

# AFTER THE SILENT SPRING: FROM THE MEGACITIES TO CHONG MING OR THE ISLAND WHERE THE BIRDS SING

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## *Abstract*

*With its megacities, against the odds, China is in transit to an ecological economy exemplified by the iconic Chong Ming Island in the Yangtze River Delta megaregion. The paper exposes the systemic path taken by Chinese State that within 3 decades has metamorphosed China's place in the global World-System. To decipher China's systemic operating mode, the paper refers to genetic and adaptation knowledge as guiding threads, drafting the first steps toward an ecological urban theory and epistemology.*

## *Keywords*

*Megaregion and Megacity as different genetic replicates, China's statehood systemic governance, Systemic adaptation, Urban holographic pattern, Systemic requirements for sustainability.*

## Introduction

Since Brenner's planetary urbanization thesis, most urban actors and deciders still have difficulties conceiving territorial and urban planning beyond local, regional, and national scales. The intent is to interpret contemporary transformation in relation to the state governance and policies facing the imperatives of the Circular Economy, integrating the core of world-system, acting within a global capitalist economy, and cultural specificity. What is at stake is the interpretation of urban phenomena from the perspective of self-organized system, organism biological evolution and megaregion as territorial figure and scale capable of meeting the expectations of planetary urbanization, establishing an urban theory jointive with general epistemology. While the relationship between urbanization, metropolization and the world of financial capital is no longer in question, the systemic dimension, its mechanism, the organization of both artificial and natural systems are still yet to be understood to think and act towards efficient sustainability. Against the odds, only China seems to be implementing a planetary vision not as a fully mastered and planned projection but as an adaptative course of actions and reactions following the guiding thread of its re-emergence as a prominent global actor on the world-system. If China's interior/external urbanization looks chaotic, it is due to its *statehood* multidimensional rescaling, attempting a planetary urbanization, reinterpreting the rurban<sup>1</sup> transect at a three-scale levels: global, territorial, and megaregional.

## A Statehood frame of mind

To evaluate Chinese *statehood* that has made the re-emergence of the country on the world-system hegemony, we need to seize the Chinese's dynamics, ambition, and culture. Therefore, a brief of geography and history must be set. China is the third largest country in the world after Russia and Canada, located in the northern hemisphere, it has a large panel of biomes and climate zones from cold, temperate to tropical cold, and with great biodiversity. It has a population of 1.3 billion with 56 ethnic groups, with 721 ethnic languages, and 25 scripts used. China has 4,000 years of history [Levy 2009]. The key point is the 19<sup>th</sup> century great shock brought by European intrusion, which destroyed Chinese self-confidence. The westerners, regarded as mere barbarians, proved China's industrial and military technical resources to be inferior... After millenaries of supremacy over competitors, this time no foreign conquerors Sinicization would happen like it did with the 13th century Mongol and 18th century Manchu invasions. This failure was intolerable and unable to compromise, Chinese society sank into relative cultural alienation and unquestionable economic subordination. They nourished a resentment, source of a vigorous nationalism, first by rejecting the Qing dynasty guilty of China' downfall. The international community

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<sup>1</sup> Rurban: the concatenation of rural and urban.

took advantage of the generalized disorders and decay before the Japanese aggression. In 1820, with 35% of the world's population, Chinese production accounted for 33% of the world's output, and a little over a century later, at the beginning of the 20th century, China had become one of the poorest countries in the world [Levy 2009].

The People's Republic of China was established in 1949, restoring coherence to a disintegrated nation. The revolution exalted China for three decades. In 1976, after Mao Zedong's death, Deng Xiaoping understood that they had to assimilate western techniques regardless their capitalist value. China was struggling to feed its mainly rural and dramatically increasing population, to such extent that agricultural activities was and still leads to a generalized soil depletion. Finally, after 30 years of socialist industrialization, the 1978 Reform and Opening carried out the *socialist market economy* [Levy 2009]. While China was recovering and getting a dazzling renaissance, the West hardly paid attention to its rise, blurred by its "workshop of the world" label... not foreseeing that China is soon to lead a new globalization hegemony. In less than 15 years from 1997 to 2010, China has erased the marks of its past decline; its striking rebirth as full actor among the leading nations was marked by [Albagli 2020]:

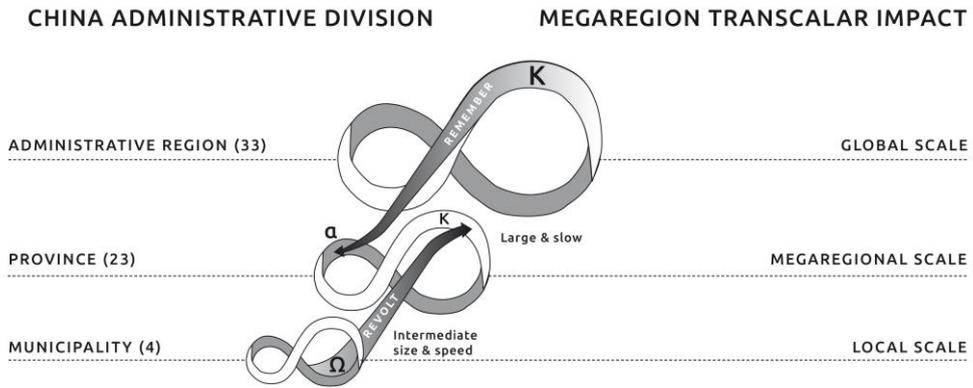
- The retrocession of Hong Kong (1997),
- The retrocession of Macau (1999),
- Entry into World Trade Organization (WTO) (2001),
- The organization of the Olympic Games (2008),
- The Shanghai World Expo (2010).

It was a long way that enabled the state to set its long term three-scale objectives: a "market socialism" for the system, a "community of average ease" for the society, a "world of great harmony" for the planet. The "Chinese dream" has shifted from a metamorphosis of the economic system to a its society renaissance embracing a "planetary harmony", always referring to Confucius and Mencius philosophies as guiding threads, and finally to Sun Yat-Sen ---*the father of the nation*---, who said in 1920s his "*three principles of the people*" [San Min Chu Yi]: nationalism as the awareness of the people to build the future, democracy as the establishment of a republic led by "farsighted people," and the "society of harmony" as the goal achieved through social justice; all those have helped for regaining China's lost rank.

## The megaregional scale

To resolve the dilemma between valuing economy or ecology and continue its growth, China has defined a 3-tier threshold model after which the "*pollute first, control later*" policy is reverted to carry out the central government priority on environmental policy. In 2015, this threshold value of GDP per capita was to be above CNY 90,000 - 100,000 for municipal and provincial scales; when that level is reached at the administrative regional scale then only the economy-environment trade-off is imposed to local governments. So far, only Beijing, Tianjin, Shanghai, and Jiangsu have exceeded the threshold; while most of the municipalities and megacities located in the eastern coastal areas, in particulars in the Yangtze River and Delta Pearl River megaregions are fully

applying the environmental regulation to fight pollutions [McGinty, Jetté 2008; Pang et. al., 2019]. The megaregion is the adequate scale to articulate state governance policies throughout the panarchy transcalar systemic levels just like for any living or organizational ecosystems [Holling 2001], Fig.1. Whatever the continent, megaregions are the novel spatial form or territorial figure, capable of implying transcalar changes from the local to the global, but as Sassen has emphasized it has to come with democratic values in action [Sassen 2009, 2012].



**1:** The panarchy organization of China administrative division and the megaregion transcalar levels of impact from local to global and vice-versa. Source: Holling, 2001 – Author: F. L. Rasoloniaina, 2022.

### *The Pearl River Delta megaregion*

In 1979, Deng Xiaoping's international trade policy created the special economic zones (SEZs)<sup>2</sup>, opening restricted Chinese territories to foreign investment, aiming to promote exports. Incidentally, importing countries have been flocking in from all over the world, leading to a territorial and urban explosion. One of the world's largest megaregions, the Pearl River Delta (PRD), an area of 39,380km<sup>2</sup>, a total population of over 120 million, an ever-growing economic boom: US\$ 6.5 billion in 1999 and US\$ 91 billion in 2009. Concentrating the largest number of megacities which had emerged like hypertelic outgrowths. For a while, PRD seemed unmanageable, producing serious problems of pollution, smog, and other undesirable effects. With prosperity the virtuous environmental industrial and urban policies had to begin.

The 'China-Africa' cooperation and trade partnership attract investors and traders from the African continent within the Guangzhou' SEZ, leading to the 1992's emergence of an African district in Xiaobei called "Chocolate City", which accounted

<sup>2</sup> SEZ, the concept was brought by Ireland in the late 50's.

an average of 200,000 African residents. This urban pocket was eradicated by local government, leading to the downfall of Xiaobei since the closure of African influx. The unofficial ban of mixed couples, the no residence permit for African spouse and the dismissed national identification to their offspring is true for African living in China and Chinese leaving in Africa This policy is creating a double bind,<sup>3</sup> a non-systemic and toxic posture [Bateson 1972; Kutz 2017]. Ironically, Beijing had stated its ambition of sending 300 million of Chinese to settle in Africa to release China overpopulation [Beuret et. al., 2010; Li, Lyons and Brown 2012].

### *Yangtze Delta megaregion*

China is the leading country in practicing Circular Economy (CE) with countless positive results throughout its territory, thanks to the state administrative organizational structure regarding CE: from the central government, power is transferred to the regions that tender for CE projects, so it is the local authorities and private entities that carry out research, development, and innovation. China is in the process of shifting to a green economy [Levy 2009]. One of the iconic achievements of this success story is Chong Ming Island in the middle of the Yangtze River Delta, opposite Shanghai. It is not only the largest organic food production site, a protected natural reserve, but it is where migratory birds from all over the world gather, including some endangered species, Fig. 2.



**2:** The Yangtze Delta megaregion has become a landmark and astonishing example in CE with the urban transect between the megacity of Shanghai and Chong Ming Island renowned for its protected natural reserve, its beautiful landscapes, its organic food production, and the endangered migratory birds it welcomes every year. Photocomposition author: F. L. Rasoloniaina, 2022.

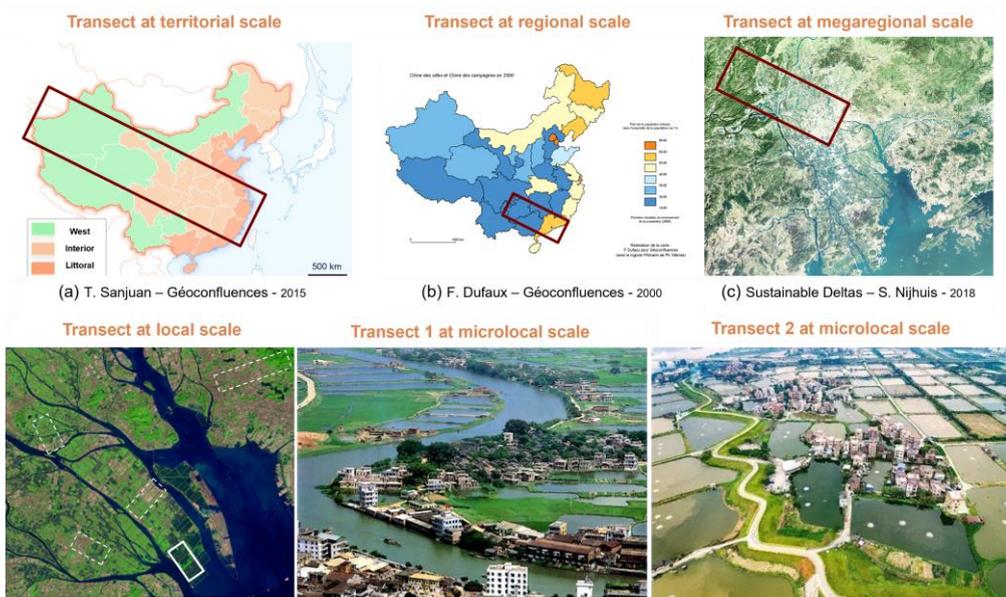
If Shanghai/ Chong Ming Island is a successful urban transect, the rapid growth is not always a success, China has also produced awkward situation like the “urban villages” that are symptomatic of adaptation problem. But at the same time those urban villages

<sup>3</sup> Double bind: a communication dilemma generated by two or more contradictory commands.

are reminiscent of what Lefèbvre called “habited spaces” *les espaces habités*, an urban organic production of space in contrast with product of the technocratic urbanization that retrieve the people’s right to appropriate city space supposed to be an act of “urbanity” as part of courtesy [Regnier, Lefèbvre 1972; Lefèbvre 1986].

## The territorial scale

### A RURBAN HOLOGRAMMATIC PRINCIPLE (FRACTAL)



**3:** A rurban hologrammatic principle observed from the Territorial, Regional, Megaregional, Local and Microlocal scales revealing that a systemic logic is at action. Sources: *Géococonfluences* & *Sustainable Deltas* - Author: F. L. Rasoloniaina, 2022.

If China seems to inscribe a more drastic transect of urban-industrial versus rural-agricultural opposition on a very large scale dividing its territory into a 3-fringe ecotone, separating East littoral urban regions from mainland industrial regions and West agricultural regions, favorizing the development of East China seaside versus its hinterland, we need to look more closely. If we enlarge the vision on the Pearl River Delta, we can see that it is a *trompe l'oeil*, China is erecting what looks like an oxymoron for the moment: a hyper rurban. We can observe a hologrammatic scheme of fractalization from the rural to the urban that display a fractal dimension reiterating the same rural-urban pattern at different scales. Hologrammatic phenomenon is one the major properties of a system, Fig. 3.

## The global scale (external)

Launching the *Belt and Road Initiative (BRI)* in 2013, involving over 70 countries, while most decipher it as an imperialist or colonialist deployment, Claude Albagli sees it as a planetary systemic strategy rooted in Chinese spiritual, diplomatic, and merchant culture: from Confucius to Admiral Zheng He, in the 15th century [Yang 2009]. These Silk Roads do not make sense if one does not know the links between the two terminal ports of Italy and Kenya, which bring us back to the city-states of Venice and Mombasa. By linking up with them, China is continuing its historical greatness and its action in the world-system since the Bronze-age, but also and mostly, through heavy investments in transport infrastructure and equipment in the energy sector, China is securing access to the energy and mining reservoir, increasing its influence and commercial expansion on the planet. On the contrary to colonialism/imperialism theory, China is binding relationships and trading-off resources without conquering territories, in biology this is called a symbiotic and ecosystemic mode of operation, an ARMSADA ---an Association for the Reciprocal and Mutual Sharing of Advantages and DisAdvantages. The external SEZs are remote outgrowth cells of “Chinese economical territories” preventing foreign outsiders to come in China but keeping vivid and prosperous ties, Fig. 4.



4: BRI. and the Chinese SEZ implantations out of China mainland - Author: F. L. Rasoloniaina, 2022.

## Discussion

Pursuing Lefèbvre’s thesis, following the path of Brenner, Schmid, we re-interrogating urban knowledge and overhauling its epistemology [Brenner and Schmid 2011, 2015; Brenner 2019], we seize the opportunities ignited by this very brief overview on China urban space productions ---that requires further studied in detail---, to elaborate a

speculative urban biological and ecosystemic approach, placing Lefèbvre's theories anchored in the science of the Living, towards Bateson's *Ecology of the mind* (1972) and Post-Normal Science. The Chinese eruption of megacities over 2-3 decades is astonishing, to study them appropriately we should start by using the relevant denomination, often megacity and megaregion that are used indistinctly. This confusion is only understandable in a prospective biological approach regarding the megacity as a symptomatic figure of a megaregional Global-City adaptative outgrowth or a "direct development" ---*the acceleration in somatic development, shunting one or more development stages*--- which explains urban village instances, due to the shunting of city normal development stage(s) [Gould, 1977]. In the biological development of an embryo, each distinctive stage has a proper naming to differentiate in the organogenesis morphological specificities, mode of operation, properties, and constituents: bastrula, gastrula, fetus, etc...

In the same perspective, the megaregion theory itself should be reviewed under the biological approach and allowing a junctive urban theory and history placing megaregion within a phylogeny of urban form starting from *conurbation* coined by Geddes (1915) ---*trained biologist, geographer, and urban planner by practice*--- and *megalopolis* coined by Gottman (1961), Fig. 5.

Years	Concept	Population mini	Population max	Localisation	Number	Theory
1915	Conurbation	Midland (UK), Ruhr (D), Ramstad (H), NY-Boston (USA), Greater Tokyo (J), Taiheiy Belt (J) and NCR of Delhi (IN)			7	Geddes
1961	Megalopolis	25 million	---	Northeastern USA	1	Gottmann
2001	Global city-region	1 million	27.9 million	Global	>300	Scott
2006	Mega-City Region	1.6 million	19 million	Western Europe	8	Hall & Pain
2006	Metro(politan) regions	1.5 million	34 million	OCDE countries	78	OCDE
2008		3.7 million	121.6 million	Global	40	Florida & al.
2010	megaregions	20 million	120 million	Global	---	UN-Habitat
2009		5 million	54 million	United States	11	Ross
2011	Planetary urbanization	n/a	7 billion +	Global	1	Brenner & Schmid
2013						

considering a single urban system

considering interrelations between urban systems

considering interrelations at global scale

5: Chronological development from Conurbation to Megaregion. It is important to realize the scale of observation matters on the way we define the object, the regard, our positioning, and the range of possibility available to act on the territory - Source: Adapted from Harrison, Hoyler, 2017 - Author: F. L. Rasoloniaina, 2022.

The megacity doesn't respond to the same function(s) as either city or the metropolis, it is a new urban form with new set of function(s). In biology, it is qualified as an exaptation: an adaptation that induces a change of function and form [Gould 1991], it is the result of a co-optation, which reveals that there is an ecosystemic environment that allows the occurrence of this adaptation form to emerge. This is the complex "milieu" or "epigenetic landscape" that we need to identify to understand and be able to predict occurrences.

China example permits a better evaluation of culture impact, on how it orients the structures, mode of operation and forms. But culture is not an element part of genotype; indeed, it is the extended phenotype which allows the social data influx modifying the substrate environment of the phenotyping process [Dawkins 1982]. As the culture, ethics, belief, habitus, politiques are evolving, the physical environment is changing and with it the phenotype: the concrete individuation.

It is noticeable that the architecture ---a *prosthetic dispositive*--- is characterizing the extended phenotype along with how the subject is controlling its "symbiotic behavior" and remotely controlling the behavior of others. This remind us on how China is keeping others at a bay with its remote SEZs, at the same time reviving ties and relationship with symbiotic World-System, modifying the face of globalization towards its hegemony.

## Conclusion

China cosmogony or spiritual or political culture is not better than others, the point is that by bonding to our core values, we have better chance to produce better space forms since our actions are coherent with our thoughts and true nature, developing into *ecological intelligence* [Bateson 1972] setting cohesive production that embodied a systemic logic. The hologrammatique principle observed in the Chinese urban and territorial figures are the fractal dimensions of the Chinese system made into tangible forms, Ron Eglash observed the same phenomena within African urban, architectural, and cultural production (1999).

While China applies a very aggressive technocratic urbanization, its overall statehood approach deeply connected to its culture mitigates an equilibrium. As Sassen has emphasized, the megaregion as stable figure can only last with democratic features in place and action, this might be China's Achilles heels.

China's experiment on extra-large urban figure overcoming ecological and environmental failures is a very optimist paradigmatic model for a renewed planetary urbanization with statehood multidimensional rescaling, setting a new ecological urban theory and epistemology.

If the 70's saw the birth of the ecological movement with the famous Silent Spring of Rachel Carson, China is in transit towards an ecological economy of which the island of Chong Ming exemplifies this reversal of situation against any prognosis: in the

middle of the delta of the Yangtze River, in front of the Shanghai megalopolis, not only organic food is produced but migratory birds from all over the world come back to animate with their song the Chinese spring, and among them endangered species.

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