forward*, ed. by Judy Chung Chuihua (et al.), (Cambridge, MA: Harvard Graduate School of Design, 2001); see also: *FARMAX: Excursions on Density,* ed. by Winy Maas and Jacob van Rijs (Rotterdam: 010, 1998).
3. See for example Laurent Gutierrez and Valerie Portefaix, *Mapping HK*. (Hong Kong: Map Book Publishers, 2001).
4. Manuel DeLanda, *Intensive Science and Virtual Philosophy*, (London: Continuum, 2002).
5. Jesse Reiser, *Atlas of Novel Tectonics*. (New York: Princeton Architectural Press, 2005).
6. Manuel DeLanda, *Intensive Science*, p. 27.
7. Ibid. pp. 26-27.
8. Ibid. p. 22.
9. Ibid. p. 27.
10. "A universe defined by a fixed field and unchanging essences has been superseded by a matter field that is defined locally only in and through its interactions." From: Jesse Reiser, *Atlas of Novel Tectonics*, p. 23.
11. Ibid. p. 74.
12. Ibid. p. 106.
13. Ibid. p. 108.
14. Manuel DeLanda, *Intensive Science*, p. 26.
15. Jesse Reiser, *Atlas of Novel Tectonics*; see here: 'From Extensive Field/Intensive Object to Intensive Field-Object', pp. 24-30, and 'Projecting Force', pp. 208-209.
16. Manuel DeLanda, *Intensive Science*, p. 26.
17. Isaac Azimov, *The Caves of Steel*, (London: Harper Collins, 1997), p. 23.

18. Lem's *Memoirs Found in a Bathtub* and Abe's *Secret Rendezvous* are each as telling descriptions of the infrastructure of anxiety as *Caves* or *The Castle*.
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22. Winston Ka Sun Chu, 'Direction of Development—Metro or New Territories', in *Planning Hong Kong for the 21st Century*, ed. by Anthony Gar-On Yeh, (Hong Kong: Center for Urban Planning and Environmental Management, University of Hong Kong, 1996), p. 296.
23. Department of Geography, 'Consultancy Study to Analyse Broad Land Use Pattern of Hong Kong, *Executive Summary*', The Chinese University of Hong Kong (April 2001). Available from: http://www.pland.gov.hk/p_study/comp_s/lup/index_e.htm
24. Hong Kong Government, 'Protection of the Harbour Ordinance - Chapter 531', in *Legislations and Ordinances*. Available from: www.legislation.gov.hk
25. See for example the University of Hong Kong expansion plans in Pok Fu Lam. Linda Yeung, 'Two Camps on Campus, HKU says expansion is vital to accommodate four-year degrees; nearby residents see it as a threat to the environment', in *South China Morning Post* (27 January 2007)
26. For examples of the use of this rhetoric see: Carrie Cheng, 'We must not lose sight of our cultural heritage', in *South China Morning Post* (29 February 2008); Yi Fox and Helen Wu, 'Greens warn of growing 'wall effect' at estates planners criticised over huge high-rises that block air flow', in *South China Morning Post* (15 December 2007); NewsTrak Daily, 'Super open area planned at Hung Hom waterfront', in *Hong Kong Economic Times* (13 February 2008).
27. HKG, 'Metroplan, the Foundations and the Framework', p. 1.
28. Ibid. p. 13.
29. Ka Sun Chu, 'Direction of Development', in Yeh, *Planning Hong Kong*, p. 294.
30. HKG, 'Metroplan, the Foundations and the Framework', p. 25; p. 39; pp. 42-43.
31. Ka Sun Chu, 'Direction of Development', in Yeh, *Planning Hong Kong*, p. 301.
32. Agnes Lam, 'Thousands pay tribute to 'Vibrant Harbour'', in *South China Morning Post* (19 November 2007).
33. Hong Kong Planning Department, 'Report of Stage 2 Public Participation: Outline Concept Plans', in *Kai Tak Planning Review*, (June 2006), p. 29.
34. Ibid. p. 16.
35. Ibid. pp. 21-37.
36. Ibid. p. 39.
37. Hong Kong Government, 'West Kowloon Cultural District Public Engagement Exercise', in *Executive Summary: Background of the West Kowloon Cultural District Project.* Available from: http://www.hab.gov.hk/wkcd/pe/eng/doc/CC_Report_eng/3_executivesummary.pdf
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39. Stephen Graham and Marvin Simon, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. (London: Routledge, 2001), p. 313.
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41. Leslie Lu, 'The Asian Arcades Project', in *Perspecta*, 36, (2005), pp. 86; pp. 89-91.
42. Lawrence Wie-Wu Liauw, 'Mobile Pedestrian Urbanism in High Density Environments: Case Study of the Hong Kong Mid-Levels Escalator', in *2nd Mega Cities International Conference 2006* - conference proceedings -, (Guangzhou, China, 2006).
43. Ricardo Petrella, 'A Global Agora vs. Gated City-regions', from *New Perspectives Quarterly*, (1995) in *The Global Cities Reader*, ed. by Neil Brenner and Roger Keil, (New York: Routledge, 2006), pp. 194-195.
44. Zaiyuan Zhang, Stephen Lau Siu Yu, and Lee Hoyin, 'The Central District of Hong Kong: Architecture and Urbanism of a Laissez-Faire City', in *Architecture and Urbanism*, 322, (July, 1997), pp. 13-16.

45.Ibid. p. 15.

46.Stephen Graham and Marvin Simon, *Splintering Urbanism*, pp. 200-201.

47.Laura Ruggeri, ''Palm Springs': Imagineering California in Hong Kong', in *Evil Paradises: Dreamworlds of Neoliberalism*, ed. by Mike Davis and Daniel Bertrand Monk, (New York: The New Press, 2007), pp. 102-113.

48.Laurent Gutierrez and Valerie Portefaix, *Mapping HK*, p. 13.

49.Stephen Graham and Marvin Simon, *Splintering Urbanism*, p. 107.

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Biography

Jonathan D. Solomon holds a B.A. in Urban Studies from Columbia University and an M.Arch. from Princeton University. He has taught at the City College of New York and, as a Banham Fellow, at the University at Buffalo. He is currently Assistant Professor in the Department of Architecture at the University of Hong Kong. Solomon is the author of *Pamphlet Architecture #26, 13 Projects for the Sheridan Expressway and of Marketstructure*, a forthcoming book on the privatisation of urban infrastructure, as well as being an editor of 306090 Books.

Getting Lost in Tokyo

Raymond Lucas

This paper describes a way of mapping the experience of the Tokyo Subway, particularly Shinjuku Station. Given that Shinjuku Station is such a dense urban space it presents us with some interesting problems regarding representation. The station and the city are too vast and complex to be grasped as a totality. Making an image of Shinjuku Station confronts us with the issue of the spectacle not as a visual, but as a kinetic phenomenon.

Donald Richie, long term resident and author on Tokyo writes that:

There is really nowhere to get a proper view of Tokyo. In Paris, one climbs up to the Sacre-Coeur; there, seen from the top of Montmartre, is the whole city – visible, discrete, understandable. In Rome, there are seven hills to choose among, each with a view of the Eternal City. Similar city views abound in Budapest, San Francisco, Edinburgh. There is, to be sure, Tokyo Tower, and the tops of assorted Shinjuku skyscrapers as well, but from these heights there is no unified panorama. Nor could there be – not only is Tokyo too large and sprawling, it is also too undifferentiated. One cannot look down upon Tokyo as upon a living map as one can in Kobe and Hakodate. Nor can one assume an order one cannot see, as in Kyoto. It is difficult to comprehend cities you cannot see all of from somewhere.[1]

Shinjuku Station and the Tokyo Metro are experienced as a flow or series of movements. Rather than the classic European model of urbanism with squares and streets; vistas and monumental landmarks, the Metro is organised on completely different sets of reference points. This inscriptive project is an attempt to understand this most characteristic experience of Tokyo on its own terms, rather than forcing it into inappropriate picturesque or geometrically based forms of drawing and mapping.

In his *Spatial Anthropology* of the city, Jinnai Hidenobu addresses the emergence of underground streets as a reaction to the uncontrolled development of Tokyo at inhuman scales, citing these left-over spaces as the only remaining places for the provision of social functions such as fashionable and emerging trend-boutiques, concept stores, convenience stores, cafes, bars, restaurants and other informal meeting places without the pressures of multinational economic activity which squeezes such activities off the above-ground streets.[2] These underground streets are also, of course, associated with the Subway, often joining different lines of the system together and crammed with people waiting for friends or gathering round to listen to buskers.

This convenience store culture is described by Akira Suzuki as a form of semiotic consumption, partly to replace the notion of an urban fabric, which is seen as damaged: 'This condition can be directly attributed to the damage caused by the city-wide development boom of the late 1980s and early 1990s... Lacking an urban reproductive system, Tokyo manages to function, it seems, only by means of its communication system.'[3]

The Subway can be understood as an essential part of this communication system in which purchases and trends are analysed in order to produce yet more marketing strategies. This space of promenade generates its own trends, describing the parade of subcultures, which inhabit the trains and stations as one of the only remaining public spaces in the city: somewhere to see and be seen.

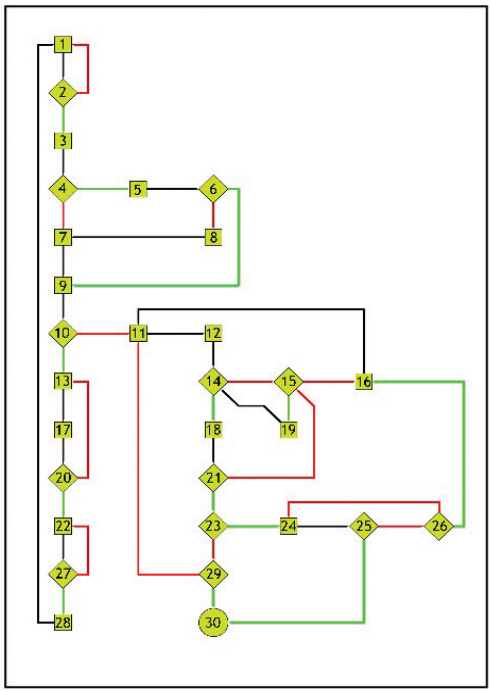
Indeed, the Subway map itself is a diagram of the economic development of Tokyo as described by Naomichi Kurata: 'The history of urban development in Japan cannot be described without referring to the development of railway systems. Namely, it is said that most of the urban centres are not the product of the planning efforts of local or national governments, but rather the results of commercial activities or business strategies of railway related companies'.[4] The unique form of co-operative competition in Japanese corporations allows this development to be reinforced by placing department stores directly over Subway stations and locating hotels, apartments and other elements of the urban fabric nearby. This recalls Mark Girouard's observation that the heights of Manhattan skyscrapers function as an accurate diagram of land values on the island.

Much like Augé asserts for Paris, one of the truest faces of the city of Tokyo is its Metro or Subway. Much more than the series of static monuments one is expected to include in a tourist itinerary, the experience of the Metro in both cities is characteristic to that place. The geometric arrangement of many subways is basically similar, of a type. The character of these places is fundamentally different, however, and much of this difference lies in the quality of movement through the space.

In its written form, the infinitive with its imperative nuance confers on this impersonality the value of a rule: 'To go to the Arc de Triomphe take the direction Porte d'Auteuil-Boulogne, change at La Motte-Piquette-Grenelle and get off at Charles de Gaulle-Étoile.' It is the language of tourist guides of every genre, ranging from ecclesiastical ritual to directions for use, cookbooks or treatises on magic. The oral prescription itself ('To go to Nation via Denfert you change at Pasteur') acquires the tone of impersonal generality; it is impossible to tell whether the familiar (*tu*) or the impersonal (*vous*) therein designates a singular subjectivity (our interlocutor of the moment, the one who is worrying about what direction to take) or a class of anonymous individuals (everyone who hypothetically might be conducted to follow this direction)'.[5]

'Getting Lost in Tokyo' takes a cue from this language regarding the Metro and Subway: its instructional inflection and the suggestion of a flâneur-like character taking this generalised and repeatable journey. The project questions how you might map or draw a space predicated upon movement, flow and flux. A plan of the station is an incomplete representation and does not really help this actor to navigate it meaningfully. Is it possible to make an alternative mapping or graphic mark which represents this experience over time?

Moving through the space, I was drawn towards signs and directed from platform to platform by interacting with crowds of commuters walking purposefully and other regular station users. This interaction of sign and crowd is particularly interesting when contrasted with other forms of urban navigation. The sign is different from the landmark, for example. The sign is related, and allows one to orient towards a direction, but the sign may not actually signify an actual position in this context, but simply direct the traveller towards the next in a chain of signs. The characteristic checking and re-checking, modifying one's route constantly with reference to these signs and flows is a form of way finding as contrasted to navigation by anthropologist Tim Ingold. Rather than abstracted, as one might expect in this forest of signs, one is returned to a



1. Stay on the train.
2. Is this your stop?
3. Stand up and wait at door.
4. Is someone else at the door?
5. Wait on them opening the door.
6. Do they open the door?
7. Press the door release.
8. Mutter, grumble and complain.
9. Exit train.
10. Are you changing lines?
11. Locate exit sign.
12. Move in the direction indicated.
13. Locate transfer sign.
14. Is there another sign?
15. Is there a transfer sign?
16. Find an open space.
17. Move in the direction indicated.
18. Move in the direction indicated.
19. Move away from that crowd.
20. Are you at the correct platform?
21. Is there another sign?
22. Wait for the train to arrive.
23. Is there more than one sign?
24. Select an exit sign.
25. Does this exit lead out?
26. Have you tried other options?
27. Has the train arrived?
28. Board the train.
29. Does this exit lead out?
30. Exit station.

Fig. 1: The Flowchart Diagram. Courtesy of the author.

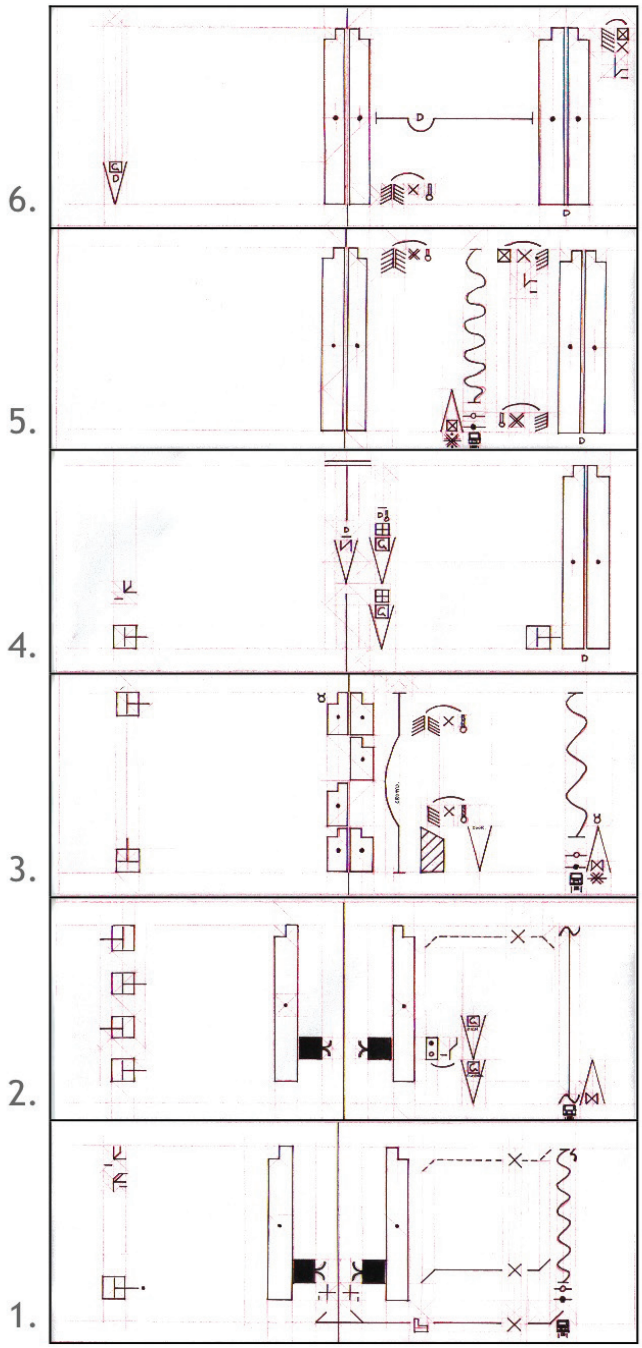


Fig. 2: Example of Laban Notation from *Getting Lost in Tokyo*. Courtesy of the author.

more holistic engagement with the environment. This way finding is more often associated with the actions of hunter-gatherers than the commuter in a dense modernised city.

In approaching this problem, it quickly becomes apparent that there is no single form of representation that can capture the essence of the space adequately. To this end, I decided to work with a set of representations, much in the way that traditional spaces are described by plan, section, elevation and perspective; I chose to work with diagram, movement notation, axonometric drawing and photograph.

The diagram [fig.1] depicts the decision making process similarly to a flowchart. The chart is made up of individual episodes which may be strung together in a variety of ways from start to finish. We can see from this diagram of the decision making process that a number of different paths through the station are possible. This diagram shows more than one route through the Metro system, showing an amalgamation of all the paths through the space. The diagram concentrates on the experience of 'lostness', of losing one's way. This is illustrated by the loops one can become trapped in, making no progress until the correct path is identified.

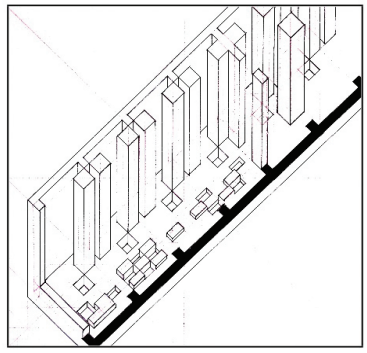
The movement notation [fig.2] describes my movement in each instance. This notation is collated into a score for the movement through Shinjuku Station. For this section I chose to use the system of movement notation developed by Rudolf Laban. Laban notation has its origins in Modern dance of 1920's Zurich, and has since been used to describe various forms of movement from the tightly codified dance of ballet to wartime industrial processes.[6]

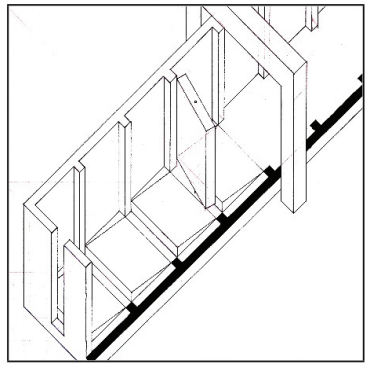
Laban notation is scored from the bottom of the page up, and arranged around a central staff representing the movement of one person or group of people. Laban is a detailed form of movement notation, uniquely capable of describing movements belonging to different traditions of dance. This is due to the notation's structure as a movement notation rather than a dance notation. Rather than describe pre-learned movements such as courtly dancing or ballet moves, Laban allows the notator to construct sequences of movements from their smallest components. This is structured from the centre of the staff outwards, from the essential support movements required to remain upright out towards the more gestural.

From the Laban notation, a series of common elements were identified. These are described in the project as archetypes, and they represent particular moves or qualities of movement found in my journey through the Subway. Fifteen elements could be distilled from the notation and this division reinforced the episodic structure introduced by the first inscription: the flowchart. Each of the fifteen elements could be reinterpreted and used as building blocks, so I set about designing simple architectural elements such as walls, columns, ramps and doors which corresponded to the movements.

The axonometric drawing [fig.3] shows the ways in which this movement creates form and geometry. The drawings are assembled from the archetypes derived from the movement notation. By establishing a simple corridor, the elements are arranged according to their timing in the notation. The experience of the Subway is contained within these corridors, the idea being that the observer places themselves into this space mentally, considering how the space draws you in or how you might negotiate elements such as changing floor planes and doors.

The drawings are collated into a labyrinth describing all the possible routes offered towards the centre [fig.4]. This overall drawing demonstrates the impossibility of such a totalising gaze, some-





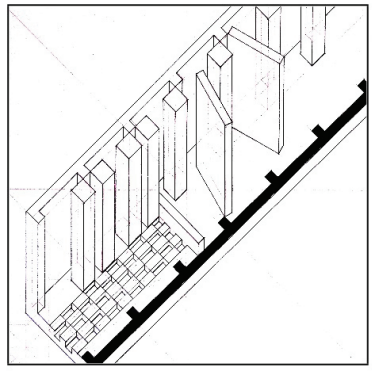


Fig. 3: Examples of Axonometric Drawings. Courtesy of the author.

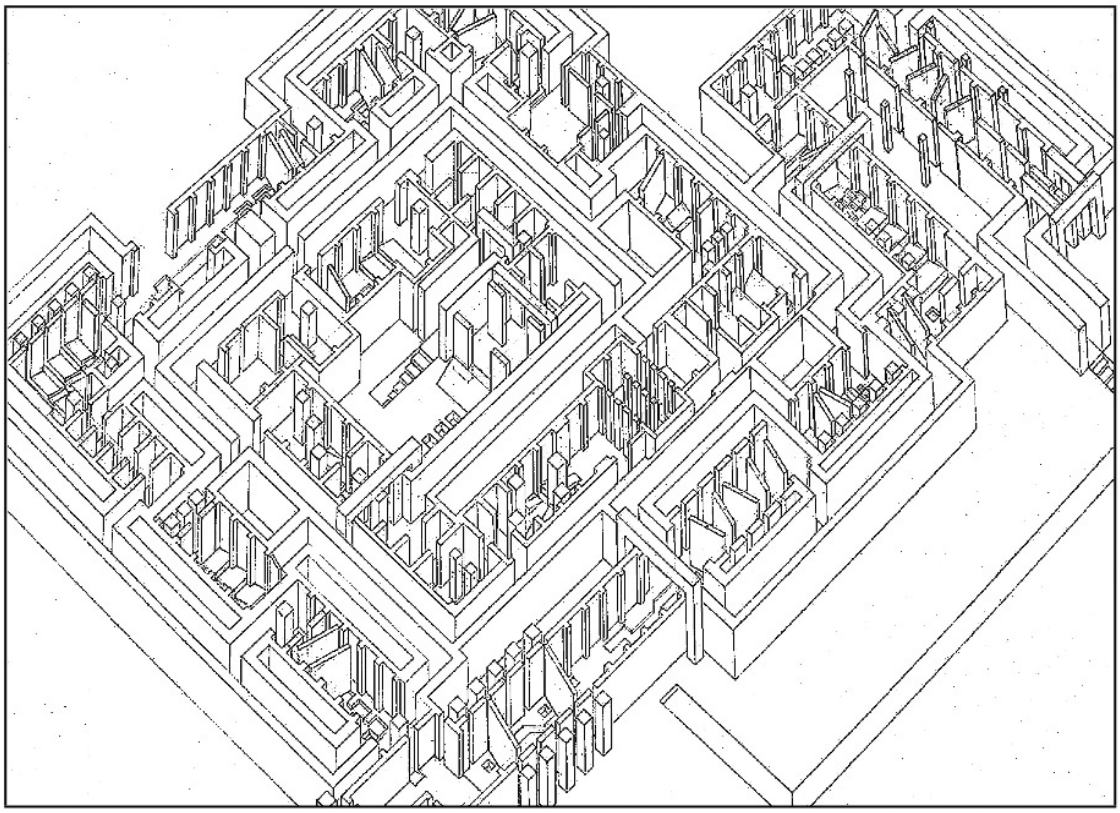


Fig. 4: Labyrinth Drawing containing all 30 episodes of *Getting Lost in Tokyo* and all connecting routes from the Flow-chart Diagram. Courtesy of the author.

thing addressed by the philosopher Edward Casey in his writing on landscape: 'the criterion of isomorphism, that is, of the precise part-to-part matching of original and copy, of (perceptual) presentation and (artistic) representation, must also fall under suspicion. Even if exact resemblance may serve as an important motive for a particular painter, and even if it may be more or less successfully achieved in certain great paintings (notably in Vermeer's *View of Delft*), it cannot be invoked as a criterion by which all artistic representations are to be judged.'[7]

The idea of a totality of representation is, in the case of the Subway, an overload of stimulus: where too much information is given, it becomes impossible to navigate or find one's way as there is simply too much to choose from. The episodic nature of the initial diagrams is, therefore, much more like the experience of the place, which is encountered as a series of narrative events, small vignettes which may recur. In this sense, the diagrams and drawings can be said to constitute a landscape of the Tokyo Subway system, but rather than attempt picturesque representation, the Subway is approached on its own terms and represented with respect to the issues of importance there. This is not visual spectacle, but narrative and movement.

The photographs [figs. 5 and 6; bottom] show analogous situations, places in Tokyo which share similar conditions. These conditions may include similar crowding attributes, thresholds or flatness of space. The intention is to show how the conditions of the Subway can be found elsewhere in the city, and that a logic of space is contained within the compressed, dense environment of the Subway. The presence of these conditions in the Subway may either have its roots elsewhere, or make such conditions acceptable elsewhere.

These are collated into a map, showing where these found metaphors are distributed across the city at large. The resulting map draws on the examples of psychogeographic maps drawn by Asger Jorn and Guy Debord, attempting to illuminate the hidden connections between places, or how they might relate to one another through alternative logic. The location of each photograph was plotted on a map of Tokyo along with its corresponding number in the series. The connecting lines described by the flowchart were then added, producing this alternative understanding of the city.

In the notation for the example shown in '23. Is there more than one sign?' [fig. 5] the actor (presumed by the notation) is presented with four alternatives, and drawn equally to each one. The quality of being drawn or attracted towards something is indicated by the 'V' shape. Later in the notation, it is the gaze that is drawn in this direction. The symbol for head is drawn inside the 'V' to indicate this more specific attraction. To the left of the main notation, the symbol for centre stage is shown, indicating that the actor should position themselves in a central position. This event is in two parts, two acts. These are separated by the two horizontal lines which interrupt the staff.

The drawing translates this action by using ramped floor elements to represent attraction (and repulsion, not shown in this example). The object of the attraction or gaze is rendered as a simple column: something which one must encounter physically and negotiate spatially. The staging directions from the notation are drawn by manipulating the corridor format common to each event. In this case, the corridor is widened out to allow the centre stage position to be occupied. A wall is placed in this space with openings representing the possible gazes indicated by the notation and the threshold indicated by a trench in the ground represents the different acts in this movement.

The photograph at the bottom shows a scene from the Kannon Shrine in Asakusa. It shows a number of signs, each with equal prominence and

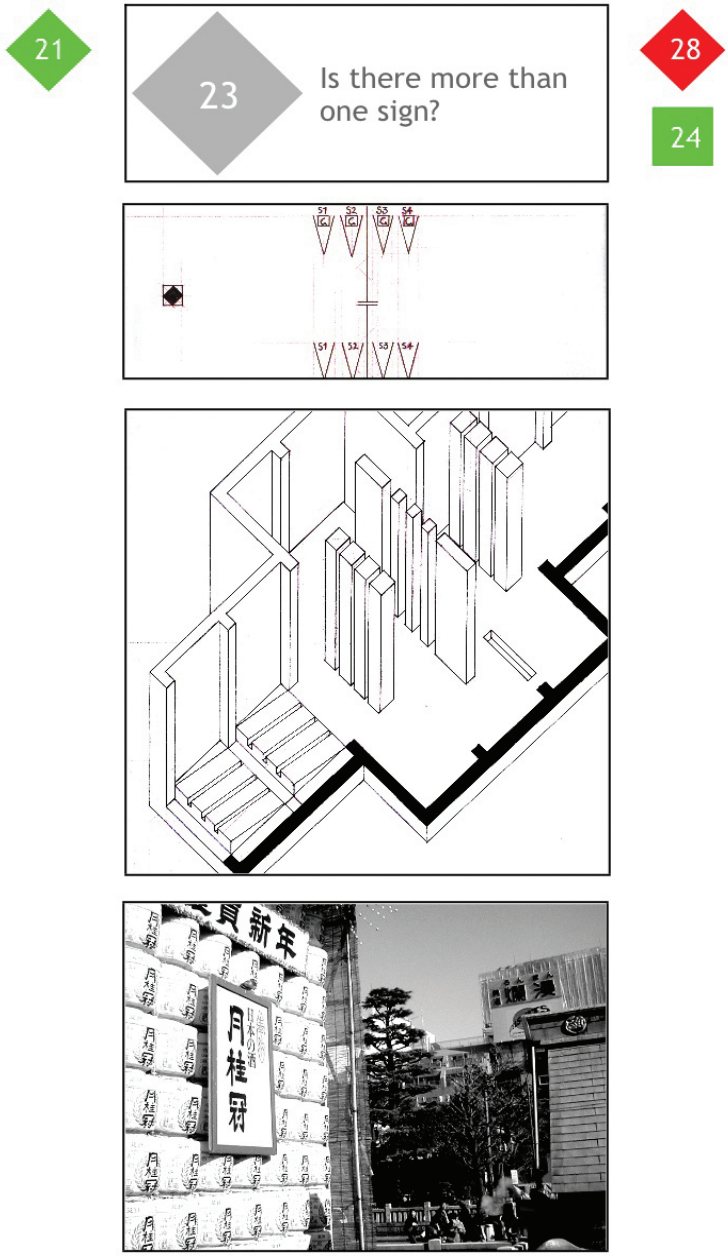


Fig. 5: *Getting Lost in Tokyo* plate 23. 'Is there more than one sign?' Courtesy of the author.

interest, and is a scene in which the allegorical situation of there being more than one sign is apparent. Analogous situations for each Subway episode can be found elsewhere in the city, demonstrating that a common approach to space is experienced above ground and below, and it is simply a case that the underground experience is compressed and heightened.

In another example, '28. Board the train', [fig. 6] the notation indicates that there is a definite path to be taken by placing a wavy line across the staff. More specific indications can be given in Laban notation, but this indication is sufficient for our purposes. Staging directions are included again on the left-hand side, and are used to show that the actor should align towards one side of the platform whilst facing right as indicated by the box with 'T'. Also on the side with the staging direction are effort notations showing the openness of the enclosure at the beginning of this event, tapering down to tightness at the end. The main part of the event is in the centre, with the gaze directed towards the train, and a wringing effort of tight torsion movements indicated to complement the actor's movement towards the train. This is one of a number of efforts found in negotiating the crowds of the Subway including pressing which is made up of more definite pushing and dabbing, a lighter more repetitive touch. As the direct path ends, a direct relation and contact is made between the actor and the train, indicated by the horizontal line with 'X' denoting the dominance of the relationship. This line is drawn across to a separate staff for the train itself.

The drawing in this case uses an inscribed route in the ground to depict the path indicated by the notation. Staging is once again drawn by manipulating the corridor format of the plate, and the increasing enclosure is shown through the gradual narrowing of the space available for movement between the regular supporting columns. The wringing movement is, like other efforts, represented by a door. In this case, the door pivots on its centre, suggesting the movement the actor would have to make in order to pass through it - a closeness with the item and matching movements with it as it turns are all suggestive of negotiating a crowd. It is an awkward movement characterised by a proximity with as little actual contact as possible.

The exhibition of the work contains the preparatory diagram of the flowchart alongside other orienting diagrams and sample journeys through the notations [fig. 7]. Next, the entire score of the Laban notation is given, re-presenting the experience as a dance, as an abstracted series of movements. After this, the archetypes derived from the notation are described and presented along with some examples of how these are assembled into the corridors in the main series.

Along one wall, the main series is given, with each episode described by the text of the diagram, a Laban notation, an axonometric drawing and a photographic analogy. These are augmented by lines inscribed into the floor showing the various paths suggested by the flowchart, the diagram which imprints its episodic structure onto the whole series.

The exhibition ends with the compilation diagrams; several sample journeys are drawn in architectural language once again, and the final two labyrinthine drawings: the axonometrics in totality and the psychogeographic map of Tokyo. These underline the necessity of understanding density through episodes, as the totality is simply too vast to grasp.

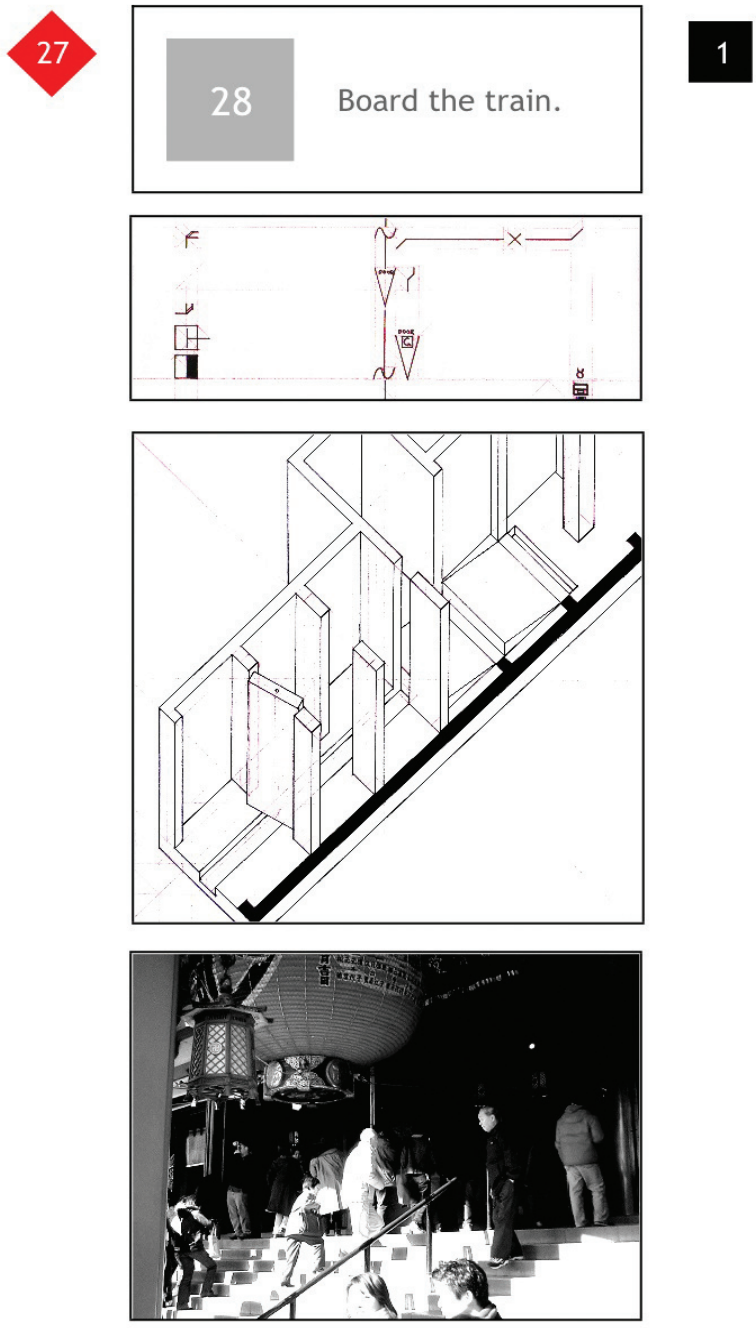


Fig. 6: *Getting Lost in Tokyo* plate 28. ‘Board the train’. Courtesy of the author.

Fig. 7: The exhibition of *Getting Lost in Tokyo*. DCA Dundee, Scotland, 2005. Photo courtesy of the author.

Notes

1. Donald Richie, *Tokyo: a View of the City* (London: Reaktion Books, 1999), p. 32.
2. Hidebonu Jinnai, *Tokyo: a Spatial Anthropology*, trans. by K. Nishimura, (Berkeley: University of California Press, 1995).
3. Akira Suzuki, *Do Android Crows Fly Over the Skies of an Electronic Tokyo?*, trans. by J. K. Vincent, (London: Architectural Association Press, 2001), p. 48.
4. Kurata quoted in Livero Sacci, *Tokyo: City and Architecture*, (Milan: Skira Editore, 2004), p. 85.
5. Marc Augé, *In the Metro*, trans. by T. Conley, (Minneapolis: University of Minnesota Press, 2002), p. 29.
6. E. S. Casey, *Representing Place: Landscape Painting & Maps*, (Minneapolis: University of Minnesota Press, 2002), p. 18.
7. Rudolf Laban proposed a system of movement notation which could be used for dance, but which Laban also used for early occupational therapy in the industrial workplace. The system is still in use today, and has proven adaptable for many purposes, including anthropologist Brenda Farnell's work on sign language and movement.

Acknowledgements

This work has its origins in the AHRC funded Creativity and Practice research group based at the Department of Social Anthropology at the University of Aberdeen. This project is run jointly by the School of Fine Art at Duncan of Jordanstone in Dundee and the University of Aberdeen, and the activities of the group have continued under the Art, Anthropology and Architecture seminar series held by Prof. Tim Ingold. The project detailed in this paper 'Getting Lost in Tokyo' was exhibited as a solo show at the Centrespace Gallery in Dundee Contemporary Arts in June 2005. Several of the illustrations of this series have been previously published in modified format in Anthropology Matters Journal, 2004, 6 (1) See: http://www.anthropologymatters.com

Biography

Raymond Lucas is currently researching multimodal representations of urban space at the departments of Architecture and Design, Manufacture & Engineering Management, University of Strathclyde, Glasgow, Scotland. The research is part of the United Kingdom AHRC/EPSRC Designing for the 21st Century cluster. This project looks at the broad range of sensory experience and looks to find notations appropriate to this fuller description and design of urban space. He has recently been engaged in research on the extent of the human voice in determining space at the University of Edinburgh. The Inflecting Space project was a collaboration between architecture and music supported by the AHRC looking at applications of sound design to public space. He holds a Ph.D. in social anthropology from the University of Aberdeen with the thesis Towards a Theory of Notation as a Thinking Tool. This work examined creative inscriptive practices ranging from architectural drawing through movement notations to diagrams and painting.

The 'Agency of Mapping' in South Asia: Galle-Matara (Sri Lanka), Mumbai (India) and Khulna (Bangladesh)

Kelly Shannon

South Asia's ad-hoc project modus

The territories – cities and landscapes – of South Asia are under incredible transformation due to man-made and natural conditions. As countries in the region are undergoing a process of decentralisation and devolving responsibilities, spatial planning and urbanism are greatly affected – particularly in terms of infrastructure provision, environmentally-responsive growth and transformation, synchronisation between government agencies, community participation and institutional strengthening. Cities and their hinterlands are simultaneously reaping the benefits and pitfalls of the region's near-universal endorsement of the neo-liberal urban development paradigm. Urban and rural cultures alike are overlaid with new spatial logics of global tendencies. There is enormous pressure from deregulated real estate speculation – threatening the heritage of ancient urban fabrics as well as of neighbouring fragile landscape ecologies, which is compounded by the fact that cash-strapped governments are retreating from the public realm. Globalisation is also spatially leaving its imprint as cities and landscapes are progressively being built by an ever-more fragmented, piecemeal and ad-hoc project modus – funded by established and newfound fortunes of national and international developers and lenders, development aid projects and (often corrupt) governments. At the same time, 'natural' disasters are increasing in severity and frequency – arguably due to climate change and the flagrant disregard of the environment in the relentless dive to impose imported terms of reference for modernisation and urbanisation.

The challenges and strategic importance of realising urban design in South Asia's contemporary context of borrowed visions, abstract land-use planning and a diminishing political will are, obviously, innumerable. How to qualitatively intervene as an urbanist in such a context? How to make a difference in the sea of commercial mediocrity, on the one hand, and in the cancerous-like spreading informal landscapes of poverty, on the other hand? How to intervene in highly contestatory sites to simultaneously create new opportunities for development while qualitatively responding to the specificity of local contexts – as opposed to 'generic city' development? How to structure fragments of the urban fabric strategically in order that they have meaningful leverage effects?

Interpretative mapping

There are no easy answers and/or recipes to these questions, but it will be argued an understanding of contexts, based on fieldwork, can allow for the feasible projection urban visions and strategic urban design projects that can make more evident particular sites' inherent qualities and creatively marry ecological, infrastructural, and urbanisation issues by solutions that cut across multiple scales and sectoral divisions.

Indeed, it can be argued that interpretative mapping is a first step to transform a territory. An understanding of the context and the reading of sites

– from diachronic and synchronic perspectives – are necessary in order to create modifications that have logic and relate to the particularities of places and situations. It opens up contemporary possibilities for developing an urbanism that evokes an intelligence of place – encompassing geographical/topographical and climatic realities, tangible and intangible heritages, the messiness of everyday urbanity and possible futures.

In the past decades there has been a search for new tools to describe, understand and interpret the processes conditioning emerging urban landscapes. In a seminal text, 'Present and Future of Cities,' Ignasi de Solà-Morales categorised five 'platforms' to see, understand, problematise and judge complex networks of interaction: 1) mutations: sudden processes of mutation in existing and newly emerging urban contexts are difficult to comprehend within urbanism history; 2) flows: the juxtaposition of a multiplicity of flows, resulting from the accumulated interconnections of meshes requires new architectural responses; 3) habitations: the continuing relevance of alternative procedures to the conventional approaches to mass housing, often evident in developing countries vis-à-vis the rationalisation of do-it-yourself construction, self-help, soft technologies, light planning, etc.; 4) containers: the proliferation of places, not always public, nor exactly private, in which are produced the exchange, the expense, the distribution of gifts that constitute the multiple consumption of our highly ritualised societies (museums, stadiums, shopping malls, theme parks, etc.); 5) terrain vague: the need to conserve, manage and recycle the residual spaces of the city as spaces of vacancy and absence, as a critical safeguard against a banal, productive present.[1]

De Solà-Morales was one of many to introduce a new vocabulary to name the contemporary processes of urbanisation. A base problem, however, remained the difficulty in visually representing the phenomenon and structurally intervening in the territory. In the 1990s, 'descriptive urbanism' surfaced – a spectrum of new modalities of drawing and mapping, coupled with informed descriptions that have revealed patterns hitherto invisible in the shape of contemporary urbanism. At the same time, a danger continues to loom, for as urbanist Bernardo Secchi warns '… description seems, today, to have become the principle form for the organisation of the discourse, through which the city planner seeks and controls the coherence of his positions … [yet what is] problematic in this tendency is, in fact, the frequent dissolving of city planning activity into a sterile desciptivism, which bypasses the new without revealing it.'[2]

Nonetheless, heeding this caveat, 'descriptive urbanism' can be operative as an evolution from mere urban history towards urban analysis – through the careful and critical reading of layered and contested territories towards 'designerly' investigations of potentials. Interpretative mapping allows for multiple perspectives and methods of looking at history, contemporary reality and data. The interplay between paradigms, discourses – be they political, scientific or populist – forces, circumstances and hazards has resulted in contemporary cities and landscapes that are neither smooth nor understandable from a single perspective. The implicit and explicit translation of discourses to physical form is further modified by continuous practices of everyday life.

The notion of 'descriptive (landscape) urbanism' can be used as a method and a critical discourse for urban analysis. The critical assessment and construction of mappings, overlays, narratives and urban biographies convey social realities on the ground. And since the paradigmatic and the descriptive can never be fully disassociated from one another, the urban analysis demands a back-and-forth method oscillating between the two – involving different scholarly and creative skills: scientific researcher, participating observer, stirring

narrator.

Urban analysis 'from above' includes the layered mapping of a city/territory. It embraces historical and contemporary mapping. The historical evolution of a place can reveal its inherent logics. The view from 'above' included the reading of ecosystems, watersheds and geographical/topographical formations, etc. which are critical to a comprehensive analysis of the larger territorial setting. It makes use of all available information produced by all available techniques (from primitive mapping to GIS). It requires the cross-reading and interpretation of raw data of different nature and a difficult process of editing to make the underlying logics of the territory legible. Drawing is a tool to select, compare, combine, analyse and describe tendencies and the latent capacities of the landscape and its relation to urbanisation.

Analysis 'from above' needs to be complemented by analysis 'from below' where an understanding of the territory or the landscape and its everyday use can be mapped from a haptic and experienced sense. Urban analysis 'from below' is premised on fieldwork. Fieldwork is an essential component of the urban analysis to augment the understanding of places 'from above'. Although quantitative, descriptive and consensus data abounds in many of today's urban contexts, it tends to be either very general or edited to reflect decision makers policies and emphasis. Due to the general unavailability of precise information, fieldwork takes on heightened significance; it serves as both 'ground-truthing' and as a base for the discovery of unspoken/unwritten realities. Fieldwork can also be understood as a sort of critical realism (critical in the process of selection and what to map). A critical reading of urban fabrics and morphologies and patterns of functioning (inhabitation, mobility, production, etc.) can be made in both a diachronic and synchronic sense. 'Layered narratives' can reveal cities' urban histories as complex spatial translations of different eras and ideologies. The resilience and potency of the cities' multi-layered narratives questions the popular assertion of a linear development path from 'tradition' to 'modern' or from 'local' to 'global' whereby a next phase replaces a previous one.

Moreover, the mapping and critical evaluation of master-plans and 'projects-in-the-pipeline' is essential in order to understand and moderate the visions of policy making and realities of developers or donors. Access to information is sometimes problematic and handicapped by confusions between realities, 'maps' and 'plans'. Maps, as graphical representations of reality are mostly purposeful (even if unspoken as such) – in some cases even serving as straightforward police and military tools. Meanwhile, the plan – an idealised state of an imagined future reality – is the operative mechanism for urban development. Unspoken purposes or unrealisable dreams are projected upon the territory in a fashion that often has little to do with the existing typo/morphology and landscape.

Mapping is inevitably subjective and the manner in which one plans, frames, scales, gathers, reworks and assembles documentation is a highly mimetic and thus creative act. Far beyond mere description and a mirror to reality, maps are narratives in the form of drawings, collages, diagrams that reduce to an essence and reveal hidden potentials and disclose conditions for the emergence of new realities. Diagrams – as projects in the making – unfold and uncover potentials through their inevitable abstraction, selection and omission of facts. Speculative techniques of mapping are operative in the sense that they reformulate the reading of the existing territories and set the stage for the inauguration of new worlds. The combination of multiple views and scales by innovative representational techniques results in new associations between disparate facts of urbanisation over time. However, mapping is never fantasy. It never looses its realistic content. Its capacity to grasp real observable data,

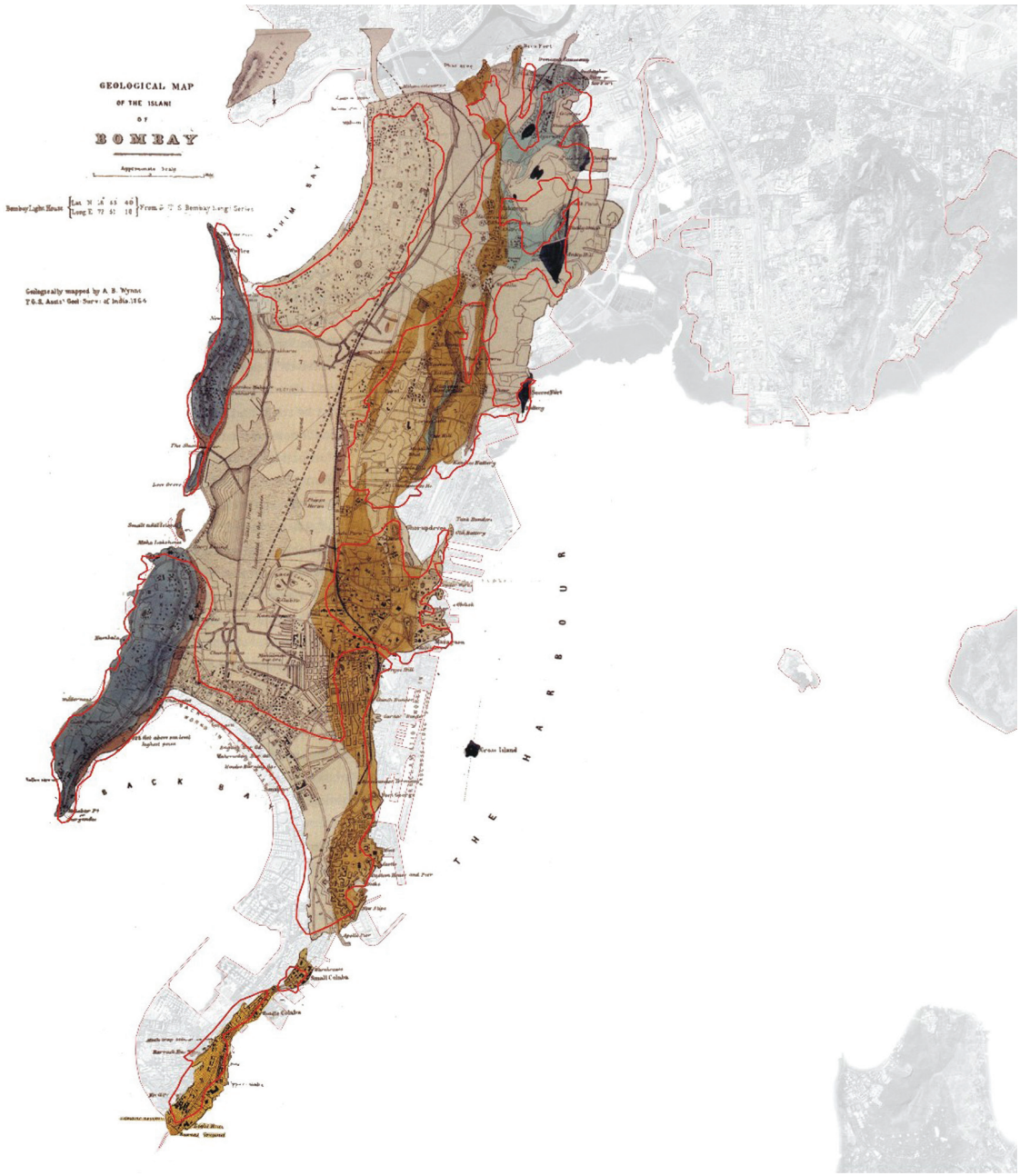


Fig. 1: Geological Map of the Island of Bombay, 1864. Image courtesy of the author.

issues and tendencies and its interpretative force offers a reasonable/reliable check of truthfulness. Its performance in interpreting and grasping observable data, issues and tendencies offers a reliable monitoring of truthfulness.

Mapping South-Asian cities and landscapes

Throughout history, South Asian cities and landscapes have been travelled to, mapped, chronicled and described. The biographies of the territories remain dependent upon who was mapping and narrating and for what purpose. The cases investigated here – the southwest (Galle-Matara) coast of Sri Lanka, Mumbai (pop. 13 million), the economic engine of India, and Khulna (pop. 2.3 million), the third largest city in Bangladesh, were significantly transformed into sites of geo-political and economic importance during the colonial era – first by the Portuguese and British. All were territories where extreme world-view narratives and ideologies (political-economic models) were tested, spatialised and materialised. Cities and landscapes were carefully charted and maps of the period highlighted the strategic, infrastructural and instrumental implications of the landscape in relation to control and exploitation of the territory. [fig. 1] Not only were landscapes radically altered, but also colonial space was viewed as a laboratory, *champs d'expérience* (experimental terrains).[3] Cities and landscapes were developed with distinct political and administrative precincts, industrial areas, housing quarters and commercial districts. Colonial planning in South Asia is also widely recognised for its brutal containment strategies of racial segregation. Meanwhile, parallel cities of survival and self-organisation developed along side the uneasy heritage of colonial urbanism.

In Sri Lanka, the majority of the population lived in the drier inland locations and the coast was only inhabited by small Muslim trading communities. It was only during European colonisation that coastal habitation was aggressively pursued – linking trade routes to pure exploitation of the productive countryside. The British introduced a host of new crops in Sri Lanka – tea, rubber and spice – which worked with the topography and soil types. Large plantations developed and a rural/urban hierarchy became firmly established; settlements are nestled in the protective cover of dense vegetation. In the Indian case, Bombay (coming from the Portuguese 'good bay')[4] was originally an archipelago of seven islands inhabited by fishermen. As the British East India Company established the region's foothold of economic importance, the east coast of the islands became the company's first port in the subcontinent and eventually the capital city for the colonising company – Bombay became an important centre of international commerce, industry and culture. The harbour was strengthened, the shipyard modernised and the city fortified. Low-lying marsh lands were filled and by the early 19th century, the islands were agglomerated into what is now known as Salsette Island. Reclamation of the eastern seaboard continued into the early 20th century as the port expanded. The city's industrial legacy was rooted in the Eastern Docklands, its textile mills, primarily located in Girangaon (in the centre of the Island City) and the various railway lines connecting the two. Understanding the historical transformation from seven islands to an archipelago proved important in terms of projecting a restored wetland ecology, new social spaces along the infrastructure axes and connections between the defunct mill sites and the eastern docklands. In Khulna, the city rose from a hamlet to a thriving river port and administrative city due to its relation to the nearby Sundarbans (the world's largest mangrove forest) and important train link to Calcutta. Colonial maps of Khulna are related to the train connection – thereby underlining the city's role as a productive hinterland for the empire.

Beyond historical mapping of the layered narratives of landscape and cities – which reveals the extent to which urban planning and city building is inextricably tied to historical paradigms – the research gaze of a foreign architect/urbanist is able

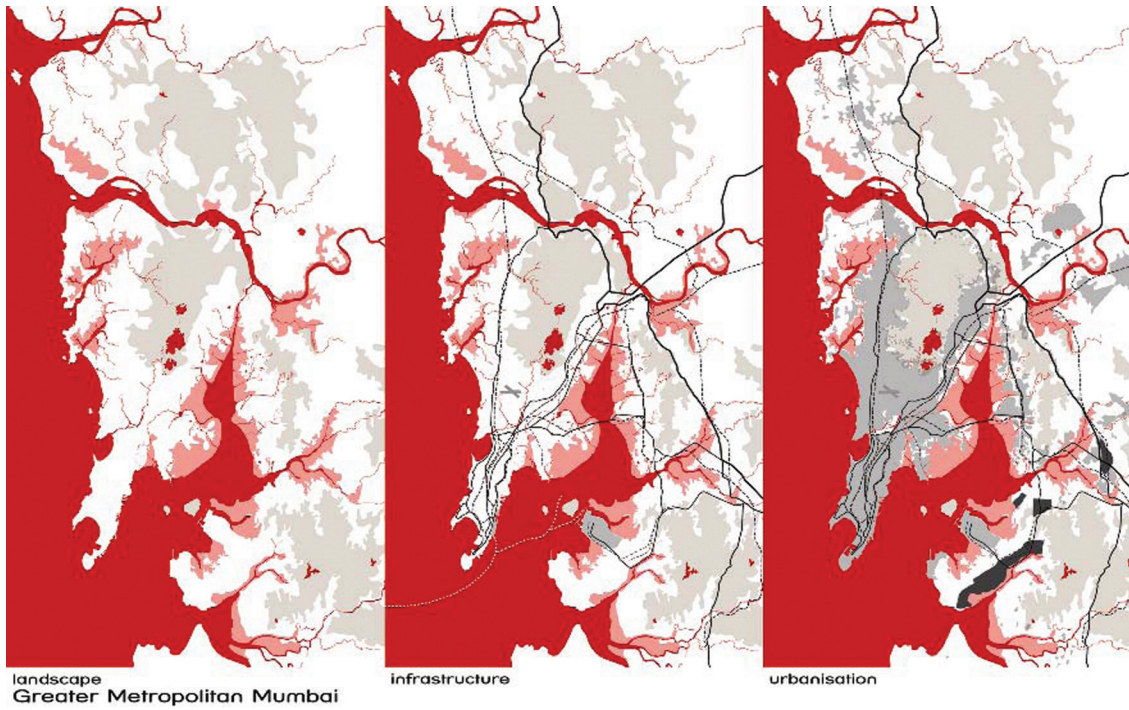


Fig. 2: Greater Metropolitan Mumbai - Landscape, Infrastructure, Urbanisation. Image courtesy of the author.

to reveal the perceived, often contested, layered realities of the city and its larger territory. Mapping 'contested territories' – industrial roles, ecological constraints and urban challenges – reveals a tension between old and new ideologies and realities, as well as between local, national and global agendas. The urbanist's gaze and descriptive map-making can be instrumental in clarifying the territories' essence, revealing hidden potential and disclosing conditions for the emergence of new realities. Working between multiple scales allowed for the discovery of potential sites for intervention and where the social needs of the inhabitants could be negotiated within the present process of unbalanced development.

Territorial structuring

Understanding the shifting relationships (smooth and conflictual) between landscape, infrastructure and urbanisation became a base for descriptive (landscape) urbanism in the three contexts. The link of various qualities and opportunities of the territory to their typo-morphological settlements were mapped in order to gain insights into the logics of development.

In Sri Lanka, the territory was read as a series of fields (mostly productive) that are backdrops for a series of lines (infrastructural links) and points (urban areas, temples, schools, etc.). Along the coast are patches of higher ground, typically planted with coconuts and giving shade to settlements. Within 5 km of the coast, there are productive midlands which are characterised by a dispersed and fine-grained, extensive network of tertiary roads. Towards the highlands, settlements are sparsely settled, with minimal infrastructure and accessibility, amongst tea and rubber plantations.

The existing low-land paddy structure follows the invisible geo-morphological layers of fault lines. The paddy, together with a system of rivers, lakes and lagoons form watershed catchment basins and act as 'sponges' or natural drainage systems. Along the southwest coast, four 'sponges' were identified: the sub-regional watersheds of the Gin Basin of Galle, the Koggala Lake (lagoon) ecosystem, the Polawatta Basin of Weligama and the national watershed of the Nilwala Basin of Matara. There are also limited and threatened areas of mangroves, wetlands, marshes, saltpans and mudflats.

Traditionally, waterways were the primary organisers of the territory – not only spatially, but also with regards to economics (paddy cultivation and fishing). Unfortunately, the network of rivers have become underestimated, relegated as backsides and left to piecemeal development, as road-based urbanism prevails. On the whole, rivers have lost the spatial status that they held during the colonial eras when they were an active part of civic life and structured urbanisation. Yet, the distinct eco-systems of waterscapes provide places with identity, particular economic and socio-cultural activities and, if properly exploited, an affordable and ecological means of water-based transportation. In addition to rivers, the southwest coast is also marked by an exploitation of its coast for tourism – where if the beaches are not the most spectacular, they are certainly the safest, as those in the east and north are out-of-bounds for most tourists due to the on-going and escalating ethnic tensions of civil war. At the same time, waterways remain a threat – from flooding and more catastrophic events such as tsunami – evidenced in 2004.

The challenge in balancing post-tsunami humanitarian relief and reconstruction with long-term sustainable development is compounded by the concurrent construction of the highly contentious 80m wide, 128km long Southern Expressway (linking Kottawa in the outskirts of the capital, Colombo, to Matara in the south). Prior to both the expressway project and the December 26 tsunami, the country's Southern coast was a relatively quiet region, with a string of secondary and tertiary towns clustered

along the coast and strongly connected to a double infrastructure bundle of rail and road – the single-track rail line that ends in Matara and the parallel 2-lane Galle Road (connecting Colombo to Matara). This infrastructure generated a nearly continuous strip of development – often only one building deep between larger settlements; coherent sea front development was impossible. At the same time, the region was marked by a rich mixture of dichotomies such as global/local, large/small, urban/rural – where coastal cities, fishermen settlements and tourism were spatially woven into a hybrid mosaic along the coast and structured by the congested and continuously animated infrastructure lines. Smaller inland settlements, whose inhabitants were primarily engaged in agricultural-based activities, were dependent upon the coastal cities for social services. The introduction of a new territorial scale by the expressway, coupled with reconstruction following in the wake of massive infrastructure and settlement erasure, has tremendous implications for urbanisation and the future of the landscape. There is an obvious close link – in positive and problematic terms – between the expressway and post-tsunami redevelopment of the coast. Not only will the shifting infrastructure hierarchies and new development significantly challenge the present-day livelihood and urbanisation trends of the region, but it will also alter the functioning, ecology and imagery of the landscape. How to integrate the new infrastructures and development most appropriately remains a critical question.

In Mumbai, the relation between landscape, infrastructure and urbanisation was mapped at three scales. The metropolitan-scale landscape is formed by mountains, plains, marshlands and water structures. The natural topography, to a large extent, dictates the course of infrastructure (roads and railways) and urbanisation has tended to linearly develop and spread along these lines in the valleys [fig. 2]. Mumbai covers 438 square kilometres of Salsette Island, although almost a fifth of this area is occupied by the mountainous Borivali National Park (with its important lake system). The urban area is condensed into 350 square kilometres supporting a high gross residential density of about 34,000 residents per square kilometre. Public open space is limited, accounting for only 1% of this area. Indeed, space of any kind is only acquired at a premium. The island's landscape is threatened by the processes of urbanisation as the dense green structure of the park is encroached by informal settlements and the water network (including wetlands) is indiscriminately filled and/or polluted with solid waste. In terms of infrastructure, the railway and roads compose a strong north-south connection, which nonetheless remains insufficient to support the 6.5 million commuters who move in and out of Mumbai daily. At the same time, potential water transport is undermined as government proposals favour massive road building. The urbanisation is dense and covers most of the Island. A dispersed, yet growing, territory of informal housing clusters along infrastructure lines and tends to occupy land that is environmentally fragile.

At the scale of the Island City, the ecological structure is basically non-existent due to extensive land reclamation. 'Landscape' is perceived as small, dispersed pockets of man-made parks in addition to a number of urban beaches. The south-western tip is marked by the famous Malabar Hill – offering spectacular views to its wealthy inhabitants. As a result of the de-industrialisation process, the railway infrastructure is oversized for its primarily passenger use. The north-south connection overshadows a weak east-west road link, mostly composed by an articulated eclectic overlap of different urban tissues. The post-industrialisation process has created a series of vacant spaces along the rail lands, the mill lands (private, National Textile Corporation [NTC], including the related residential blocks for the workers '*chawls*') and the eastern docklands. Most of these sites are concentrated in the core of the city and form a system of potential sites for further

development.

In Khulna, mapping the transformation of the territory over its history reveals the shifting relations of urbanity to landscape and infrastructure. The spatial growth of the city is explained by its topography; it developed as a linear city. In pre-colonial times, the settlements occurred on the natural levee (2-4.2m above sea level) of west-side of the Rupsa and Bhairab riverbeds. During the British colonial era, Khulna grew due to its role as a river trading port city with administrative headquarters and market centre. The Jessore Road was an important transport link to the north and the corridor urbanised over time. In 1885, the road was paralleled by an important railway link with Calcutta (which has only recently been restored). Originally Khulna operated as a collection point for hinterland agricultural production (primarily jute, rice, tobacco, sugar cane and more recently shrimp) and natural resources (primarily fish and wood). It was established as a significant industrial base – specialising in jute mills with raw materials supplied from the nearby Sundarbans. The large and prosperous mills were linked to the riverfront and serviced by an extensive railway network. After the Partition of India in 1947, the jute mills flourished under East Pakistani management and housing colonies, schools and social/cultural amenities augmented the progressive mill layouts. Once Bangladesh gained independence in 1971, the mills became state enterprises and slid into a vicious cycle of under-investment, an inability to properly compensate workers, dwindling orders from the world market (as plastic gained in popularity) and strikes. Mill after mill began closing their doors. The city lost its economic driver.

Meanwhile, new infrastructures and programs have located in Khulna. Its urbanised area is rapidly growing due to a rural-urban immigration, with a large proportion of the population occupied in informal market activities. The demographic composition of the population is out of balance with a large dependant group of children and few adults, putting high demands on the professionally active people. Spatially, the dense core of the city remains bundled along a stretch of 15km between the Rupsa/Bhairab River and the parallel Jessore Road; however, with development of the Bypass Road to the west, both planned and speculative urbanisation has begun. The university campus promises to be a new core area and all the plots adjacent to the highway has been sold. At the same time, the water-based urbanism of the city is falling into disrepair and the massive industrial platforms, structures and infrastructural networks are abandoned. The State remains the owner of a vast amount of property – significant holdings are in the under-utilised rail yards. The city, nonetheless, remains a centre for a largely productive hinterland.

Urban/rural tissues

The major structuring elements of the cities and landscapes are relatively easy to identify whereas understanding the major built volume of all territories, the urban fabric – the often uncelebrated (predominantly residential) infill – is more complex. However, it can be argued that the anonymous fabric is at least as significant in defining the character and culture of any given territory as are the larger structures. To further understand the territories of Galle-Matara, Mumbai and Khulna, a 1969 method of fabric analysis – by Caminos, Turner and Steffian of Massachusetts Institute of Technology[5]– was revisited. The systematic representation of 400x400m sample tissues revealed the correlation between various settlements, their geographic and cultural contexts. The making of the squares often literally included the putting on the map elements un-recognised, not officially mapped and documented. The compilation of an urban tissue atlas of sorts facilitates comparative analysis and remains a useful testament to the variety and richness of settlement morphologies. Admittedly, the danger of such analysis lies in the ease with which it can become highly mechanistic. However, if well-balanced, it can

reveal the inner-workings and provide a materiality to cities and their neighbourhoods.

In Sri Lanka, sample tissues were mapped and revealed the inherent structuring logics of the rhizomatic territory. At first, the territory appears as a bit of everything nearly everywhere. However, upon closer readings, the nuanced logics of urbanisation could be distilled. The simultaneity of concentration and dispersal was explained by understanding the micro-systems and hybrid economies of the region. There proved to be a complementarity of large mono-functional areas (primarily industry or agricultural patches) and small fragments. It was also observed that new concentrations – particularly post-tsunami aid projects – are creating new concentrations and thereby destroying the traditional fabric a second time over.

The series of figure/ground drawings (sampling areas from dense urbanity to tiny hamlets) proved that the predominant footprint is that of a single family house and that the density ranges from 0.3 households/ha to 15 households/ha. There is an obvious close link between topography, productive land and vegetation: in the rural areas, paddy accounts for 30-50% of the land, 10-30% for tea cultivation and 25-30% for uncultivated land/ mixed vegetation; the peri-urban settlements have gardens with mixed vegetation and coastal settlements have mere coconut plantations and limited gardens. Topography also influences infrastructure and programming: roads in the countryside follow topography as do the settlements always on slightly elevated land; coastal settlements are strung along the linear bundle of railroad and Galle Road. Awareness of the region's local logics – particularly understanding the tendency for ribbon development and dispersed urbanisation of the hinterland – was fundamental in creating feasible visions for structuring a potential future.

Nine representative fabrics were investigated in Mumbai. The fabric analysis confirmed that the city is defined by multiple conflicts, dualities, juxtapositions and tensions. It is a city of enclaves – of extreme richness and unimaginable, heart-wrenching poverty; a city of mushrooming growth – of high-rises towering over super-dense carpets of slums; a city of multiple uses – of parasitic and productive territories. The neighbourhoods researched include: Ganesh Lane (A), Phoenix Mill (B), hospital area (C), Mahalaxmi Circle (D), BDD *chawls* (E), Dadar West (F), Fort area (G), Vihar Lake & N.I.T.I.E. (National Institute for Training in Industrial Engineering) (H), Bandra East (I). The inverse figure ground reveals a large variety of footprints (from XS to XL) but all, nonetheless, with high ground coverage [fig. 3]. There are two exceptions to this. The first is Dadar West (F), the first planned suburban area of the city – where strict building regulations were applied and where proper sanitation and open space ratios were an integral part of the development. A second exception is Vihar Lake & N.I.T.I.E. (National Institute for Training in Industrial Engineering) (H) – which should be even more open. The tissue is within the Borivali National Park and Vihar Lake is the city's largest fresh water body (essential for the city's drinking water and as a catchment basin for seasonal rains). N.I.T.I.E legally occupies space in the landscape, however the other settlement are informal and illegal encroachments which pollute the environment. Clusters of informal settlements are also evident in Bandra East (I) – otherwise an area formerly known as 'Queen of the Suburbs' (linked to the Western Railway) and with a large catholic population. The BDD (Bombay District Development) housing area (E) also has a particular figure ground – whereas the project includes the grid of 35 prototypical 4-story one-room tenement blocks. These so-called *chawls* were developed by the British as worker's housing. The land-use map shows the mixed-use nature of Mumbai's urban tissues. Exceptionally, the Fort area (G) has little diversity; in fact the area is devoid of formal housing whereas it continues to serve as the city's main

Fig. 3: Fabric analysis in Mumbai. Image courtesy of the author.

commercial, office and government facilities area: it boasts wide sidewalks and ample *maidans* (public green spaces). Ganesh Road (A) is in the heart of Girangaon and its traditional shop-house tissue is transforming with the addition of office buildings – growing due to the closure of mill lands. The Phoenix Mills (B) fabric typifies the development practices underway in the city – whereby mills are transformed to malls and flyovers divide old dilapidated tissues (and classes) from renovated ones. Finally, the vegetation map [fig.4] is consistent with the other mappings. The hospital area (C) has a series of unexpected and well-maintained parks and gardens, scattered between the various hospital and medical buildings and Mahalaxmi Circle (D) has various public green spaces – including the circle itself which hosts a public garden and a public sewage plant.

In Khulna, five extremely contrasting fabrics were mapped. 'Bara Bazar' – the original area of settlement in Khulna – is the super-dense, primarily wholesale and storage area sandwiched between the main vehicular road (Jessore Road) and the Rupsa and Bhairab River. Narrow streets are appropriated by street vendors and the relation to the river is purely pragmatic – a backside for loading goods. The Rupsa slum, located in a low-land, is similar in terms of ground cover, but not nearly as dense – consisting of low-rise *katcha* (temporary structures) and timber industries perpendicular to the river; the sample fabric also hosts a gated housing community for Christians. Khalishpur, in the city's former economic heart, along the river, hosts a number of jute mills on government property (the analysed area includes one of the few working mills – Crescent Jute Mill). There is informal appropriation by slum dwellers on the non-gated areas of the neighbourhood. In Nirala/Bagmara there is an apparent spatial collision of very different grains and tissues. The southern fringe of the city was once low-lands and marshes; in the 1990s, part of the area has been reclaimed for planned, upper-middle class housing 'colonies' of 3-5 floors (Nirala) by the Khulna Development Authority. Surrounding the new development is Bagmara, an informal housing area of semi-permanent or temporary housing structures with predominately rural typologies. Clusters of small grain housing are incrementally developed and nestled amongst dense vegetation and small water bodies. Finally, a tissue of the colonial fabric was analysed. It represents the oldest planned residential area of the city and is typical of a British garden city colonial settlement. Today, the area is clearly a high-class neighbourhood; the streets are wide, tree-lined, in good condition, unoccupied by hawkers, have proper drainage (some of them even footpaths) and there are no retail shops at the roadside. The result is that they are used only for through-traffic and rather empty in comparison with other streets in Khulna. In some parts of the area (mainly along the river side, with personal ghats), high-class officers reside (judges, district commissioners, etc.), but most of the buildings are used for administrative and governmental functions (court, jail, Sundarbans Forest info-centre, etc.). Additional analysis was completed which made more visible the invisible structuring logic of different settlement patterns. For instance, a highland/lowland comparison between the tissue of Rupsa and Nirala confirms that the low economic classes are often left to the most vulnerable and fragile ecologies. Land-filling is an expensive undertaking and larger-footprint, formal housing develops, while the marshy, unhygienic lowlands become illegally appropriated by the poor. Also, real and perceived, explicit and implicit boundaries of Rupsa and Colonial sample tissues revealed that the visual and physical fragmentation of the fabric by gates, fences and walls is complemented by unseen divisions of religion, social groups, etc.

The 'agency of mapping' in South Asia

South Asian cities are struggling to transform qualitatively. They are embroiled in the process of redefining their place in the world's mental and

Fig. 4: Vegetation maps of nine areas in Mumbai. Image courtesy of the author.

physical landscapes. At the same time, urban development, at the regional and city-scale can no longer be controlled by the classical tools of the master plan, land use plan and building plan in the traditional sequence. As plans and zoning regulations are carefully designed, reality in the field follows its own logics. Changes in politics and economics have led to South Asian cities' entry to globalisation.

How to intervene as an urbanist in such contexts? The contemporary 'project mode' of city building has not only been embraced by planning and design disciplines, but also by real-estate developers, city marketers and neo-despotic decision makers. The urbanist/planner has the job to re-think, re-visit and re-learn means for intervention. Interpretative mapping is the first step to transform a territory. The 'agency of mapping' is the initiation of 'design research.' As Corner writes,

Mapping is a fantastic cultural project, creating and building the world as much as measuring and describing it…. Analytical research through mapping enables the designer to construct an argument, to embed it within the dominant practices of a rational culture, and ultimately to turn those practices towards more productive and collective ends. In this sense, mapping is not the indiscriminate, blinkered accumulation and endless array of data, but rather an extremely shrewd and tactical enterprise, a practice of relational reasoning that intelligently unfolds new realities out of existing constraints, quantities, facts and conditions.[6]

The 'agency of mapping' is the beginning of design research; it aims towards the provisional synthesis of several factors and at multiple scales. Following an understanding of South Asia's interdependencies of landscape, infrastructure and urbanism, it is possible to project new relationships. Through a dynamic interplay of urban visions and strategic projects designs can then make realistic, yet radical, amendments to the region's project mode, which in its orientation towards the liberal private market has seemingly forgotten to provide public services to the majority of its inhabitants. Design is able to overcome antitheses that are insolvable in non-spatial terms (political claims, social programmes, etc.) (Design) research has an advantage in that it not necessarily solves problems, but can question and reformulate problems, form insights and suggest possible outcomes. The staging of spatial scenarios differs from that of making forecasts and the precise testing of desirable situations for which certainties are required. Design as a tool for negotiation, whereby specific solutions for strategic sites are investigated, has the luxury of being both very concrete and yet open for alternatives and modifications.

Finally, there are two other emerging trends in mapping methods that can expand the 'agency' of urbanists. First is the mapping/projection of actors and stakeholders. In light of a global retreat of the State, new stakeholder coalitions are required not only for modernisation and development, but also for safeguarding the interests of the (partially marginalised sectors) of the population and for protecting the environment. Ultimately, a civic society requires some-sort-of balance between private and collective interests, between representative and participatory democracy. An example of such mapping/ projection was made for Mumbai which reveals how to creatively engage, for a project on mill and port sites, a wide array of actors. A series of new coalitions were considered, while at the same time recognising that the private sector is the dominant actor in Mumbai's real estate. The proposal works with the notion of public-private partnerships, the leasing of state land to developers and the selling of key sites to create necessary capital for public infrastructure (re)development. Second, is the development of new GIS-data-based visualisation tool for the interactive exploration of three-dimensional landscapes. The development of Lenné3D was funded by German Federal Environmental Foundation (DBU) from

2002-2005. The prototype software creates digital visualisation of vegetation and plant life and allows for the automatic generation of plant distribution maps. The Khulna design studio, to be completed in Spring 2008, will work (through students of the University of Wageningen) with the enhanced computer tools and extend the plant database to species indigenous to Bangladesh. The descriptive (landscape) urbanism analysis/design will add a progressive new tool to its investigations.

Notes

1. Ignasi de Solà-Morales, 'Present and Futures. Architecture in Cities', in *Present and Futures. Architecture in Cities (*UIA Conference Catalogue) (Barcelona: Collegi d'Arquitectes de Catalunya and Centre de Cultura Contemporania de Barcloan, Actar, 1996), pp. 10-23.
2. Bernardo Secchi, 'Descriptive City Planning', *Casabella*, 588 (March 1992), pp. 22-23 (English text pp. 61-62).
3. Gwendolyn Wright, *The Politics of Design in French Colonial Urbanism* (Chicago: University of Chicago Press, 1991).
4. In an attempt to overcome its colonial era, the government decided to change the city's name in 1997. The official name of the city is now 'Mumbai', named after a local deity.
5. *Urban Dwelling Environments*, published in 1969 by MIT Press aimed '1) to dramatise the correlation between settlements and the geographic and cultural context ... 2) to illustrate various levels and aspects of the physical environment 3) to compare and contract different 'products' and their relationship to effective demands 4) to find a framework for a more comprehensive approach to settlement development and design' [v]. The authors sought 'to better understand the relationship between people and their dwelling places in the context of rapid social change.' And for them, 'analyses are no more than catalysts for leading questions about the relationships between socioeconomic contexts, housing demands and environmental products and no more than raw material for the formulation of hypotheses [vi]. See: Horacio Caminos, John Turner and John Steffian, *Urban Dwelling Environments: An Elementary Survey of Settlements for the Study of Design Determinants* (Cambridge: The MIT Press, 1969).
6. James Corner, 'The Agency of Mapping: Speculation, Critique and Invention,' in *Mappings*, edited by Denis Cosgrove (London: Reaktion Books, 1999), pp.211-252.

Biography

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