Shaping the City

Studies in History, Theory and Urban Design

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and Rodolphe El-Khoury**

Chapter 10

Asian Megacities

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By 2008 more than half of the world's population is expected to be living in urban areas and by 2030, more than three fifths of the world's population will be living in cities.

United Nations – The Habitat Agenda

Size matters

Size is an important consideration in the debates that are central to the shape of contemporary urbanism. The acceptance of size as a determinant to the definition of "city" and "urban project" has undergone a conceptual change in the Asia Pacific Rim as a result of the explosive growth in the scale and nature of urban conditions there. The design of Asian cities has come to be defined by huge urban agglomerations as the basis for a new kind of city form. This has forced a rethinking and radicalization of fundamental concepts such as center and edge, inside and outside, urban and rural. The very nature of our understanding of what is "city" and what is "not city" has been called into question. The results of these transformative influences has not only affected the mechanisms of urban planning and the production of urban projects but also created a set of conditions in which large size has become something to embrace and to celebrate.

In contrast, urban design in the United States seems increasingly concerned with issues of smallness. Large size in the form of sprawl, unalloyed growth and urban development is rejected as anathema to smart urban design and livable urban forms. While we in the West focus our attention towards the

10.1
The emerging urban contexts of cities such as Shanghai will fundamentally alter the way that we think about and design in cities
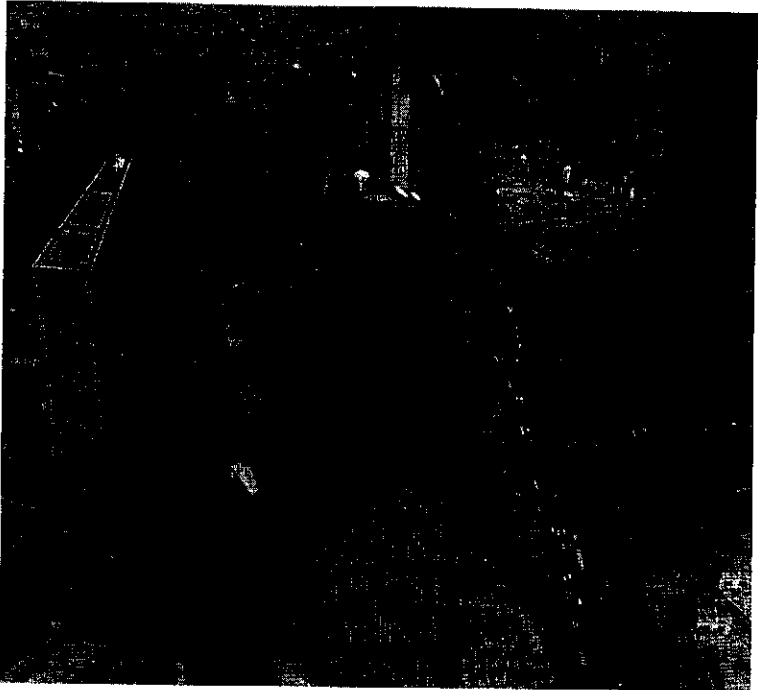
making of small places and "community-oriented" developments, urbanization in Asia seems to be taking a different course – one that embraces much of what has been rejected in the West. In the urban situations in many parts of Asia urban agglomerations have expanded far beyond government's abilities to provide infrastructure; at the same time a series of megaprojects has been constructed accommodating millions of square feet of commercial space and housing millions of people, at scales that recall Le Corbusier's Ville Contemporaine. Large size, both in terms of the size of urban agglomerations and also the size of architectural projects, is clearly part of Asia's contemporary urbanization experience.

The basic foundations of planning and design as we understand it in the United States seem at odds with the realities of the emerging urban conditions in the Asia Pacific Rim. There appears to be a widening fissure between these realms to a point where the conventions of practice developed in the West have no relevance for these new conditions. The reasons for this are numerous, but increasingly it appears that the sheer size and the speed of change of these urban agglomerations forces a radical shift in the possibilities of planning and urban design. This warrants immediate attention for the simple reason that in the next 50 years the urban experience of the majority of the
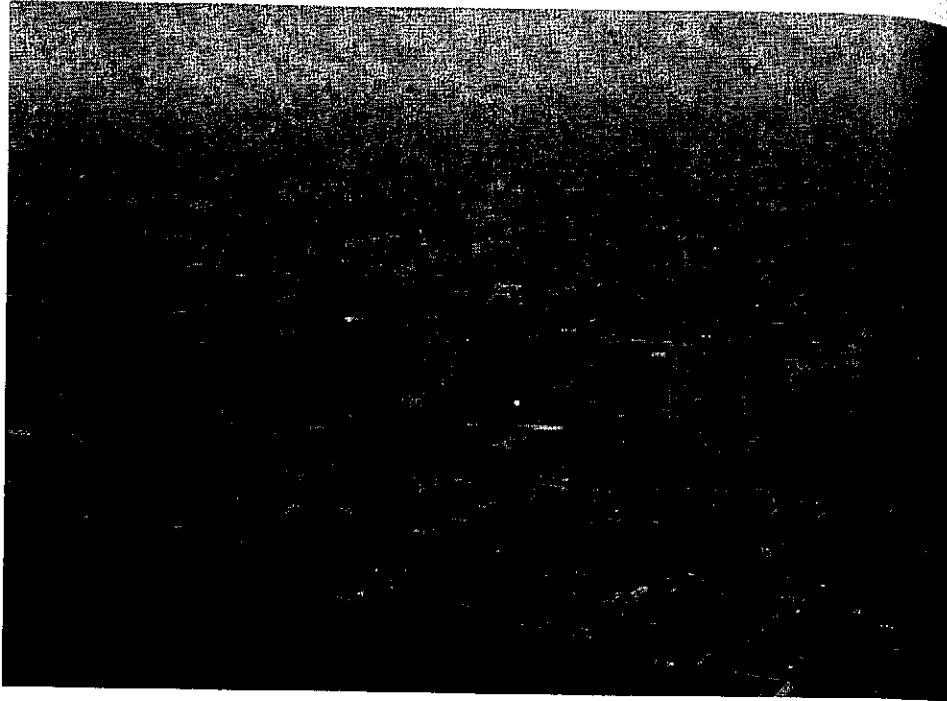
world's population will be of living in conditions similar to those in the megacities of Asia.

New urban forms

Never in human history have we been faced with urban situations the likes of which we will see in the Asia Pacific Rim over the next 25 years. New urban forms are emerging in cities such as Bangkok, Beijing, Bombay, Calcutta, Dhaka, Jakarta, Karachi, Manila, Osaka, Seoul, Shanghai, Tianjin and Tokyo. Once thought of as distant and exotic locations, these dynamic urban centers provide us with a glimpse of the future of human habitation. Interestingly, these situations have for the most part been "off the radar" of European and American urban scholars. Writing about a different place, Koolhaas states that the Metropolis "annuls the previous history of architecture" and generates its own urbanism – "an architecture with its own theorems, laws, methods, breakthroughs and achievements that has remained largely outside the vision of official architecture and criticism."[1] Could the urban situations in the Asia Pacific Rim likewise annul the previous history of architecture? At stake is the very

10.2
View across the city of Tokyo. Despite its density, the majority of the city surprisingly comprises small-scale buildings. However, as is obvious in this image, Tokyo suffers from a lack of open space

10.3
The influx of FDI into Thailand can be seen in the number of high-rise commercial developments that exist in Bangkok. This view is taken from Silom Road looking towards Sathurn Road
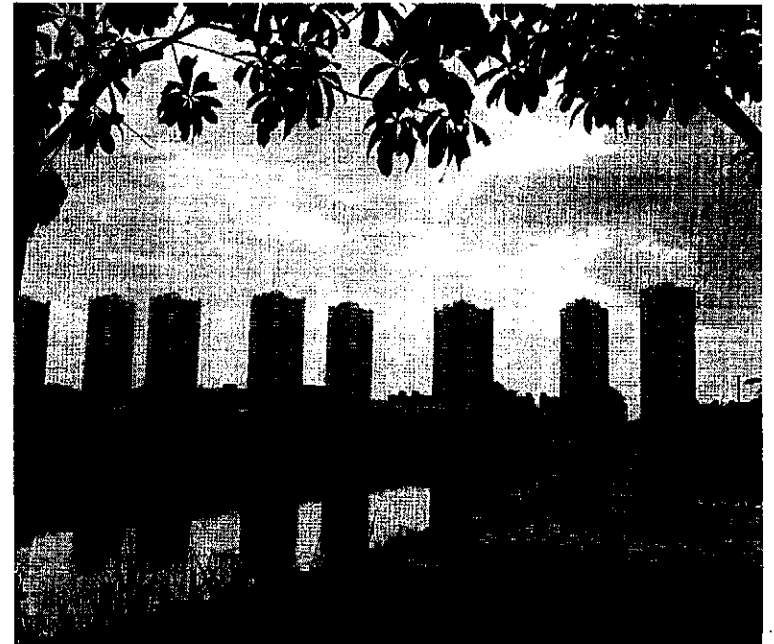
10.4
View of the high-rise residential towers at Muang Thong Thani, Bangkok

notion of the city – what it is, how it works, and the kind of urbanities it is capable of supporting.

Asia is fast becoming an urban continent, and its future will be a crowded one: by 2020, half its population will be living in cities. The tremendous growth in population, combined with an increasing awareness of the limited capacity of the environment, has led to new ways of thinking about, managing and designing in the Asian city. The rapid growth of Asian cities has been taking place at a time when the impacts of free trade associations, the globalization of decision-making on investment location, and the impacts of new information-based industries are having a profound effect on city development prospects. As the work of Dean Forbes notes, among the most striking consequences of the impact of the global economy on the production of urban situations within the Asian Pacific Rim has been the accelerated creation of new urban forms.[2]

Throughout the Asia Pacific Rim, the magnitude of these changes has radically transformed the historical dichotomy between rural and urban. Bangkok is a clear example. With a population of twelve million people it is one of the largest primate cities in South East Asia, with approximately 20 percent of all Thais living in the city. It is also a city with tremendous problems and continues to suffer with the worst possible traffic congestion, with urban poverty, poor air quality, limited sanitation facilities, inadequate garbage disposal, insufficient green space, and recurrent flooding. Bangkok's expansion was (and continues to be) uneven. While areas of housing and industry can be found as far as 40 kilometers from the center, there still exist vacant sites closer to the center. This is due to the patchwork nature of the road system, which means that some areas within the urban landscape are simply inaccessible. Indeed, the arterial road system to a great extent has defined the form of the city. This patchwork produces a "leap-frogging" of development activity as projects respond to the chaotic roadway organization. Better road access exists to the north and east of the city, and subsequently the city has expanded in this direction.

In addition, the impact of the global economy on cities in Asia has led to the creation of "world city" services which produce both the dispersal of productive functions and the concurrent centralization of nodes within cities.[3] At the same time that Bangkok expanded in a carpet of uneven development, for example, there are also instances of tremendous concentrations of urban development. The best example is Muang Thong Thani, a new city created almost instantly on the outskirts of Bangkok, designed to house a million people on 750 hectares. Built over a period of four years, the most striking aspect of the project is a line of 24 apartment towers standing 30 stories tall marching down one side of an artificial lake. Situated amongst a sea of red,

green and brown tiled villa roofs, the towers rise like some enormous mountain range on the otherwise flat alluvial plain of Bangkok. These concrete towers are arrayed at intervals along a two-kilometer long street called Bond Street. The towers sit on top of a continuous six-story plinth of shopping and parking that runs the entire length of the street. Housed within this row of towers are 3,500 residential apartments, the majority of which today stand empty – a stark reminder of the impact of the Asian Economic Crisis.

Bangkok is not alone in courting megaprojects. In Kuala Lumpur also, large architectural projects provide a means for a city to claim a certain moment in the international spotlight. The development of projects such as the Multimedia Super Corridor, Putrajaya, Cyberjaya, the Petronas Twin Towers (the tallest buildings in the world), Kuala Lumpur City Center, KL International Airport (the largest in the region), Kuala Lumpur Linear City (the longest building in the world), the environmentally controversial Bakun Dam, the Kedah Reclamation, the Northern International Airport, the Bridge to Sumatra and the New Johor to Singapore Bridge all represent Malaysia's expression of itself in built form, and are the direct result of a conscious effort on the part of the Malaysian government to secure competitive advantage through the construction of large scale architectural projects. And while it may be too soon to evaluate the success of these large-scale projects, they pose both interesting and troubling possibilities for the role of urban planning and design in the contemporary city.[4]

In addition to issues of size, density will be one of the defining attributes of the new urban forms of the Asian city in the years ahead. Muang Thong Thani also includes high-density residential areas, which consist of low-cost housing in 27 blocks of 15 stories, totaling 27,000 apartments. The design of the apartments, some as small as 40 square meters, expresses a severe economic rationalism. Dejan Sudjik is pointed in his description of them, writing;

> [that] negotiating the double-loaded corridors . . . at night is going to feel like a journey through the lower decks of a crammed migrant ship crossing the Atlantic.[5]

Nowhere else in Thailand do people live in such densities. Although estimates of how many people live in Muang Thong Thani vary, some assess that about 75,000 people live there. If this number is indeed correct, then the resulting density within this district is in the order of 700 people per hectare. Even by Asian standards this is high. The result of this density is a remarkable active street life, facilitated by retail and services stores located on the ground floors of the condominiums. The street becomes a hive of activity and, similar to

conditions in Hong Kong, where apartments are small, people actively seek street life as a way to escape the claustrophobic housing conditions.

The design of Muang Thong Thani raises a crucial question – the relationship between traditional urban patterns and the emerging realities of development in the Asia megacity. Nowhere in Asia are "traditional" forms of city-making defining the shape of the contemporary city. Across the urban land-scapes of Asia new kinds of urban elements are creating new conditions which are, both in form and scale, radically different from traditional village structures. Of interest is the speed at which these urban environments have developed and the consequential adjustments that urban inhabitants have been forced to negotiate. In less than one generation villagers have moved into radically new accommodations, and with this a plethora of issues have surfaced. The major-ity of urban inhabitants now living in the megacities of Asia have been living there for less than twenty years, and one can only wonder what psychological and societal impacts this is having on these people.

High-density living environments are not unique to Muang Thong Thani. In a number of emerging urban conditions in the Asia Pacific Rim, people live at densities unimaginable in the West. Not only are these urban environ-ments growing to tremendous geographic extents; they are growing in popu-lation terms as well. Hong Kong is the best-known example. Of the 1000 square kilometers that constitute Hong Kong and the New Territories, the urbanized portion is 200 square kilometers. With an estimated population of 7.1 million people (2000), this equates to a density of 355 people per hectare in the urbanized area. (Comparable figures for other cities include Tokyo, 24 people per ha; Shanghai, 126 people per ha; New York, 6 people per ha; and London, 10 people per ha).

Density has become one of the defining aspects of many Pacific Rim cities, and is responsible for a great deal of the particularity of urban culture in these locations. The implication of density for framing new ways of conceiving the city is a theme that reoccurs in Western urban theory. Henri Lefebvre[6] differentiates between the city dweller living in high-density urban situations and the suburban householder living in low-density peri-urban situ-ations, he writes that the city dweller today has a different relation to everyday life than that suffered "unwillingly" by the suburban householder. The city dweller reaps the benefits of chance encounters and the various distractions forming part of his everyday experience.

Lefebvre argues that the drama of life is extended in urban areas, simply because there are lots of people to interact with in close proximity. One wonders what he would have thought of situations like Hong Kong, Shanghai or Tokyo. In these locations, where people "live so close together" (remembering Arendt), we begin to understand the implications of density for

the creation of a particular culture within the city. This culture of density bene-fits from the heightened possibility of communicative action, of chance encoun-ters, of seizing initiative and doing the unanticipated, from the contradiction between the appearance of security and the constant threat of the occasional eruption of violence. In these environments we witness an urban model of extreme inclusiveness and proximity. Although there are no conclusions that can be drawn about the future of these urban environments, it is clear that tremendous changes are occurring and that these are having a profound impact on the way we plan cities and on the design and production of urban projects in them. One thing is clear, cities are bigger now than they ever have been.

10.5
Sunday afternoon in Takeshita-dori, Harajuku, Tokyo. Japanese people seem to seek out the small and intimate spaces of older parts of the city and feel quite at home amongst masses of people

Urban bloat

The second half of the twentieth century saw the emergence of the urban environment as the predominant habitat of our species. Never before have we been able to say that the majority of the world lives in cities, but this time is fast approaching. Not only will urbanization increase, but also urban population will be more and more concentrated in what we now call the developing world. By some measures the relative ratios of urban population in the developed and developing world will be 20 percent and 80 percent respectively by the year 2030.[7] This bears tremendous consequence for the professions of planning and design, and forces us to accept, perhaps for the first time, that what we know as "city" is no longer going to be defined in the developed world but is right now being defined in Asia and Latin America. In these situations emerging urbanities are being developed which will not only influence the urban situations there, but also intrinsically impact the way we all think about cities.

Asia is urban due to recent economic prosperity and industrial growth. Today, the continent is home to nine of the world's seventeen megacities of more than ten million people, and experts at the Asian Development Bank predict even more monster cities on the horizon: by 2015 Asia may have seventeen of the world's 27 megacities.[8] Asia's nine megacities (Beijing, Bombay, Calcutta, Jakarta, Osaka, Seoul, Shanghai, Tianjin, and Tokyo) will soon be joined by four more, including Bangkok, Dhaka, Karachi, and Manila. The population of Asian cities has exploded over the last quarter-century. In 1965 the urban population of Asia was in the order of 430 million, with 1.5 billion people living in rural situations. Today the urban population is about 1.2 billion, and by 2025 the urban population is projected to soar to a staggering 2.5 billion people. At this time half of Asia's population will be living in cities. The demographic trends evidenced in Asia are also being experienced in other parts of the developing world, and the implications for urbanists are tremendous. In a few short decades urban life will be the primary experience for most of the world's population. At this time the experience of urbanity will become common to us all, a shared perspective. Does this represent the ultimate victory of the urban? Is the idea of city life validated beyond repute? Or are we witnessing one of the world's greatest environmental and social disasters?

The megacities of Asia are the setting where these questions will be answered. These enormous urban conurbations are in many cases responsible for a higher-than-average proportion of their nation's output of goods and services; are centers of innovation in science, the arts, and culture; and offer some of the best opportunities for people to find higher-paying employment, education, and social services. Despite this, many suffer from endemic water shortages, land-use conflicts, under-provision of basic urban services, environmental pollution, traffic congestion, and rampant proliferation of slums, crime, and other forms of social alienation. With the increasing globalization of business and industrialization of Asian economies, most of the region's megacities will continue to grow at unprecedented rates and to play vital roles in their country's development. Of concern, however, is the capacity of their respective governments to deal with these social and environmental problems. If this capacity issue is not addressed the Asian megacity may herald an urban nightmare the likes of which we have never seen.

New growth patterns

Megacity growth tends to sprawl along major expressways and railroad lines radiating out from older urban cores, leap-frogging in all directions, building new towns and industrial estates in areas hitherto agricultural and rural. In such areas, regions of dense population and mixed land uses are created, in which traditional agriculture is found side by side with modern factories, commercial activities, and suburban development.[9] The concept of extended metropolitan regions or *desakota* zones (*desakota* comes from Bahasa Indonesian for village-town zones) has been coined for this amoebic-like spatial form. These *desakota* zones seem diametrically opposed to the city-based urbanization to which we are accustomed, where downtown cores radiate rings of lower and lower density. These new urban phenomena cannot be analyzed with ideas developed for the reality of the ancient town or the old industrial metropolis.

One of the most visible urban forms that has emerged in these urban situations is the development of mega urban regions or extended metropolitan regions (EMRs). Terry McGee, among others, has documented this phenomenon in different parts of the Asia Pacific Rim.[10] EMR development is a kind of sub-urbanization that extends for 50 to 100 kilometers from the historic urban core. Often these regions involve contiguous territories that span over several countries.

An example of this is the Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT), where economic cooperation pacts cut across borders and regions. The IMT-GT includes the development of common border towns, a road link between the Malaysian state of Perlis to Satun in southern Thailand, the construction of industrial estates in Northern Sumatra, and the development of the IMT-GT corridor between Songkhla/Haadyai in Thailand through Pulau Pinang in Malaysia to the Indonesian provinces of Belawan and Medan. The basis of this economic pact includes simplified border crossings using advanced information technology and industrial support infrastructures.
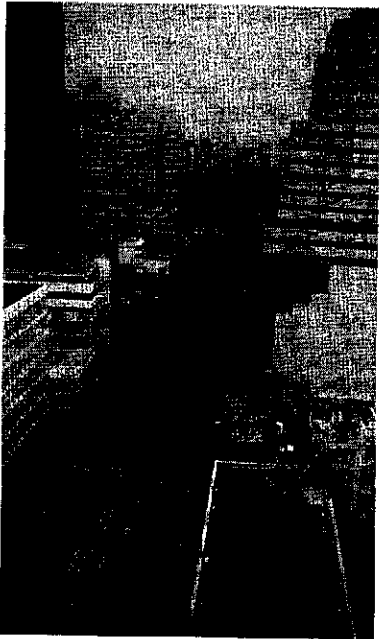
10.6
View of Silom Station. Bangkok's elevated rail system locates itself on top of the roadway, plunging the congested streets into darkness

The project aims at encouraging transborder production networks. Another perhaps better-known example is the Singapore–Johore–Riau growth triangle, which starts in Malaysia, includes Singapore, and ends in the Riau Islands of Indonesia.[11] As urban and regional development intensifies, the urban fabric coalesces to form urban regions of unprecedented size. Their stories inform the future of city thinking.

Differences in kind, or differences in degree?

Writing about the urban environment of Hong Kong, Peter Rowe notes that urban phenomena change as one or more parameters affecting their identity change. Moreover, the result is sometimes a difference in kind rather than simply a difference in the degree of its defining characteristics.[12] Appropriating Rowe's argument for the purpose of this chapter, is the megacity a different category of urban situation, or still a qualification, by degree, within the same continuum of urban situations? Is there a point at which the urban condition becomes so large that it mutates into something else entirely? If this is possible are the descriptors that we use to talk about urban situations still valid, or at some point do they require a radical redefinition to maintain their validity?

When we talk of "city," is it the same thing in Dhaka or Bangkok as it is in New York or Chicago?

It becomes apparent that various definitions need to be repositioned in light of the emergence of the Asian megacity. With the extent of urbanization that has occurred in the Asia Pacific Rim over the past two decades, the historical dichotomy between rural and urban has been repositioned. The nature of *desakota* urbanization has blurred the rural–urban distinction, and the very definitions of what is "urban" and what is "rural" have to be reconceptualized. The historical model of an expanding core encroaching outwards and consuming a rural hinterland has given way to a patchwork pattern of urban fragments mixed with rural fragments. This patchwork is uneven, driven mostly by imbalances in the provision of transportation infrastructure. The neat line of demarcation between city and country no longer exists, and instead one is left with a thick band of ambiguous fuzziness that denotes the transition from one to another – neither wholly urban nor wholly rural, but something new entirely. The point where the city stops and country begins cannot be clearly articulated. The result is that the landscape of the city becomes a new kind of urbanscape.

The absence of knowing where the city ends means that one is always left wondering about limits. As Paul Virilio wonders...[13] [w]here does the edge of the outer city begin when the classical notion of city and wall has ceased to exist? The difference between the space of civilization and the space of nature has become diluted. This produces a crisis of perception, the loss of an understood distinction and, predictably, confusion in terms of what we are actually describing. The problem is that the way we understand design and planning operations continues to hold on to the idea of distinction and of boundaries derived from historically developed and known models. The history of urban design is one based upon an understanding of the historical evolution of known morphologies – from village to town to city to metropolis.

The loss of understood distinctions leads to two concurrent ends. On the one hand it leads to an outpouring of negative appraisals of the new urban situation, and on the other it leads to a crisis of confidence in the design and planning professions – a crisis of professional insecurity. The new urban situation, characterized by amorphous form and diffuse boundaries, denies the possibility of difference between inside and outside, city and nature, civilization and barbarism. Instead the result is an undifferentiated hybrid, a patchwork quilt of various fragments taken from the classical city but cut up and organized in new ways, often without apparent order, and the traditional ways of "knowing" the city are inappropriate to understand this new thing. We have moved from the traditional city as object in a field to a new idea of the urban as

a field that spreads out in all directions. This new landscape is certainly not uniform. It is not flat. At points it is stretched thin, at others it is folded and twisted and doubled over. It contains objects and spaces that are ordinary as well as objects and spaces that are extraordinary. It has the capacity to host both the ordinary and the extraordinary without prioritizing one over the other. The relationship between the ordinary spaces and objects and the extraordinary spaces and objects are not determined and instead occur in random combinations, not driven by the same logics as those with which we are conversant, which derive from classical ideas of the city. The urban field covers everything to the point where once there may have been difference, now there is only sameness. Within this urban field we fail to find orientation, fail to understand where we are in relation to anything else, fail to know if we are at the center or in the middle or close to the edge. Our urban compass, our way of understanding our position in the urban order seems to dance before us. The urban field of the megacity produces the ultimate generic urbanism, without order, hierarchy, definition or directionality.

The generic urbanism of the urban field does not care for rules of proportion or the golden mean. It refuses to acknowledge the possibility of "ordering," and instead is morphogenetic. Places and objects have no relation to each other within the urban field. Instead the new urban condition operates

10.7
**View of the Central Business District of Kuala Lumpur**
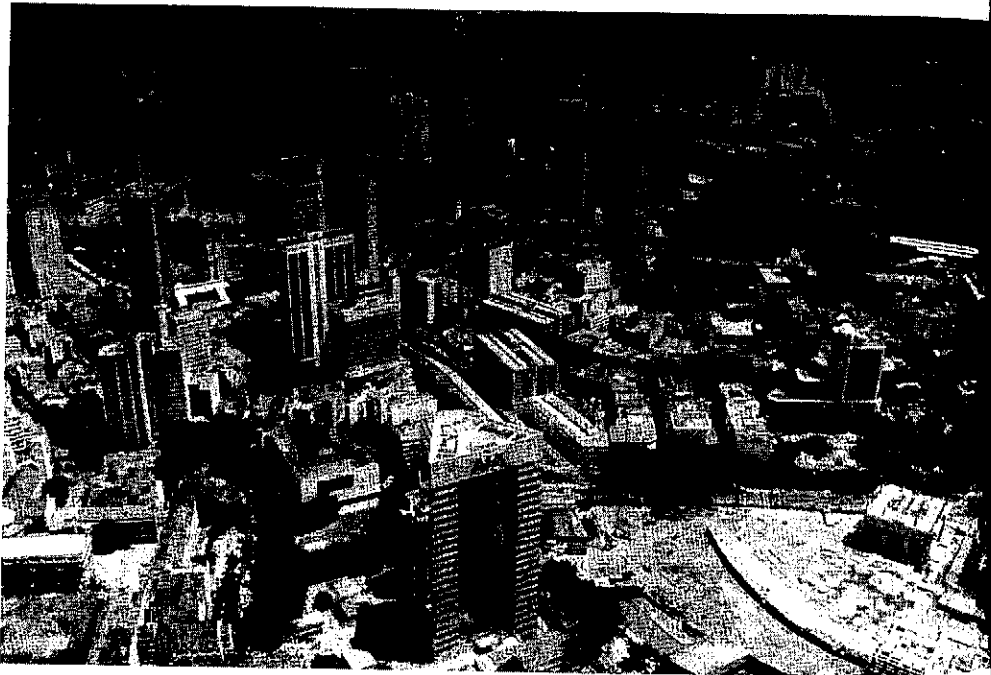
in a free, dynamic network of relations – seemingly arbitrary. Planning as a rational ordering practice finds no role here. Strategic interventions into the field will be the only other course of action, with an understanding that as one intervenes in the urban field the field itself changes, modifies itself, flattening in some parts and thickening in others. This is the future context for urban design operations within these new spatial forms.

Implications for thinking about urbanism

What these emerging urban fields mean for our conceptual understanding of the city is unclear. What is clear, however, is that such conditions necessitate a radical revision of the definitions upon which we base the disciplines of planning and urban design. Most critically, the emerging urban fields force us to negotiate new ways of understanding urbanism and its potential. What appears evident is that we have to rethink the strategic intervention of our actions and understand that to operate within this urban field we must be cognizant of a

10.8
View from the Pearl Television Tower looking into the Central Park of Lujiazui
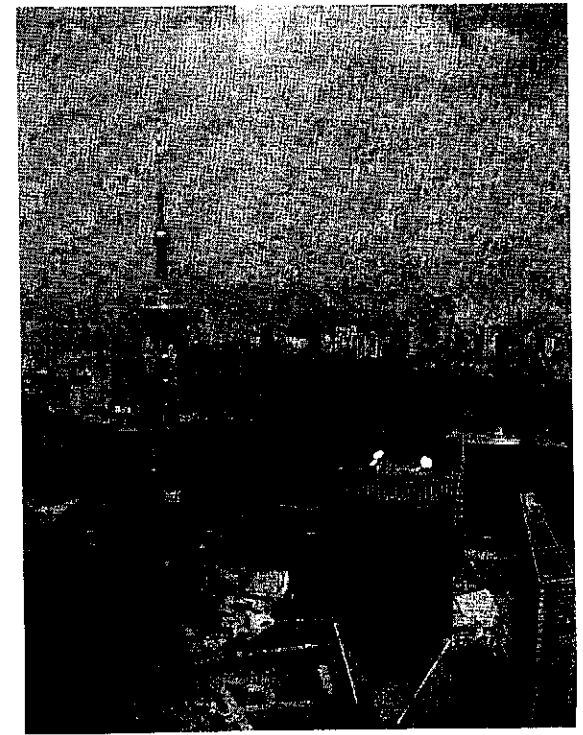
new reality that does not attempt to order and control, but rather aims at the potential of new urbanities. We must acknowledge the impossibility of ordering the urban field, and accept that our interventions will do nothing more than influence layers of the field while leaving the essential nature of it to forces beyond our control.

Writing about Los Angeles, Reyner Banham notes that planners and designers were mostly irrelevant to the formation of the city's development. Banham lauds Los Angeles as a triumph of contemporary urbanism and questions whether the city would have developed in the manner that it did if planners and designers had exercised more of their authority over it. And while we may argue with Banham's description of Los Angeles, his point is that new urban forms are evolving outside of the scope of professional jurisdictions, and to suggest that this is *a priori* a negative thing is to adopt a naïve and elitist attitude. Koolhaas too argues that there may be much about these "non traditional' urban situations that may open new possibilities for the professions, writing:

> The generic city presents the final death of planning. Why? Not because it is unplanned . . . [but that] planning makes no difference whatsoever.[14]

Both Banham and Koolhaas speak of an understanding that the complex array of forces that shape a city's development are not only beyond professional authority but are beyond predictability, and are therefore deeply troubling for the planning and design professions. In stark contrast to some who advocate the "power of good design to overcome the ills created by bad design, or, more accurately, by design's conspicuous absence,"[15] the Asia megacity, prelude to our urban future, defies control. If we as professionals are to have any hope of engaging in an urban future, we must give up our professional biases and bigotries. We must work against the obstinate and unreasoned attachment of our own professional beliefs and opinions. We cannot control the city, and we should cease fooling ourselves that we can. If we truly embrace the idea of urban culture – urbanity – we must recognize that it is not a predictable thing and at times can be ugly. Neighborhoods can be either good or bad, depending for example, on who you are. Cities and urban culture can be inclusive or exclusive, they can be open or prejudiced. This is one aspect of cities that has always been present. The history of planning has been about the elimination of the bad and the promotion of the good. The megacities of Asia shows the futility of this pursuit. In his conclusion to *Cities and Civilization*, Peter Hall writes that the greatest cities have never been "earthly utopias," but rather;

. . .places of stress and conflict and sometimes actual misery . . . places where the adrenalin pumps through the bodies of the people and through the streets on which they walk; messy places, sordid places sometimes, but places nevertheless superbly worth living in . . .[16]

This above all else should be our motivation – to make places superbly worth living in. This will require new ways to understand and work in the new urban forms of the future city. On the fringe of the megacity, fragments sprout without intrinsic relationships to existing organization, responding only to the geometry of freeways, railways and airports. Here the fragments of the modern city deploy themselves continually outward, jumping over areas with inadequate access. The blurry hybrid of the edge of the megacity, where city and natural landscape overlap, calls for strategic visions to orchestrate thickenings and thinnings in the web of the urban field. In this zone, somewhere between landscape and city, there is hope for a new synthesis of urban life and urban form. This is the context of the emerging urban situations in the Asia Pacific Rim and the future of urbanism.

Appendix: populations for the largest 50 cities on Earth: 2000 estimates

(Asian cities in bold.)

Metropolitan area	Nation	Population
1 Tokyo-Yokohama	**Japan**	**33,190,000**
2 New York	United States	20,270,000
3 Seoul-Inchon	**South Korea**	**19,920,000**
4 Mexico City	Mexico	19,620,000
5 Sao Paulo	Brazil	17,720,000
6 Mumbai (Bombay)	**India**	**17,580,000**
7 Osaka-Kobe-Kyoto	**Japan**	**16,930,000**
8 Los Angeles	United States	16,200,000
9 Manila	**Philippines**	**14,140,000**
10 Cairo	Egypt	14,000,000
11 Calcutta	**India**	**13,940,000**
12 Delhi	**India**	**13,720,000**
13 Shanghai	**China**	**13,580,000**
14 Buenos Aires	Argentina	13,390,000
15 Jakarta	**Indonesia**	**13,330,000**
16 Beijing	**China**	**13,160,000**
17 Moscow	Russia	13,100,000
18 London	United Kingdom	12,130,000

19	Karachi	Pakistan	11,020,000
20	Rio de Janeiro	Brazil	10,810,000
21	Teheran	Iran	10,740,000
22	Paris	France	10,600,000
23	Istanbul	Turkey	10,430,000
24	Lagos	Nigeria	10,030,000
25	Tianjin	China	9,920,000
26	Hong Kong-Shenzhen	China	9,180,000
27	Chicago	United States	8,960,000
28	Dhaka	Bangladesh	8,610,000
29	Washington-Baltimore	United States	7,430,000
30	Lima	Peru	7,420,000
31	Taipei	Taiwan	7,260,000
32	Bangkok	Thailand	7,250,000*
33	Bogata	Colombia	6,990,000
34	San Francisco	United States	6,940,000
35	Chennai (Madras)	India	6,700,000
36	Hyderabad	India	6,390,000
37	Philadelphia	United States	6,010,000
38	Lahore	Pakistan	5,920,000
39	Detroit-Windsor	United States-Canada	5,810,000
40	Essen (Rhein-Ruhr)	Germany	5,790,000
41	Kinshasa	Congo	5,750,000
42	Boston	United States	5,690,000
43	Santiago	Chile	5,610,000
44	Johannesburg	South Africa	5,530,000
45	Toronto-Hamilton	Canada	5,470,000
46	Bangalore	India	5,430,000
47	St Petersburg	Russia	5,410,000
48	Nagoya	Japan	5,130,000
49	Dallas-Fort Worth	United States	5,010,000
50	Madrid	Spain	4,950,000

*Bangkok figures quoted equate to the area of the BMA not the BMR.

Source: Prepared by Demographia based upon multiple sources, the most important being national census administrations in Canada, Japan and the United States, Rand McNally, Thomas Brinkhoff: Principal Agglomerations and Cities of the World (http://www.citypopulation.de/) and local sources. © 2000 www.demographia.com – Wendell Cox Consultancy – with permission. http://www.demographia.com/db-world-metro2000.htm

Notes

1 Koolhaas, 1978, p. 123.
2 See Forbes and Thrift, 1987, pp. 67–87; Lin, 1994, pp. 1–24; Forbes, 1999, p. 241.
3 Freidmann, 1986, p. 72; Lo and Yeung, 1996.
4 See Marshall, 2002.
5 Sudjik, 1993, p. 19.
6 Lefebvre, 1996.
7 United Nations, 1998.
8 Asia Development Bank, 1997.
9 McGee and Robinson, 1995, p. ix.
10 Ginsburg et al., 1991; McGee and Robinson, 1995.
11 See Macleod and McGee, 1996, pp. 417–464; Perry, 1998, pp. 87–112.
12 Rowe, 2001, pp. 14–39.
13 Virilio, 1986, pp. 540–541.
14 Koolhaas, 1978.
15 Duany et al., 2000, p. xiii.
16 Hall, 1998, p. 989.