

Rapid Urbanization and the Informational Metacity in China

David Grahame Shane

Graduate School of Architecture, Planning and Preservation,
Columbia University, USA
dgs6@columbia.edu

ABSTRACT

An informational revolution created a new awareness of recent rapid global urbanization, with China providing a clear case study. Big data and global statistics created a governmental model of an informational Metacity exemplified by China's Shanghai Expo, but this model has unintended consequences. Some consequences such as mass tourism are global in character with Chinese characteristics. Others such as the conversion of old factory Danwei and urban villages are local and specifically Chinese. The scale and speed of China's urbanization and the Shanghai Expo provides a special laboratory for the study of the development of multi-scalar and mixed-use in a context of Asian smart city discourse.

Keywords: *metacity, models, expo, interface*

INTRODUCTION: A GLOBAL INFORMATIONAL REVOLUTION AND THE METACITY

While the United Nations (UN 2013) and its critics developed a new collective intelligence about the future urban condition of the planet in megacities in the early 2000's (Davis 2006, Perlman 1976, 2010), architects and urban designers tried to obtain a comprehensive overview of the information available, as in Winny Maas, Jacob Van Rijs and Nathalie de Vreis' (MVRDV) *Metacity; Data Town* (2000). MVRDV coined the term *Metacity* to describe all the information they could find about global spatial and economic practices, social organization and production. *Meta* in informational theory (Gleik 2011) indicated a second order of information about information in an existing system (metadata), like tags attached to digital photographs to identify persons, time and place. MVRDV projected this global metadata into a cubic framework as a layered

system of color-coded strata. This imaginative projection highlighted layers of information in the cube, blue for water, green for agriculture, gray for infrastructure etc, forming a new image of the global city and its environmental dimension. MVRDV even began to design projects on the basis of this layered construct, like their Netherlands Pavilion at Hanover Expo Germany (2000, 25 million visitors).

In the European tradition three models each embody an element of collective living, as in Serlio's 1540's stage sets;. First there was the power of the state in the noble scene, second the power of the merchants in the comic scene and third the power of the peasants/agricultural workers in the satiric scene (Shane 2005). Urban and economic historians including Marx and Engels have long made a similar tripartite division between the feudal and agricultural world of warlords and the modern world of industry. The third model presumed a world of peace and plenty, with strong ecological priorities, more social

justice and opportunity for all, perhaps represented by the Ecocity of William McDonough's cradle-grave manifesto in the *Hannover Principles* (1992) that inspired the Expo 2000's theme "Humankind-Nature-Technology; a New World Arising". MVRDV's Hanover Expo Pavilion displayed three model urban ecologies as immersive, simulated layers of development, all contained in a single structure. The material life of each of these worlds was very different, as was the social and intellectual organization. The American urban theorist Kevin Lynch (1981) described these three worlds as three city models, "the City of Faith", the "City Machine" and the "Eco City". Lynch illustrated his "City of Faith" with the plan for Beijing and the nested plan of the Forbidden Palace at its core. He showed Frank Lloyd Wright and Archigram Group as designs for "city machines". The Eco City model was the least well defined (Shane 2005, 2011). MVRDV's Pavilion displayed islands and windmills on the roof to symbolically represent the Ecocity. (Figure 1, 2, 3)

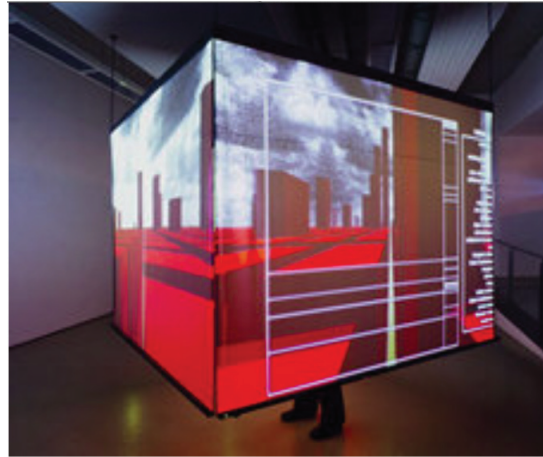


Figure 2:
MVRDV's Metacity Data Cube

URBAN GROWTH IN WORLD'S LARGEST CITIES, 1950- 2020

- 1950
- 2005
- 2015
- 2020

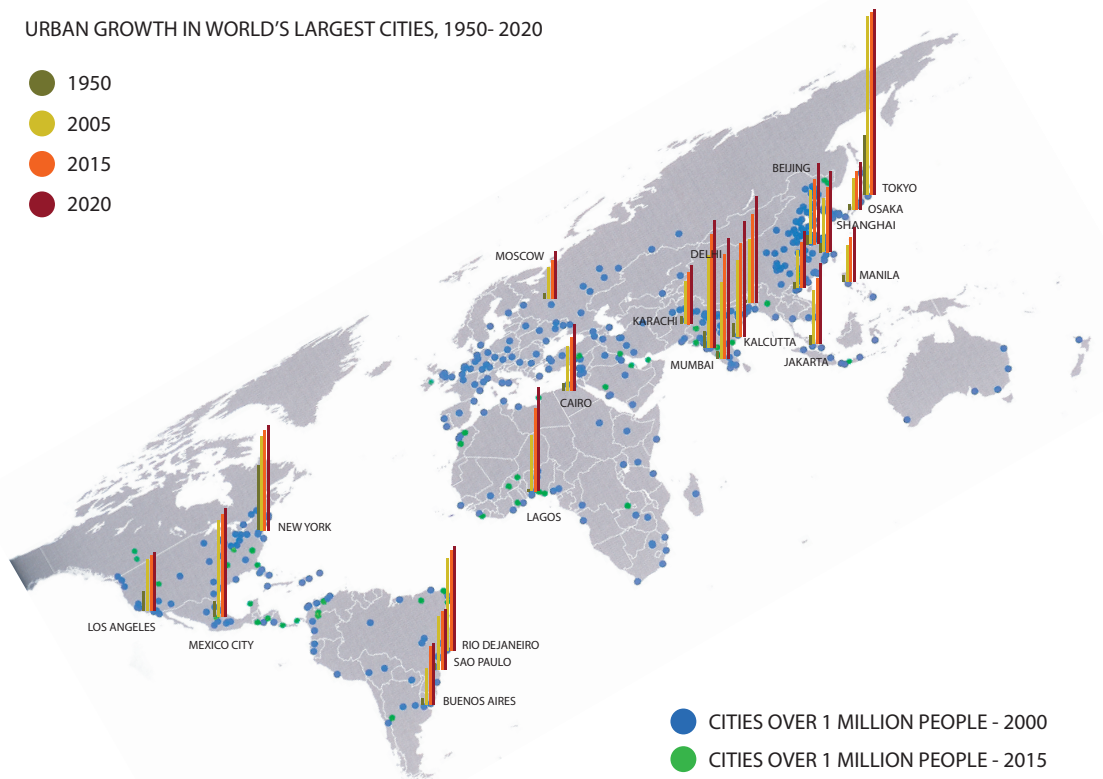


Figure 1:
Megacities Global DGS/URimap



Figure 3:
MVRDV's Hanover Expo Pavilion

THE METACITY: RAPID CHINESE URBANIZATION, "SHOCK CITIES" AND THE SHANGHAI EXPO MODEL

China's rapid urbanization has involved a sequence of urban models that vary from the standard

European or American narratives. From the early 1970's Terrance McGee argued that Asian definitions of the urban followed a city-village, landscape and urban network continuum that was ancient and different from that of Western Europe, creating *desakotas* (city-village) peripheries around colonial urban cores. These mixed-use *desakota* regions expanded over time with modern industry and globalization, with big box retail, factories and gated communities, being especially present in China (McGee 1971, 1991, 2007, 2009). The phenomenal growth of Chinese new towns like Shenzhen stood out against the *desakota* and made them global "shock cities" similar to America's Chicago or New York in the nineteenth century (Briggs 1963)

Before Shenzhen, Chinese urban growth had been comparatively controlled. Under the imperial system perhaps 45 million (10% of the Chinese population of 450 million) lived in cities. In the 30 years after the 1949 Revolution another 10% became urban through the industrial *Danwei* factory system, making a total of approximately 250 million or 25% of the 980 million Chinese urbanites by 1980. In the following 30 years of Deng Xiao Ping's reforms, another 15% became officially urban through the *Hukou* internal passport system, while another 15% became the illegal "floating" urban population. This massive migration, 50% of the last phase unplanned, brought the total urban population to 670 million, 55% of 1.35 billion people by 2010 (UN 2013, World Bank 2014).

The speed of the Chinese urbanization process was much faster than the previous global process in

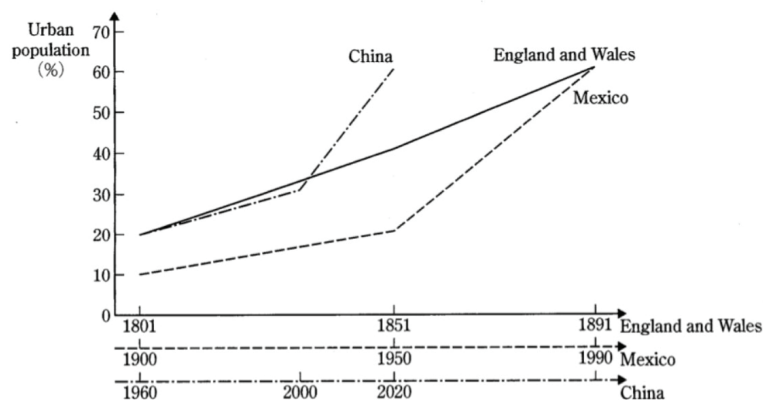


Figure 4:
Britain, US, Mexico Graph
Source: McGee 2007

Britain, America or Mexico (Arirghi 2007, Marcutullio (2003) McGee et al (2007). Sattterthwaite (2007) noted that such urban comparisons are difficult but megacities would house only 8% of the future global urban population, 92% would be in desakota regional networks of cities of 1-2 million. In McGee's (2007) analysis it took Britain 200 years to reach 60% urban population (currently 92%), whereas it took Mexico 100 years. In the case of China it has taken 60 years to reach 55%, involving far greater numbers. This population percentage is similar to France, Spain or Italy in 1945 before their "Take Off" as modern industrial consumer societies (Rostow 1960). In the USA unsustainable agribusiness model currently 2% of the population officially works in agricultural sector although there are many undocumented migrant workers (Stern 2006, US EPA 2007). (Figure 4)

The scale and complexity of the planned Chinese urbanization process within the desakota regional system is also larger than before. When Britain industrialized in the nineteenth century its' population rose to 50 million. The industrial model quadrupled in size, scope and complexity to 250 million people in America's continental scale industrial revolution of the early twentieth century, as informational systems connected and a widely dispersed system was coordinated (Castells 1989, 2000, Graham and Marvin 2001). The continental scale industrial/informational system needs now to quadruple yet again as it faces 1 billion people in both India and China, meaning even more informational complexity and coordination across vast populations, countries and the world. Chinese plans call for moving 350 million people (the population of the USA) to cities in the next 10 years, the same number as in the last 10 years (Xu Xianping 2014).

To deal with this situation the 2010 Shanghai Expo (73 million visitors) created a unique hybrid Expo with Chinese characteristics. The Expo returned to a top-down, old style propaganda model (Chomsky 1988) of state pavilions that emphasized urban education and the massive task of moving so many agricultural workers to a new "harmony" in modern cities. At the same time a massive "cloud" of websites and informational messages accessible by hand held devices linked to immersive environments around themes of urban ecology and life that addressed the needs and choices of individuals. This opening towards the multitude via smart phones provided a belated recognition of the unintended consequences of rapid urbanization in China. Even in China there

are informal urban villages captured by the city that accommodate up to 60% of the floating, non-registered factory workers in Special Economic Zones (SEZ) like Shenzhen. The city of Shenzhen chose to represent itself at the Expo through its plans for upgrading its urban villages (Urbanus 2005, 2010). In the next 10 years China plans to settle and legalize its 15% "floating" population as part of its drive to reach a 70% legal, urban population, transforming or demolishing the urban villages (Crawford and Wu 2014).



Figure 5A:
Shanghai Expo Houtan Park Kongjian Yu

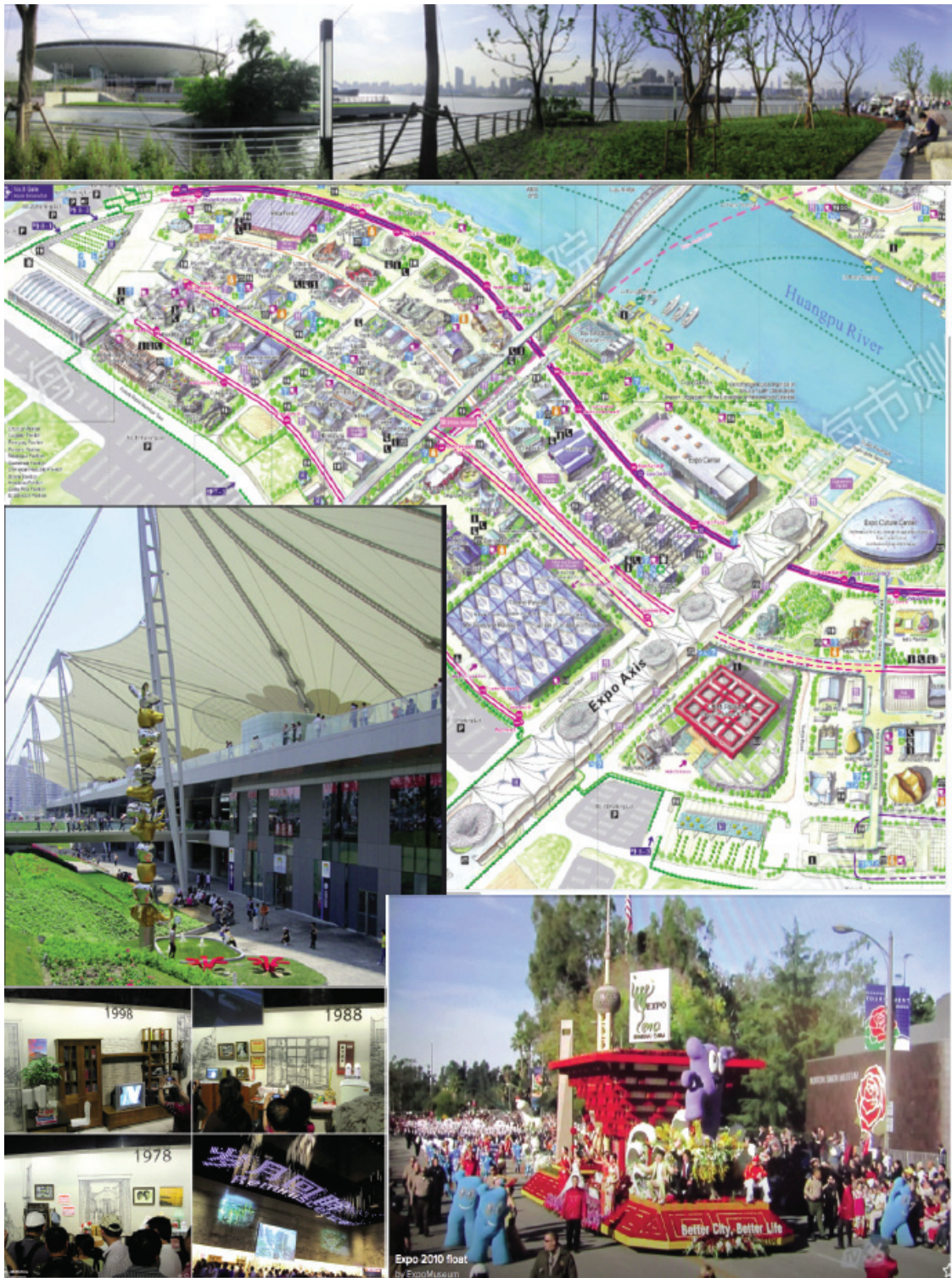


Figure 5B:
Shanghai Expo Axi/Plan

The Shanghai Expo incorporated this new informational and ecological science in a new hybrid Eco City/SEZ model using the Deng period incentive driven development planning inside the city to transform the shipbuilding works from the Mao period. The SEZ mechanism in China meant that the further development of the site was planned unlike Hanover (Shrenck and Jensen 2014). The main Chinese pavilion would be retained as a symbolic marker for a new development area, also anchored by the enormous new exhibition hall built there for trade fairs. This facility would anchor hotel development along the river, beside the new eco-park designed by Kongjian Yu as one of the keynote gestures of the Expo, cleaning the polluted Hangpu river flow (Yu K 2010). (Figure 5)

EXPOS AND NEW TOWNS AS AN INDEX OF CHANGING URBAN MODELS AND THEORIES

In this new informational and multiple city the great mass of consumers make individual choices and gain access to information viewing the city “Upclose and Remote” (McGrath and Shane 2005, 2012) on a previously unprecedented scale across vast areas. The individual not only had the freedom to construct themselves as a subject through their choices and consumption, but also had the responsibility to internalize the discipline of the state as self-monitoring micro codes, a part of the new micro-governmental system (Foucault 1976-78). Yet this new individual choice system worked inside fast changing semiological, coded systems of consumption with fast feed-back creating porous, local, immersive node environments like malls, Expos or theme parks for individual pleasure (Foucault 1968, Marling 1998, Petit 2014). In Shanghai it was this new Chinese narrative voice with its emphasis on personal responsibility, fast growth and responsible ecology that marked the impact of the informational model and a significant difference from the slow growth model of Hanover’s Eco-city pavilion. (Figure 6)

Deng’s economic and land reforms initially focused on creating privileged “machine city” enclaves of fast development, the Special Economic Zones (SEZ). The SEZ specialized enclave system provided the key to the rapid urbanization of Shenzhen as

a new town and premier example for later new town developments in China. American and British planners had pioneered these zones that used tax abatements as incentives to influence global corporations’ choices of locations instead of central planning directives (as in Battery Park City, New York 1978, Canary Wharf, London, 1980, or the World Financial Center Hong Kong 1991) (Barnett 1982). The planners of the first SEZ in Shenzhen in the 1980’s looked via Hong Kong at the tradition of British new towns since 1945, ending the last Mark 3 new town of Milton Keynes (Walker 1981). Milton Keynes highway megablocks (1km x1km) contained large tracks of single family housing as in Levittown N.Y. or in Los Angeles’s superblock systems. In an important Chinese variation, in Shenzhen Hong Kong style high-rise residential towers in super block enclaves nested inside the megablock system (800mx800m), setting a new pattern that would replace the Soviet-Chinese slab block model in future Chinese new towns (Haung and Xie 2012). (Figure 7)

A huge American style shopping mall formed the civic core in Milton Keynes, but in Shenzhen a new “open” but monumental modern city hall formed the civic center, along an axis with a central park that ended in the stock market and trade fair exhibition hall, symbolizing the opening to commerce and trade, but not consumption. Residential high rises and office buildings surrounded the central park. In Shenzhen the Danwei factory system morphed into huge dormitory factory complexes of international firms, such as the Taiwanese Foxconn that builds Apple products (AI 2015). Many smaller factory complexes supported these global supply chains but did not provide housing or a legal work permit, sponsoring the unplanned growth of the surrounding urban villages to provide cheap housing. In Milton Keynes the pre-existing villages caught within the megablock highway system were subject to historic preservation and became entertainment and leisure centers (Shane 2011). As Shenzhen expanded to the west in a long highway corridor in the megalopolis model (Gottmann 1961), new CBD’s were added, creating a fragmented metropolitan scheme with multiple centers (Graham and Marvin 2001), now reaching the port in the Eco-city design of James Corner and Field Operations for Shenzhen’s Quin Hai Waterfront City (Corner & Field Operations 2010) (Figure 8, 9)

City Model Timelines

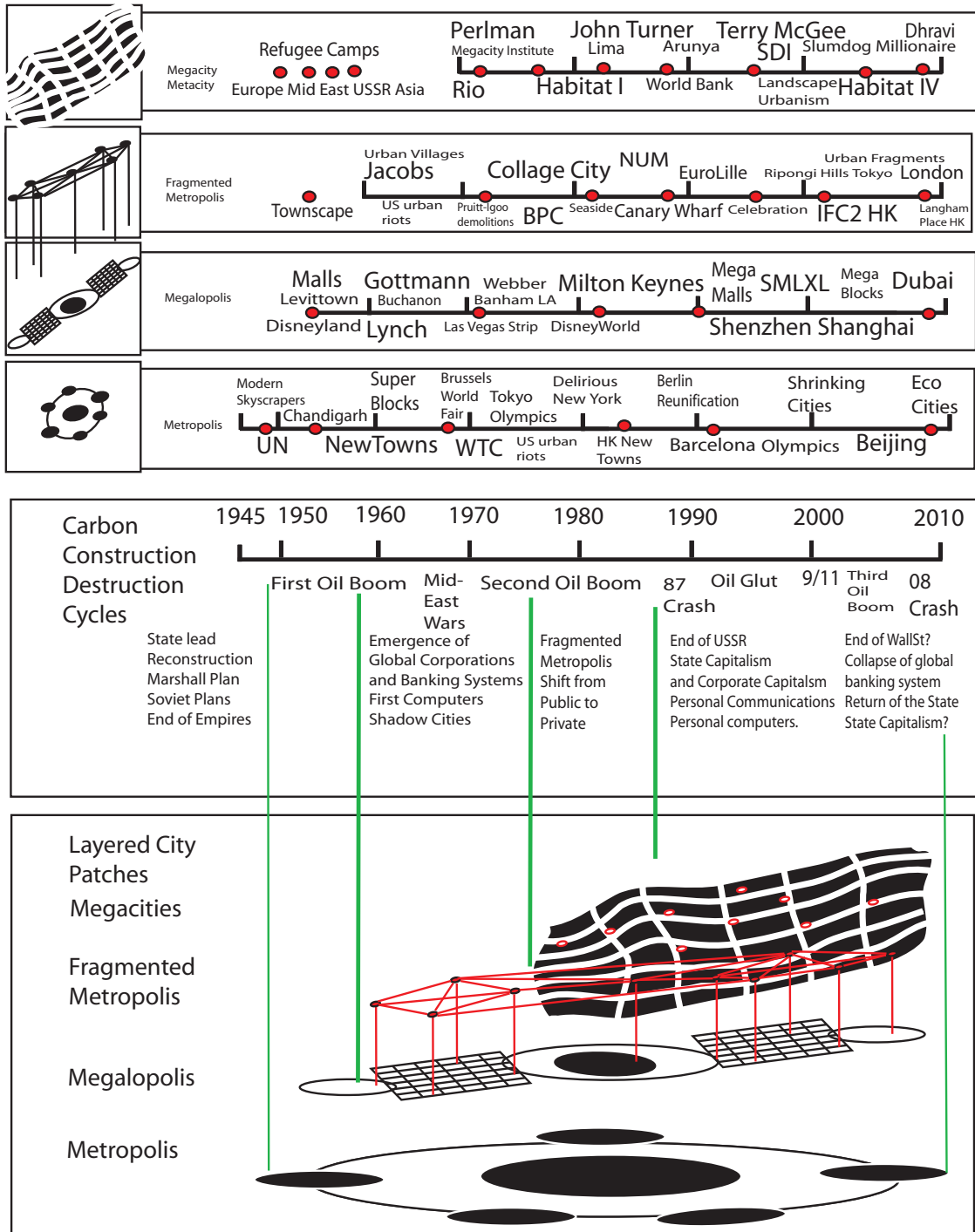


Figure 6:
Shane 4 Models Diagram

THE CHINESE METACITY; TOURISM, HISTORIC PRESERVATION, WAY FINDING AND URBAN VILLAGES

The metacity informational and Eco-city revolution implied that the city became a symbolic object, especially for tourists' leisure and pleasure (Lash and Urry 1994, Judd and Fainstein 1999). Tourists read the historic city as a collection of heterotopic attractors, linked into a flow network, easily read as a pattern from a smart phone, tourist map or high overlook (a mountain overlook, Ferris wheel or skyscraper observatory). The transformation of the

city center into a theme park with authentic, historic, urban symbolic intermediaries, like temples, castles, department stores, gallerias and opera houses, also meant that the flow between these attractions needed to improve, as in a Disney campus (Marling 1998). Instead of the traditional ghettos of the metropolis, tourists demanded new facilities, cleaner streets, new street furniture and cafes, restaurants and bars (Sorkin 1992). In Beijing the Forbidden City became a great place of pilgrimage and then a tourist attraction, sponsoring the rebuilding of Quianmen Street (2012) as a pedestrianized shopping approach street created for tourists and residents alike, linking to Tiananmen Square and



Figure 7:
Milton Keynes

SHENZHEN URBAN VILLAGES AND MEGABLOCKS

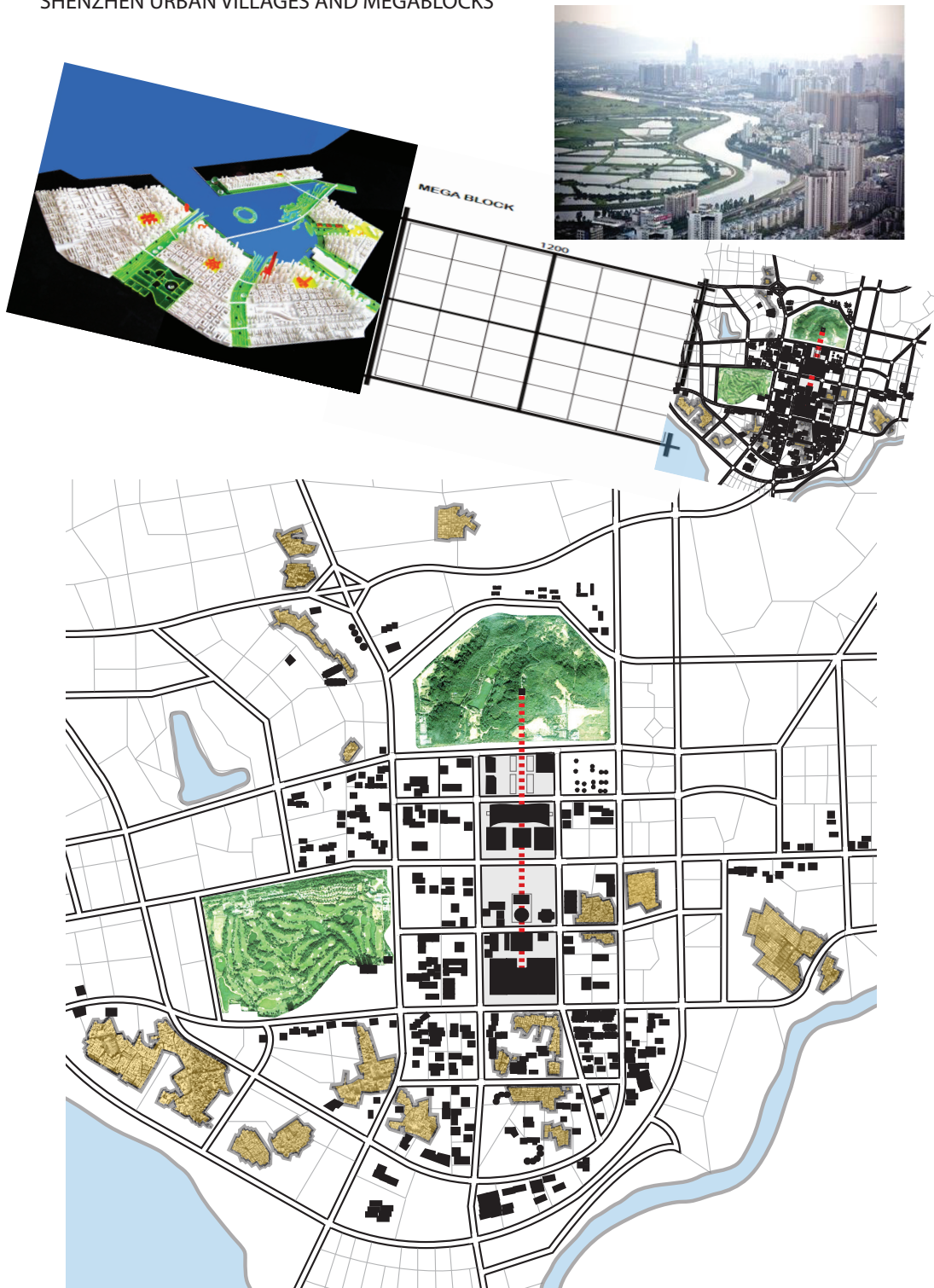


Figure 8:
Shenzhen Stage 1 & 2 Plan Diagram



Figure 9:
Quinhai Waterfront City (Corner & Field Operations 2010)

the Zhengyangmen Front Gate. In Shanghai the historic Lilong housing was preserved (Wan-Lin 2008). In Beijing the 798 Electronics Danwei became converted by artists into the city's new arts district (Dekker 2008). In Beijing, as elsewhere, the arts and tourist invasion implied an upgrading of the public transportation services, busses and subways, limiting private automobile access, pedestrianizing key historic street armatures and lighting the city at night. In China huge extensions of the subway systems and new pedestrianized streets served both the Beijing Olympics and Shanghai Expo. (Figure 10)

The informational city has also infiltrated wider rururban city territory of the Asian desakota city-village system described by McGee (2007) with its factory SEZ districts and gated communities. China now also possesses some of the largest malls and theme parks in these new town and desakota regions. Here the role of the mobile telecom companies and the state television service

CCTV, with its new headquarters by Rem Koolhaas and OMA, play a major role powering the shift towards a consumer culture. This monumental building illustrates the new state support of personal choice and consumption within an approved range. As in the USA the Internet sales companies like Amazon and China's own *Alibaba* compete with the older malls, creating a new model of distribution logistics targeted at an individual's home. In his late lectures, Michel Foucault's analysis of identity and self-creation through consumption (1976-78) is reinforced by the privacy of the individual home (Hoffman 2003). This shift in supply and logistics feeds into the corporate Smart City model (with its massive data analysis capacity described by Snowden (2015)), but also allows for the individual maker and aggregators who offer specialist services, like the delivery of pet food, fake products, sex or drugs to the door of your home (Benkler 2006). Legal hybrid, informational urban applications can also advertize their services in subways and on

public transportation systems, changing patterns of consumption in the city, making old malls and department stores redundant (Shao 2014).

Navigation and way finding become very important both in the immersive environments of the pedestrianized historic city as well as in the malls and their surrounding *desakota* city-village systems. Micro information devices either hand held by pedestrian or screen mounted in an automobile become critical in providing a layer of augmented reality and guidance in the complex, fragmented world of the new metropolis city center or peri-urban world of megablocks surrounding *desakota* city-village systems. This emerging system is already very different from William Mitchell's *City of Bits* (1996) or Richard Florida's *Creative Class* (2004), both very corporate fictions involving big information *Smart Cities* companies in suburban and central city "silicon valleys". In the augmented reality of cyberspace the urban form becomes

relevant not only as a memory device but also as a trusty guide to the chosen goal. Here individuals can feed in and build new communal mapping platforms and guidance systems. These applications and mapping systems are unintended consequences of the informational revolution, creating mobile communities never envisioned when scientists first created the Internet for international exchange (Benkler 2006). Community groups in slums, for instance, were early able to form an international coalition globally, beginning in Asia, to combat poor living conditions and highlight best case scenarios (Satterthwaite, Patel and Mitlin 2004).

In the early 2000's the Shenzhen architecture group Urbanus highlighted the urban villages accidentally created for the illegal "floating" urban factory migrants that haunt the mega-scaled megablock system of China's premier new town model. Urbanus proposed a system of overhead sky bridges that would enable these village clusters, left over from



Figure 10:
Quianmen Street (2008)

Mao's collectivization, to be modernized with minimal demolition. On the sky bridges were parks and agriculture, public bathhouses, schools and recreational centers, all urban services not provided by the small farmer-rentier-peasant developers of the village mini-towers. In the Shenzhen Expo Urbanus (2010) documented one Shenzhen urban village, Dafen, that specialized in painting copies, 60% of the cheap, global and national copies of great master art works, bringing Benjamin's (1935, 1936) phantasmagoria and popular aesthetic turn back down to the ground.

The urban villages were an accident, but they pointed to the importance of micro-scale spatial and symbolic intermediaries in the city. This smaller scale forms a relief from the macro-scale of the megablock and highways, some villages are threatened while some will be preserved in Shenzhen, as across all China (Al 2014, 2015, Crawford and Wu 2014 and Shane 2011, 2014). Their small scale armatures and enclaves make them heterotopic urban fragments in the new town megablock systems, inevitably becoming refuges for the Chinese "floating "

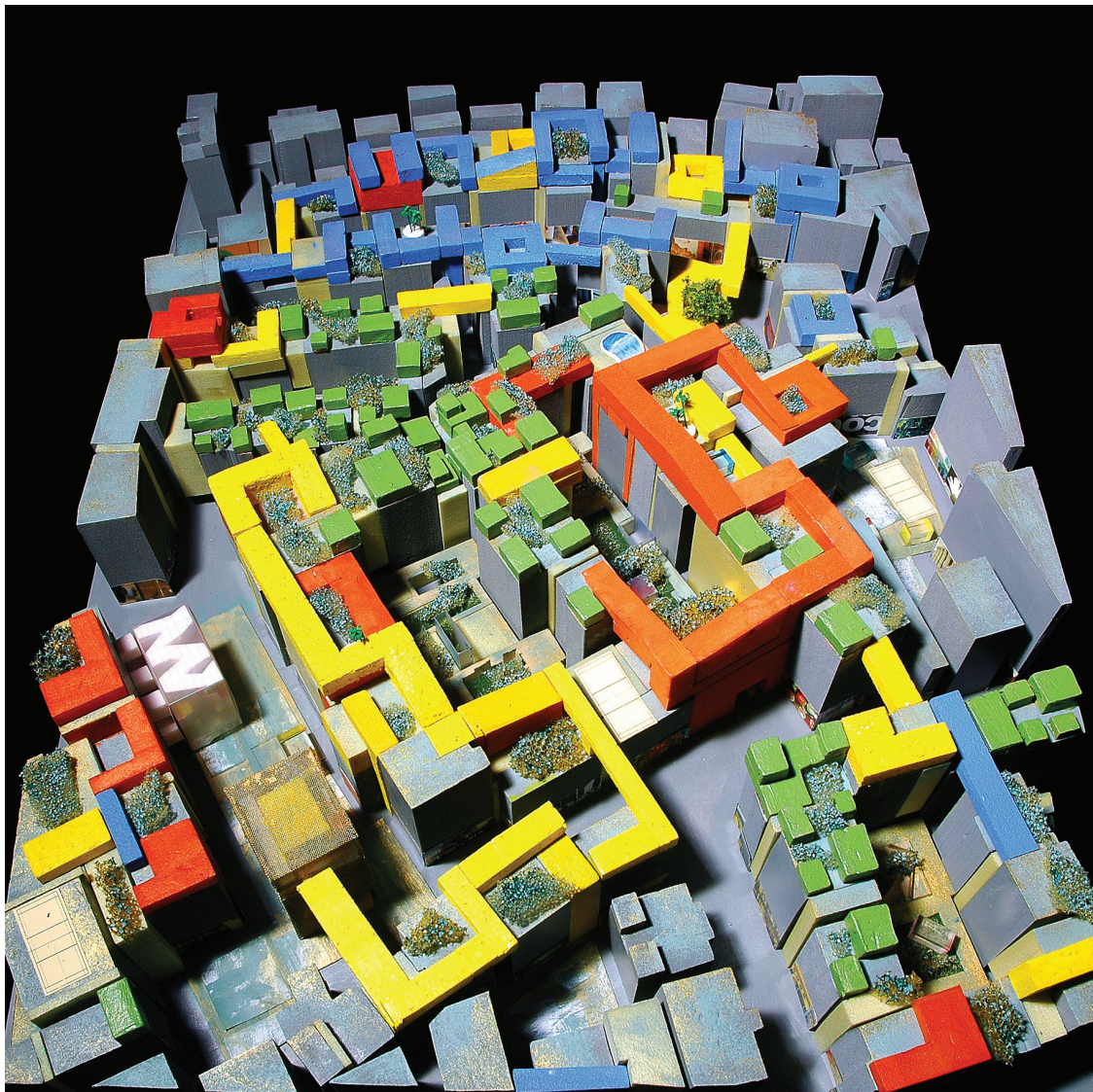


Figure 11:
Urbanus Shanghai Expo Village Renewal Case Study

worker population, but also forming tourist, leisure attractors with fine food, gambling and brothels. This small scale urban fabric is notably absent from the surrounding super block tower complexes built in the SEZ districts and new towns where small scale, pop-up informal commerce can sometimes fill some of the gaps with small carts for cycle repair men or food stands etc at a subway stop entrance. Like the mall interiors, the small-scale accidental village districts form immersive environments welcomed by the web surfing, informational multitude for their detail, intimacy and sense of freedom and personalized choices. (Figure 11)

THE CHINESE METACITY; NETWORKS AND NODES, MEGABLOCKS AND MULTI- SCALAR INTERFACES

The enormous scale and scope of the Chinese urban expansion within the Metacity model and *desakota* system is bound to have some unexpected consequences. There are special conditions in China that will also ensure that some of these outcomes will receive remedial attention. In China the state ownership of the land and leasing practices distorts the usual narrative of capitalist “gentrification” so that change of use in Chinese cities inevitably becomes a complex series of negotiations between registered leaseholders, legal residents and developers who can only lease the land for a maximum of 100 years as in the Hong Kong ground lease double system. This system also empowers local urban actors as landholders who can have their own agendas and interests in negotiations with the central authorities, as well as acting as local development agencies themselves (Arrighi 2007, Hai Ren (2013) also Xufei Ren and Sun M (2012)).

In addition in China, special conditions alter the metacity transformation of the old city center into the “new metropolis” or “metropolis 2.0” (Contin 2015). Here Foucault’s preoccupation with informed individuals in shifting networks melded into a controlled mass tourism of the connected multitude with their new freedom to travel, fly and consume. This multitude required new corporate and social spaces that could be used for promoting events, advertising and annual celebrations, as well as traditional religious or state festivals. The pedestrianization of the city center did not necessarily mean it would become a new political commons in China or any

other nation for many reasons. In particular in the global metacity many of the new public spaces are private operated public spaces (Pops) with access ceded to the public in exchange for extra square footage of development rights. Most cities require a permit for a legal demonstration in a public space, a permit that can become impossible to obtain as tourism trumps local use (Kayden 2000). This difficulty resulted in spontaneous outbursts like the Arab Spring in Tahrir Square in Cairo or the Occupy movement world-wide, a code switch enabled by the unintended consequences of the hand-held, personal communication devices of the metacity.

In the “shock city” of Shenzhen for example, the public-private partnerships of the Hong Kong’s publicly owned subways with their three-dimensional public spaces in the podiums under high-rise towers leased to private developers formed an important precedent (HK 1981). These complexes descended ultimately from American suburban mall models via Tokyo with its three dimensional transportation nodes under malls and towers (Shane 2011, 2015). These hybrid mall, intermodal transportation clusters of mixed-use towers represent a new Asian combination epitomized by the Kowloon and Central Hong Kong twin complexes on either side of the Hong Kong harbor. Shanghai’s Pudong central circle plan design expands the Kowloon central circle (Farrell 1996) to a huge scale. In Pudong new variations on mall and bridge structures will gradually create another three-dimensional matrix connecting the hyper tall towers as in Admiralty and Central Hong Kong, documented by Solomon, Frampton and Wong in *Hong Kong; the City Without Ground* (2012).

In China there is ample space and such malls took on independent lives of their own, around transport nodes but linked to the megablock scale. Multiple malls would cluster across 1000 ft wide (300m) intersection. This marks the difference between Shanghai’s Pudong central circle plan and the compact Kowloon Central circle plan (Farrell 1996) with its park on the roof of the mall above the station. Meanwhile Field Operation’s design for Shenzhen’s Quinhai Waterfront City (2010) showed how transport oriented nodes of development could be incorporated into the megablock system of the typical Chinese new town. Ma Yansong and Studio MAD’s *Shan Shui City* (2015) (mountain-water) theory tried to solve this interface problem by melding the traditional small scale of the village and Chinese gardens as a two story mall linked to the metaphor of surrounding towers as mountains on the periphery

of the six block Zendai Himalaya Center, Nanjing (2014), linking through bridges to the new, busy, giant high speed rail station connecting to Shanghai.

Chinese designers, like designers everywhere, face the problem of re-equipping the ancient imperial city and modernist models designed in another age for the new uses and requirements of the informational city. A particular Chinese problem is that the national megablock system descended from Moscow, Milton Keynes and Shenzhen has no intermediate scale or micro codes resulting in strange scale jumps and confrontations, as in the context of Steven Holl's elegant *Linked Hybrid Towers*, Beijing (Shane 2011). Here the radical new tower configuration stood beside the old Danwei slab block and small tower housing compound that served the optical factory on the site before (the developer pays land rent to the Danwei inhabitants who must find other work). Holl's three-dimensional scheme places the communal, shared elements of the program, swimming pools etc, in skybridges between the towers, creating an internal, private street connection above the city. From these bridges inhabitants look down on the old Danwei community beyond both developments shared walls. (Figure 12)

There are already other three-dimensional attempts to create contemporary three-dimensional interfaces like the urban villages at the base of skyscraper districts, as in Jianwai SOHO in Beijing (Riken Yamamoto 2004). This successful development connects its towers with a matrix of three dimensional spaces and small stores, but it remains just one of the several super block tower schemes within the megablocks of the 1000 ft, 300m wide highway system. As in Shanghai's Pudong new CBD there remains the question of how to connect these developments into a meaningful and varied pedestrian environment for the inhabitants and commuting workers. (Figure 13)

MVDVR tried to write an informational code for such small scale village interfaces in the city and

associated this code with colored platforms or capsules, spaces that could be assigned precise functions and locations in three dimensions, an outgrowth of their Hanover Pavilion model. In their *Vertical Village* (2008) MVRDV tried to write a three-dimensional informational code for all the activities of the city but sadly the matrix was removed from the Chinese megablock. This recombinant code of their *Vertical Villages* always formed cubes of capsules creating a series of three-dimensional colored models that became sculptural compositions. In their translation in to a built reality this microcode system provided a small-scale assembly language that could be attached to skyscraper, as in MVRDV's infamous *Cloud* project in Seoul (2011). Here the *Vertical Village* spanning between twin towers drew unfortunate, unintended comparisons to the cloud that formed when the Twin Towers in the WTC collapsed in New York on 9/11. Many other Dutch designers have also tried to apply versions of the smaller scaled *Vertical Village* as swimming pool platforms or shopping mall entrances attached to their projects across Asia from Singapore to Bangkok (Shane 2011). (Figure 14)

While MVRDV promised a magic bullet of control by monitoring those below in an emergent but closed system, it is also possible to imagine that people and designers might also invent and try out new open systems in different areas of the city that are not initially scripted by algorithms and churning big data. Slowly a *Landscape Urbanism* (2005) oriented „performative urbanism“ might emerge from the changing urban situation, as fuel prices rise perhaps and automobiles become more shared in use and demand for small-scale transportation within the megablock emerged. Perhaps even the different superblocks nested in a megablock might evolve differently, some connecting, others being demolished to make space for agriculture, ecological uses and parks as in Kongjian Yu's students' projects for peri-urban nodes and networks in the south east desakota areas of Beijing's green belt featured in Kelly Shannon et alia *Village in the City* (2015). (Figure 15)



Figure 12:
Holl Linked Hybrids

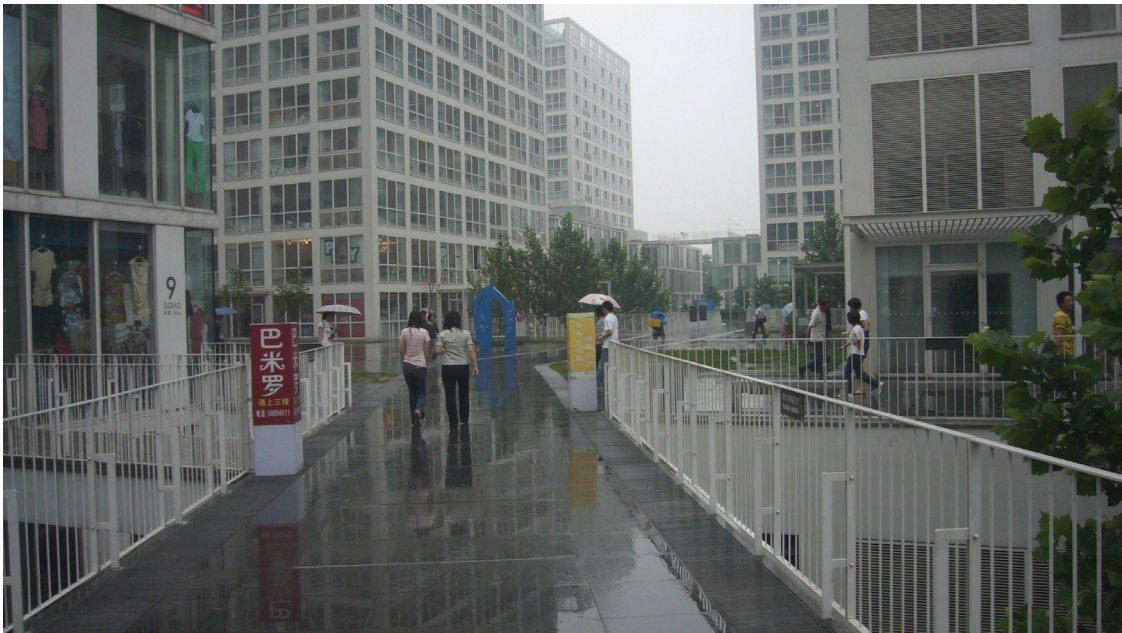
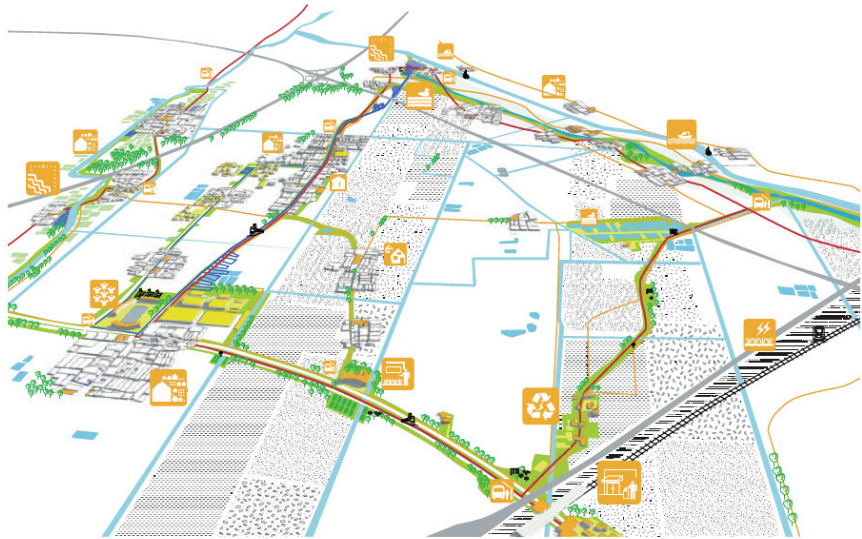


Figure 13:
Jianwai Soho in Beijing



Figure 14:
MVDVR Vertical Village Design Matrix



Urban Aqua-Agriculture Villages

The existing villages along the Xiaotaihou River and the Shanzhiyu Canal are re-articulated as models of urban aqua-agriculture. The traditional agriculture converts into more profitable landscapes while water systems become filtration machines and recreational parks — all part of the 'Villages as City' larger linear park system.



High Speed Meets Slow Motion

The high-speed train station opens up the territory and injects centrality of a new, 21st-century form that shapes a new node of inter-modality by combining the qualities of the landscape with advanced kinds of public spaces.



Hybrid Landscapes

Taihu's future landscape is by definition hybrid and dual: urban and rural, dense and wide open, artificial and natural.



Taihu, City of the 21st-Century

The dense city core combines all functions, consumptive and productive landscapes alike; 'Living the Taihu Lifestyle' combines functionality with ample public space and the omnipresence of natural elements.

Figure 15:
Village in The City Scheme Kongjian Yu Student Projects

CONCLUSION: CHINA AS A LABORATORY FOR NEW HYBRIDS, INTERFACES AND SCALAR JUXTAPOSITIONS

China's rapid urbanization and "shock cities" employed many models from around the world in specific Chinese political circumstances, from Mao's villages and Danwei, to Deng's SEZ lead export developments in coastal new towns like Shenzhen. Previous urban models, whether the imperial "city of faith" or industrial "machine city" became informational constructs in China's rapid drive for urbanization, as exemplified by the Shanghai Expo and its turn towards remedial Eco-Cities (Wu SZ 2014). The Expo also demonstrated a new openness beyond the normal propaganda model so common at modernist Expo's, turning towards the individual, their choices and empowerment as consumers within a collective, informational and institutional framework. While the Chinese government, like all contemporary governments sought stability and control within the informational city, the opening to the informed *individual* had many unintended consequences in terms of mass tourism, historic conservation and reuse, new urban applications to guide and aid consumption, as well publicizing

unintended consequences like informal urban villages trapped within new development.

In response to the impact of the informational city a new field of urban study is emerging in China around the theme of negotiating the scale of the megablock ironically using the theme of the captured urban villages. This connective Chinese urban design research investigates conditions both in the central city, developing the three-dimensional matrix of the Studio MAD's Nanjing Zendai Himalaya Center, and in peri-urban research connecting the megablock elements of the desakota edge cities, as in Kyiang Yu's research. Here the new hybrid between the podium and mall based Hong Kong tower might create a three-dimensional field somewhat akin to MVRDV's Hanover three dimensional layered cube of different urban ecologies but with a new, open, urban coding system. MVRDV's system was badly flawed but points towards a promising new scale of design research and development in Chinese urbanism.

China's rapid urbanization is entering a new phase where experimentation and variation is allowed and encouraged to find local successes and best practices. The one-size fits all megablock and super block modernist solutions are being questioned and



Figure 16:
Sanshui City; Studio Mad, Nanjing

a collage of systems within a coherent framework proposed. There is a new collective intelligence emerging that acknowledges the need for a series of multi-scalar interfaces between the existing urban fragments produced in the last 60 years and new practices. Professionals see this in terms of managing the violent scale juxtapositions and creating a new sense of community articulated in the Shanghai Expo. They acknowledge the importance of the informational city in this quest that allows for an open system with inputs from individual choices and multiple actors.

There are many new hybrids with Chinese characteristics that are possible. The results of this hybridization of types and scales could produce results of interest to urban designers around the world. China provides an important laboratory to find new ways of living together harmoniously, new community forms and intermediate scale spaces for the individual and living multitude in the informational city. (Figure 16)

REFERENCES

Al S (ed) (2014) *Villages in the City; A Guide to South China's Informal Settlements*, Hong Kong, HKU Press.

Al S (2015) "Mass Producing the Worlds Factory" available at <http://www.metropolitiques.eu/Mass-Producing-the-World-s-Factory.html><http://www.metropolitiques.eu/Mass-Producing-the-World-s-Factory.html> (accessed June 18 2015).

Arrighi G (2007) *Adam Smith in Beijing; Lineages of the Twenty-first Century*, London New York, Verso.

Barnett J (1982) *An Introduction to Urban Design* (New York, Harper and Row.

Benjamin W (1935) "Paris, Capital of the Nineteenth Century" in Demetz P (ed) (1978) *Reflections, Walter Benjamin; Essays, Aphorisms and Autobiographical Writings*, New York Horace Brace and Jovanovich.

-- (1936) "The Work of Art in the Age of Mechanical Reproduction", in Arendt H (ed) (1968) *Illuminations*. London: Fontana.

Benkler Y (2006) *The Wealth of Networks - How Social Production Transforms Markets and Freedom*, accessed June 18 2015 available on line at http://www.jus.uio.no/sisu/the_wealth_of_networks.yochai_benkler/portrait.a4.pdf

Briggs A (1963) *Victorian Cities*, London, Odams.

Castells, M. (1989) *The Informational City: Information Technology, Economic Restructuring, and the Urban Regional Process*, Oxford UK Blackwell.

Castells, M. (2000a) *The Rise of the Network Society, The Information Age: Economy, Society and Culture Vol. I*. Oxford: Blackwell. and (2000b) *End of Millennium, The Information Age: Economy, Society and Culture Vol. III.*, Oxford: Blackwell.

Chomsky N and Herman E (1988) *Manufacturing Consent: The Political Economy of the Mass Media*, New York, Pantheon Books.

Contin A, Paolini P and Salerno R (Eds) (2014) *Innovative Technologies in Urban Mapping; Built Space and Mental Space*, Switzerland, Springer.

Corner J (2005) "Terra Fluxus" in Waldheim C (ed) (2005) *The Landscape Urbanism Reader*, New York, Princeton Architectural Press.

Corner J and Field Operations Quinhai Waterfront City (2010) at <http://www.fieldoperations.net/project-details/project/qianhai-water-city.html> (accessed June 18 2015).

- Crawford M and Wu J (2014) "The beginning of the End; Planning the Destruction of Guangzhou's Urban Villages" in AI S (ed) (2014) *Villages in the City; A Guide to South China's Informal Settlements*, Hong Kong, HKU Press. .
- Davis M (2006) *Planet of Slums*, London, New York, Verso.
- Dekker R (2008) 798 Art Zone Beijing: Site of 'Cultural Revolution' or Showpiece of City Marketing? (Ph.D. Thesis) Belgium, Ghent University.
- Farrell T and Partners (1996) Kowloon Station project: <http://www.terryfarrell.co.uk/#/project/0097/> (Accessed March 19, 2010).
- Florida R (2002) *The Rise of the Creative Class*, New York, Basic Books.
- Foucault M. (1968) "Of Other Spaces, Heterotopias." *Architecture, Mouvement, Continuité* 5 (1984): 46-49. Accessed March 15 2015 on line at <http://foucault.info/documents/heterotopia/foucault.heterotopia.en.html>
- (1975) *Surveiller et Punir, Naissance de la Prison*, Paris Gallimard.
- (1977, 2003) *Society Must Be Defended, Lectures at the College de France 1975-76*. New York, Picador.
- (1978, 2004) *Security, Territory, Population, Lectures at the College de France 1977-78*. New York, Picador..
- Frampton A, Solomon J and Wong C (2012) *Cities Without Ground; a guide to Hong Kong*, San Francisco, Oro Editions.
- Gleik J (2011) *The Information; A History, A Theory, A Flood*, New York, Pantheon.
- Gottmann J *Megalopolis* (1961), New York, 20th Century Fund and Gottmann and Harper RA (1990) *Since Megalopolis; the urban writings of Jean Gottmann*, Baltimore, John Hopkins.
- Graham S. and Marvin S. (2001), *Splintering Urbanism: Networked Infrastructures, Technical Mobilities and the Urban Condition*, London Routledge.
- Hai Ren (2013) *The Middle Class in Neoliberal China: Governing Risk, Life-Building, and Themed Spaces*, London and New York, Routledge.
- Hoffman L (2003) Hoffman. "Enterprising Cities and Citizens: The Re-Figuring of Urban Spaces and the Making of Post-Mao Professionals" *Provincial China* 8.1 (2003): 5-26. Available at: http://works.bepress.com/lisa_hoffman/4
- HK New Territories Development Department (1981) *Hong Kong's New Towns*; Tsuen Wan, Hong Kong, Public Works Department Hong Kong.
- Huang L & Xie Y "The Plan-led Urban Form" at 48th ISOCARP Congress 2012 at http://www.isocarp.net/Data/case_studies/2162.pdf (accessed June 18 2015).
- Judd DR and Fainstein SS (1999) *The Tourist City*, Yale University Press.
- Kayden J (2000) *Privately Owned Public Spaces; the New York City Experience*, New York Wiley.
- Lash S and Urry J (1994) *Economies of Sign and Space*, London, Sage Publications.
- LI X, LI D, Jiang J (2014) *Made in Shanghai*, Shanghai Tongji University Press.
- Lynch (1981) *Good City Form*, Cambridge USA MIT Press.
- Ma Yansong (2015) *Shan Shui City*, Lars Muller, Zurich Switzerland.
- Marling, K.A. (1998) *Designing Disney's Theme Parks: The Architecture of Reassurance*, Paris: Flammarion.
- Marcotullio, P. J. (2003). Globalisation, urban form and environmental conditions in Asia-Pacific cities. *Urban Studies* 40(2), 219–247
- McDonough W and Braungart M (2002) accessed at <http://www.mcdonough.com/wp-content/uploads/2013/03/Hannover-Principles-1992.pdf> (accessed June 18 2015).
- McGee, T. (1971) *The Urbanization Process in the Third World*, London: Bell and Sons.
- (1991) 'The Emergence of Desakota Regions in Asia: Expanding a Hypothesis' in *The Extended Metropolis: Settlement Transition in Asia*, Ginsburg, N., Koppel, B., McGee, T.G. (es) Honolulu: University of Hawaii Press (pp. 3-25).
- , Lin G.C.S., Marton, A.M., Wang, M.Y.L., Wu, J. (2007) *China's Urban Space: Development Under Market Socialism*, London: Routledge.
- (2009), *The Spatiality of Urbanization: The Policy Challenges of Mega-Urban and Desakota Regions of Southeast Asia*, UNU-IAS Working Paper (161), United Nations University Institute of Advanced Studies
- McGrath and Shane (eds) (2005) "Sensing the 21st Century City: Close-Up and Remote" in *Architectural Design* (AD). London Wiley Academic.
- McGrath and Shane (2012) "Introduction: Metropolis, megalopolis and metacity" In C. Cryslar, S. Cairns, & H. Heynen (Eds.), *The SAGE handbook of architectural theory*. (pp. 641-657). London: SAGE Publications Ltd. doi: <http://dx.doi.org/10.4135/9781446201756.n38>.

Mitchell W (1996) *City of Bits; space, place and the infobahn*, Cambridge Ma and UK MIT Press

MVDVR (2000) *Metacity / Datatown*, Rotterdam: NAI: <http://www.slideshare.net/jennchang0/mvrdv-metacity-datatown> (accessed 28 August 2012).

MVDVRV (2008) *Vertical Village* accessed June 18 2015 at <http://www.vertical-village.com/about/>

OMA (2014) "Monditalia" see http://www.world-architects.com/architecture-news/insight/2014_Venice_Biennale_Monditalia_550 (accessed June 18 2015).

Perlman, J. (1976) *The Myth of Marginality; Urban Poverty and Politics in Rio de Janeiro*, Berkeley: University of California Press.

-- (2010) *Favela; Four Decades of Living on the Edge in Rio*, Oxford University Press.

Petit E (2014) "Spherical Penetrability: Literal and Phenomenal" in Log 31 *The New Ancients* Epstein D and Roberts B (Eds), New York, Anyone Corporation.

Rossi A (1982) *The Architecture of the City*, Cambridge USA, MIT Press.

Rostow, W. W. (1960). "The Five Stages of Growth-A Summary". *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press. pp. 4–16.

Satterthwaite, D. (2007) *The Transition to a Predominantly Urban World and its Underpinnings*, I.I.E.D., London, available at <http://pubs.iied.org/10550IIED.html> (accessed 8/19/2011).

Ibid. (2004) Sheila Patel and Mitlin D "Grass Roots Driven Development The Alliance of SPARC, the National Slum Dwellers Federation and Mahila Milan" and <http://www.sdinet.org> (accessed June 18 2015).

Shane, D.G. (2003) "the Emergence of Landscape Urbanism; Reflections on Stalking Detroit" in *Harvard Design Magazine* Fall 2003, Number 19 accessed on line 15 March 2015 at http://crtl-i.com/PDF/GrahamShane_OnLandscape.pdf.

Shane and McGrath (eds) (2005) "Sensing the 21st Century City: Close-Up and Remote" in *Architectural Design* (AD). London Wiley Academic.

Shane (2008) "Heterotopias of Illusion; From Beaubourg to Bilbao and Beyond" in De Cauter L. and Dehaene M.(Eds), *Heterotopia and the City: Public Space in Postcivil Society*, London Routledge.

Shane (2011) *Urban Design Since 1945: A Global Perspective*, Chichester: Wiley Academy.

Shane (2011) "Tracking the Origins of MVDVR's Cloud" in *Architects Newspaper* New York, accessed June 18 2015 at <http://blog.archpaper.com/2011/12/tracking-the-origins-of-mvrdvs-cloud/#.VYOmlr6RCqM>

Shane and McGrath (2012) "Introduction: Metropolis, megalopolis and metacity" In C. Crysler, S. Cairns, & H. Heynen (Eds.), *The SAGE handbook of architectural theory*. (pp. 641-657). London: SAGE Publications Ltd. doi: <http://dx.doi.org/10.4135/9781446201756.n38>.

Shane (2014) "Metacity; origins and implications" in Contin A, Paolini P and Salerno R (Eds) (2014) *Innovative Technologies in Urban Mapping; Built Space and Mental Space*, Switzerland, Springer.

Shane (2014) *Block, Superblock and Megablock; a short history*, Milan Italy, Arcduecitta.available at <http://www.arcduecitta.it/world/2014/01/block-superblock-and-megablock-a-short-history/> (accessed June 18 2015).

Shane (2015) "Questo and the Metacity" in Contin A et alia (Eds) *Questo Metropolitan Architecture*, Santagelo Romagna Italy, Maggioli Editore.

Shao Heng (2014) "\$9.3 Billion Sales Recorded In Alibaba's 24-Hour Online Sale, Beating Target By 15%" in *Forbes Asia* accessed on June 18 2015 at <http://www.forbes.com/sites/hengshao/2014/11/11/9-3-billion-sales-recorded-in-alibabas-24-hour-online-sale-beating-target-by-15/>

Shannon K, De Meulder B and Yanliu Lin (Eds) (2014) *Village in the City; Asian Variations of Urbanisms of Inclusion*, Chicago, University of Chicago Press.

Schrenk L and Jensen M (2014) "Dystopia in a World of Utopia; Unustainable realities of sustainably themed expositions" accessed June 18 2015 at <http://www.arcc-journal.org/index.php/repository/article/view/309>.

Snowden E (2015) "Snowden talks about Citizen4" on c/ net, accessed 15March 2015 at <http://www.cnet.com/news/edward-snowden-talks-citizenfour-with-poitras-greenwald/>

Sorkin M (1992 (Ed) *Variations on a Theme Park, The New American City and the End of Public Space*, New York Noonday, Hill and Wang.

Stern N, Review of the Economics of Climate Change (2006), accessed June 18 2015 at http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/d/CLOSED_SHORT_executive_summary.pdf

UN (2013) *The World Population Prospects; The 2012 Revisions*, UN, New York. http://esa.un.org/wpp/Documentation/pdf/WPP2012_HIGHLIGHTS.pdf (accessed June 18 2015).

UN (2013) China National Human Development Report 2013 Sustainable and Liveable Cities: Toward Ecological Civilization http://www.cn.undp.org/content/dam/china/docs/Publications/UNDP-CH_2013%20NHDR_EN.pdf (accessed June 18 2015) (accessed June 18 2015).

Urbanus (2006) Village/City, City/Village, Shenzhen Urbanus.

Urbanus (2010) A Village by the SEZ: The Dafen Sample of China's Urbanization, Special Publication Brochure Collection for Shanghai World Expo 2010, Shanghai, and Shenzhen Pavilion Shanghai EXPO, accessed 15 January 2015 at http://www.urbanus.com.cn/public_expo_class.php?action=expo&num=1&aid=6&saction=sclass#

US EPA (2007) <http://www.epa.gov/oecaagct/ag101/demographics.html> (accessed June 18 2015).

Waldheim C (ed) (2005) The Landscape Urbanism Reader, New York, Princeton Architectural Press.

Wan-Lin Tsai (2008) The Redevelopment and Preservation of Historic Lilong Housing in Shanghai (accessed June 18 2015) available at http://repository.upenn.edu/cgi/viewcontent.cgi?article=1115&context=hp_theses

Wu S.Z. "How I Built a New China: A talk with Expo 2010 Planner Siegfried Zhiqiang Wu;" <http://www.archdaily.com/561083/how-i-built-a-new-china-a-talk-with-expo-2010-planner-siegfried-zhiqiang-wu> and Yifan Zhang, Juan Yan & Weixuan Wei. "How I Built A New China: A talk with Expo 2010 Planner Siegfried Zhiqiang Wu" 24 Oct 2014. ArchDaily. Accessed 18 Jun 2015. <<http://www.archdaily.com/561083/how-i-built-a-new-china-a-talk-with-expo-2010-planner-siegfried-zhiqiang-wu/>>.

Xu Xianping (March 19 2014) "National New Urbanization Plan" Press Conference, accessed 15 March 2015 at http://china.org.cn/china/2014-03/19/content_31836248.htm

Xufei Ren and Sun M (2012) "Artistic Urbanization: Creative Industries and Creative Industries and Creative Control in Beijing" in issue 3 International Journal of Urban and Regional Research, Volume 36.3 May 2012 504-21, DOI: 10.1111/j.1468

Yamamoto R (2004) Jianwai SOHO accessed on June 18 2015 at http://riken-yamamoto.co.jp/index.html?page=ry_proj_detail&id=72&lng=_Eng

Yu K (2010) Shanghai Expo Park at <http://www.asla.org/2010awards/006.html> (accessed June 18 2015).

ILLUSTRATIONS LIST; CAPTIONS & CREDITS

Figure 1: Megacities Global map

Caption: Global Megacities and Cities of 1-2 million. The UN Predicts the majority of 21st Century megacities will be in Asia, but 92% of the global urban population will live in networked cities of 1-2 million.

Credit; DGShane and Uri Wegman

Figure 2: MVRDV's Metacity Data Cube

Caption: MVRDV (2000) Metacity /Datatown Cube Exhibit; MVRDV compiled global planning land use statistics and then projected them into a cube, showing layers of agriculture, forest, garbage, housing etc as a series of dramatic spaces inhabited by informational images.

Credit; MVRDV

Figure 3: MVRDV's Hanover Expo Pavilion

Caption: Netherlands Hanover Expo Pavilion (2000), MVRDV. The Pavilion translated MVRDV's data analysis of the Netherlands into a layered three dimensional cubic structure with different ecologies on each floor, reached in a downward spiral of exterior staircases from the rooftop (accessed by elevator).

Credit; MVRDV

Figure 4: Britain, US, Mexico Graph

Caption: A comparison of speed of urbanization between the UK in 19th century, Mexico in mid-20th century and China in 21st century. While the definition of urban may vary, it is clear the speed and scale of urbanization has accelerated, telescoping urban models in the Chinese case. Credit; Figure1 from McGee T, Lin G.C.S., Marton, A.M., Wang, M.Y.L., Wu, J. (2007) *China's Urban Space: Development Under Market Socialism*, London: Routledge.

Figure 5A: Shanghai Expo Houtan Park Kongjian Yu

Caption: Shanghai Expo Houtan Park by Kongjian Yu (2010). Built on a former industrial site the Houtan Park on the Expo site riverfront has constructed wetlands, ecological flood control strategies, reclaimed industrial structures and urban agriculture as integral components helping clean the polluted Hangpu River. It has been retained as a feature of the long term post-Expo development.

Credit; Turenscape and Kongjian Yu.

Figure 5B: Shanghai Expo Axi/Plan

Caption: Shanghai Expo 2010 Collage. The main, covered and shaded Expo Axis contained "Better Life; Better Cities" theme section, while state and corporate pavilions surrounded the axis, whose mid-point was dominated by the bright red inverted pyramid of the Chinese Pavilion, now converted to the Expo Museum.

Credit; DG Shane Collage, image photos courtesy of Shanghai Expo Museum.

Figure 6: Shane 4 Models Diagram

Caption: Shane's 4 City Models Diagram and Timelines. All four models are present in the rapid Chinese urbanization with Chinese characteristics and timing. The present design problem is how to make an interface between these models, both on the ground and through the media of the metacity.
Credit; DGShane

Figure 7: Milton Keynes

Caption: Milton Keynes Masterplan (1969-72) with historic uruban villages in brown inside megablock, 1 km x 1 km square. The villages were restricted by historic preservation.
Credit; DGShane and Uri Wegman

Figure 8: Shenzhen Stage 1 & 2 Plan Diagram

Caption: Shenzhen Center Plan and Urban Villages inside megablocks, with megablock extensions to Quinhai Waterfront City diagram.
Credit; Shenzhen plan DGShane and Uri Wegman. Collage DGShane

Figure 9: Quinhai Waterfront City (Corner & Field Operations 2010)

Caption: Quinhai Waterfront City (Corner & Field Operations 2010); Corner incorporated transport nodes in the megablock system, while also providing waterfront parks to clean the Pearl River at the Shenzhen Quinhai Bay.
Credit; James Corner & Field Operations.

Figure 10: Quianmen Street (2008)

Caption: Qianmaen Street Beijing renovated 2012 as Pedestrian shopping street for tourists with a restored trolley car. Historic preservation with small-scale detail and leisure consumption in the metacity megablock.
Credit; Courtesy of Zuo Wang and Willis Wei.

Figure 11: Urbanus Shanghai Expo Village Renewal Case Study

Caption: Urban Village Project, Urbanus. 2007, Heyuan Block Gangxia Village Shenzhen; intermediate scale introduced with services and gardens over the top of the existing small-scale cooperative village. set within a Shenzhen megablock.
Credit; Urbanus.

Figure 12: Holl Linked Hybrids

Caption: Linked Hybrid Project Beijing, Stephen Holl Architects; the metacity with an intermediate scale between towers, but contained within one superblock development within a megablock. View out to the surrounding ex-Danwei housing slab blocks and small towers.
Credit; DGShane

Figure 13: Jianwai Soho in Beijing

Caption: Jaiwan SOHO Beijing, Riken Yamamoto Architects; the metacity with an intermediate scale between towers, but contained within one superblock development within a megablock.
Credit; DGShane

Figure 14: MVDVR Vertical Village Design Matrix

Caption: MVDVR The Vertical Village Project; the metacity coded intermediate scale, intense mixed use but detached from megablock situation.
Credit; MVDVR

Figure 15: Village in The City Scheme Kyiang Yu Student Projects

Caption: Beijing Green Belt Desakota project; the metacity with urban agriculture and hi density development around hi speed rail station. The studio considered various options for the development of the green belt, resulting a series of village-city hi and low desnsity variations within the desakota urban-agricultural framework.
Credit; Kelley Shannon, Bruno de Meulder, Kongjian Yu,, Vivian D'Auria, Reconsidering Village in The Expanding City—Taihu, In (Bruno De Meulder, Yanliu Lin and Kelley Shannon, Eds.): Village in The City, UFO4, Park Books, Zürich , Switzerland, 120-161.

Figure 16: Sanshui City; Studio Mad, Nanjing

Caption: Nanjing Zendai Himalayas Center, by MAD Architects, 2014; The metacity intermediate scale; Urban Village as shopping mall and towers as mountains.
Credit; MAD Architects