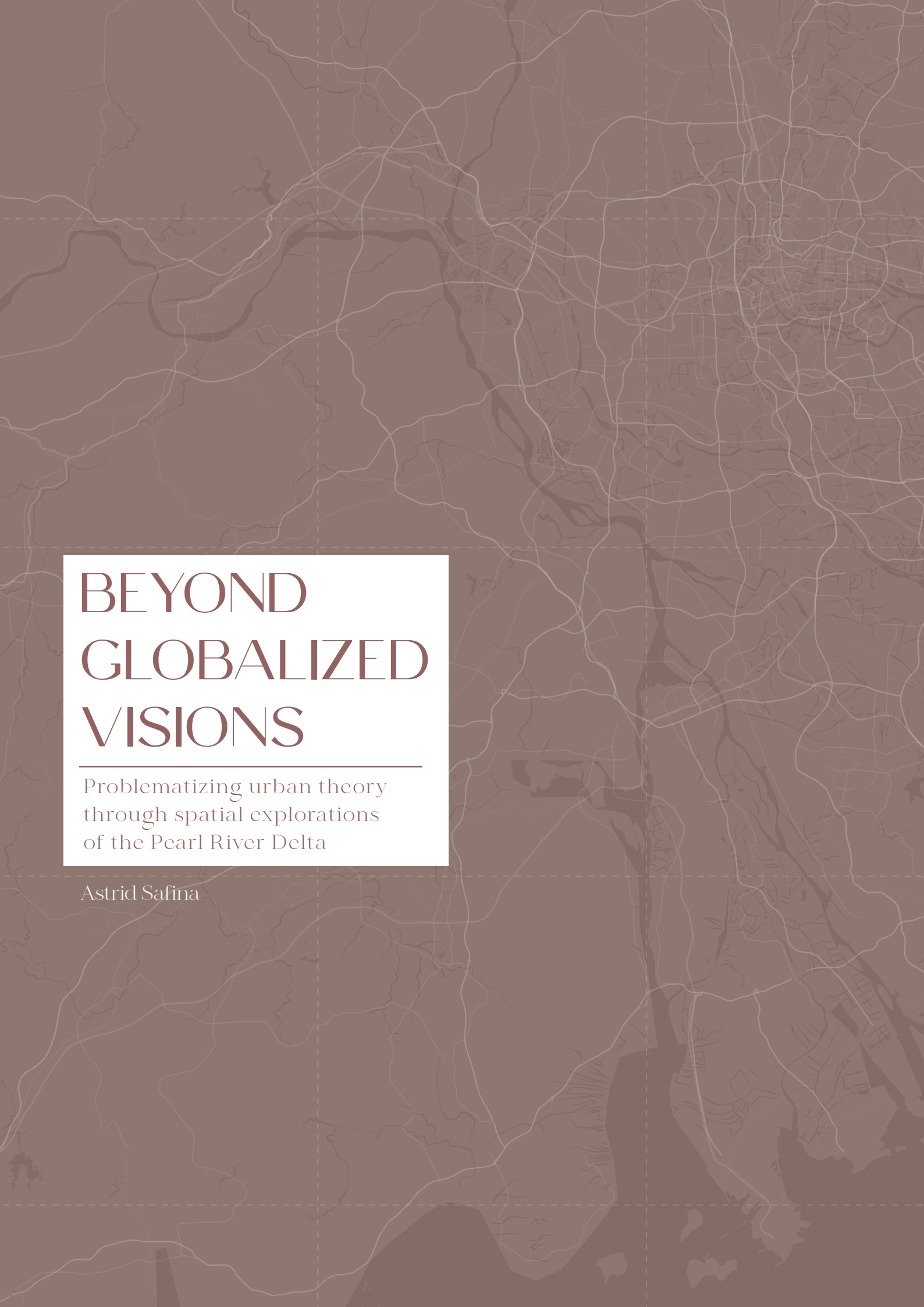

BEYOND GLOBALIZED VISIONS

Problematizing urban theory through spatial explorations of the Pearl River Delta

Astrid Safina


Doctoral Dissertation
Doctoral Program in urban and Regional Development (32th Cycle)

Beyond globalized visions

Problematizing urban theory through spatial explorations of the Pearl River Delta

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June, 2020

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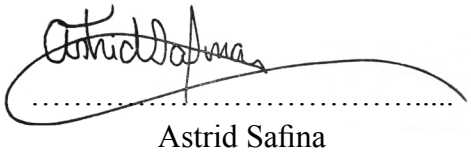

Astrid Safina
Turin, June, 2020

Summary

Global networks, commercial paths, and global economic fluxes have become critical ethereal dimensions of urbanity that operate as indicators within the construction of contemporary urban theories. Such theories attempt to grasp the complexities of the urban realm by connecting urbanization, globalization, and capital accumulation with globalized visions of the urban that leave the physical dimension of space as elusive, unconsidered, and neglected. Such globalized visions, in the form of world cities, global cities, and global city-regions, operate indeed under the tendency of being general, detached, and intangible. Therefore, they fall into interpretations of urbanity that conceive it as abstract objects commanding the world's economic, social, and cultural order. Based on this issue that has invested urban studies during the past twenty years, this research starts from the hypothesis that following these global visions is not enough for understanding the complexity, variety, and heterogeneity of contemporary urban forms. Moreover, the research argues how it is necessary to infuse these distant theoretical constructions with the richness and dynamism of physical space. However, it is not any physical space approach, but one that recognizes and exploits subtle, mundane, obvious, and unexpected physical attributes as potential hints and revelatory aspects from where to extract and elaborate geographical knowledge.

Based on the idea of infusing urban theory with the geographical knowledge embedded within physical space, the thesis uses and inquires the Pearl River Delta in southern China, one of the largest, densest and most well-known contemporary global city-regions, to construct and argue through the use of visual methods, in-depth fieldwork and spatial explorations, the necessity of rasing alternative interpretations of the urban that are ground-based. It does such operation not from the center of the Delta, as the vast majority of studies of the place have done, but from a peripheral point of view based in Zhaoqing City; the less economically and industrially developed municipality of the Delta and one of the few urban centers that remain detached from the central agglomeration. This displacement of the observation point represents a change of perspective capable of constructing a dual positionality that intersects both personal (embodied) and observational (geographical) positions into a single interpretative path that sharply differs from the interpretations of the place constructed so far.

In particular, this thesis organizes the grounded observations of the Delta on three macro layers, namely the *water system*, the *circulation space,* and the *built environment*. These are three layers not only scrutinized under a purely physical approach but instead understood as the most complex materialization of the social, economic, cultural, and political processes of the place in question. In that sense, the three layers operate as the bridge between the specificities identified in the field and the broader reflections that derive from them, therefore allowing to lift the global city-region etiquette and confronting global and grounded observations to evidence gaps, limitations, contradiction, and similarities.

Finally, the conclusive section of the thesis elaborates on how in the Pearl River Delta, the concepts of exception, fragment, and interstice hold ground. Furthermore, it argues how, contrary to what global theories suggest, the Delta's grounded narratives are characterized by the potential of the ordinariness and peripherality. In the process, it highlights the relevance of border spaces and connective urban fabric, in operating as an amalgam between the multiplicity of existing urban forms that compose the Delta. Such reflections oppose the robust vision of unit, progress, centrality, and power sustained by global visions. Moreover, they go in favor of the role of peripheries, neglected spaces, fragmentation, and heterogeneity in the reformulation of "global" city regions (and in this particular case Pearl River Delta Region) with its geography and space, instead of as completely economical and power commanding global entities.

Acknowledgement

Carrying out this PhD has been a true enriching, eye opener and fulfilling experience, which would not have been possible without the support and guidance of some people who have accompanied me on this adventure during the past three years. Professors, colleagues, friends and family have each contributed in one way or another to make this doctoral thesis a reality today. That is why the next lines are dedicated to acknowledging, even if briefly, my appreciation and eternal thanks for each of their encouragements and words of motivation.

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To my beloved family

M, S, A, S

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Acronyms

BRI	Belt and Road Initiative
CBD	Central Business District
GaWC	Globalization and World Cities Research Network
GBA	Greater Bay Area
GPRD	Greater Pearl River Delta
PPRD	Pan Pearl River Delta
PRD	Pearl River Delta
SAR	Special Administrative Region
SEZ	Special Economic Zone
TVE	Township and Village Enterprises
WTO	World Trade Organization

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INTRODUCTION

Urban research has become increasingly global, transdisciplinary, and inconclusive in recent years. Different disciplines dedicated to studying the *urban* under multiple methods, logics and approaches, coincide in trying to understand «how to make sense of the contemporary urban complexity» (Harrison & Hoyler, 2018). Indeed, the need to understand our globalizing and urbanizing world has been an active accelerator for the construction of renewed urban theories that attempt to provide bold understandings of contemporary urbanity. While some of these attempts limit to provide a refreshed or renewed urban point of view, others are more radical and critical, therefore ambition to revival, and completely change the direction and orientation of the theoretical reflections of urban studies.

From ideas that call for the construction of a new *critical urban theory* that pushes towards understanding how urbanity is being repositioned within alternative visions of urban life (Brenner, 2009; Brenner et al., 2012; Marcuse, 2009; Roy, 2016), to more international and less localized urban theories that acknowledge the value of diversity embedded within *ordinary cities* (Amin & Graham, 1997; Robinson, 2002, 2005, 2006), to *postcolonial theories* or *provincialized global urbanism* attempting to display how the universality of Euro-American theoretical constructions is no more than a myth that must be challenged by the production of more cosmopolitan urban explorations (Maringanti, 2013; Peck, 2015; Roy & Ong, 2011; Sheppard et al., 2013) or even by *assemblage theories* that seek to understand urbanity as the result of an almost eclectic combination of relations between objects, actors, circumstances and facts (McFarlane, 2011); contemporary urban theory has vigorously attempted to construct variegated narratives of our contemporary «urban age» (Brenner & Schmid, 2014). However, there is a common element that connects all these theoretical constructions, as in one way or the other, they are all a *product of* or a *reaction to* understanding urbanity under the pressures and logic of globalization.

The influence of globalization has not only fomented the production of new theoretical constructions, but it has also produced a redefinition and reconceptualization of existing ones. Many theories that dominated urban thinking in the ‘80s have been somehow “updated” with the annex of the “global” prefix. It is a strategy to examine how urbanity is connected to global paths of capital accumulation and political decision-making. For instance, *cities* have become *global cities* (Sassen, 1991); *city-regions* have become *global city-regions* (Scott, 2001); local problems have adopted global scales such as *global gentrification* (Lees et al., 2015) or *global suburbanism* (Hamel & Keil, 2018).

These theoretical reconceptualizations represent *globalized visions of the urban* that have acquired significant relevance within mainstream understanding and conceptualization of cities. Even if operating under very limited and biased logics that tend to categorize, ascribe, abstract, generalize, and hierarchize urban spaces. Additionally, these are visions that, besides being constructed around the analysis of a particular and restricted set of cities[1], tend to maintain a kind of *zero-*

zoom operation. A denial of proximity based on the fact that behind their nature, there is an exclusive presence of networks, flows, circulation paths, degrees of connectivity, and power, all of which focus on scrutinizing the ethereal dimension of urbanity from a detached and disembodied observation point. Indeed, the spatial components, physical details, particularities, and heterogeneity of urban forms, get lost behind the use of any of those global categories.

For instance, cities such as Chicago, Los Angeles, London, Paris, New York, Shanghai, Singapore, Mumbai, and Johannesburg, considered "the urban titans driving world economic prosperity and creativity" (Amin & Thrift, 2016, p. 8) are grouped, ordered, compared and ranked within a same global category. Thus, attempting to explain how each of them functions and operates at a global scale[2]. However, the explanation of their operation is constructed without necessarily understand how their global relevance materializes, implants in the ground, and is used to distinguish and separate itself from the rest of the cities under the same global category. In that sense, their categorization is strongly relatable to a theoretical homogenization that seeks to explain the relationship between urbanization, globalization, and capital accumulation under a unique and all-comprehensive theoretical construction, refusing in the process, to recognize urban heterogeneity (Robinson, 2006).

Behind the logics of globalized visions, there is also a strong rigidity capable of crystalizing urban interpretations and denying that urban space is always in the process of becoming something else. This rigidity represents a substantial theoretical limitation since it refuses the possibility to question, challenge, redefine and update inherited urban approaches and theoretical constructions born from an overemphasis of the power behind particular cities[3]. To focus on the global power and performance of cities and regional forms, constraints to focus in its operative aspects and encourage to leave behind many other complex issues that are only visible – or at least can be more easily recognizable – through the material form of the urban. This means global visions of the urban can tell a useful tale, however it is essential to recognize that such a tale is only one part and one dimension of the urban realm, and it is perhaps the more general, rigid, and distant tale of all.

Hypothesis and aims of the research

It seems clear that globalization has not only changed the way the urban realm operates, but it has also changed the way we understand, interpret, and address this realm (Robinson, 2006). Global urban theory[4] in the form of world cities, global cities, and global city-regions, is a sample of this change. It is a sign that, rather than understanding how our contemporary urban spaces are effectively constituted and materialized, the focus seems to be strongly based on understanding how cities connect, compete and position in the ranking of "globally relevant" urban nodes. Based on this argument, the central hypothesis of this thesis is that

the *global visions -or any other general and detached approach through which contemporary global urban theory is constructed - are just not enough*. They fall short in many aspects. They exclude and belittle more than they address, and in their construction process, they overshadow and leave behind, the richness of heterogeneity, specificity, spatiality, and variety that make up the complex urban realm in which we are located. Consequently, this research assumes that behind each global category used to study or describe an urban scenario, there are infinite potential nuances and explorations that remain hidden, latent, and hardly reach the surface to be explored. As if they were a layer that seals everything that is under it, these global visions are simply too powerful to allow seeing-through what is under them, they are too extensive and general to allow us to see beyond their universal approach and they are too current to argue that they are irrelevant.

Under this perspective, this thesis represents a provocation for inquiring beyond the globalized visions that have consolidated and taken strength within urban interpretation and studies of places. In particular, it is a provocation to challenge the default use of these inherited categories within the interpretation of the urban realm, and a provocation to revisit them continually in favor of infusing them with more inclusive, up-close and grounded interpretations. Just as Amin and Thrift (2016:11) want to "see the city from the inside out", in this research, I first attempt to approach urbanity from its most inner, grounded, physical core, and only then, move towards its more expansive relations. Not because this represents an unequivocal direction of observation, but because no matter how global, large, complex, or well-connected an urban space might be, it always "works from the ground up" (ibid).

In fact, in this research, the most relevant attempt is to overcome the spatial elusiveness that gravitates around global visions, by constructing a ground-based urban narrative capable of infusing global theories with the geographical knowledge embedded within physical and grounded space. This attempt represents a valuable effort since plenty has been said about the gaps or weakness of such global visions, but little has been explored about the spaces, realities, and contrasts that these interpretations of an increasingly ethereal territory leave outside. In that sense, this research argues that by understanding the physical space as the materialization of the economic, social, political, cultural and historical processes and trends that have progressively constructed these global nodes, it is possible to construct territorial interpretations that differ considerably from the ones provided by global visions. Such territorial interpretations represent a process of discovery capable of exposing the differences, gaps, synergies, and contrasts between the distant visions of global theories and the embodied visions of an up-close study.

The ground-based urban narrative that this research attempts to construct, is assembled through the in-depth study of a specific place that practically does not need an introduction since it has become the disciplinary obsession around which to construct the ideas around the notion of global city-regions. That place is the Pearl

River Delta[5] in southern China, a 55.000 square kilometers urban agglomeration that accounts for 4% of the Chinese population, 1% of the national territory, 10% of the national GDP, and 27% of the national exports (Guangdong Statistical Yearbook, 2018; China Statistical yearbook, 2018). The relationship between this place and global theories, in particular with the theoretical construction behind the global city-region is not fortuitous, as despite being one of the densest, most inhabited, most extensive and heterogenous urban agglomerations in the world, its spatial richness is hardly translated on how it is studied or seen. More than often, the PRD has been exclusively described under global visions that portray it as the ultimate global machine and an efficient, abstract object made exclusively by global networks, commercial paths, and international fluxes. Such limited global vision collapses, when observing this territory from up close and with particular attention to the grounded characteristics it offers. What seems at a distance to be an efficient and addressed urban machine, appears from the ground, as a dense combination of a variety of parts that can be considered everything but global. Due to this abrupt contrast, the use of the Pearl River Delta raises the necessity of following and constructing an alternative interpretative path that separates from global-ethereal dimensions and gets closer to the physical dimension of space.

Key operations of the research

The possible dichotomy of interpretations - global and grounded - represents one of the main aspects of the structure of this research. That is why the research is based on a tripartite set of operations that position the core of the research in a radically different way from other geographical researches that have accompanied the Delta and global city-regions.

First, this research starts with a substantial consideration of physical space. That is, it uses physical space and the traces it offers to highlight and critically inquire the spatial translations of the non-spatial characteristics that global visions have anchored to the Delta. It does such operation by strongly relying on fieldwork, spatial explorations, and visual methods such as photography and mapping to extract geographical knowledge embedded in physical space. To consider the spatial features of the Pearl River Delta as the starting point from where to construct broad theoretical reflections, represents a significant novelty since this is a place that has not been physically explored[6], and when its physical exploration has been tried to achieve, it has been done in a self-referential way limited to the description of localized processes or situations that fail to establish connections or reflections beyond the Delta's administrative boundaries.

Second, this research does not operate from the center of the Delta as the vast majority of studies of the place have done, but from a peripheral and marginal point of view based in Zhaoqing City; the less economically and industrially developed municipality of the Delta and one of the few urban centers that remains detached from

the central agglomeration. To displace the observation point from the consolidated center to the unknown periphery is a radical change of geographical positionality. It is a fundamental step to overcome the biased focus on large cities, to expand our collective knowledge "about the smaller places that are off the radar of urban researcher" (Ren, 2013 p. xvii), and to open a window for the reinterpretation of the already known centers. Moreover, to observe the consolidated global city-region from the outside makes it easier to identify its limitations and overstatements, as from there, the global attributes that seem clear and indispensable from the center, become distant, blurred, fragmented, and even utopic.

Third, even if touched briefly, this research does not directly engage with the role of political, social, economic, or cultural actors that interact in the Pearl River Delta. This choice does not derive from underestimating or denying its weight, influence or importance, but derives mainly from interpretative and methodological aspects that recognize the limitations of this research. For instance, the role of actors and institutions in the development of the PRD territory has been extensively documented in the existing literature under multiple nuances and topics (See Cheung & Leung, 2018; Li & Wu, 2018; Wu et al, 2016; Bie et al, 2015; Bolchover & Lin, 2013; Ma, 2012; 2014; Chen & de Medici, 2010; He et al, 2009; Shen & Wong, 2006; Yang, 2006; 2012; Yeung, 2005; 2006; Lin, 2001). Moreover, these studies have mainly been conducted by Chinese scholars who have privileged access to first-hand sources. Privileged access that would be impossible to reach in this research due to linguistic and cultural barriers. Thus, forcing any attempt to establish an in-depth discussion around the role of actors and institutions would obligatorily remain superficial, incomplete, or completely dependable on the opinions and arguments of third parties.

Nevertheless, the motivations for not directly addressing the role of actors are not limited to methodological reason. This decision is also fundamentally due to the fact that the interest of this research is mainly spatial and based on the idea that physical space follows the policies, strategies, interests and negotiations carried out by said actors. Consequently, to study physical space represents an indirect way of approaching the influence of actors and institutions.

It is important to clarify that the use of the Pearl River Delta as the case study through which this confrontation between a distant global vision and up-close embodied vision is constructed, does not mean the intention to construct nor a detailed analysis of the Chinese urbanization process, a process that has been heavily investigated recently[7] (Ren, 2013; Wu, 2015); nor does it mean an attempt to build a new Chinese-based theory, which strengthens the dichotomous distinction between Chinese-Non-Chinese or Eastern-Western; nor does it represent an attempt to force or test urban categories mainly based and constructed in the West, into new contexts under the well-known suffix "With Chinese characteristics" (Glaeser et al., 2017; Timberlake et al., 2014; Wu, 2004). The use of the PRD represents an excuse

to build a new interpretation and narration of a territory strongly marked by the influence of global visions.

Structure of the dissertation

The structure and logic of this dissertation are a direct reflection of the interpretative and operative modes through which this research was built. Even if the main research question and the main theoretical framework were clear from the beginning, the set of actions that rendered it operative were everything but clear or linear. The strategies, interpretations, and methods used to construct a possible answer, were recurrently reorganized, reframed, and rescaled based on the discoveries and hints that personal, grounded explorations offered. This non-linear nature is purposely reflected in the final form of this thesis, as a way to record and document the complexities of taking part in geographical research that collocates physical space at the center. It is perhaps not the most orthodox or conventional way to conduct or present a research that intersects global theories and urbanization issues, nevertheless this unconventional way of operating is an indispensable effort to challenge global, distant, and fixed urban theories.

Despite the apparent unconventionality of the research, the dissertation is structured around three main parts plus a conclusive section. They attempt to narrate in an almost linear way the research process; therefore, in a synthesized way, they can be characterized as a theoretical framework (part one), methodology (part two), findings and discussion (part three), highlight and future steps (conclusions). Even if each part is not purely theoretical, methodological, or empirical, each of them assumes a role, sets a specific objective, and develops in a specific way, varying writing style, medium, and realm under which it operates. In this sense, it is possible to find texts written in a very narrative way, texts that have a more descriptive character, texts focused on building articulated critical interpretations, and texts that organize a literature review process.

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The first part of this dissertation focuses on inquiring *inside globalized visions of the urban*. In other words, it inquires the influence of globalization in the construction and application of contemporary global urban theory. At a theoretical level, this first part analyzes the definitions, interpretations, reach, circumstances, and imaginaries that accompany the rise of global cities and global city-regions (chapter one), together with the limitations, critiques, and difficulties behind the use of such global categories (chapter two). At an empirical level, this part presents the case study and explores in which way global categories have been used to inquire, interpret, constitute and organize the Pearl River Delta both from the center and from the periphery of the region (chapter three). In the process, it tackles issues regarding global aspirations embedded within the planning and political decision of the Delta, as well as the influence that global visions have had both in the collective

imaginary of the place, and the academic vision constructed around it.

This first part is constructed through an exhaustive analysis of the existing literature and by a confrontation of the academic, political, and administrative positions surrounding global categories. It mobilizes literature corresponding to critical urban studies, postcolonial studies, globalization studies, with nuances within urban political economy and regional studies. Besides the strong focus on literature, the sources are highly complemented by statistical data, planning documents, official statements, and development plans that have progressively shape the territory of the Delta into what it is today.

In a nutshell, this part represents the main theoretical framework of the research as it not only showcases the ideas inside globalized visions, but also raises awareness on the limitations of these visions, and their over-reliance on an ethereal space made exclusively by networks, flows, hierarchies, and positivist aspirations.

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The second part of the dissertation directly challenges the ephemeral space managed by global visions, as it represents an attempt to bring physical space back in the construction of urban theory. It does such operation by valorizing relational physical space and the re-materialization of spatial thinking (chapter four). Hence, it elaborates on the necessity to consider physical space as a significant dimension from where to extract geographical knowledge. Furthermore, it addresses the question of *How to study physical space?* Therefore, it explores operationally and methodologically the different observation points assumed when carrying grounded spatial explorations - namely, an embodied view from the ground dictated by fieldwork and a detached view from air dictated by satellite images - (chapter five); finally, it addresses the methods and instruments used to produce, extract and discover relevant issues from the physical space - namely visual methods in the form of photography and mapping - (chapter six). Even though this part builds broad methodological reasoning, its intention is not to build a set tools, or best practices guide on how to construct spatial exploration nor in China, not anywhere else. The intention is to transmit the difficulties, failures, success, and reorganizations attached to the construction of urban interpretations directly from physical space. Considerations with which I unexpectedly came across during the route of the research, and which I consider relevant to investigate further. I consider the importance of this second part, in addition to present the methodological process, is the transparency with which it is built. Without pretending to narrate a perfect or linear process, it is possible to read between the lines the frustrations, joys, difficulties and satisfactions that accompany physically crossing of a space to study and understand it.

Overall, the set of methods and strategies raised in this second part, derive from two primary interpretative bases. First, the idea that lived physical space is

the materialization of economic, social, cultural and political processes, therefore addressing it, functions as a window to inquire issues that go far beyond a spatial dimension. Second, it considers that mundane and ordinary spaces discovered and experienced in fieldwork are key to critical and complex construction (Holmes & Hall, 2020). That is, it acknowledges that grounded, embodied, experiential, and blindly obvious facts of space can be traced back as the origin of broad and complex theoretical reflections. These two ideas suggest to collocate embodied space at the center of the equation, a suggestion that comes actively applied in the third part of this dissertation.

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The third part of this dissertation is the heart of the research, as it consists of the spatial explorations of the Pearl River Delta. Such explorations are organized according to three macro layers, namely the *water system* (chapter seven), *the circulation space* (chapter eight) *and the built environment* (chapter nine). All three macro layers are the result of intersecting the primary components of a global city-region (Scott, 2019) with the Delta's fundamental components. Overall, this third part inquires in an analytical, critical, and sometimes even descriptive way the past, present, and future spatial transformations of the area. It represents a grounded and empirical analysis that explores the complexities and richness hidden behind the evident global interpretation of the area.

There is one foundational basis that guides the construction of these spatial explorations. It is the fact that they are mainly structured and shaped by fieldwork. However not by any fieldwork, but by one that is dedicated to making the mundane remarkable and relevant (Holmes & Hall, 2020), the trivial as key to access the most elevated reflections (Ginzburg, 1979), and the unexpected as necessary for the construction of legitimated knowledge (Pieke, 2000). Indeed, the issues raised in each of the three macro layers derive from an interpretative method that uses everything that global tales neglect, therefore is not based on observing the obvious nor spectacular, but it is hinged on discards, marginal data, infinitesimal and material traces that act as indicators and revelatory means of a more complex phenomenon that escapes direct observation, and that allow grasping a deeper reality otherwise unattainable. In a sense, this emphasis on the seemingly trivial and involuntary hints of space, strongly resonates with the idea of *evidential paradigm,* an investigative method coined by Italian historian Carlo Ginzburg that encourages the search for the hidden meaning of things by focusing on particular aspects instead of in the general assumptions. This investigative method results particularly useful in the construction of the following lines since, as stated in early chapters of this dissertation, the goal is not to produce a general urban law but to open such law by being sensitive to the study of individual cases and their intrinsic complexities. After all, we do not need to construct an urban theory made by certainties (Amin & Thrift, 2016), but urban theories made by real, complex and uncertain, urbanity.

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After inquiring the global vision (part one) and the grounded vision of the Pearl River Delta (part three), the conclusive section of this research elaborates around the voids and "bridges" that emerge for the very different lectures of the first and third part. It discusses how in this place, the concepts of fragment, exception, and interstice hold ground in a space that, contrary to what global theories suggest, is characterized by the potential of its ordinariness and peripherality.

During this conclusive part, arguments that arise from the empirical observation of the Delta are extrapolated on an expanded scale to generate critical reasoning about the contemporary condition of the way of studying large urban centers concerning globalization. Therefore, the conclusive remarks are not exclusively focused on understanding nor the Pearl River Delta, not China, but on understanding contemporary urban regions in any context; not to create universally applicable global theories, but to open a new window towards the interpretation of the variety within the category of the urban.

In that line, this final part argues how it is necessary to leave behind the idea of certainties and absolute truths to give value and recognition to variety, freedom of interpretations, and freedom of creation of theoretical constructions that do not seek to label or catalog. It calls for a much humbler posture that simply tries to explain, interpret and recognize that the urban realm does not have one form, does not work in a single mode, and does not move through a single scale. On the contrary, it is a dynamic realm, in constant formation and reorganization that, consequently, must be periodically re-evaluated and re-learned.

Research questions

Under this framework, this research aims at answering the following main questions:

- *How can contemporary urban theory change and benefit from infusing its construction with recognition of spatiality, heterogeneity and particularities?*

    - What does it mean for urban theory to overcome detached observation points and built upon embodied and up-close interpretations?

- *Is it possible to re-define the so called "global" city regions (and in this particular case Pearl River Delta Region) with its geography, instead of an utterly economic entity?*

    - What are the structuring spatial characteristics that can be identified in this space? Moreover, how do these characteristics relate to features typically assigned to the area under the global-city analysis?

        Are there paradoxes, gaps or contradictions between the theory and space?

Keywords

Urban theory, globalization, global city-region, Pearl River Delta, spatialization, categorization, heterogeneity,

Notes

1 Tradicional cities like Chicago, Los Angeles, London, Paris New York and now Shanghai, Singapore, Mumbai or Johannesburg have been considered as the "great" cities upon which built up theoretical constructions (Roy, 2009). A scenario that fortunately is rapidly changing as a result of progressive acknowledgment of the relevance and potential of cities in other latitudes. Hopefully, this change of direction will manage to extinguish the historical hegemony of a handful set of cities and open towards a recognition and valorization of urban diversity.

2 According to the McKinsey Global Institute (2012) a small number of cities, to be precise no more than six hundred cities, representing no more than a fifth of the world's population, and corresponding largely to cities in the global north accounted for over 60% of global GDP.

3 In fact, global urban theories emphasize the capacity of these global cities and regions to exceed and overcome traditional jurisdictions and nation state dynamics in order to reach performative independence (Sassen, 1991; Taylor et al., 2015). Such assumption can be traced back to the dominant discourse of globalization during the 80's and 90's where territoriality, geography and national borders were considered obsolete, extinguished and irrelevant as globalization rendered space borderless and free (Ohmae, 1995; Ruggie, 1993).

4 When referring to global urban theory it is important to specify that I do not refer to a global urbanism that attempts to construct cosmopolitan and inclusive urban theory, but I directly refer to the threads of urban theory that consider urbanity as an exclusive result of global ethereal processes and forces, and therefore define the urban as an abstract object without relevant spatial relapses.

5 From now own referred to as "the PRD" or "the Delta"

6 The few interpretations and spatial reconstructions of this territory that have managed to transcend the administrative borders of the area, are unfortunately dated, and due to the speed of transformation of the territory, despite the fact that the concepts or ideas that are handled in these investigations remain in force , their space relapses no longer have any relation to the contemporary spatial reality of the Delta. See (Koolhaas et al., 2001; McGee et al., 1991).

7 Beside comprehensive investigations of Chinese urbanizations there are recent works that inquire Chinese urbanization from a particular entry point. For instance focusing on the construction of new towns (Bonino et al., 2019; Governa & Sampieri, 2020; Oakes, 2019), or by focusing on eco cities (Williams, 2017), or by focusing on ghost cities (Shepard, 2015) or by recalling its capacity to mimic western urbanization (Bosker, 2013).

PART ONE

Inside globalized vision of the urban

This first part focuses on assembling the theoretical framework upon which the problematization of urban theories is constructed. For that, it settles to inquire about the relationship between urbanization and globalization, to understand how the first has been influenced by the second, and how the second has altered the way we approach, understand, and see urbanity. To accomplish such a task, this first part assumes three strong and clear directions.

First, it explores the theories and interpretations that have continually defined the city or any other urban form as a mere abstract object made by fluxes and connections (chapter one). In particular, this first direction inquires global urban categories such as global cities and global city-regions. Therefore, it focuses on understanding how by the pressure and rise of globalization, cities have claimed to acquire an almost independent role, thus becoming nodes of economic, political, social, and cultural realms. It starts by discussing the evolution and transformation of the city and urban regions, as two of many relevant theoretical and empirical spaces of critical urban studies and as essential centers of capital accumulation. It then moves to inquire about the specificities inside the formation and consolidation of the concepts of World city, global city, and global city-region, as well as their relation to globalization. Such inquire is constructed with a particular focus on highlighting the way these global concepts are used today within the academy and within the political and governance spheres while stressing what has it mean to see cities under a globalized, data lead and performative dimension.

The second direction this part takes focuses on the construction and articulation of the limitations, weaknesses, grey areas, and incongruities of exclusively following global visions to understand contemporary urban complexity (chapter two). Within that, it represents an attempt to *lift global labels* and open towards a comprehensive study of urban diversity that assumes a critical stance on the globalized visions and seeks to highlight the gaps that these visions bring. For this, some of the ideas developed in post-colonial studies and ordinary cities theories, mostly illustrated by King, Roy, and Robinson's work, are borrowed as a means to construct the starting point of this critical analysis. However, the goal of this focus is not to discard or belittle the ideas behind a global approach to urban studies, this would be incongruous since it is undeniable that we are living the global age. Now more than ever, the urban has exploded and overflowed to reach levels of connectivity that go far beyond its territorial and national dimensions. Instead, the goal is to recognize in what way global approaches are useful and vital in understanding some aspects but, at the same time, insufficient, biased, and limited in understanding others.

The third and final direction of this part focuses on inquiring how these global visions are applied when starting any urban study from the *ultimate heuristic device*, that is, the place under study itself (chapter three). For achieving so, the discussed global theoretical framework is subjected to an empirical confrontation

using the Pearl River Delta (PRD), as the primary case study. Using the PRD as the place where to test global theories means understanding how the place, despite being one of most spatially vibrant and dynamic places in the world, has been and continues to be, exclusively interpreted and studied under the lens of the global city-region and similar global approaches. It also means understanding how these global visions have not only guided its urban and economic development but also how they have influenced the way this place is perceived and understood at the economic, cultural, political, social and even academic level.

To inquire global interpretations of the PRD means revealing how the place works, how it has been constructed, what have been the intentions behind its construction, and how does it locate within the Chinese and Global urbanization process. However, little does it say about what physical space it does assemble. Indeed, for following the interpretation of the place under a global approach, this in-depth overview of the case study is poorly based on actual space and firmly based on the way literature, planning documents and development plans have understood the area. All to highlight the limited aspects that these interpretations do include, and the extensive aspects the interpretation leaves out. Additionally to purposely leaving space out, the overview of the PRD is constructed from a particular point of view since, unlike the multiple studies that have been carried out on the area, this research strongly positions its observation point at the city of Zhaoqing, a small city on the western periphery Guangdong Province. It investigates from there the ongoing transformations and development intentions of the region. Assuming this peripheral point of view represent a potential starting point, since from there, the weight and hegemony of the global city-region etiquette seem to be weakened, blurred, and inconsistent.

All these three directions are conceived to establish the logics inside globalized visions of urbanity and to construct the starting point for going beyond the globalized vision. In that sense, they represent the initial strategies to bring to light the limitations and lack of capacity of these distant visions to grasp the richness, dynamism, and variety of urban forms that make up contemporary urbanity.

Chapter 1

Looking through the "global city-region"

The twenty-first century brought significant economic and social transformations to many of the world cities. By the hand of globalization and the changes in the speed of communication, interactions between cities across the world intensified, and so did the capability of growing of those cities (Pain, 2012). Cities not only increased their growth capacity but also acquired a degree of autonomy that had previously been denied. This fact allowed them to position themselves autonomously within the new global economic system that was beginning to take shape since the end of the 1970's (Scott, 2001), which resulted in a massive interest on the part of the academy - and not only - in understanding their place in relation to new geographies of power and economic control. From then on, not only have cities changed their essence, structure, conformation, role and system of relationships; The academic and political eye have also changed the way they see, study, and plan them (Robinson, 2006). Now, more than ever, cities - or any other form that the urban environment may assume - are strongly scrutinized under a performative lens. That is, planned and designed to reach certain economic and connective standards, and studied to understand their position in a global urban hierarchy based on economic flows and networks. As a consequence, the city is seen and studied as a mere resource through which a global position and recognition can be reached. Therefore, attaining global status becomes a means for evidencing the level of centrality that has been achieved.

The rise and consolidation of the term "Global City" (Sassen, 1991), and its extension towards a wider region that emerges as a political-economic unit with increased autonomy of action - the global city-region (Scott, 2001) - has been a legitimization of this global-inspired approach within the academy and within development policies. In many ways, literature has concentrated on arguing how contemporary capitalism and globalization have fostered the development of this distinctive urban form to the point of sustaining that "large cities or city-regions, have today become a more insistent element of the geographic landscape than any previous moment in history (Scott, 2001, p. 820). Therefore, as globalization proceeds, an extensive archipelago or mosaic of large city-regions is palpably coming into being, and these peculiar agglomerations are functioning as the spatial

foundations of the new world system, connecting to each other without caring about distances and physical separations. Under this idea of connectivity, particular attention has been paid on attempting to provide an answer to *How are these cities connected to each other? And how to measure this level of connectivity?* In relation to this Taylor argues that many of the scholars of global cities have failed to provide a response to the question, and that existing attempts have remained notoriously vague (2004). Perhaps this fuzziness around the idea of global cities is due to the nature of the concept itself. Very much supported by data and abstract variables, there is no clear line of division that separates them from the rest of urban reality as a whole, therefore, multipolarity, functional heterogeneity, political influence, innovation capacities and global interconnectivity become their only distinguishable elements (Scott, 2019).

Based on this global relevance of cities, this chapter provides a deep review on globalization studies with a focus on understanding their usage in categorization and understanding of urbanization. It elaborates on the idea that cities and their extended form of regions have been and continue to be an important place from where urban theory is constructed. From there, elaborates on different approaches under which cities have been interpreted under globalized vision, categories such as world city, global city and global city-region are analyzed as an attempt to understand how these interpretations have not only been deeply consolidated, but also to understand how they have influenced the understanding of urbanity itself. In the process, establishes reflection around the relation between abstract and concrete and the need of continually moving from one to the other as a strategy to put theoretical concepts into test. After framing the idea of urbanization under a globalized lens, the chapter moves on to discussing how those global lectures have had an impact in the political and governance sphere by touching two main cornerstones. First, the relation between globalization, reorganization and relativization of scale, an issue strongly moved within political geography under the shape of re-territorialization and state rescaling. Second, the desire or aspiration that has surrounded the idea of achieving a global status, an issue that is particularly relevant in Asian contexts as they intentionally climb up the global hierarchies and attempt to move the barycenter of theoretical construction towards their direction.

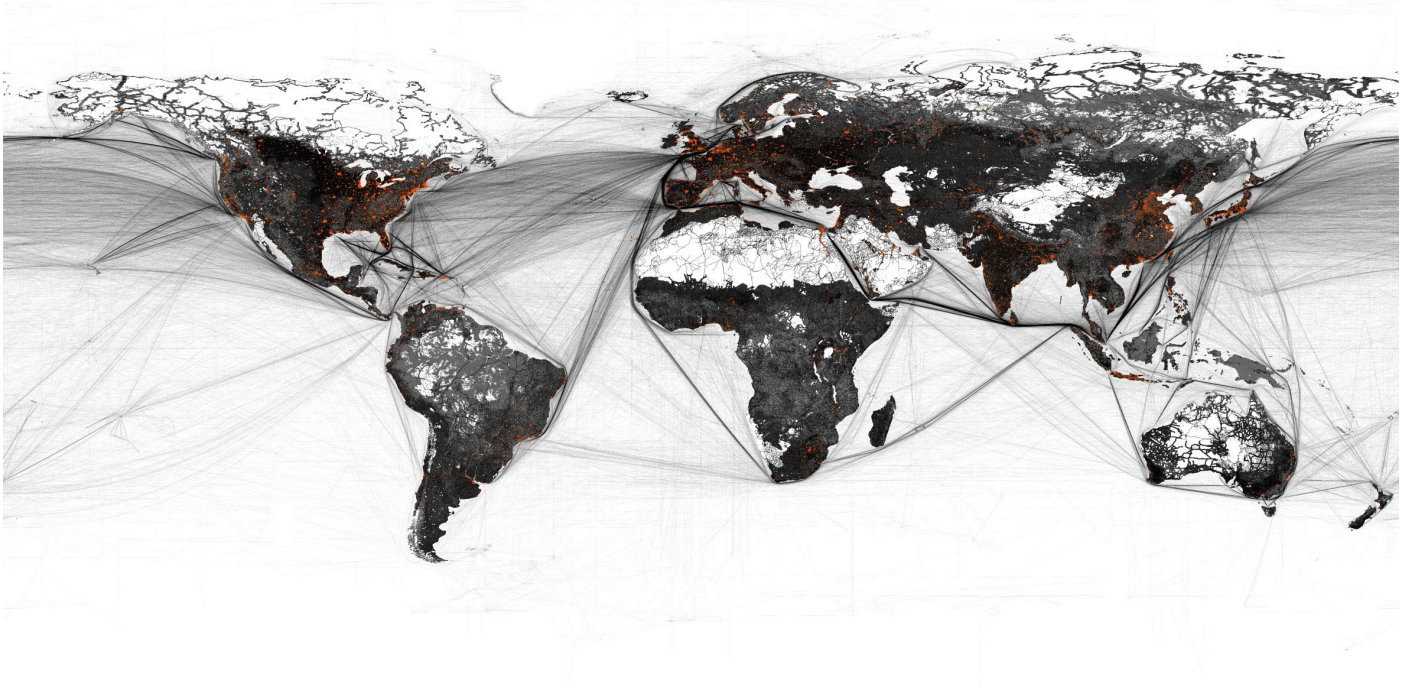
1.1 The explosion of the city

The study of urbanization processes has since the beginning been focused on revisiting the *city as its primary unit of analysis and site of investigation*, according to Brenner (2014) either as a way of documenting the variety of forms that human settlements can and have acquired around the world, or as a way of demarcating the research terrain as a subset that belongs to a supposedly more general socio-spatial form. Therefore, adding labeling terms that lean around the idea of the city as the ultimate socio-spatial unit present in the urban arena. Based on this "city-centrism",

different waves of interest have produced different categorizations of "city-like" urban forms. Depending on size, location, organization, hierarchic position, ideologies, and many other variables, we have come across a never-ending list of descriptive terms. Mercantile, industrial, postcolonial, mega, neoliberal, ordinary, smart, world, global and so forth, have been terms intensively used in mainstream description of urbanization, repeatedly collocating cities at the heart of the urban question from different perspectives that prioritize some elements over others.

Originated by this emphasis on the study of cities as equivalent to the study of the *urban*, and by the establishment of a capitalist system of the early 21st century, many authors have openly declared a profound change in urban studies, in the way in which cities are interpreted and the way in which the urban advances and occupies what was once immediately characterized as rural (Brenner, 2009; Massey et al., 1999; Massey, 2007; McFarlane, 2011; Robinson, 2006). Especially during the last years, the debates surrounding the epistemological and political status of the city and its relation to the definition of urban, have appeared to have still much of intellectual work to fulfill (Davidson & Iveson, 2015). Moved by the intention to answer the urgent question: Through what categories, methods and cartographies should urban life be understood?, a question strongly moved by the controversial and provocative[1] piece of Brenner and Schmid (2015), *Towards a new epistemology of the urban*; different academics despite not agreeing with the answer they raise in their text, do agree that with the fact this is a fundamental question that should guide and in fact has recently guided contemporary urban research. Consequently, drawing a new trajectory within urban studies that challenges conceptions inherited from the urban as fixed, bounded and universally generalizable type of settlement.

In fact, this has been the most controversial point of the thesis elaborated by Brenner and Schmid (2015). In a modest articulation, they argue in a critical way that city-centrism is holding back both mainstream and critical urban research, and they call for an approach that goes beyond the idea of the city as a bounded and repeatable *thing* that has a privileged place in urban studies. Within this, the attempt to achieve an urban theory that is freed from the rigidity of the city as privileged and is open to the multidimensionality of the different urban forms. To build this position, the authors develop an extended argument about the implications of the theory of planetary urbanization (Fig. 1.1), which based on Lefebvre's suggestion of *a society that has been completely urbanized* supports the idea of developing a new vision of "urban theory without an outside "where the urban / rural distinction can be transcended and the urban fabric can be conceived as "net of uneven mesh" across the entire world (Brenner, 2014). That is, they call for urban theory to shift from a concern with cities as "fixed things" to a concern with processes of - as they call them - concentrated, extended and differentiated urbanization[2].



1.1 | *The Planetary. Neil Brenner and Nikos Katsikis*

Undoubtedly, one can hardly be against the idea that the city is not a fixed, delimitable, generalizable and repeatable object, as if it were a mold that regardless of the conditions in which it originates, adopts the same form and mimics functioning. In fact, none of the positions that challenge the planetary urbanization approach questions this point (Davinson & Iveson, 2015; Walker, 2015). On the contrary, different positions can be traced that affirm this variety of urban forms and that question the approach to the city as a mere preconceived thing. For instance, David Harvey (1996, p. 50) argues that "the *thing* we call a *city* is the outcome of a *process* we call *urbanization"*. That is, he connects the city to the economic and social processes and defines the city as a product of urbanization. Not as the only product or as the one form it can acquire:

> '*Urbanization must then be understood not in terms of some socio-organizational entity called "the city" (the theoretical object that so many geographers, demographers and sociologists erroneously presume) but as the production of specific and quite heterogeneous spatio-temporal forms embedded within different kinds of social action.*' (Harvey 1996: 52)

Similarly, Schindler (2017), in his analysis of cities in the global south, uses his studies of the two largest cities in Swaziland: Mbabane and Manzini, to recognize how the city cannot be seen as a single repeatable object. In his study, he places as the essence of urbanization the differences that distinct cities may have, and suggest that planetary urbanization theory attempts against recognizing this value when generalization and homologation of the cities of the North and Global South is made by obfuscating its differences:

> *"... planetary urbanization obfuscates difference. Not only does it erase difference between Mbabane and Manzini, but it risks reducing them to nondescript zones in an urban fabric dominated by privileged cities. In other words, the epistemology of planetary urbanization risks re-centering the essence of urbanity to the North Atlantic. If urbanity is all-pervasive, it can be studied in one's backyard, so why bother researching it in Swaziland?"* (2017, p. 48)

Of course, he does it from a position that, without being fully post-colonial, leans towards that logic. When he claims that neither post-colonial or planetary urbanization studies can address the contemporary urban problem-space in the global south, and affirms that besides being moved by the same questions raised by Brenner and Schmid (2015), "Postcolonialism most certainly offered a set of answers in a time that witnessed anti- imperialist struggles and liberation movements" (Schindler, 2017, p. 51). However, it is important to emphasize that despite denouncing the privileged place of the city in guiding and defining boundaries and imposed divisions between what is considered urban and what is not, planetary urbanization also recognizes that urbanization, as a process, is a multidimensional, disuniform and uneven mesh, where despite having a planetary scale - which Sheppards, Leither and Mariganti (2013) assure simply refers to the global scale - assumes different thicknesses, shades and shapes. That is, it is a process that is comprehensive but not homogenous. Within this urban heterogeneity, even if planetary urbanization does not call for a rejection against the city itself but a rejection of its privileged place, this invitation has been frequently perceived as an invitation to the abandonment of the city as an object of study to concentrate on the urban as a pure theoretical category. Point raised in the first thesis of Brenner and Schmid (2015) when they declare:

> *"The urban is thus a theoretical category, not an empirical object: its demarcation as a zone of thought, representation, imagination or action can only occur through a process of theoretical abstraction".* (p. 163)

In relation to this, Walker (2015) argues that this denial towards the city is the reflection of a confusion between epistemology with ontology, "falling into the idealist trap of the post-moderns that because concepts are imperfect and non-correspondent with reality, there is no reality or, at least, no knowable reality "(p. 185). Walker elaborates on this point and connects it with the fact that the urban is also an object, when he argues that behind a key statement that sustains that the urban is only a theoretical category and not an empirical object, point raised in the second thesis of new epistemology of the urban, is to fall into an error. A mistake since urban and urbanization are not only processes, they are also objects. With this point I agree, they are also objects. This does not mean that the urban can be seen as a universal form, settlement type or bounded unit, without a doubt Brenner and Schmid have this point right, but after all, city and urban are not synonyms, in

fact, they represent a denial of reciprocity. That is, the latter does not exclusively involve the first one[3], because "cities are just a particular form of urbanization" (Gandy, 2012). They are a product of urbanization that has particular and tangible characteristics that we can see and live and that are also worth studying as objects and not only as processes. After all they are there, we live and make life in them. By this I do not mean that we have or that we can approach cities simply as naive empiricists who are content to understand the type of settlement, and its boundaries, as if they were easily ascribable to certain pre-established typologies. But neither can we declare everything exclusively as a process, and if so, processes also produce objects that internalize the processes that forms them.

In relation to this, in the last paragraph of his text *Building a better theory of the urban: A response to 'Towards a new epistemology of the urban?* Walker (2015, p. 189) states:

> *"... a major failing of contemporary social theory is that we all spend far too much time with our heads in the clouds and not enough with our feet on the ground, and almost none in the mid-altitudes where the theoretical view is often the clearest"*

With this, he invites to work in a field at medium height, between the abstract and the empirical, leaving aside the philosophy of the social sciences, while addressing urbanist, and here I include geographers, into an invitation to focus on the hard-grounded work. Invitation widely accepted in the construction of the second part of this investigation.

Within this call to the study of the urban from an intermediate scale, the city continues to be an indispensable form of agglomeration and an anchoring concept for critical urban theory. Not only because of the overused argument that more than half of the world's population lives in cities[4], an argument that can be considered a misleading and open to manipulation statistic thanks to the differences between what is actually considered urban in the different censuses and differences in standards that exist between different countries[5]. But rather the importance of cities lies in what different strands of literature have told us about them, for instance, studies focused on agglomeration economies confirm the importance of cities, particularly in their larger scale of mega urban regions within the accumulation of capital and economic growth (Scott & Storper, 2015; Storper, 2013). Similarly, at the political level, the city remains a crucial way in which politics of urbanization take shape, even if the potentially expand beyond the city as well. After all, much of the urbanization policies emerge precisely from the problems and conflicts of life in cities, so they frequently mobilize the city as its setting, its object and its subject. In other words, policies are born from the peculiarities of cities, not from the abstract universality of urbanization.

Therefore, recognizing that the city is not the only, nor unquestionably the

primary gateway to the study of urbanization processes, it still remains crucial and requires a particular analytical approach that helps us understand its role today. Subjecting it to a constant questioning that relates its nature as an object and as a product of an urban process means treating it under a dialectical logic. Logic that implicitly or explicitly has long been thought. No for free most of the urban theories that we have inherited and that we continue to use today to describe the urbanization processes still take cities in their different forms as a starting point[6]. Many of these uses of the city as a starting point do not start from their use as bounded and fixed objects. In recent years, a good number of studies have emerged that have attempted to understand the city not as bounded but as a relational space. They have shown how cities are also influenced by economic and cultural processes (Amin & Thrift, 2007; Sassen, 1991), by migratory processes, among others. These investigations have not only proposed new ways of studying urban life, moreover, have also come to question and rethink what it does and what is the "the city". A question that maintains its validity given the wide variety of forms it has acquired and the large number of changes it has invested in recent years.

1.1.1 City regions in many shapes and forms

Undoubtedly the city as a form of urban life has gone through many stages, change, scales, and functions. In the same way, it has passed through many interpretations and definitions that have evidenced some characteristics over others. Perhaps none of its transformation and interpretations has been more significant and repercussive than its understanding as an unbounded object capable of expanding illimitably and capable of setting connections far beyond its traditional urban core. This means, a transformation that has made the city capable of overriding the traditional spatial organization based on the relation between core and periphery to a point that identifying the city becomes itself a complicated task.

In a sense, the traditional idea of city as a bounded, independent object capable of operating a unit seems to be limiting when observing the extensions and complexities of contemporary urban forms. Indeed, already in 1998, Manuel Castells sustained that the changes within cities were making "the category ("the city") theoretically and practically obsolete" (1998, p. 1) because human settlements were growing into gigantic magnets for people, functions, and organizations, capable of re-structuring countries and even the world around their social and economic dynamics[7]. He sustained that it was not only a matter of size, but a completely new and distinctive spatial form. A form that transcended the idea of city as a delimitable unit or as a simple succession of conurbations, because the city-like extended forms are strong in internal coherence, in interconnections and in spatial mobility. In that sense, even if is possible to recognize and differentiate spatial subunits, these *expanded cities* are not at all constructed through mere juxtapositions but through profound rearticulating. Therefore, instead of being an aleatory union of parts, "they are one single area in a very fundamental sense: they constitute a complex

unit of production, a single labor market and a specific system of power, beyond their extreme cultural and social differentiation" (ibid). Or in other words, they are a networked, clustered but physically separated set of urban areas capable of drawing large economic forces from new practical division of labor (Lang & Knox, 2009).

Many have attempted to name and interpret new extended urban forms, from the idea of *Megalopolis* (Gottmann, 1957), through the notion of *Postmetropolis* (Soja, 2000), to ideas of *Mega-city region* (Hall & Pain, 2006), *Megaregions* (Florida et al., 2008; Harrison & Hoyler, 2015) and even *Horizontal Metropolis* (Viganò et al., 2018), there have been multiple interpretations of the new urban dimensions that moved by the idea of rediscovering the generative power of cities, the diffusion across different disciplines and a rising interest in regions (Soja, 2011), address the new problematic and uncertain spatial configurations of urbanity. Within this range of interpretations, what can be considered as a *new regionalism* moved by the overcoming of intense competitive entrepreneurialism, new economic paradigms and driving forces of globalization, has strongly shaped the understanding and construction of cities into a more "generative agglomerations that form the *city region*" (ibid). That is, cities are no longer exclusively operative and organized as units, but rather as fundamental parts of a regional urbanization that have radically transformed and reshaped the previously known metropolitan structures. A transformation that puts into crisis what Dematteis and Lanza (2011) recall to be Chicago's School constitutive characters of the urban, namely dimension, density and heterogeneity. Since indeed, the transformations that have invested cities since the end of twentieth century have produced considerable changes to these features, exploding, fragmenting and multiplicating the urban to the point of turning the concept itself an unclear and almost insignificant category (Amin & Thrift, 2002).

Indeed, contemporary regional forms represent a new departing point in urbanization, since they are infused with increasingly complexities and polychromies that encourage to re interpret and reevaluate preconceived assumptions, and construct new geographies of imagination and epistemology (Neuman et al., 2013; Neuman & Hull, 2009; Roy, 2009). Perhaps there is not a clearer description of contemporary urban forms as the one provided by Roy in her analysis on the 21st – century metropolis, in her text she claims: "The 21st-century metropolis is a chameleon. It shifts shape and size; margins become centers; centers become frontiers; regions become cities" (Roy, 2009, p. 827).

Certainly, urban regions are fading the city into the countryside, constructing cities without centers and moving centers to the margins. In that sense, within the contemporary regional forms, there is a new prominent role of peripheries. One where peripheries seem to be destined to turn into the actual city, leaving behind Anglo-Saxon ideas of a low density and homogeneous suburban sprawl[8], to move closer to a complex "new periphery". One that in the *macro* scale, appears as a large diffuser structure in the form of a network, while in the *micro* scale, each node of this

network reveals specific characters, particular identities and therefore, principles of spatial organization characteristic of it (Dematteis, 1998). Indeed, peripheries and suburbanization are no longer the neglected, negative, monotonous or secondary spaces where middle and lowers classes aspired to live (Florida et al., 2008), on the contrary, empowered by a notion of "exopolis", peripheries and suburbanization seem now to be the future of urbanity, as they no longer exclusively depend on its relation with the center, but with its capacity to turning spatial organization inside-out and outside-in, therefore creating chaos with the traditional ways of defining urban, suburban, exurban, not urban, among others distinctive and fragmentary patterns of urbanization (Soja, 1992, 2003; Balducci et al., 2017).

Of course this significant role that peripheries and suburbanization have acquired within the construction of regional urbanizations does not mean that the latter is a result of a continuous expansion of the first (Governa, 2019), but it is more a sign of what Soja (2011, p. 459) considers an "identification of a polycentric regional urbanization process, accompanied by the relative decline of what can be described as a distinctly metropolitan model of urban growth and change". That is, a regional urbanization that by expanding and erasing its physical and operational boundaries is capable of creating city regions in many shapes and forms (Fig. 1.2).

1.2 | *Regional urbanization in night lights. Nasa Earth Observatory. 2016*

1.2 Inside globalized visions of the urban and the construction of new metageographies

Not only has the way of understanding cities and city-regions changed, but the lens through which we see them has also changed. Indeed, while placing cities at the center of urban studies is not something new, it can be said that the way in which these have been placed in recent years has indeed varied considerably. For instance, during the 1980's the long-standing tradition of understanding urbanization from looking at the city suffered a revolution as a result of the work done by the sociologist Manuel Castells (1972) and the Marxist geographer David Harvey (1973) on linking city forming processes to the larger movement of industrial capitalism. By this, even if the city continued – and very much continues – to be the primarily object of analysis, it was no longer considered as a mere result subject to the natural forces that emerge from the dynamics of population and space; but it came to be viewed as a result of variegated social forces that were set in motion by capitalist relations of production. Therefore, "the study of cities came to be directly connected to the world economy" (Friedmann, 1986), and the field of urban studies saw the consolidation of a significant interest seeking to understand the position and functioning of cities within the global economic hierarchy and the way in which this were gaining their ability to connect and organize from the distance.

Indeed, in a similar way, Robinson (2006) suggest that a deep change within urban studies has been highly induced by the strengthening of globalization[9]; not only at the dimension of the city and its forms, but also changing the way we see and approach the city. For her, the focus on understanding urban processes has shifted to emphasize flows and networks that pass-through cities rather than the territory of the city itself. This has resulted on the consolidation of multiple global approaches and visions that attempt to understanding how the 21st century forms of the city have become a key space of capital accumulation and direct international competition. By this, the focus shifted towards understanding how they were becoming global-scale centralities and how they were progressively working on dependence of connectivity, an idea of connectivity that works as the base for inter-city relations that far exceed territories. Within the construction of these new inter-city connections there was an entitlement for the categorization of cities based on their relative connectivity, mainly measure in material terms by data and predictions related to internet connections, airline traffic, passenger mobility and presence of international corporations mostly linked to advance producer services. Following this categorization resulted in using a hierarchical mode of rating and then ranking cities according to their international performance and as a way of constructing an indicator capable of evidencing an auto geographical "place in the world"[10] (McNeill, 2017).

Indeed, behind globalized visions of urbanity there is a strong sense of the construction of a geography of connectivity capable of sustaining the operations

of any well-connected city. Already in 1969 Jacobs observed that cities do not exist in isolation, but instead there are a group of cities that relate to each other continuously, thus creating inter-city relations and structures. Not only does one city relate to another, but also a city relates to its hinterland (Jacobs, 1969). This group of relationships has been strongly strengthened and multiplied under the effect of globalization, where cities have expanded their reach far beyond their physical territories in such a dense way that they come to create a network of connections that expands on immeasurable scales. Within this network there is a certain order, well established by economic hierarchies, by power relations, by political, economic or productive interests. All of which recall to an alteration of the collective geographic imagination capable of creating *new metageographies* (Taylor, 2004), therefore stablish a clear-cut change in the view and interpretation of the urban world. The idea of metageographies as coined by Lewis and Wigen (Lewis et al., 1997), stresses the geographical structures thought which people organize and order the very own knowledge of the world, that is, in a sense, it is a rarely questions and taken for granted personal truth that allows each of us to understand the world that allows our activities and practices. Indeed, in his book *World City Network. A Global Urban Analysis*, when geographer Peter Taylor uses the term metageographies, he uses it to describe his interpretation of the world city network. A interpretative framework that elevates the function and operation of cities to a world considered as a set of corridors and pathways, therefore he locates cities within Manuel Castell's idea of "space of flows", action that reimagines urban space as a nexus of flows of people, capital, goods, and information[11].

Perhaps one of the most substantial characteristics of the globalized visions urban is sustained by the idea that "in the modern world-system, the balance between the physical and the metaphysical in the creation of metageographies has altered to the detriment of the latter" (Taylor et al., 2004, p. 180). By that affirmation and by its close relation with the so called new economic order, cities and urban regions in many shapes and forms have come to be viewed as jurisdictional boundaries where metaphysical fluxes, networks, practices and power and economic relations "come together". This directly translates into seeing cities as the containers and facilitators of transnational processes of capital investment, commodity circulation, manufacturing cultural production and labor migration, all characterized by high mobility and sharp distinction between the inside and outside of such urban container (Smith, 2001). Therefore, the global vision is sustained by the idea that global economic restructuring leads and regulates urban spatial and sociocultural restructuring, hence transforming urbanity by disconnecting it from location ties at local, regional and even national scales, and connecting it similar global nodes that operate under similar condition even if located at enormous distances and in opposite contexts.

1.2.1 The rise of the Global City-region

Within a globalized world, Taylor (2002) exposes how globalizing cities

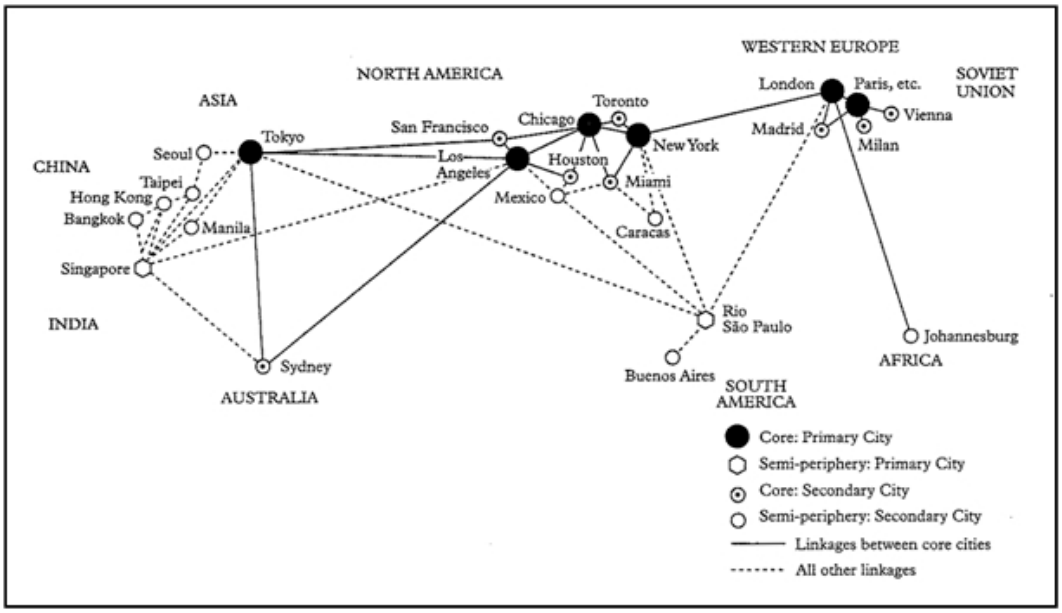
spill over their metropolitan boundaries, contributing to a more decentralized urban form, creating external relations of cities beyond their immediate hinterland and shifting to hinter-world relations. This physical, economic and political growth of cities made them less tied to their national relations and more active and independent in the global scale. All these changes in the structure of the city have been the base for a large number of studies aiming at understanding the future of cities, its growth and relevance in global scenarios, therefore giving an important emphasis to the hierarchy and the power that those cities possess within a globalized world. Indeed, since 1990's abundantly attention has been directed to understanding the role of the city in relation to the globalization processes, and in particular much of the attention has been attracted to the strand of work deriving from Friedman (1986), Sassen (1991), and Scott (2001), where progressively and respectively elaborate the theories of world cities, global cities and global city regions. The interest of their approach relies on reviewing the importance of large metropolises as key command and control centers within the complex globalizing dynamics of financial markets, high- level producer services industries, corporate headquarters and other associated service industries, such as telecommunications, business conferences, media, design and cultural industries, transport, property developments, among others. In fact, due to the very circulating work of Sassen on Global Cities (1991) the terms associated to global city and city region started to proliferate in the literature, particularly in association with the qualifier "global" (Scott, 2001; Simmonds & Hack, 2000). This trend was somehow a reflection of the widespread emergence of large spatially extended urbanized areas around the world, each of them spreading far outwards into diffuse hinterlands and occupying very differentiated and mixed land use areas.

As a way of describing these new forms of urban settlements that were coming into being as an extended archipelago or mosaic of city regions, Scott (2001, p. 813) coined the term "global city-region" incorporating the notions raised in the world and global city extensive literature, into a wider region instead of limiting it to the cosmopolitan metropolis. In fact, the resulting Scott's definition of global city regions describes it as a "dense polarized mass of capital, labor and social life that are bound up in intricate ways in intensifying and far-flung extra-national relationships. As such, they represent an outgrowth of large metropolitan areas - or contiguous sets of metropolitan areas - together with surrounding hinterlands of variable extent which may themselves be sites of scattered urban settlements of different scales". Within this definition, global city-regions are considered as the new scale at which globalization processes crystalize out on the geographical landscape. They are the physical manifestation of the global economic order, the spatial nodes of political actors and economies operating at a global scale and the nodes through which commodities, information, capital and people continually flow (Timberlake et al., 2014), therefore they are an increasingly central conduct and coordinator of modern life (Taylor, 2000). Indeed, they are located on top of a word system that is based on rapid economic flux, as a reflection of the extensive emergence of large spatially extended urban areas that are by one side connected to

a global network of mobility, and by the other side spreading far beyond its borders into diffuse hinterlands that include suburban lands, agricultural land, industrial land, commercial land, local centers, international facilities, cultural center and any other possible form of urbanity (Scott, 2019). Indeed, is his reconsideration of city-region, Scott (2019) sustains how today, the multiplication of city-regions operating at global scale has reached such density, dimension, intricacy and interconnects that "the prefix *global* has become to all intents and purposed redundant" (p. 2).

However, this alleged proliferation of "global" city-regions raises the question of how to delimit and identify them since as declared by Scott (2001, 2019), they are just like any other city region, there is no fixed line of division that separate them form the rest or contemporary urbanity as a whole. In that sense, they lack a sharply define border and break capable of distinguish them. Indeed, when attempting to map and identify global city-regions in a world map (Fig 1.3), Scott recognizes having to follow an inadequate empirical identification mainly based on population. In his mapping he considers the largest cities across the globe, in particular considers cities with population of one million or more with the hope of producing an approximate sense of the geographic distribution. However, recognizing that "not all large metropolitan areas equally caught up in processes of globalization, therefore, not all global city-regions can be simply identified in terms of existing large metropolitan areas" (Scott, 2019, p. 814). Despite this lack of identification at first glance, the identification of global- city-regions has been refined with time, today, even if there is still not a clear line of partition that separates them from the rest of urban realities as a whole, they are nonetheless noticeable as a broad category of urban phenomena by reason of spatial extent, multipolarity, functional heterogeneity, political influence, innovative capacities and global interconnectivity (Scott, 2019).

Indeed, global city-region share outstanding features of multilevel hierarchy of economic and political relationships that range from the global to the local; they are supported by rich technologies of transportation and communication capable of annihilating barriers of space, time, and distance, therefore "bringing parts of the world into even closer contact with one another"(ibid p. 818); they are repeatedly invested by new pollical orders capable of overcoming administrative borders and capable of creating trans-border arrangements that secure and enhance competitive advantages in a rapidly globalizing economic dimension; and they build economies on collective orders defined by regional synergies and coordination. Despite the efforts on refining the strategies for identifying global city-region, its identification is still very based on open to interpretation aspects of urbanity to which many - non global - city-regions can relate.



1.3 | *World city hierarchy. Friedmann. 1995*

When further analyzing the preliminary map showcasing the presence of city regions, there is not only possible to see the mosaic or archipelago of interconnected nodes that collaborate and compete one another across the whole globe, there are also three particular patterns that come to light. First, the wide distribution of city-regions across all five continents. Second, the significant abundance of them in "less economically developed areas of the world". Third, the presence of China as a major hub of city regions, especially since mid-1990's and the activation of economic reforms that allowed the insertion of global capitalism into the country (Wu, 2017). Indeed, regarding the Chinese context, even if the idea of sprawling cities and undefined administrative borders is a relatively recent phenomenon in urban China[12], regional urbanization in the form of city-regions has been a strong emergent initiative impulse by economic reforms, weight of policies and governance, and political processes looking to acquire global presence. Indeed, Chinese city-regions are deeply mobilized and promoted as national policies[13], and therefore identified as keystones of urban development, improvement of the quality of urbanization and development of national and regional economies (Li & Wu, 2018; Shen & Wu, 2017; Wu, 2015). As result of this encouragement, there has been a dramatic rise in the relevance and protagonism of Chinese global city-regions where particularly the Pearl River Delta has arrived to fulfill the top-ranking positions. Indeed, Chinese global cities and city-regions have reached a sudden global centrality intentionally constructed and supported by the state, something that in a way has had important implications both in the creations of the metageographies discussed before, as in the bases and considerations of global urban studies (Timberlake et al., 2014; Wu, 2016, 2017).

1.3 Globalization as a detonator

It can be said that one of the key factors dictating the logics upon which to base the theoretical articulation of globalized visions is indeed the contested concept of *globalization*. Certainly, since its initial emergence in 1960's the term has been popularly and almost indiscriminately used both in academic and popular literature to describe a process, a condition, an age, and a force capable of shifting forms of contact (Steger, 2003). In fact, it is more a constant process than a motionless condition that according to Steger, is based on four distinct qualities. First, the *creation* of new and the *multiplication* of existing networks capable of overcoming traditional political, cultural, economic and geographical boundaries. Second, the *expansion* and *stretching* of relations and interdependencies. Third, the *intensification* and *acceleration* of exchanges. Four, the capacity of building such exchanges and interconnections on a not exactly objective or material level.

Following these qualities it becomes clear how when we talk about globalization we are indeed talking about a powerful process capable of changing the way the world works, however, globalization is an uneven process, it does not affect all the places of the world nor at the same degree neither in the same way (Scott, 2001; Steger, 2003), this idea behind the different degrees of global weight support the association of globalization with inequalities, as some particular places can be completely embedded within the process, while other places can be pungently left out of it. the discussion and articulations about the implication of globalization have – as could easily be predicted – concentrated in the places where it presence and influence seems to be greater, therefore the places where globalization processes concentrated have and continue to be scrutinized under multiple dimensions.

There are however two dimension that seem to concentrate a disproportioned amount of attention. On one side the economic dimension of globalization and by the other side the political dimension of it. The first, the economic dimension votes for a strong intensification of economic relations around the globe, therefore creating a gigantic flow of capital and technology supported by goods and services. This means acknowledging the extension of markets to reach variegated and distant places around the world, therefore linking detached economies and contributing to the emergence of a new international economic order[14]. One that intends the "liberation" of economies around the world (Derudder, 2012; Smith, 2001). The second, the political dimension discuss the relevance of political borders and delimitations. Particularly it questions the role of nation-state by the emergence of regional blocks capable of operating as new form of territorialization (Brenner, 1999; Steger, 2003; Wu, 2016). This means the raise of global web of political entities and interdependencies capable of challenging sovereignty, since state should be limited to work as "superconduct of global capitalism" (Steger, 2003, p. 61).

Other dimensions under which globalization has been deeply studied are the cultural dimension and the ideological dimension. The first, mainly addresses

the question if globalization is an agent of homogenization or heterogeneity. That is, it attempts to answer if *globalization makes people around the world more similar or more different?* Perhaps one of the strongest positions is led by what Steger (2003, p. 70) calls "pessimistic hyper globalizers" which suggest that we are moving against cultural rainbow of cultural diversities, therefore falling into homogenic cultures governed and heavily influence by Western's culture industry. A cultural imperialism that Barber (2002) calls "McWorld" and that defines as a transformation of diverse cultures into a bland, uniform unique market. A position strongly contradicted by ideas that sustain the influence of globalization in creating new forms of cultural expression. Ideas that based on the notion of *glocalization* (Robertson, 2012, 2018) acknowledge the interaction of the global and the local portrayed by cultural borrowing in the creation unique cultural assemblages.

Equally, the ideological dimension has been contested as indeed, as in any other social process, globalization is highly infused by ideological dimension that elaborates claims, belief, and narratives. In that sense the discussion is mainly focused in understanding if globalization represents a good or a bad thing articulation that on both side of the balance seem to elaborate on at least one of the following assertions. The relation between globalization and the liberalization of global markets, an idea highly constructed by neoliberal; Globalization is irreversible and inevitable, therefore, it is interpreted as an almost natural force; Globalization has nobody in charge, therefore it does not reflect a particular group or class agenda; therefore Globalization benefits everyone, claiming that it raises global standards of living, economy, freedom, and technology; Globalization spreads democracy, an assumption deeply based on the neoliberal idea that free market equals democracy (Steger, 2003).

In can be almost safe to assure that above all, globalization is a strong narrative capable on transforming the world order, capable of concentrating the attention in particular places where it seems to be more notorious and capable of penetrating different dimension that on only limit to the four dimension previously discussed, but than in an urban world, penetrate also the urban dimension. As a matter of fact, behind the conception of "global" city, city-region at its derivatives terms, the common theoretical thread one can identify is the strongly based idea of globalization as the main cause of the formation of global city-regions. Indeed, during the 80's and 90's the dominant discourses of globalization emphasized the apparent variation of social, economic and political relations from their local-territorial preconditions (Brenner, 1999). For instance, Castells (1996, 1998) argued that the "space of flows", intended as "the material organization of time-sharing social practices that work through flows", was superseding the space of places; Ruggie (1993) argued that territoriality and even geography itself where being dissolved; Ohmae (1995) argued that national borders had become irrelevant, redundant and obsolete[15] and that supra-territorial spaces based upon distance less and borderless interactions were decentering the role of territorial and place-based socio-institutional forms. If these were the bases on which the theory of global

cities was built and on which the idea of the city or its extended form of city-region as the nodes on which global economy was supported, then it becomes clear why literature decided to turn full into studying and deepen these concepts.

Mainstream literature saw in these new spatial forms, the engine of the reorganization of the world economic order. "Global" cities or city-regions fated the creation of a new geography based on hyper connectivity, where historically inherited administrative borders lost value and dissolved, in order to give way to an archipelago of interconnected nodes that compete and collaborate with one another on a world scale (Scott, 2001) and that could operationally dispose of the national state. In a sense, the theoretical construction around globalization emphasized the apparent separation of social, economic and political relations from their local and territorial preconditions, a separation that resulted in the conception of globalization as the ideological construction of a supposedly borderless, distance less world continually crossed by an accelerated circulation of people, commodities, capital and identities. This meant the decentralization of territorial and place-based forms to a point of arguing a complete deterritorialization of social, economic, political and cultural relations (Brenner, 1999).

1.3.1 Scalar shifts between de-territorialisation and re-territorialisation

"Spatial scales – from home and locality to city, region, nation and continent – have no pregiven or fixed ontological status, but are socially produced and continually transformed by the imperatives of capitalism, and the resulting struggles and conflicts"

(Amin, 2002, p. 386)

Even if mainstream literature was and still partially is under the idea that globalization means the demise of nation-state, the existence of a borderless world, the decline of bounded territories, the irrelevance of territorial divisions, and the presence of a minimalist political order – all affirmations that built up a strong deterritorialization of the space; there are different counterproposals emerging from skeptical positions and concrete study of cases that highlight the central role played by policies and territories in unleashing the forces of globalization. For instance, Brenner (1999) sustains in his studies about the relationship between globalization and reterritorialization in the European Union, that globalization instead of been considered as an embodied process of deterritorialization fed by accelerated circulation of people, goods, capital, identities, images and commodities through global space, is better conceived as a reterritorialization of both socioeconomic and political-institutional spaces. Indeed, for him, the process of globalization is to be better understood as a recalibration of inherited scalar hierarchies. Therefore, it is not globalization creating city regions around the world, but rather city-regions as a result of a re-organizing the territory, producing new institutions and geographies in local, regional and broader scale, in order to facilitate the new forms of capital

mobility and flow and exchanged that had attracted the attention of globalization theories at that time. This translate to understanding the formation of city-regions as a deliberate process of scale building where state and non-state actor are cotemporally involved (Harrison & Hoyler, 2014). Brenner's work on "spatial selectivity" (2004; 1999) is useful for entering this discussion since it not only considers the rise of regional governance as a process of "state reterritorialization", but in particular, considers city-region urban form as a "state spatial selectivity". Suggesting therefore, the state's action of choosing and building a particular scale from where to operate in the face of globalization.

Based on this idea of city-region urban form as a state spatial selectivity, means that regardless of their geographical location, "global" cities and city-regions offered -and continue to offer- an infrastructure of territorial organization that enables broader process of translational production and financial flows to exist. They represent an intentionally constructed platform highly facilitated and significantly measure by state strategies not only at local level – as many of theories of the 90's suggested – but also at national level. This means that contrary to what several global urban theories have argued in the face of a zero-sum conception of state power related to world economies, the national state has not been in absolute decline, but it has rather been in complete redefinition by the emergence of local and regional levels of state. Levels that contribute to a progressive decentralization of control, and a deregulation of nationally organized operations (Brenner, 2004, 1999). Therefore, overcoming "state denialist" (Brenner, 2019, p. 10) idea that "the state is aid to decline in power and significance as globalization intensifies" (Brenner, 1999, p. 438).

Following such approach means overcoming the frequent idea of territoriality as a relatively fixed and unchangeable geographical vessel which is not qualitatively altered by globalization forces. Therefore it means recognizing that state forces, scales and shapes can indeed be transformed for circumscribing flows of capital, economic transactions, social relations and urban hierarchies, all while facilitating, managing, canalizing and animating the reshaping of urban space during distinctive cycles of capital accumulation and crisis formation (Brenner, 2019). Subsequent with this interpretation, territories are therefore sensitive, malleable and adaptable to global conditions and pressures. They are the definition of areas through the construction of ethereal edges that allow capturing flows and passage of global processes within themselves. They are somehow the medium through which state is intensively and continuously evolving in role, structure and function, and therefore represent a straightforward declaration of the state's intentions.

This quality of city regions as a social, economic and political state-scale constructions, has been visible in many contexts. Just as Brenner (1999) analyses the issue in a European contexts, Park (2013) does it in non-western context, focusing in transformations of East Asian developments (Park et al., 2012), Klink analyses in the case of Brazil, and Wu (2016) inquires in the Chinese case. Proving

how all across the globe, this new form of state spatial selectivity at a city-region scale seems to be a common topic. Nonetheless perhaps nowhere it is more visible than for instance the Chinese context[16]. City-regions in China emerged during economic decentralization as a downward state response to regional inequalities. They were indeed promoted and created by the state as a mean to solve the issue of fast growing cities as unique drivers of national development and to address the issue of urban entrepreneurialism which elevated intercity competition. Within their construction they have been carefully shaped by the logics dictated by the central state which tries to maintain a strong leadership and presence in the regional development both by the creation of policies, by the construction of monumental infrastructures, or by the local branches of its powerful ministries[17] (ibid). Indeed, central government encourages local municipalities to formulate strategies based on regionalism and metropolitan urbanization that focus on collaboration instead of in competition. This facts raises the emergence of a mayor contradiction, since even if territories are not to be considered as fixed, in this case it can be indeed considered as such, because the emerging regional forms are fundamentally state-orchestrated, therefore lacking regional identity and civic population working around the regional scale (Xu & Yeh, 2010).

The Chinese case evidences how spatial selectivity also outside the borders of China, represents a continuous recalibration process guided first of all by the state. A recalibration that includes both downscaling and up scaling in order to find the *perfect balance* and the *perfect scale* from where to allow the passage and materialization of globalization in a particular territory. Indeed, this reterritorialization of contemporary urban spaces and state institutions requires to be considered both as a presupposition, as a vehicle and as a consequence of the extremely conflictual dynamics of global spatial restructuring.

1.4 The aspiration of becoming global in China and elsewhere

Perhaps one of most conflictive issues abut globalized vision of the urban is precisely how these visions tend to create hierarchies and organize cities and regions according to global relevance, importance and control. There are indeed endless ranking list organizing cities according to coefficients, degree of connectivity, degree of control and so on. These rankings not only organize, but in the process, they define the winners and the losers of globalization, they define the standards of what does it mean and what does it take to become global, and they highlight which are the cities and regions to follow. They ratify leadership and confidence to top ranking cities while they generate desire and aspiration in the lower ranking ones. Elaborating on the very present idea that becoming a global city or city-region becomes an aspiration, the so called "global city-region with Chinese characteristics[18]" has that concept at the core of its being. Perhaps the only particularity that can be awarded to the alleged exceptionality of the "Chinese city-region" is that the intentionality of acquiring a "global status" is rather explicit

during the process of handcrafting a city-region globally performant. It has become a way by different level state to promote "their" cities, since it represents a prestige having their city appear in the top ranks of cities worldwide. Such global aspiration is clear as by the end of the 1990's, more than forty-three Chinese cities had announced plan to become "global" (Ren, 2013).

Chinese official documents produced in the past 20 years show an increased use of the word "global" within policy implementations, this apparently basic fact represents indeed a reflection of the desire of both central and local governments in transforming Chinese cities into global centers of command and control capable of attracting international investment and therefore promoting urban and economic growth (Ren, 2011). This global aspiration can be traced back to a broad collection of motives, but perhaps one of the most relevant has been the frenetic and positive discourse that academic literature and popular literature have built around the idea of global relevance. Indeed, the terms global city, or global city-region have been associated in a basic level with an idea of success, of progress and relevance, therefore as an unintended consequence of its positivistic circulation, its use has far expanded beyond academic understanding of urbanity to the point of penetrating political and governance discourses. This free circulation has strongly "stimulated place-promoting projects in China (and elsewhere) that are deliberate efforts to raise the global status of cities (Timberlake et al., 2014, p. 162) and overall of the countries that contain such global urban entities.

Global intentionality seems to have and continues to be paying off (Gugler et al., 2004). Since global cities ranking, traditionally dominated by western and global north cities are going through profound transformation. Chinese, Indian and African cities are becoming rather sudden global centralities of a new world order that seems to shift away from Eurocentric visions. Cities like Beijing, Shanghai, Mumbai, Johannesburg and regions such as the Yangtze River Delta and the Pearl River Delta are displacing cities like New York, Metropolitan Region of Paris, London among others. This global prominence has not only be reflected in terms of networks of business, multinationals, economies and exchange, but it has also made strong impression in the imaginations and global narratives of the world's citizens, as now is no longer surprising to come across reports and discussion that argue about Beijing or Mumbai with the same excitement as New York or London, something that today seems to be normal, only 20 year ago was considered to be an utopic ideal. Of course, this rapid transformation of cities razing to fulfill and to reach global standards has not be a consequence-free process. Indeed, rising global cities are increasingly showing the dark side of globalization (Timberlake et al., 2014). Social polarization, extreme inequalities, over migration problems, informal urbanization, lack of identity, high levels of pollution among other negative aspects are the base companions of urban global climbing. Aspects that among other theoretical issues will be briefly treated in the next chapter of these thesis.

Notes

1 Indeed, the provocative nature of the article has generated a massive bipartite academic discussion around it. A group of scholars seem to be in line with the ideas presented in the article, while other groups of scholar seem to be opposite or at least have some perplexities about the seven theses they present for the construction of a new epistemology of the urban (Davidson & Iveson, 2015; Schindler, 2017; Storper & Scott, 2016; Walker, 2015).

2 In their piece, they identify these three "moments" of urbanization, and they define concentrated urbanization as a spatial clustering of population, means of production, infrastructure and investment; extended urbanization as the transformation of places, territories and landscapes that derives from agglomeration processes; and differential urbanization as the pressures that challenge inherited geographies of agglomeration and their operational landscapes. (See Brenner and Schmid, 2015).

3 Indeed, when arguing about the relationship between the city and urbanization, Davidson and Ivenson (2015) recognize that is not correct to suggest that "the urban is the same as 'the city', and/or that the urban is contained within the city. Nor do we think that is the only geographical expression of urbanization" (p. 655).

4 According to the World Bank statistics, in 2008, for the first time in history, urban population surpassed rural population and it is expected that by the year 2050 70% of the world population reside in the cities.

5 This point has been touched repeatedly in the Chinese context. Where geographers and demographers have highlighted how the criteria used to define the urban population varies considerably between censuses (Ren, 2013). Zhou and Ma (2005) go further and argue that for example, the same criteria have not been used without change in two consecutive censuses. See further information on the changes in the criteria to define what is urban and who counts as urban population in China, in Ren (2013 p. 8)

6 This is nothing new. Already in 1925 the Chicago School canonized this approach to the city through its work *The City* (Park et al., 1925), where they carried out an analysis of social life in a large metropolis and an analysis of the various forms of interaction that are created between individuals and the city, seeing it as a complex institution and coherent regional system where the center organized its hinterlands (Dear & Dahmann, 2008). In a similar way, during the 1980's, the rise of an LA School postmodernism reversed the ongoing logics around the city, insisting that in contemporary cities the hinterlands organize the center and putting Los Angeles as the paradigmatic metropolis of the 20th century.

7 Contemporaneously, but in a more radical position, Glaeser (1998) raises the question Are Cities Dying? As a way of questioning the prospect of the city in the 21 first century. In his work, he sustains that despite the benefits and problems of the city, agglomeration logic will continue to build up city logics, however not under the traditional ideal of compact cores, but following the idea of dispersed urbanity supported by transportation and telecommunications.

8 Characterized by low density, single family houses organized one next to the other as a materialization of the *American dream*.

9 Since the 1970's globalization as a base for theoretical development, has been gathering in significance across social sciences and humanities (James & Steger, 2014), until the point of becoming increasingly omnipresent (Ritzer & Dean, 2010). In fact, many have declared that we are living in the global age and that in fact, globalization is the most important change in human history (Bauman, 1998) since it is reflected in so many domains that cross many different geographies in a trans scalar way.

10 See Global Cities Rankings constructed following the "Globalization and World Cities" (GaWC) methodology.

11 In a more practical and contemporary note, Nikos Katsikis (2018) demonstrates the value in studying these metageographies through visualization. Indeed, he argues that is necessary to directly understand the weight that these new apparently intangible geographies have today and highlight how they are indeed apparently invisible since they actually exist and leave traces that can be traced.

12 There have been strong efforts to maintain the administrative borders that feed the urban/rural dualism of the Chinese territories. Both by institutional organization, governance figures and land regimes that strongly distinguish urban land as owned by the State and rural land as collectively owned, the core urban-rural difference grows from the idea that the city (the urban) morrows modernity and industrialization, while the rural equals self-sufficient and underdeveloped economy (Li & Wu, 2018).

13 For instance, the National Urban System Plan (2005-2020) recognizes and promotes the key role of city-regions, a recognition that started in the Ninth Five-Year Plan (1999-2000) which proposed seven economic regions, repeated in The Eleventh Five-Year Plan (2006-2010), and reformulated by the name of urban clusters in the Twelfth Five-Year Plan (2011-2015)

14 This new international economic order has also been strongly supported by the construction of new international economic organizations such as the International Monetary Fund, the International Bank for Reconstruction and Development, or the World Trade organization, all of which contribute in shaping and readjusting global scale economic geographies (Steger, 2003)

15 In fact, Ohmae (1995) proposed the idea that in a globalizing world, local economic dynamism and prosperity would be best achieved if traditional nation states were to give way to a system of self-governing regional divisions analogous in size to say, Luxemburg or Singapore.

16 By this visibility of the Chinese case I do not intend to suggest any type of exceptionality, because as Wu suggest, the conceptual framework of state spatial selectivity is particularly useful in comparison with western experiences because "the value of comparison lies in that it does not suggest Chinese exceptionalism. Rather, it provides a more nuanced understanding of the Chinese state and its operations" (2016, p. 1136).

17 For instance, the Ministry of Land and Recourses allocates land development quotas to the projects and developments that fulfill the guidelines stablished by the central state. This represents an indirect path for guaranteeing the leadership pf the state since economic encourages seems to be one the main motivators for local and regional governments (Wu, 2015, 2016; Xu & Yeh, 2010)

18 In her work regarding Chinese strategies of experimental governance, Sonia Schoon (2014) highlights how the idea of "Chinese Characteristics" is no more than a nebulosi concept or an open system that instead of clarifying, complicates any attempt of providing explanations. She highlights how the idea seems to be a conception that helps Chinese government to pragmatically cope with challenges of all possible spheres without creating substantial contradictions and without jeopardizing ideological discourses.

Chapter 2:

Lifting labels. Limits of global visions in the study of urban diversity

In recent years, an active line of criticism of urban studies has strongly emphasized the idea that each city is unique and therefore any kind of theoretical abstraction or universalization of urban theory is a prior destined to fail. This line of studies advocates that the way in which some urban labels or concepts are used, consists of a mere maneuver that assigns an arbitrary privilege to some large urban areas while considering the rest of the cities as a residual and therefore not worth exploring. Indeed, these argumentations are strongly positioned against the exclusive observation of the Global North for studying urbanization and constructing urban theory, therefore these *claimed to be general urban concepts* are undoubtedly inapplicable in the cities of the Global South due to their alleged Eurocentric biases (Roy, 2009; Roy & Ong, 2011). This rejection of the rigid application of inherited urban categories has resonated strongly in relation to the conception of global visions and its relapse in global cities and global city-regions. In the words of Robinson (2006), the idea of city-region is nothing more than a "regulating fiction", a distracting theoretical distortion that circulates through academia only on account of its supposedly (but spurious) global significance and its strong focus on metro centricity. Robinson suggests that urban studies should go beyond this "poor fit popular categories" and that every study should start from the assumption that we do not know the object. She suggests that following such approach will result in the emerge of a new, unexpected potential object and within this process something will "shock us" and allow us to re-think our inherited concepts and assumptions. In her agenda of ordinary cities, the critique is that the dearth of alternative vocabularies and approaches currently severely limits imagination of possible urban cities. Therefore, the common practices have relied on identifying, labelling, processing and placing in a hierarchy certain significant city, with very little attentiveness to the diverse experiences of that city.

Based on these liberating ideas, in this chapter I position myself, and as consequence this research, in favor of theoretical and conceptual promiscuity and reinvention, in favor of lifting global and all-comprising labels, and in favor of opening towards an inclusive study of urban diversity. By this, I attempt to postpone a hunt for broad covering laws and sweeping generalizations, in order to make

room for something else, something that does not aspire 'looking for a general theory of holes' (Shapiro, 2002, p. 601). Indeed, in this chapter I attempt to set the tone and construct the framework for the emergence and acknowledgment of urban diversity within urban theory. As (Heimer & Thogersen, 2006, p. 38) say, "Let's let a hundred flowers bloom as multiple lines of inquiry proliferate and compete". For doing so, the chapter elaborates on the limitations, problems and inconsistencies of adopting a detached, abstract, and network-centered eye that produces macro categories of description. I tackle this issue by following three entrée points rooted in post-colonial notions. First, the necessity of an equal urban terrain where there are not positive attributes automatically attached to some global standard categories. Second, the overcoming of a geographical bias that produces a distinction between where ideas are constructed as endogenous, and theories are replicated as exceptions to the norm. Third, avoiding categorization as a way of ascription as a step towards acknowledging variety and particularity as a constitutive element of any place.

2.1 Levelling the urban terrain

"Command and control are concepts that need unpacking and… one that process begins then the meaning of these concepts begins to slip away, like sand through the fingers"

(Thrift, 1993, p. 232)

One of the main critiques of the global city-region concept and above all of the globalized vision of urban studies is the necessity of organizing cities and city-regions inside the construction of a global hierarchy based on economic and political control and command. Such classification is based on the neo-Marxist notion that the economy can be, and indeed is, subject to control and coordination of a hand-full of cities[1]. Attributions that according to Thrift (1993, p. 232) are unsustained since "it is at least debatable whether the world financial system in particular, is now "commanded" or "controlled" in any strong sense at all". That is, the suggestion is that the theoretical construction of global visions descends from false assumptions that wave together command, control and urban forms. Indeed, Smith (2014) argues that thinking about cities in globalization, about the role and function of those certain types of city as the ultimate locations for subjecting a world economy to control, coordination and command, is a mistake. Since under that perspective, cities are poorly reduced to nothing more than "place-less containers" (p. 99) of unconnected economic and corporate fluxes.

Despite the reasons for organizing cities in relation to power and control, construction urban hierarchies raise a significant amount of issues. Intrinsically, creating a ranking of any type will stablish some "winner" and some "losers". Winners are to acquire leading roles, be the examples and become the aspirations. Losers are to follow, imitate and aspire the higher-ranking position within the hierarchy. This analogy can be perfectly mirrored within the urban studies under globalized visions. When Robison (2002) addresses in a synthetic way the conclusions that gravitate around the construction of global cities she highlights as one of the most relevant how they consider cities as nodes that can be arranged hierarchically[2], generating competition and aspiration for better rankings, as well as dynamism within those rankings since within them, cities can rise and fall through the hierarchy not entirely because of intrinsic characteristic of those cities but more because the relative balance of global, national and regional influence that circulates through them[3]. Due to this strong presence of hierarchies and ranking, it is pertinent to further understand the way in which they are constructed and elements and features they consider in such constructions.

There is one key word behind the construction of such global rankings, and that key word is economy. Since already the notions of global cities are deeply rooted in a criteria of networks, flows, mobility and exchange of capital (Friedmann, 1986; Sassen, 1991), it is only natural that the conceptions that organize such

cities are based on the same logics. Indeed, the primary framework upon which it global hierarchies work is economic, to the point of considering that "the economic variable is likely to be decisive for all attempt at explanation" (Friedmann, 1986, p. 317). This dependence of economy has not come without consequences that cross multiple dimensions. Perhaps one of the most significant is the denial of space and its particularities. Indeed, these rankings are not at all constructed from the physical conditions and relation of cities, quite frankly they intentionally tend to ignore them and to focus on an intangible and ethereal dimension that can be strongly unreliable as it is constructed upon a particular way of representing urbanity that pays little if not none attention to the diverse experiences of cities. As Robinson (2002) highlights, the danger of this rankings is that as they tend to use as primary sources, out of date, unsuitable or unreliable general data, and they remain at a distant point of observation that lacks familiarity with the places. They can – and more than often do – lead to the construction of maps – global or not- which are simply inaccurate. Maps that built an image of the world that leaves out much more of what it shows, as indeed considers a very limited collection of cities that hardly can be interpreted as a real global map of urbanity or world economy.

Another consequence of these biased global rankings is that they conversely produce strong differentiations between the top and bottom cities. Roy (2009) evidences that the hierarchy and command chain of cities within the world economic system sharply evidences the division between two categories of cities. "First world cities" (read: global cities and global regions), regularly located at the very top of such global rankings, are seen as models, capable of generating theories and policies that could circulate globally. Moreover, "Third World Cities" (read: mega-cities), regularly occupying the last positions – or just not being are the very top - that under a developmentalist approach are seen as problems, requiring diagnosis and reforms[4], and as irrelevant places for the world economy. But can we really follow that hierarchical categorization? Apparently, the implicit answer to that question for the past 20 years has been yes. A group of cities has dominated the world both in their relevance, presence, dictation of exemplary strategies and received attention, while other cities have been instead resigned to remain out of the global circle or have vigorously pursued and aspire better positions. This is perhaps an unintended consequence of the scholarship on global cities which has stimulated place-promoting projects everywhere and has tied the notion of global with the idea of positive.

Indeed, the global-city hypothesis has had a powerful discursive effect in both academic and policy circles. Since the concise identification of the 'global city' as a category of cities which, it is claimed, are powerful in terms of the global economy, has had widespread appeal. "Cities need to climb up the hierarchy to get a piece of the (global) action" (Robinson, 2006, p. 94). However, climbing it is not that simple and it comes by the hand of significant risks. While stablished economies struggle on preserving their position on top of the ranking, in many other emerging

economies becoming a global city-region becomes an aspiration. This aspiration of reaching global action is a dangerous path for developing, sprawling, poor mega-cities if they lack the "redeeming qualities of cityness found elsewhere" (p. 112), since they risk following urban characteristic that might have strong relation with the rest of the world, but restricted or even none relation with the city itself. In that sense global aspiration might be considered as the ruin of most cities (Robinson, 2002).

But where does this global aspiration comes from? I argue this global aspiration comes from a fear of oblivion. A fear that is not unfounded at all since global visions are very polarized. These cities they can be global cities, and consequently have the greatest possible global role, or be cities that are simply "off the map" (Robinson, 2002). Indeed, within globalized visions, the *not global cities* and regions are not at all considered, they are at very base of the relevance chain, and therefore they are considered to be irrelevant, peripheral and increasingly excluded from major economic processes of the global economy. Knox (1995) takes this idea further and declares that as declined agrarian societies, this globally neglected cities will "lapse decisively and irretrievably into a slow economic time zone" (p, 15). African, Latin American and even Asian cities have been frequently left out of this global hierarchies as global vision claim they are excluded from the global economy (Robinson, 2002). However, that global affirmation is a dangerous mistake, since the only way of being part of the global economy is not at the top of it, it is possible to be at the middle and even at the very bottom of it[5]. To grasp the involvement that off the map cities have within the global economy is only necessary to change perspective. Indeed, when looking from the point of view of these apparently irrelevant places, it is possible to see how significant the global economy is dictating their development logics, futures and fortunes. For instance, the mineral resources commonly used for mobiles or electronics, the food production that feeds the increasing global population, and even the cacao beans processed to obtain premium chocolate, all are strained from a broad set of those allegedly excluded and poor countries and regions. In that sense even if those apparently irrelevant places do not control and command the global economy, they do indeed are responsible for sustaining it (Fig. 2.1).

If by one side global theories have encourage the pursual of cities as command centers than in the form of nodes manage to attract and control the global economic system according to artificially constructed global hierarchies, and by another side the strong line of research guided by the work of Robinson (2006) encourages to see all cities as ordinary, therefore all cities as equally relevant cities, there is a third way of approaching cities, one that does not elaborate on global or irrelevant dichotomy, but that rather recognizes that cities in different degrees and through different path are in the process of becoming global. This third approach lead by Roy and Ong (2011) elaborates on "the art of being global"[6]. That is, on the supersede of regional aspiration by new global horizons.

In this perspective, "The city is viewed not as exclusive site of capitalism or postcolonial activism, but as a milieu that is in constant formation drawing on disparate connections, and subject to the play of national and global forces" (p, 3). This approach changes paradigms, as instead of considering global position -either positive or negative- as a fixed status, it considers it as a continuous and unstoppable process where global situations are always in formation. This position causes the idea of hierarchies and rankings to lose all relevance since what is the use of defining a position if it is in continuous movement? What is the sense of showing which city is more global than another if all of them are at different paces going in the same direction? After all, the ultimate global reach does not exist. There is no limit that defines how far the maximum global frontier is. There will never be an end to the pursual of global status. Besides, there is not only a single standard of urban globality; on the contrary there are many forms of "the global" in progress. Becoming global or pursuing the global is not then a particular ambition of a handful of cities that on daily basis compete for achieving global command; becoming global can be interpreted as the natural logic under which contemporary cities – and according to the thesis on planetary urbanization everything outside as well - operate today. It is not about improving a position, it is more about adapting, acknowledging and acting in relation to where the global world is headed. It is not relevant which city is at the top at this precise moment, since many other cities with the due of time will reach that level as well.

2.1 | *Gold mine in Serra Pelada, Brazil. Sabastiao Salgado. 1986*

2.2 Categorization as a way of ascription

The action of putting something into a category hides an act of simplification. Behind the construction of every category there is the necessity of some level of abstraction in order to be applicable in different times and contexts, regardless of their place of origin. Within the construction of general concepts and categories, these strategies of abstraction and simplification are result of a fear of peculiarities and variations within the case, could somehow "contaminate" the original concept or category. Therefore distorting the category to a point that we can no longer trace it back to its origin. When considering this issues in relation to the construction and use of the global urban categories, it is possible to see how categorization and ascription are one of the main issues present in the use of such terms.

Scott (2019) on defending the theory creation of global city- regions against the strong critiques that have emerged in the past years by the hand of postcolonial and ordinary cities theories, sustains that "all cities – can indeed be meaningfully conceptualized in generic terms by reference to a common set of innate structural conditions whose roots lie in agglomeration processes and interactive logic of urban land nexus" (p, 19). In this affirmation he defends global vision from the idea that behind their nature there is a strong process of ascription where "global features" are highlighted and "all other features" are overshadowed. Indeed, considering that global visions mobilizes cities as global nodes of command and control, everything that does not contribute to that control is not at all showcased or considered, as the nature of the concept privileges economic and technological logics over political and socio cultural dynamics (Smith, 2001). Looking from a global vision it is relatively easy to declare that a city (all the city) is global. However, such declaration is undeniable obfuscated and biased since it is built upon obscuring many other non-global aspects and spaces of city life, especially the popular culture, creative urbanism, social spaces and local practices. To be clear, as the global vision generalizes the successful tales of high financial center and corporate city life it basically ascribes the capacities and features of cities' CBD and economic districts to every other form of urbanity that might be linked to it. This is a limiting action as misses the richness of urbanity by constructing a fake homogenization.

Moving around the capacity of homogenization and diversification is a complicated path, since neither of them are correct approaches. One is too broad, too general, and to distant to grasp the most fundamental regularities of any place. The other is too close, too focus on detail, and too busy identifying particularities to connect local issues with larger scales. There is a need to maintain the delicate balance between specificity and generalization. The first leans towards an impossibility to generate theories that are separated from their place of origin. The second involves abolishing the specificities through a process of homogenization that loses much richness along the way. Unfortunately, within global studies this balance seems to be missing. Global-city analysis has a strong emphasis on process. It is the locational

dynamics of key sectors involved in managing the global economy that give rise to the global-city label (Robinson, 2002; 2006). The category of global city and city-region that is identified through this analysis depends on the experiences of a minor set of economic activities based in only a small part of these cities.

Indeed, within the process of designating a "global" city-region there is an action of ascribing the characteristics of a small part to the whole, following a process of categorization that leaves the multiple faces within a global city outside of the picture. This perhaps might be less evident in dense, compact cities as the urban differences might be fainter, but in the case of global city-regions this represent an enormous problem. Regardless of urban features that the global etiquettes contain, that is, regardless of the evident presence of interlocked urban areas, rural areas, informal settlements, low income neighborhoods, suburban extensions among many other forms of contemporary urbanity, under globalized visions all seems to be momentarily cancelled and hidden behind the power economic spaces. CBDs, financial centers, logistic centers and international production centers are prioritized and showcase as the prominent spaces of the global economy, but what happens to all the other places that do not directly preform at global scale? "these are not places from where the global economy is controlled: they are at quite the other end of the command and control continuum of global city functions"(Robinson, 2002, p. 547).

2.3 Overcoming the geographical anchoring bias

Different academics have denounced how many of the urban theories we use today, and particularly, theories behind the city-regions, are strongly based on EuroAmerican experiences[7] and therefore using these same theories when understanding urban processes outside of this geographical context, represents a limitation (Robinson, 2002, 2005, 2006; Roy, 2009; Roy & Ong, 2011; Sheppard et al., 2013). However, this issue is not something new or strange. It is part of a succession of traditions where urban theory is produced from a restricted group of cities that are considered exemplary and avant-garde, that is, they are considered "great cities" (Roy, 2009). Chicago, Los Angeles, London, Paris and New York have generally been the candidates to be considered "great", but nevertheless this situation is changing. Not because these cities do not maintain an extraordinary level of development and complexity, but because the balance of world relevance is moving towards new places that previously hardly emerged on the mental maps of generalizable theoretical constructions. Cities like Mumbai, Cairo, Johannesburg, Shanghai, and many others, have begun to resonate and claim their place in the reconstruction of the theoretical heart of the urban issue, thus destabilizing the historical hegemony of these supposed "great cities" and opening the door to new interpretive frameworks that acknowledge that the urban future is no longer anchored to traditional western of northern cities, but it has rather shifted to somewhere else; to cities like Mumbai, Mexico City, or Shanghai, that now more frequently emerge as the cities from where the understand of urban processes starts (ibid).

This contemporary shift of the global urban barycenter has not gone unnoticed, on the contrary it has been a strong catalyst on the debate between the dualistic assumption that the urban world is divided and fractured in a north or south, or in an east or west. Within that distinction, North and West have always commanded, shine and dictated the rules for the construction of urban theories. This is not a deniable fact since until the 90's there is hardly any literature examples that go outside of those geographic limits. By the other side, South and East have consistently been regarded either as sign of underdevelopment or as signs of exceptionalism. Indeed they have been considered "planet of slums" (Davis, 2004), "cities of walls"(Caldeira, 2001) "spaces of fearscapes" (Kairuz, 2010) and even exceptionalities "with Chinese characteristics" (Timberlake et al., 2014; Wu, 2004). Within those consideration they are not to fulfill a role of dictating interpretation of other cities as great cities usually do. They rather have limited to self-definitions that work as a type of justification of their difference and incongruities with mainstream great theories. Roy (2009) argues that this situation needs to change, that it is fundamental to rebalance this hegemony because as great, western and northern cities have until now had the role of addressing the theoretical heartland, there is no good in denying that these other cities have the same capacity and possibility "dislocate" the center of urban constructions. That fact translates into acknowledging that is not enough to study south or east cities as only interesting, different and anomalous, but is necessary to defend their role within the "recalibration of the geographies of authoritative knowledge" (p, 820).

The fragmentation and unbalance behind the construction of theories is not only visible through this macro distinctions that separate the world in two opposite parts. It is also visible through a further fragmentation rooted in EuroAmerican notion of "area studies", where the goal is not to produce all comprising theorist, but to produce "area study specialists" (Roy, 2009, p, 821) that can result in deep understanding of world regions. This notion that separates the world into delimitable geographies is rooted in the idea that the production of knowledge should be area-based. Therefore implying that particular theories or concepts can emerge from particular places, remaining anchored to the place of emergence to a point that cannot conceive such place without such concept[8]. Despite the problems behind fracturing the world into bounded geographical units that produced bounded specific knowledge, area studies raise an important virtuous point, the idea that urban theory needs to be located and grounded in the realities of the world. Indeed, this is the most essential point behind this dissertation, since I consider that grounding theory is necessary and imperative. However grounding and locating can be considered only as the first step, as the initial stage from where to begin, because those theories cannot remain limited and contained within the geographical borders from where they emerge, but they rather need to expand and circulate far beyond those borders, action that recalls Roy's idea of "dislocating".

Indeed, urban theory should be both located and dislocated, grounded enough to grasp particularities and heterogeneities, but broad enough to exceed its geographical origin. It should circulate and expand without continually going back to the place that gave birth to it in the search of difference, because there will always be differences. Each city is diverse, each city has a history, intrinsic characteristics, processes, actors and factors that adjust even the most global phenomenon (Peck, 2015). Inequalities and informality are not only issues regarding Latin America, urban – rural division and rapid urbanization is not affecting only Asian cities, and global aspirations are not only transforming third world cities. These are issues that are affecting every city in the world regardless of their geographical position. So, what is the point in continuing to tight urban issues to specific contexts? It is time to overcome the geographical anchoring bias that has done so much damage in the understanding that all cities, regardless of where they are located, have the power to say something blunt, and have the right not only to say it, but to be heard and considered without premises of particularity, exceptionality, exception to the norm or irrelevance.

Notes

1 According to Richard Smith (2014) in his essay *Beyond the Global City Concept and the Myth of "Command and Control"*, this idea that the world economy could be controlled was a core concept for neo-Marxist urban studies within the context of political economy of the 1970's and 1980's. Therefore, he argues that the self-notion of "command" is fundamental for understanding the rise and advancement of a "new type of city" capable of commanding the world economic order, namely world cities, global cities and global city-region. In a critical way he elaborates by stating that beside the popularity and circulation of such global concepts, the theory that supports them widely lacks evidential proof for the claims that they are indeed in control of anything.

2 Within these key conclusions, she includes first, the idea that cities function as organizing nodes of global economic systems since they are capable of articulating regional, national and international economies into global a single global economy. Second, she highlights based on the work of Knox (1995), how within global cities many populations are excluded from the global space of capitalism, and therefore considered economically irrelevant. (Robinson, 2002)

3 This point is evidence by the mere existence of a robust quantity of different city rankings. For instance, the Innovation Cities global ranking, the Kearney Global Cities ranking, the Global Power City Index Ranking, the Global City lab Ranking, and more traditionally the GaWC ranking. Rankings that are continually update and that each year evidence the movement of cities occupying different positions.

4 First world cities commonly include a reduced group of cities such as London, New York, Paris, Rome, Berlin and Tokyo, (cities that are located not only within the Global North) and more recently expanded to cities Asian cities such as Shanghai or Singapore however retaining a degree of exceptionality or skepticism. On the contrary, Third World cities often consider cities of the global south such as Mumbai, Cairo or Bogota, which are repeatedly regarded as problematic metropolises that showcase the worst features of urbanity.

5 Regarding this issue, King (1990) provocatively sustained that "all cities today are world cities"(p, 82), reinforcing the idea that there always the potential and the existence of links and connections between cities and global economies.

6 In the introductory of their text, Ananya Roy and Aihwa Ong (2001) expressly sustain how the urban experiments, transformation and logics that are dictation the relations of an everyday more urban and global world, "cannot be conceptually reduced to instantiations of universal logics of capitalism or postcolonialism. They must be understood as worlding practices, those that pursue world recognition in the midst of inter-city rivalry and globalized contingency".

7 By EuroAmerican, they mainly refer to urban experiences located in North America and Western Europe.

8 For instance, Latin America has been attached to the notions of urban informality, marginality, inequality and separation (Caldeira, 2001); South Asia has been anchored to the issues regarding the agrarian question and the "urban turn"(Rao, 2006); Africa has been linked to new modernity working through the idea of expectation of the city yet to come (Simone, 2004).

Chapter 3

Global visions in the Pearl River Delta. A start from the ultimate heuristic device

A consistent point that has been highlighted so far, is the importance of extracting knowledge directly from places, using these as a primary source of information. Understanding that each place is full of peculiarities and variables capable of contributing to a more general debate, which includes ongoing processes in large geographical contexts that are not necessarily directly related to the place of origin of said knowledge. Based on that aspect, this chapter attempts to reintroduce the place under study, the Pearl River Delta, as the ultimate heuristic device. That is, as the ultimate device from where produce knowledge.

For achieving so, the chapter elaborates on the constitution, organization and interpretations of the Delta under previously stated globalized vision. This provide an initial general picture of the place under study and starts rising some issues about its intrinsic characteristics. Then moves towards a reconstruction of the historical processes, political and planning decisions that have transform the Delta into the complex and articulated global system that we find today. While doing so, the chapter introduces a new viewpoint of the region: the outer periphery of Zhaoqing City. An observation point that represents a potential starting point, since from there, the weight and hegemony of the global city-region etiquette seems to be weakened, blurred and inconsistent.

An introduction to the case

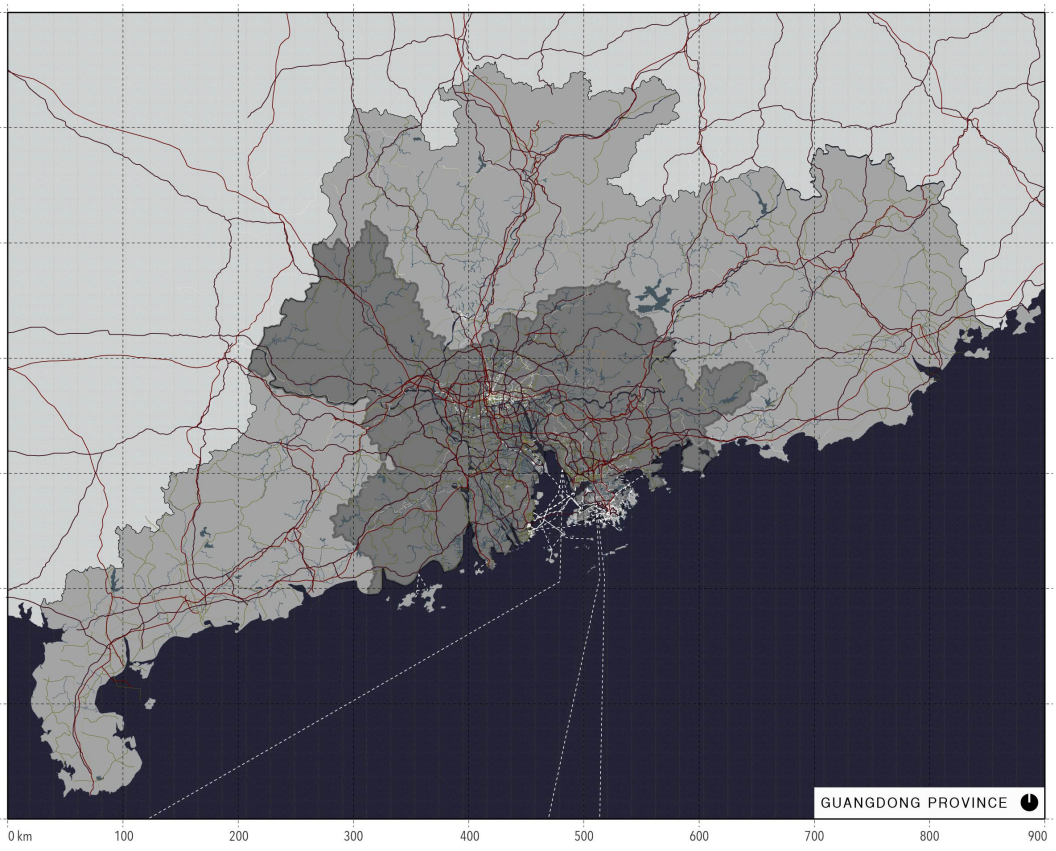
The area known as the Pearl River Delta barely needs an introduction. It has been present in almost every exploration of Chinese urbanization, economy and governance, and it has often been used as the exemplary case upon which to base urban like reflections regarding the Chinese context. Despite the popularity of the area, the next lines represent an attempt to construct a descriptive, data lead introduction of it, an introduction written with the goal of preparing the bases upon which construct the more critical and analytical interpretations of the region that follow. Indeed, these introductory lines do not attempt to elevate any sort of discussion, they are limited to provide an all-comprising presentation of the case, rich enough to get familiar with the area, but short enough to give space to more complex discourses regarding its logics, processes, interpretations and intricacies of the place.

The Pearl River Delta (PRD) is an urban agglomeration and administrative entity located in the Guangdong province within southern China (Fig. 3.1). It covers a territory of nearly 55.000 square kilometers and comprises 9 municipalities, namely Guangzhou, Shenzhen, Dongguan, Foshan, Jiangmen, Zhuhai, Zhaoqing, Huizhou and Zhongshan, plus two Special Administrative Regions (SAR), consisting in Hong Kong and Macao. These 11 independents but highly interconnected municipalities conform one of the biggest and densest urban agglomeration at global scale, housing nearly 60 million people of which 85% registered as urban. The region produces a GDP of nearly 1,2 trillion us dollars, and a total value of import and exports of over 900 million us dollars a year, therefore contributing to nearly 10% of the national GPD, 27% of its exports, 7,5% of its total retails, all while occupying only 1% of the national territory and accounting for barely 4% of the national population (Guangdong Statistical Yearbook 2018; China Statistical Yearbook, 2018). It is indeed a regional hub capable of operating at the level of many other countries of the world since its population equals the one of the United Kingdom, its GDP resembles Mexico's, its area equals Croatia's territory and its density is comparable with the one in Bangladesh.

The "prosperous" statistics that precede the area own its positive note to the political and economic shift that invested China in 1978, and to the more pragmatic ideas of Deng Xiaoping that considered that "It doesn't matter whether a cat is black or white, as long as it catches mice". Indeed, from the beginning of economic reforms the PRD already enjoyed particular privileges in relation to other regions of China. For instance, it was home to the first Special Economic Zones (SEZ) of Shenzhen, which turned from a small village to international relevant metropolis, and was and continuous to be used as an open laboratory of the state for testing policies, plans and ideas.

In recent years, the PRD has radically transformed from and area governed

by the presence of agricultural landscapes, inhabitants and practices operating at small and slow scales, to become one of the main economic hubs of the country and one of the nodes of greater economic relevance worldwide. This transformation has been accompanied by large scale and fast urbanization processes (Bie et al., 2015). Indeed, the contemporary urban landscape of the Delta barely recalls its historical shape. Waterways, rural villages, farms, fishponds, crops and local road roads have been supplanted by skyscrapers, highways, high speed rails, dense cities, undefinable suburban areas, and many other fragments of urbanity that are scattered across the area in a functional way highly supervised by the state and at the same time highly liberated from it (Fig. 3.2). Indeed, the transformation and development of the PRD has been strongly accompanied and dictated by a collection of experimental efforts at national, regional and local scale to achieve regional integration and international relevance (Schoon, 2014). Indeed, the area has been renamed and rebranded several times, consequently altering administrative borders. It has been progressively tied together by a massive infrastructuralization and materialization of mobility networks. And it has been productively organized in a way of guarantying access to the benefits of urban agglomerations by achieving labor specialization, accumulation of knowledge and capital, and high degree of mobility favor by reduced transportation cost.



3.1 | *Location and extension of the Pearl River Delta within Guangdong province*

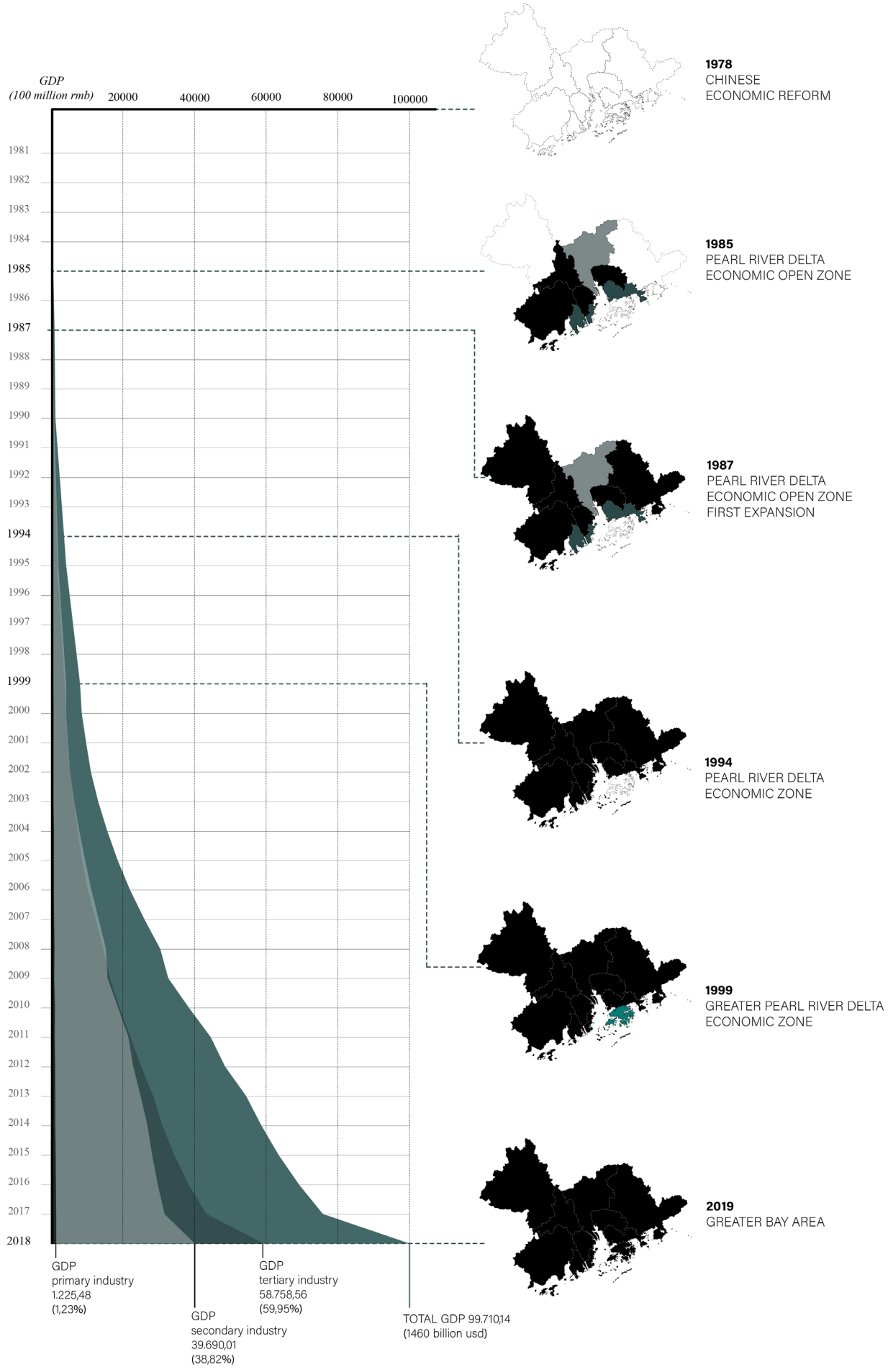
3.2 | *Pearl River Delta contemporary landscape. Photo by the author. 2018*

3.1 Delimiting the Pearl River Delta. Between names, borders and brandings

Leaving aside statistical and administrative definitions, how do we know that we are in the Pearl River Delta? How do we know that we are within one of the nodes of greater economic relevance worldwide? How do we know that we are in the largest and densest agglomeration in the world? Is it really possible to know? Is there an indicated edge to help us identify that we are inside or outside the so-called global city region? These same types of questions are addressed by Gandy (2012) when he asks, "Where does the city end?" When do we know that we have reached the edge of a city? Is there a sign that indicates the end of it? Is it an abrupt change in the construction density? Or is it a change in the landscape we perceive?[1]

Aware that defining the extent of the case study is already a methodological decision that has profound consequences in the investigation, is it important to try to understand where does the Pearl River Delta ends (or begins)? What spaces is it composed of? What does it comprehend? These apparent simple questions can have infinite answers that depend on the identification strategy to be followed, since an administrative, a political, a cultural, or a physical delimitation of the area can, and indeed do drastically change its extension, shape and reach.

Starting from the name and brand with which to refer to this area of southern China, the range of possibilities begins to be wide and plurivalent. Although this area is commonly known simply as Pearl River Delta (PRD) a name stablished in 1994 with the formal consolidation of the area as a distinguishable administrative unit of regional scale; through time other names such as Greater Pearl River Delta-GPRD (Stated in 1999), Pan Pearl River Delta-PPRD (Stated in 2004), Greater Bay Area-GBA (Stated in 2019), are all names that seem to refer to the same place. Even if they refer to – almost – the same place, each has been used in a historical and specific development period, with specific objectives and each has reflected different stages of consolidation through which the area has passed[2]. For instance, some of these names correspond to the creation of the special economic zones policies such as the notorious case of the instant city of Shenzhen (1980) and the relegated case of Zhuhai (1981). Other names coincide with the return of Hong Kong and Macao to the Chinese administration under the principle "one country, two systems" (1997 and 1999). And finally, others reflect the intention of the central government in addressing the development of the area as an integrated region. Indeed, although all these names refer to the same place, they define different territories, that are strongly marked by variations in their administrative borders, intentions and extensions, variations that activate different narratives and stories about the same geographical space (Fig. 3.3).



3.3 | *Variations of the administrative borders and relative names of the PRD*

In her essay *Writing on Water: Peripheries, Flows, Capital, and Struggles in the Indian Ocean*, Françoise Vergés (2003) advocates for a particular relation between identification, naming and mapping as a result of responding to new urgencies of self-reflection that when she declares: *"It has been said that to 'identify and name a place is to trigger a series of narratives, subjects and understandings.' It also triggers maps-imagined, real, fixed, inherited. Maps of friendship, of love, of family history, of political solidarity, of connections with people we will neither know nor wish to know, reified maps, dreamed maps, maps of memories."* In a similar direction, Hilgefort (2019) argues that behind the collection of renaming of the Pearl River Delta there is a strong rebranding strategy carried out by the provincial government and more recently by the central government. This rebranding is given with the objective of generating a global attractiveness capable of attracting global economic flows (Anttiroiko, 2015) and capable of directly placing the Pearl River Delta or rather Greater Bay Area, in competition with the Bay Area of San Francisco. Point openly stated in the *Development of the Outline Development Plan Guangdong - Hong Kong - Macao Greater Bay Area 2019, 2022, 2035*, the latest development plan of the area released in early 2019.

In fact, thinking of urban branding as a policy instrument is not completely foreign to the mode of development that is carried out in China, much less in the same PRD, with the exception that in the Delta it is mostly at the hands of local and regional governments. In this context, economic branding, for instance specifically related to the industrial profile, or cultural branding that evokes the idea of better cities, has been important instruments in the effective development of the initiatives that governments take at different levels within the PRD (Lu et al., 2018). At reginal level, by adopting these branding strategies, it somehow allows the area to choose a recognizable profile for itself, and thus redirect its development and future aspirations based on a somewhat utopian and propagandistic vision that attempts to build on their own industrial and cultural background. In the case of the Delta, the aspiration that has guided its urban and economic development has been to achieve global class city cluster status and to be recognized as a "First class Bay Area". That is, the different names and branding strategies that have accompanied the development of the Delta have been progressively constructed to follow an alternative way of seeking to reach the role of a global city region. Title that has already been granted repeatedly to the area[3] thanks to the detailed development plans that have been prepared since its consolidation in 1984 and that will be explained in depth in the section *Tracking the state made global infrastructure* within this chapter.

Looking for another identification strategy, if instead of trying to delimit the Delta through its administrative organization we try to do the same operation using its economic development as a basis, the result is completely different. The apparently rigid and inflexible administrative limits are diluted to give way to a flexible territory that expands until reaching the other side of the world. This flexible territory is made of trade and investment connections that start from this economic

node and extend infinitely to cross continents and weave bridges, connecting the local scale with processes of a larger scale, the global scale. The commercial flows that transfer the goods produced in the reputedly known "Factory of the World" (Bie et al., 2015) extend the reach of the Delta's territory to a scale that becomes much more difficult to track. However, the extended territory of the Delta is well rooted in its identity as a place. Its geographical conditions of being leaning against the mountains to the north and west, and facing the ocean in the south and east have given the region the peculiar characteristic of being open to the world while remaining relatively cut off from the rest of China (Bie et al., 2015; Marks, 1998; Shen et al., 2006). This geographical trail has strongly influenced the development of the region and has given the PRD a particular place in the economic development of Southern China.

For instance, historically the ancient Maritime Silk Road began there. Currently, taking advantage of the fact that the region has more than eight cargo ports, of which two are among the largest in the world, the Delta it is seeking to resume its relevant position within international maritime trade inside the recreation of the Belt and Road Initiative (BRI), a project that despite being surrounded by vague ideas regarding the urban-development-based tactic that is being carried out, it has been much more focused on ideas of infrastructure, economy and politics[4] (Hilgefort & Monteleone, 2019). Indeed the case of the Delta, the BRI has been taken as an additional benefit to the development of the place, and as an opportunity to further expand its reach in international markets, with the difference that this time instead of adopting the figure of global production center, the delta is proposed as a new high and advance manufacturing center driven by innovation. This means putting aside the label of factory of the world to give space to be recognized as a center of innovation and service economy. Depending on from where it is seen, the Delta seems to be an area that expands and contracts depending on what is opportune. On the one hand, it can be infinitely elastic and expansive as when it becomes a key point of economic flows that surpass its own physical dimension, for example as a starting point of the Maritime Silk Road, or as a point from which emerge commercial lines within the Pan-Pearl River Delta[5], therefore creating connections that cross the entire world. On the other hand, it can be as inflexible and rigid as when it becomes an administrative unit on which the development plans directly operated by governments of different levels fall. So, between this rigidity and flexibility, what dimension of the Delta does this research refer to?

This research refers to the combination of both because indeed the Delta can be both flexible and rigid at the same time. It can be as defined by statistics the most developed area of the province, occupying only 30% of the provintial territory, housing more than half of its population, producing more than 80% of its GDP and handlining 95% of exports and 97% of imports at provincial level (Guangdong Statistical Yearbook, 2018). But it is not only that, the Delta is also a global dream and a powerful narration capable of stablishing a strong platform

for the attraction, circulation and concentration of global, national and regional processes. It is a polyvalent urban, political, administrative, economic and cultural structure that function both at and abstract level made by fluxes (functioning strongly dictated by developments plans), and at a concrete level defining internal hierarchies, connections, densities and urban forms.

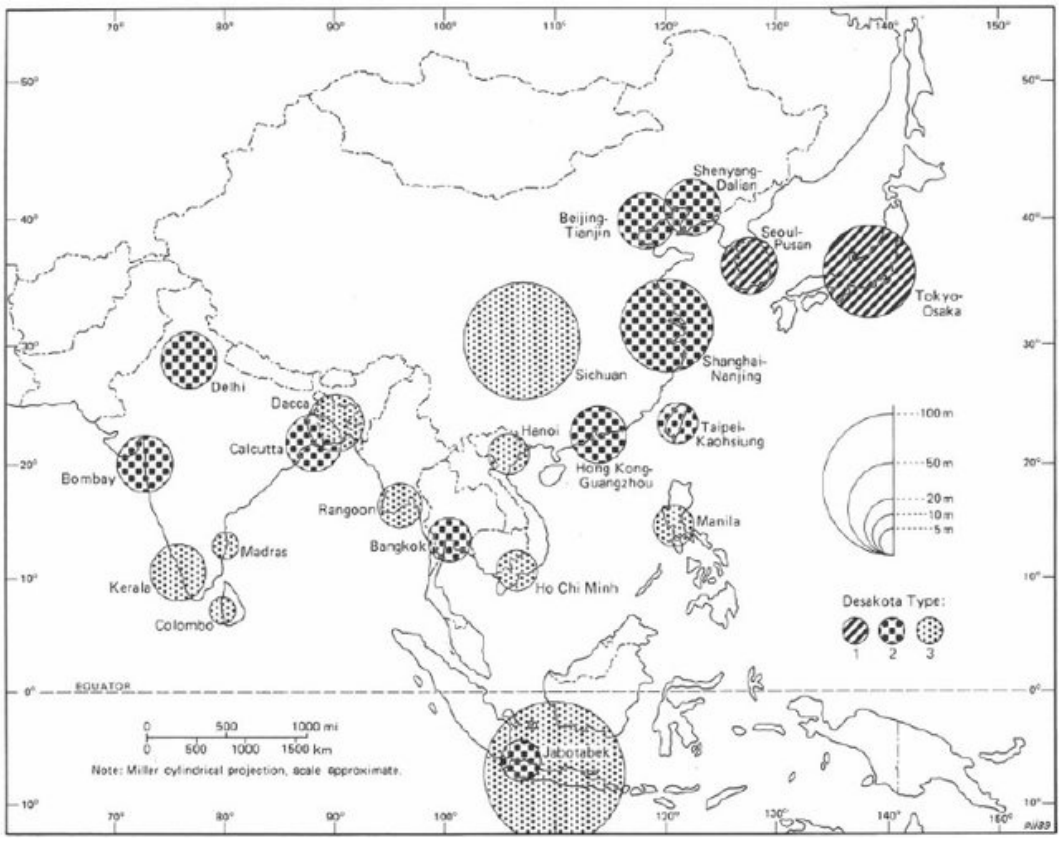
3.2 Addressing the variegated interpretations of the Pearl River Delta

The Pearl River Delta is somehow the giant of Guangdong and the historic battle horse of China. A place full of paradoxes and complexities that has attracted the attention of scholars at different stages and under many different lenses. Studying an area that has been recurrently a disciplinary obsession within urban studies and globalization studies represents an advantage and at the same time a problem. On the one hand the availability of information about the area is extensive and rich, the literature that runs the Delta is full of nuances, lenses and points of view that have somehow studied every little detail of this territory. On the other hand, this variety and heterogeneity of available material represents a disadvantage since it is a more laborious task to filter the information that gravitates around the area, since there is a lot of background noise within which to extract information that can be used to constructively a critical and updated narration of the place. In fact, it is possible to notice how much of Delta's contemporary literature has focused predominantly on economic and political interpretations of the place. Narratives and analysis based on a spatial, cultural and urban interpretations of the place are increasingly difficult to find, as the majority of studies and interpretations that focus on understanding the spatiality, geography, culture and urbanism of the Delta, are scarce, and when they do exist they dated and grounded in the thick work of literature that emerged during the 90s.

During that period, the attraction to the Delta reached peak and the area was flooded by a particular attention of urban scholars that saw it as an incognito place worthy of interpreting, as a mean to understand the rapid urbanization process that China was undergoing, as a key place for understanding how it partially represented a reflection of the processes that occupied Asia and it desire of achieving global modernization. One of the Delta's most referenced readings corresponds to the interpretation constructed by Rem Koolhaas (2001), where through the study of five cities in the Delta, he defined it as a city of 'exacerbated difference in the age of globalization". Under this approach, the Delta was seen as a very special product of urban development in terms of scale, speed and combination of lots of possibilities and impossibilities that generated a series of "post-planning projects." That is, a place where everything was possible, where ideas came after facts[6] and where alternatives to anything were established through the construction of a wide heterogeneity. Hou Hanru and Hans Ulrich Obrist (1997) expanded the idea of in Cities on the Move[7], an urban exhibition where they claimed that "such spectacular transformations are also a process of re-negotiation between the established social

structure and influences of foreign, especially Western, models of social structure, values and ways of living.". They compared the hybridity, speed and dystopia aspect of Asian modernization with western models and highlighted that these forming "Global Cities" unavoidably led to "contradictions, contestation, chaos and even violence" they highlighted how these belonged to a process of "collective consciousness or desire to (re-) establish Asia's strong position in a modern world through competing with other, especially western context".

Another interpretation of the Asiatic urbanization process that was strongly rooted in the Pearl River Delta was the idea of Desakota (Fig 3.4), elaborated by Terry McGee (1991). This concept represented an attempt to understand the new forms of extended urban activity that surrounded the city cores of many Asian countries, capable of contrasting the conventional vision of urban transition that was leading the moment, a vision founded on the maintenance of a strong distinction between urban and rural that was based on the idea of Gottmann's Megalopolis (1957). The idea behind the concept of Desakota, challenged the idea of megalopolis by arguing that this was not the only possible outcome in the Asian context, since thanks to the presence of high-density agricultural regions adjacent to large urban centers, a fertile ground was created for the growth of new forms of mega urban regions that could reevaluate urban-rural distinctions. McGee sustained that Desakotas were "regions of intense mixture of agricultural and nonagricultural activities that often stretch along corridors between large city cores" (McGee et al., 1991, p. 10) (Fig. 3.5).



3.4 | *Growth of core areas in Asia. Terry McGee 1991*

In addition to other Asian contexts, the four largest coastal areas in China were identified as Desakota. Specifically, the PRD was identified as Desakota type 2, where it was established that the main economic characteristics of these areas included the rapid economic growth of the area compared to other regions of the country, the shift from agricultural activities to non-agricultural activities in the areas adjacent to urban centers, and the exponential improvement of transport and infrastructure services. All points that are still valid today in a contemporary reading of the Delta. Although this reading was not exclusively focused on either the Chinese context or the context of the PRD, it became one of the keyways through which the territory began to be read from that moment forward. Thus, evidencing the power of concepts in constructing narratives that are associated with a place and that define the way in which we see them and in which we interpret them.

3.5 | *Desakota landscape in the PRD. Photo by the author. 2018*

3.2.1 The face of the unprecedented Chinese urban growth

One of the aspects for which the PRD has been most recognized, has been for its supposed extraordinariness, particularity and lack of precedents in the urban development of a region. These characteristics that have been ascribed to it have made it one of the most significant exponents that describe the spectacular urbanization process that has flooded China in the last 30 years. Intentionally or unintentionally, the PRD has become the face of Chinese urban and economic growth, not only because of the impressive numbers and statistics it has reached, nor because of the speed with which it has done so, but rather because of the innovative and avant-garde character it has had in relation to the rest of China[8]. In fact, the area has historically represented an open laboratory for the experimentation of the state, both at the level of governance, of opening to the market and of individual entrepreneurialism. Indeed, the area, mainly encompassed within the Guangdong Province, has since 1978 enjoyed the freedom to move one step further than other provinces in China (Vogel, 1990; Vogel et al., 2010), therefore, it has functioned as a pioneer in the experimentation of land uses and national policies (Schoon, 2014). These characteristics have made it the "most studied mega city-region in China" (Ren, 2013; Xu & Yeh, 2010) to the point of becoming somehow a disciplinary obsession during the 90's both for national and international academics.

Literature is flooded with different understandings and interpretations of this region. Despite the fact that during the 70's the Delta was predominantly a rural area dominated by agricultural landscapes, nowadays the descriptions and interpretations that narrate its urban and economic transformation, gravitate around the idea of an exceptional and unprecedented case.

In recent years the Delta has been described as "one of the most densely-urbanized regions in the world"; "one of the largest and most-populated mega-regions" (Florida et al., 2008); "the most polycentric global – city region in the world" (Bie et al., 2015), and has reputedly known as the world factory[9]. According to Bie (2015, p. 120), "nowhere else in the world can we find a conglomeration of so many economically significant cities woven so tightly together within a distance of 150 kilometers. The region was polycentric in the past as it is now". However, it has followed an ambiguous polycentrism (Safina, 2019) that has open the way for the development of variegated number of towns and villages (Li & Weichler, 2005) that contrasts the presence of certain urban centralities. Therefore, even if the Delta effectively transformed into a continuous inhabited center (Wei et al., 2017), this colossal conurbation has at its core a clear inner hierarchy (metropolis; big city; medium city; small city ; village) where the different nuclei have acquired different roles in the national and global scene (Bie et al, 2015). Some of the international roles of these nuclei have been intensified or minimized as China progressively integrates into the global economic and commercial system. For example, since 2001, the Delta has taken advantage of the impulse of China joining the World

Trade Organization (WTO), which gave economic globalization an extra impetus in the country. This fact has rebalanced the relations between Hong Kong, as the traditional hinge to the global market, and the mainland PRD. If once Hong Kong certainly operated as a global city and as the informational key hub for the region, while Guangzhou and Shenzhen, (which both are more populous than Hong Kong), hold the second and third positions in economic performance (both in GDP and FDI); today the roles have been partially reversed.

During this set of global and local transformations, the PRD has come to form a public recognized urban agglomeration that has shifted toward a polycentric shape enhancing its inner connectivity between cities. Many scholars have come to see the PRD as mega city-region with the potential of becoming a "global city-region" (Bie et al., 2010; Lin, 2001; Yang, 2006; Zhang & Kloosterman, 2016) others already consider it to be one (Timberlake et al., 2014; Xu & Yeh, 2010) and others consider it not even as single city-region but rather as a cluster of city-regions situated adjacent to each other (Wu, 2017). If we go back to the notions from Friedmann, Sassen and Scott, none of the cities in the Pearl River Delta can be seen as "world cities", but together they can be interpreted – and are indeed strongly interpreted - as a so called "global" city-region. Therefore, instead of concentrating in the evolution of single cities of the Delta, it seems most significant for this research, to understand how the web of relation between those cities has been woven, what actors have taken part in this process and how these relations have grounded in the physical space, expanding and coloring the rapidly rising importance of the PRD worldwide as an emerging "global" city-region and as so much more.

3.3 Tracking the state made global infrastructure. A discourse of policies and planning strategies

The role and strategies of the state within the construction of city-regions has been briefly touched in the previous part of these thesis. In the following lines, I attempt to further elaborate on those ideas, by using as a direct example the case of the Pearl River Delta and how local, regional and national level policies and guidelines have progressively shaped the city-region that we can know today.

Within the streams that try to explain the origin of the city-regions there are two clearly identifiable positions. The first strongly held by Scott in the development of his theory of global city-region, argues that these are the result of the regionalization of the economy as a product of globalization and consequently of the global economy (Hall & Pain, 2006; Scott, 2001, 2019). The second one, holds that in addition to the geo-economics driving forces, these spatial agglomerations are strongly shaped by strategies of governance and politics (Brenner, 1999; Jonas & Pincetl, 2006). Harrison (2014) defines these strategies as a "centrally orchestrated regionalism" that is developed by the neoliberal state within the discourses of competitiveness of

the city regions as an impulse for national economic development (Jonas & Pincetl, 2006). However, this thesis considers that the city-region agenda is more than simply a state-orchestrated neoliberal project. In this thesis, it is argued that both factors come into play. On the one hand, some city-region projects have been active for a long time, emerging as a response to locally rooted demands rather than as a part of an imposed national program (Deas, 2014). On the other hand, the strong state - directions of their development is acknowledge. In this way, the idea of an agglomeration that in an initial stage begins to be relevant worldwide as a product of local responses to international demands, and in a successive stage is strongly controlled and directed by the state is indeed conceivable. Under that combined framework is how the Pearl River Delta construction is analyzed.

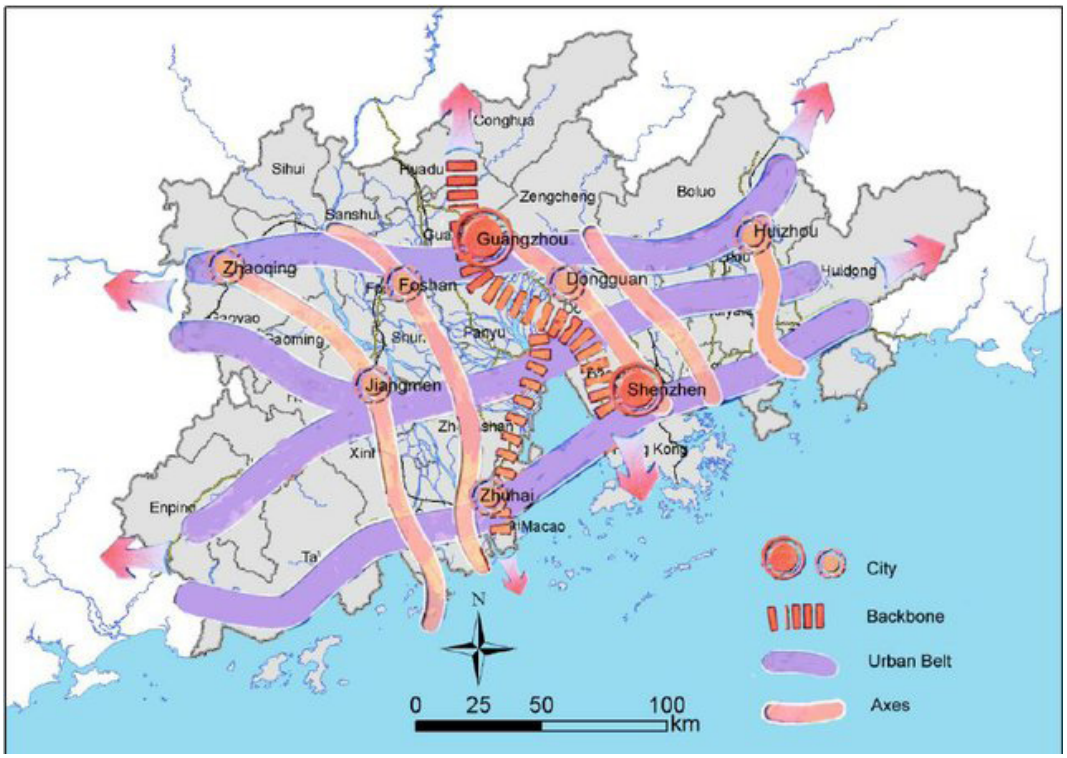
The emergence of the Pearl River Delta as an international trade center has its origins way before its official institution in 1994 and even before the construction of the People's Republic of China in 1949. In fact, the PRD has been historically present at the international level, first thanks to Guangzhou and its role as trading city within the ancient Maritime Silk Road[10], and later thanks to the emerge of Hong Kong as the bridge between China and the rest of the world. Despite the fact that this international prominence has been continuous, its relevance cannot be considered linear, since it has suffered decades of decline throughout history. Especially since 1949 when, following the establishment of the People's Republic of China, the economic connections between the mainland on the one hand, and the British-run Hong Kong and Portuguese-run Macao on the other were essentially cut, and their economic developments began to diverge. Within that period, Hong Kong bloomed in the international system and the mainland PRD remained stagnant due to national policies and due to the adopted centrally planned economy. For instance, Guangdong province was not selected for any key industrial project in the First Five-Year Plan (1952-57), so the main focus in the PRD remained in the development of agriculture and light agriculture related industry (Bie et al, 2015), in the same way during the 1960's in preparation to war, China concentrated the development on the inner lands following the direction of the Third Front Movement[11]. These decisions, entirely coordinated by the central state, did not seek the development of the Delta as an economic region of global relevance. On the contrary, they penalized and strongly weakened the area.

The approach of the state changed strongly from 1978 when it broke with the economic isolation of China and began its progressive process of incorporation into the global economic order again. From this moment forward, the state became explicitly a fundamental actor behind the economic development of the region. Guangdong and in particular the PRD became the experimental field of the country, and enjoyed a freedom that was still denied to other provinces (Vogel, 1990). If before, the area had been penalized, now it was being more than benefited. In early 1980's the two special economic zones were established in Shenzhen and Zhuhai, in 1984 Guangzhou was listed as an open coastal city, one year later the Pearl River Delta economic open zone was stablished and three years later expanded,

covering an area of approximately 44,300 km2 and including 7 cities and 21 counties (Chen & de'Medici, 2010). From then on, Guangdong province assumed the role of facilitator towards the construction of an integrated region and worked as a mediator between the national and the local governments. Therefore, a whole season of regional plans fostered by the central government and advocated by the provincial government was set in motion. From then on, agglomeration effects gained momentum, population and industry began to concentrate in cities.

Within that rapid growth scenario, the consequences of fiscal reforms, land reforms and market reforms the situation did not only change for national and regional governments, indeed it represented a turning point to local governments as well, as they were now allowed to store the extra capital produced for local use without the obligation to contribute to the central government. This gave rise to the increase of local entrepreneurship in a land-based approach to local development. Urban entrepreneurship was thus mainly urban based so that it focuses on the growth of cities. At the city-region level, the increase in urban entrepreneurship and lack of integration generated a series of effects such as rapid urban expansion, high level of inter-city competitiveness, economic separation. This lack of integration and high competitiveness between inner and outer cities of the Pearl River Delta was identified as weakness for the region by the governments at different levels. Consequently, taking advantage by the fact that the delta region is included within a single province (Guangdong) the creation of government policies was easier than in other regions of China (Xu & Yeh, 2010). Indeed, the Guangdong Province took absolute control of the situation and set the goal of "achieving regional competitiveness rather than competitiveness of individual cities" (Wu, 2015, p. 128), action that could be interpreted as an early sign of the construction of a regional governance (Wu, 2017).

An initial attempt of achieving regional integration as a tool for greater economic development in the face of the rising of globalization was the proposal in 1994 of the Pearl River Delta economic zone through the *PRD Urban Agglomerations Coordination Development Plan (1996-2010)*, with a particular focus on the coordination of the industrial infrastructure, urban development and environmental protection. These initiatives were re-proposed at larger scale after Hong Kong and Macao were returned to China in 1997 and 1999. The so-called Greater Pearl River Delta was seen as the main tool to promote intensification of regional economic cooperation. At this point both provincial and national governments started to propose several spatial development plans as a way of accompanying the economic development goals. In 2004, Guangdong province and the National Ministry of Construction completed the *Pearl River Delta Urban Agglomeration Coordinated Development Plan (2004-2020)*, this plan introduced the adoption of a dual-core, poly-centric, multilevel hierarchical urban system that emphasized the importance of central cities such as Guangzhou and Shenzhen[12] (Fig. 3.6). In relation to the previous plans, this plan represented a top-down process that maintain a coordinated order of spatial development in the face of intercity competition (Wu, 2015).

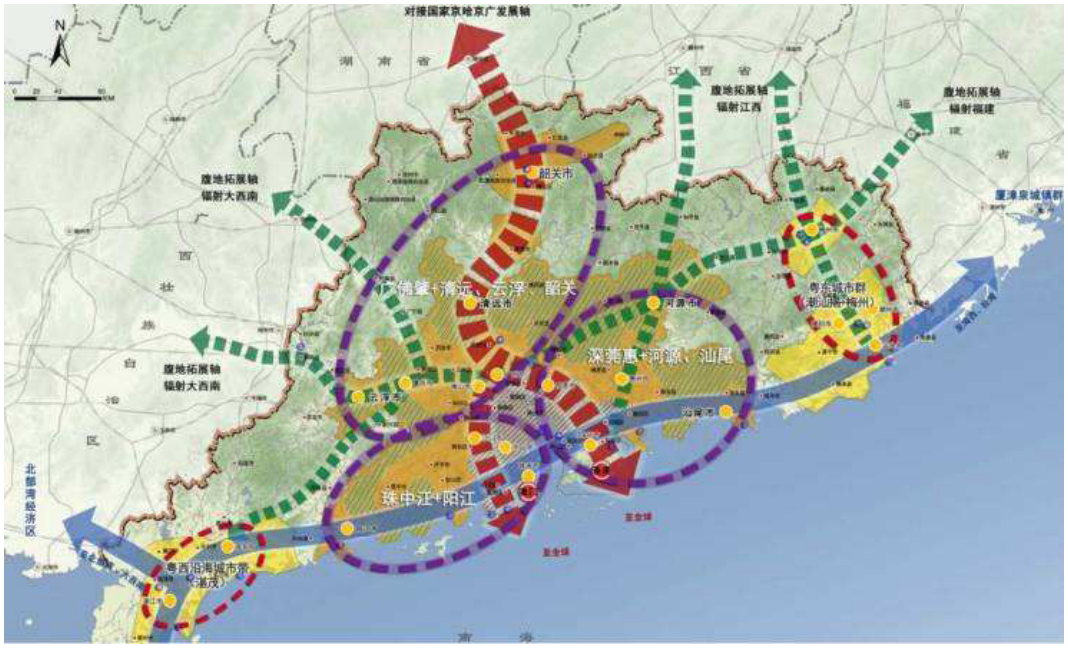


3.6 | *Pearl River Delta Urban Agglomeration Coordinated Development Plan (2004-2020)*

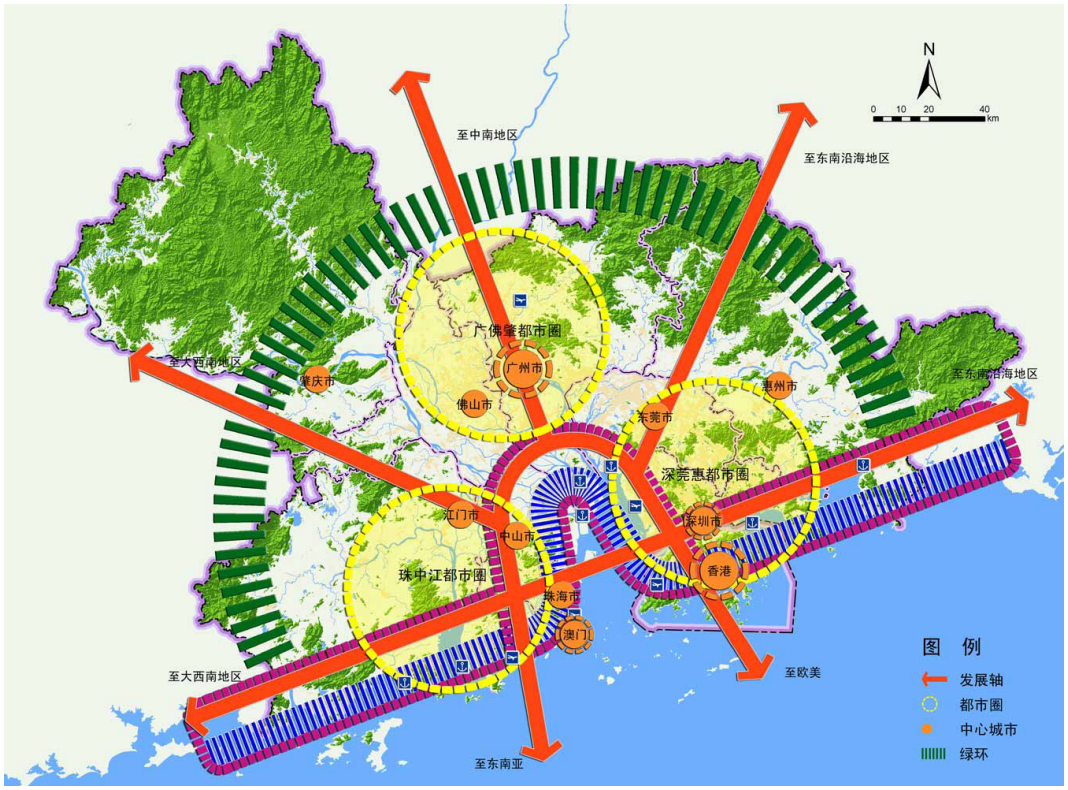
Within the deepening of the collaboration between mainland and the SAZ's, in 2008 Guangdong constructed the *Reform and Development Planning Outline for the Pearl River Delta region (2008-2020)*. Within this, the province took two steps to promote the PRD's regional integration[13]. First, it divided the PRD into three metropolitan areas with the goal of strengthening their internal integration: Shenzhen-Dongguan-Huizhou metropolitan area, Guangzhou-Foshan-Zhaoqing metropolitan area and Zhuhai-Zhongshan-Jiangmen metropolitan area. Second, it was hoped that these three metropolitan areas would, in turn, gradually co-evolve into an overall integrated region (Fig. 3.7). Within this plan infrastructure development became the most conspicuous aspect of growing regional integration through the proposal of the "one hour circle". This aspect was based on the idea of boosting the density of the GPRD's regional connections through the construction of intercity railways, high-speed trains and highways, as well as overcoming the historical separation between the eastern side and the western side of the estuary.

Recently the Greater Pearl River Delta has been rebranded as the Greater Bay Area with the implementation in February 2019 of the *Outline Development plan for the Guangdong-Hong Kong- Macao Greater bay area (2019-2022-2025)*. This plan promoted by the state council is the response to the implementation of the principle "one country, two systems[14]" and the demanded cooperation between the mainland and the two SAR's. As the latter regional plans, it is made of three main parts. First, an economic development plan that in this case sustains an "innovation driven development strategy", responding to the national strategic plan "Made in China 2025"[15]. Second, achieving cooperation for the creation of "world class city cluster" and "first class Bay Area", for doing so it makes a great emphasis on the development of Hong Kong- Macao – Guangdong Cooperation Platforms [16]. Third, proposed a spatial layout that is based on a dense network "driven by poles and supported by axes", that relies on rapid transport networks and enhances the development of the west bank by supporting strong urban cluster combinations such as the Guangzhou-Foshan-Zhaoqing Metropolitan Area introduced in 2008 (Fig. 3.8).

Through the different regional plans that have shaped the development of the Delta at a physical, functional and administrative level, the central figure of the state can be effortlessly identified. From the moment that it became an important actor in the construction of the region, it has used its role as a tool for the construction of broader agendas. Either by regulating the economic development, giving directives towards the spatial macro-organization of the region, building production chains that guarantee an industrial complementarity between cities or ensuring intra-governmental relations between mainland and SARs. This fundamental role of the state is de facto not a surprise. International literature presents this as one of the key factors behind the construction of city-regions (Wu 2017, Brenner 1999), and Chinese literature presents it as intrinsic factor or regional integration. Indeed, the state's intentionality behind the early and contemporary development plans of the Delta has been clear, state fulfills a coordinator role (Lin, 2009; Ye, 2014). A role



3.7 | *Reform and Development Planning Outline for the Pearl River Delta region (2008-2020)*



3.8 | *Outline Development plan for the Guangdong-Hong Kong- Macao Greater Bay Area*

that by the reterritorialization and state spatial selectivity highlighted in Chapter 1, makes the Pearl River Delta as a clear tool of the state. A handcrafted physical infrastructure that works at a global level as a mean in which to apply - and exclude from - national policies and as a specific and controllable terrain through which to attract capital accumulation and international relevance. In fact, it can be said that to the state and the global processes, the Pearl River Delta is just that; a massive state-made global infrastructure that has been steadily constructed by national, regional and local policies. A selected instrument that has been meticulously created as a response to the set of dynamics set in motion by globalization. Not only as a direct response that counteracts decentralization or the highly inter-city competition induced by urban entrepreneurism, but as a state spatial-scalar selection of its operational reach, to pursue and ensure the improvement on the economic development and the climbing up within the global hierarchy.

3.4 Displacing the observation point

The visions and reflection of the Delta that have been presented so far come from a privilege dual position. A position that first is constructed thought the presence and relevance of the largest cities of the Delta, and second, considers city region creation and regional integration from the center towards the margin. In the following lines I raise the question of *What happens when the observation point is displaced? What additional inside can we achieve? How does the narrative of a place changes by the change of the point from where it is seem?*

Traditionally, studies concerning global city-regions radiate from the main cities of the region and bypass the variety of small and medium cities that are distributed within them. In the case of the Pearl River Delta most of the studies are concentrate in the main cities like Guangzhou, Hong Kong and Shenzhen and homologate characteristics of those particular urban centers to the smaller centers that have small if not none real influence into the global networks. If beside that, we consider than small and medium cities are growing faster than bigger cities worldwide, then it becomes important to see how those new growth poles are being linked to the global networks and how they represent new observations point of the urban transformation. Not only because they are a product of a new wave of urban expansion – at least they do in the case of the Pearl River Delta – but also because they respond to different logics that may not have been present before. Moreover, displacing the observation center from the inherited points of observation can help to understand something new about the original center itself.

During the initial literature review in Chinese context, a relevant and common critique with the western literature was identified. The focus on the study of largest cities such as Beijing, Shanghai and Guangzhou and the sustainable gap in understanding socio-spatial transformations in medium and small-sized cities, represents a missed opportunity to observe the whole field of global urban studies. In Chinese context this is a particularly relevant problem because Chinese small

and medium sized cities are growing even faster than large cities and they provide new frontiers for future research (Ren, 2013). However, this is not a situation that exclusively occurring in China.

Recent literature suggest that small cities have been ignored by urban theorist (Bell & Jayne, 2009; Bunnell & Maringanti, 2010; Han, 2010; Jayne et al., 2010) and that studying them is as important as studying the big cities (Garrett-Petts, 2005; Ofori-Amoah, 2007). Bunell and Maringanti (2010) even suggest that urban and regional studies should go beyond "metrocentricity" and surpass the only 3 or 4 paradigmatic cities that are repeatedly studied. They relate this problem to the formation and practise of researchers and their reluctant to venture beyond their comfort zones. In order take into account these ideas and frame this research is important to understand what can be considered as a small city. However, Bell and Jayne (2009) indicates that any attempt to offer a rigorous definition of small cities is problematic due to the gaps in current research. They suggest that i. trying to define small cities via population size remains problematic due to the straightforward issue of that urban hierarchies differ greatly in different part of the world, therefore when thinking about how small is small, size should not to be absolute; ii. Small cities must often be theorized and hence defined in term of the political and economic system of a metropolitan region; iii. Small cities can "punch above they weight" via symbolic engagements in the urban economy. The important idea is not defining the size of the city by its physical dimension but by how they are imagined, experienced and connected within regional flows and networks.

Acknowledging the importance of going beyond metrocentricy and beyond the consolidaded lectures that the PRD has had, in this section, the observation point of the Pearl River Delta shifts from the center of region to its western border. If focuses on Zhaoqing City and the construction of Zhaoqing New Town in order to study how are those regional and global oriented indicators are taking shape into a local territory. First, the focus is on the progressive attempts of Zhaoqing of reaching the central agglomeration, then the focus will be in the latest municipal initiative of Zhaoqing New Area, a new town that aspire to achieve this so desired urban integration.

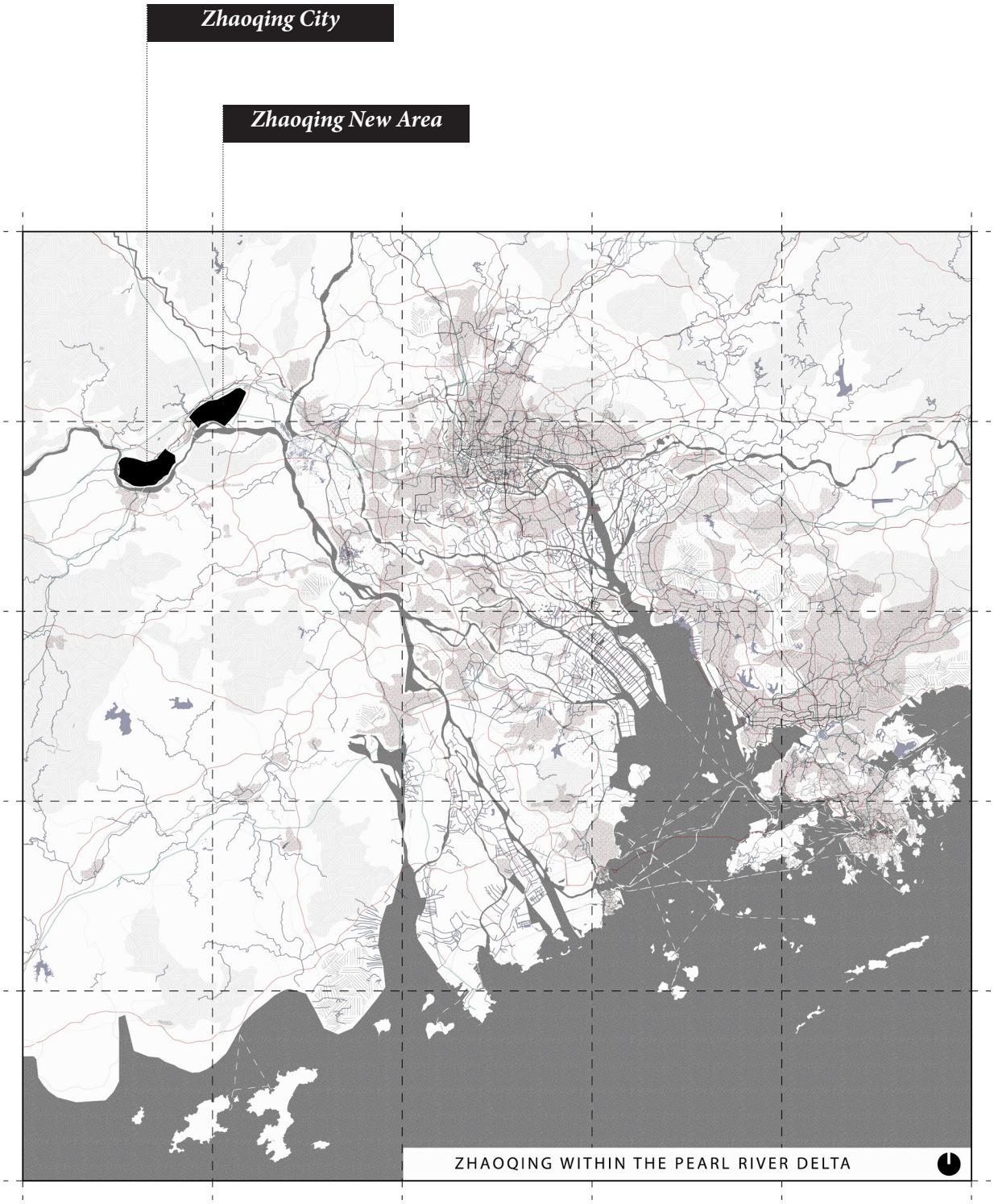
Before addressing the dislocated observation point, it is however vital to highlight that idea of small city in China is quite different from the idea of small city in Europe or USA. Starting by the scale differences, we are not talking about small towns that want to stay small; we are talking about cities that actively seek their growth and see in it a potential. Chinese small cities have acquired an important entrepreneurial presence. Local governments aspire on rising their status in the city's hierarchy because the higher the level, the higher the benefits, autonomy and consequently the power. They aspire entering the competitive arena and have understand that urbanization is one of the best ways of doing it. They rely on urban expansion as a strategy for attracting national and international investment, support from a higher-level government and acquiring economic growth. Han (2010)

indicates that the urban expansion of small Chinese cities is i. result of growth of population and economy, ii. Result of government planning for economic growth, iii. Result of profit seeking by multiple actors in the development process. In this process one of the main actors is the state, it has its own interest and priorities. It actively co-operates with investor and private figures, offers preferential treatment to possible investor and established private-public partnerships for achieving ambitious infrastructure projects (Ren, 2013).

3.4.1 A peripheral view from Zhaoqing

Within the numerous and extensive urban explorations of the Pearl River Delta, Zhaoqing has remained as an uncharted territory. It has been a kind of close land, where knowledge about the city among outsiders has been limited, and the stories and acquaintance produced by few travelers has been filled with historiographic and religious tales (for instance Zhaoqing is particularly know by the work of Matteo Ricci) and the dramatic features of it landscapes and scenographic natural environments (Fig. 3.10 & 3.11). Little has been said about Zhaoqing in relation to its urban forms, extension, role within the region and integration process. That incognito existence of Zhaoqing in not indeed surprising since in term of development, it can be considered the less developed municipality of the region, therefore is has never formed part of the great discourses and analysis that situate the PRD at the top of the world economic order.

From a map, Zhaoqing it quite easy to identify, since it is one on the last remaining urban compact nucleus of the Delta. It is indeed an urban area of 85 km^2, and 665,000 inhabitants (Statistical Yearbook of Zhaoqing 2018) situated 80 km west of Guangzhou along the main infrastructures that web the north western part of the Pearl River Delta. Indeed, its position is not a particular advantageous one, since it is located on the western edge of the Delta[17], an area which has never been fully part of the major processes in which this agglomeration has been involved, and an area that compared to the rest of the region has historically undergone less economic, urban and infrastructural development (Wei et al., 2017).[18] The marginality of Zhaoqing is not only a result of reduced development or connections, it is also a result of geographical conditions of the area,[19] since indeed the city is surrounded by extensive waterways, mountains, and vast rural lands that have kept the city physically separated from the rest of the PRD. As a consequence of location, geography and lack of protagonism, even if the Pearl River Delta has progressively transformed into a continuous urban agglomeration, Zhaoqing has remained marginal to this enormous conurbation (Safina, 2019) (Fig. 3.9)



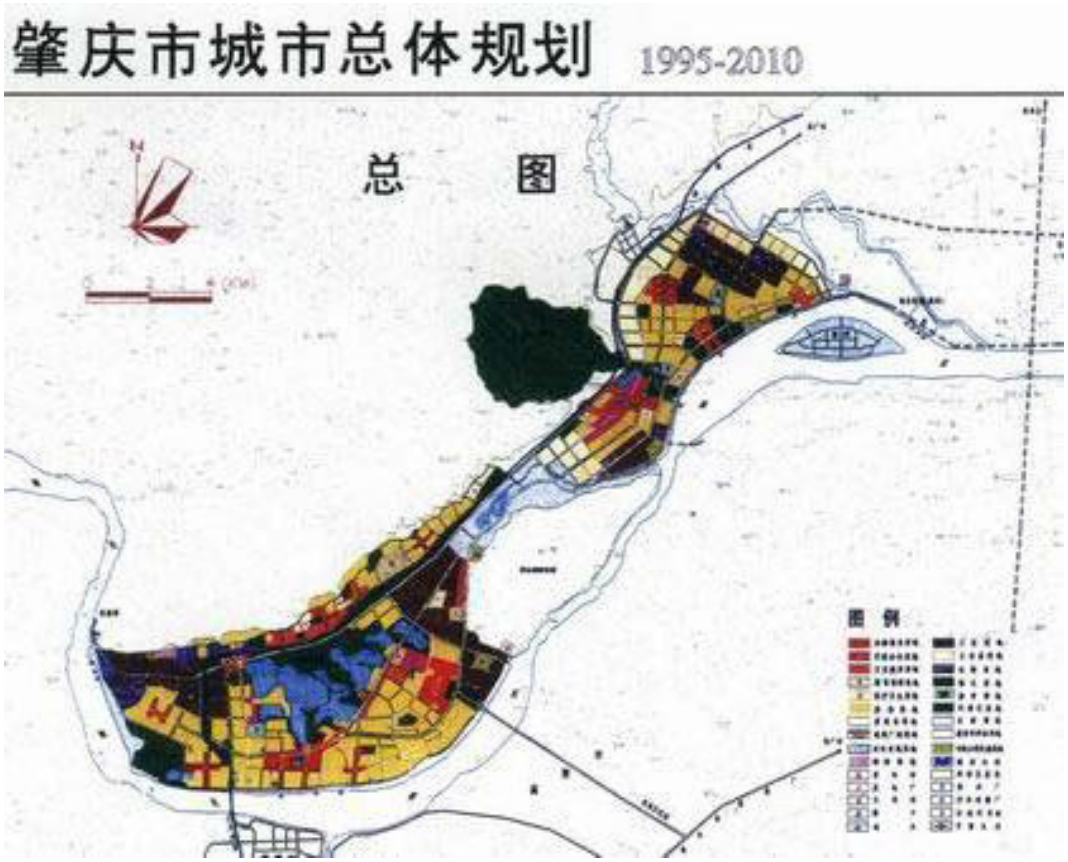
3.9 | *Location of Zhaoqing within the PRD*

3.10 | *Scenographic lansdcape of Seven Star Crags in Zhaoqing. Bruce Connolly. 1992*

3.11 | *Zhaoqing City. Bruce Connolly. 1992*

Even if Zhaoqing has remained somehow isolated from the agglomeration of the central areas of the Delta, there have been several attempts to reach an improvement of regional integration and regional protagonist role. Beginning in the nineties, several initiatives led by the municipality were implemented to integrate Zhaoqing into the Pearl River Delta. In particular, these initiatives tried to *link* the settlements and infrastructures by promoting expansion eastwards, along the river. More specifically, in 1995 the *Zhaoqing City Masterplan 1995-2010* involved not only doubling the size of the existing city by creating a new urban area linking Zhaoqing to the Dinghu District, but also enhancing the infrastructure network along State Road 321 between Guangzhou and Chengdu. The aim of this operation was to increase the urban density of the agricultural land between Zhaoqing and the PRD; however, the operation remained unimplemented in the decade that followed due to weak municipality actions and lack of provincial coordination (Fig. 3.12).

The situation deeply changed at the turn of the century, a period when the provincial government became a more powerful protagonist and promoted numerous initiatives to facilitate integration between several ineer and secondary centres in the Pearl River Delta.



3.12 | *Zhaoqing City Masterplan 1995-2010*

The statal initiatives that pursued higher regional integration reflected the national "new season" of urbanization where the scale of the implementation of urban competition changed from intraregional competition between individual centres to regional competition between city-regions (Wu 2015)[20]. Such initiatives gain strength in 2004 by the construction of the *Pearl River Delta Urban Agglomeration Coordinated Development Plan (2004-2020)* promoted by the Guangdong province and the National Ministry of Construction. The document recommended the development of a dual nuclei, polycentric and multilevel urban system capable of organizing the ambiguous polycentrism of the region in what was assumed to be a more efficient spatial organization.[21] Despite the local efforts of Zhaoqing, of achieving regional relevance, once again the city was undervalued in the regional plans as the focus centred in the larger and central cities of Guangzhou and Shenzhen.

Such focus in central cities drastically changed with the arrival in 2008 of the *Reform and Development Planning Outline for the Pearl River Delta Region (2008-2020)*,[22] a document once again drafted by the provincial government, which divided the Pearl River Delta into three metropolitan areas, that in turn made up of three major centralities[23] and that would reinforce internal integration between the three central areas by promoting coordinated actions. This plan was a significant step for Zhaoqing as the city was once and for all explicitly included into the regional spatial dynamics – or at least it was planned to be included. Indeed, Zhaoqing became part of the Guangzhou-Foshan-Zhaoqing metropolitan area and together with Foshan was identified as one of the "two backbones with multiple poles that can promote the development of the peripheral areas and achieve advance urban expansion" (*Development Plan of Guangzhou, Foshan, Zhaoqing Economic Circle 2010-2020).* [24]

Impulse by the possibility and intention of the region in welcoming Zhaoqing, the city's municipality decided to boot the expansion of the city towards the Pearl River Delta by launching in late 2010 the Zhaoqing City Masterplan 2010-2020. A document that synthetized all previous efforts of shifting west by proposing a continuous new urban area capable of encompassing the scattered settlements of Dinghu New District and Zhaoqing Hi-Tech Area, both previously completed urban development that remained isolated not only from the city of Zhaoqing but from the rest of Delta (Fig. 3.13). The new city's masterplan is strongly based in two principal strategies already successfully tested at regional level, namely the construction of infrastructure systems linking the city to the PRD through a brand new collection of intercity tracks, and expressways, and the construction of new areas or new towns that are changing the face of urban China (Bonino et al., 2019; Governa & Sampieri, 2020).

3.13 | *Zhaoqing City Masterplan 2010-2020*

3.4.2 Zhaoqing New Area: a last resort effort of spatial saturation

Perhaps the boldest attempt of Zhaoqing Municipality for materializing its integration to the Pearl River Delta has been the construction of Zhaoqing New Area, a new town proposed by Zhaoqing municipality in 2011 and approved in 2012 througt the *Zhaoqing New Area Concept Planning*, a masterplan drafted by the China Urban Planning Design Institute of Shenzhen. The masterplan proposes a settlement of 600,000 inhabitants within an area of 115 square kilometres in the central part of the Dinghu district, 18 kilometres east of the old city of Zhaoqing (Fig. 3.14). Zhaoqing New Area has been repeatedly presented and renamed as a National Low Carbon Green Development Demonstration Zone, thus proposing it as a regional pilot project for ecological and environmental requalification (Song & Xi 2015)[25]. Indeed, the new area present itself as a healthy liveable ideal city, qualified to become the new local administrative and cultural centre of Zhaoqing City.

3.14 | *Zhaoqing New Area Masterplan*

The case of Zhaoqing New area is not an exceptional strategy as many Chinese small cities (and also big ones) have planned or are planning important urban expansions by creating new districts and new towns. Since these new settlements represent an investment, financing and urbanizing platform capable of becoming a market instrument (Wu, 2015) and flexible containers and catalysers of urbanity (Governa & Sampieri, 2020). Indeed, behind the construction of Zhaoqing New Area there is a strong intention of gradually densifying the territory to the east and saturating the available agricultural lands that separates the existing city from the PRD urban agglomerate. Such occupation and radical trasformation is being progressively achieved by following the densification strategy repeated in almost every other city of the region (Fig. 3.15).Witnesses of this fact, are the over 30 rural villages present inside the perimeter of the new development, from which 15 contain historical buildings and which future is still uncertain (Research Centre of Architecture, History and Culture, SCUT, 2017).

3.15 | *Evolution of the construction of Zhaoqing New Area. Samuele Pellecchia. 2017*

Looking inside the intentions and aspirations of the new area, it is possible to highlight how it aspires to serve as the city's sub centre, establishing a transport hub, setting the model for new urban planning and management, developing high-tech industries, low carbon energy industry and accelerating the development of environmental tourism. All with the aspiration of becoming the new cultural and administrative center of Zhaoqing. Simultaneously, the New Area will provide more development space to the very geographically restricted possible expansion of the established city. Along with providing a wider development framework to the city, the main scope of Zhaoqing New Area is to put Zhaoqing under the spotlight, acting as a demonstration zone for the region and speeding the construction of the "Guangfozhao economic circle". This bidirectional integration is intended not only on a physical scale but also as an operative and economic integration. In fact, Zhaoqing New Area has been entirely planned to full fill the regional guidelines and to introduce Zhaoqing City into the competitiveness of the PRD region as indeed the new area "translates" infrastructure, economic, social and urban regional plans into the actual New Area planning. We can say that the construction of Zhaoqing New Area means the creation of a new centrality inside a very dense territory, means saturating not only the physical space but also the network between cities under and economic, social and functional perspective. In this way Zhaoqing New Area represents an urban bridge where through urban densification and saturation, is it possible to achieve regional integration and presence.

At a spatial dimension, the New Area does not have any particular features that collocate it above the many other new towns that continue to mushroom in the Delta. Indeed, it can be spatially summarized by the slogan "one axis, two corridors and three spatial patterns" (Zhaoqing New Area Development and Planning Bureau, 2016). A generic description than can be easily applied to many other urban areas non only in the Delta but in the world. However, grounding this slogan, the initial shape of the project begins to take form. The central axis transforms into 12 kilometres set of roads expanding from north to south until reaching the West River and accommodating the most prominent offices and commercial activities (Fig. 3.16). The two corridors located in the north and south border of the new area limit the possibility of a further expansion by equipping the peripheries of the area with recreational and service uses distributed within a recreated "natural environment". Finally, the three spatial patterns materialization in the form of three sub areas considerably different between them. The first one, named "core functional area" extends for 60 kilometres and is responsible for hosting the new administrative centre of Zhaoqing, among the most important cultural, educational and sport facilities of the area (Fig. 3.17). It is also home for the main public spaces that attempt to create a new centrality by basing its shape in the presence of a brand-new lake (Yanyang Lake), wetland parks and waterfronts. The second sub area consist on a "Healthy Livable Area" that cover 50 sq kilometres of north eastern part of the new town, the area includes remnant of agricultural field and fishponds mixed with requalified rural villages. Here, the goal is integrating urban agriculture practices

capable of motivating the rising of a "green industry". The third and final sub area corresponds to the "Port Logistics Area", an area that stretches for 10 kilometres of the south banks to host the main industrial, logistics and port activities connected to the frenetic navigation and trade of the waters of the PRD.

3.16 | *Deserted roads within the construction site Zhaoqing New Area. Photo by the author. 2018*

3.17 | *Fully operational sport center within the construction site Zhaoqing New Area. Photo by the author. 2018*

For now, the construction of the new town is still at its early stages, as indeed the city still does not exist. The main mobility axes and the main landscape projects are beginning to take shape, together with some scattered fragments of the city that begin to drag people into the future development (Fig. 3.18). Indeed, the High-Speed New Train Station – for now isolated from the advancement of the construction- the local university, the private school, the sport centre, the "international" hotel and a sample of the high rise apartments that will compose the residential potential of the area are the only urban objects than have been constructed. This somehow represent the landmarks of the future, as indeed even if the new area has been constructed only to a 15%, this already completed and operating spaces are enclaves jumps to the future. To a future that belongs to the Pearl River Delta urban agglomeration. A future that aspires to be relevant to the regional development of the area, "to reclaim protagonism […] to shift the barycentre of the Pearl River Delta further west" (Safina, 2019, p. 114).

3.18 | *Evolution of roads construction within Zhaoqing New Area. Samuele Pellecchia. 2017*

Notes

1 Although Gandy raises these questions with the intention of arguing that we cannot give the city an edge since it is, or at least urbanization is, practically everywhere, the questions seem to be relevant in understanding the reach and extent of the case of study that supports this research. Without a doubt, trying to define the extension of the case study a priors is a difficult task since it involves fixing an upper and lower limit to the area under investigation, and also defining a called frame and granule that could influence the depth with which the area is analyzed and the level of detail adopted by the observation.

2 The first use of the name Pearl River Delta (PRD), arises after the appointment of Guangzhou as a "coastal open city" in 1984 and the establishment of Shenzhen and Zhuhai as special economic zones. By then, the area only included the municipalities of Foshan, Jiangmen, Huizhou and Dongguan. Later, in 1987, it expanded to include the municipalities of Zhaoqing, Zhongshan and Qingyuan, and again in 1994 expanded to include the municipalities of Shenzhen and Zhuhai maintaining their function of special economic zones (SEZ). After the return of Hong Kong and Macao to the Chinese administration, the territory of the Delta expanded again and was renamed as Greater Pearl River Delta (GPRD) and included the 9 municipalities of mainland China and the two special administrative areas (SAZ). Since then, this territory has remained invariable in its extension but varied in essence, especially thanks to efforts by the central government to create an integrated region of global level.

3 In his text *Rise of the Network Society*, Manuel Castells (2000) already identified the Pearl River Delta as one of the booming city-regions in the global network economy.

4 In fact, while many countries seek to define their territories through intangible lines, China plans to do the opposite. That is to say, to expand its territorial reach through an intense infrastructuralization capable of directing flows of commercial exchange and capable of placing the barycenter of the world economic order in China. This global scale initiative has a direct impact on the ground through which it passes, that is, it not only influences the concrete made hardware that defines the new infrastructure systems that are progressively activated along the lines of investment that the plan draws on a geographical map, but also It relapses heavily on the urban nodes that finds in its path, either by creating new centralities, by strengthening important existing nodes or by bypassing places not interesting enough to be integrated (Hilgefort & Monteleone, 2019).

5 The Pan Pearl River Delta consist on a regional grouping that includes Guangdong province plus the surrounding eight provinces of Fujian, Jiangxi, Hunan, Hainan, Guizhou, Sichuan, Yunnan, and Guangxi in a regional grouping aimed at fostering trade, economic exchange, investment and development opportunities. It represents a supra regional organization built in early 2004 that reinforces the idea of regional developments guided by cooperation instead of competition (Yeung & Jianfa, 2008).

6 In fact, Hou Hanru, sustains that in the Pearl River Delta everything is possible and negotiable and he exemplifies on that when he declares that is very common for entrepreneurial to buy a piece of land and built something before planning the city. "That" something can change according to the interest of the market.

7 *Cities on the Move* was a major travelling exhibition that toured from 1997 to 1999 and represented the cultural impact of East Asia's rapid urban development in the late twentieth century through a mix of visual art, architecture and film. It was considered a "landmark event in contemporary exhibition-making for its extensive use of urbanism theories, its strong involvement of architects and its attempt to recreate an ever-evolving city within an exhibition space" (Asia Art Archive)

8 Hanru (1997) argues that an important factor within that advantageous position of the Delta lies in the fact that this has always been a revolutionary land. Not in the sense of ideological or political confrontation, but much more about providing alternative visions of things. This

has been very deeply built in the DNA of the PRD's people and territory.

9 Wu (2017) suggest that the entire country became the world's factory since it joined the WTO in 2001.

10 Xu (2006) highlights that the peculiarity of being open to the outside world while being largely cut off from the rest of China due to its geographical context (leaning against the mountains in the north and west and facing the ocean in the south and east) has deeply influenced the development of the region. Liang (2003) elaborates on that arguing that this maintained distinct cultural features and a more independent and open outlook to the outside world than the rest of the nation.

11 The "third frontier initiative" was a policy originates in the sixties that aimed at boosting the development of the inland territories of China by creating large industrial sites. It represented a decentralization of production that responded to the vulnerability of the overconcentration of industrial facility in the coastal areas of the country. (Wu, 2015)

12 The plan underscores the importance of central cities - Guangzhou, Shenzhen and Zhuhai – and creates a development watershed (the estuary area of the Pearl River): three functional belts stretching from north to south, and five economic development axes from east to west (Bie et al., 2015)

13 The *Reform and Development Planning Outline for the Pearl River Delta region (2008-2020)* planned to spend of nearly 2 trillion renminbi (RMB) (US$322 billion) on more than 150 major infrastructure improvements is forging a colossal network of transportation, water, energy supply, and telecommunication facilities.

14 "One country, two systems" is a constitutional principle formulated by Deng Xiaoping, for the reunification of China during the early 1980s. It touches the relations between mainland China and Hong Kong and Macao. Under the principle, each of the two regions could continue to have its own governmental system, legal, economic and financial affairs, including trade relations with foreign countries.

15 "Made in China 2025" is a strategic plan of China issued by Chinese Premier Li Keqiang and his cabinet in May 2015. With it, China aims to move away from being the world›s «factory» (producing cheap, low quality goods due to lower labor costs) and move to producing higher value products and services. It is in essence a blueprint to upgrade the manufacturing capabilities of Chinese industries.

16 In particular focuses the attention in the development of Qianhai (modern industry cooperation between Shenzhen and Hong Kong), Nansha (demonstration zone for comprehensive cooperation between HK, MC-GD) and Hengqin in Zhuhai (as a cooperation zone between Guangdong and Macao).

17 Historically, urbanization, infrastructures and the economy in the west part of the Pearl River Delta have been less developed than in the area to the east (Wei et al 2017). Recent studies have demonstrated a megalopolis existing and extending from Hong Kong to Jiangmen, linking the major regional urban centers on the east bank of the Delta. Cities are less developed on the west bank but are nonetheless beginning to show signs of a young urban conurbation spreading between Macao and Guangzhou along a secondary development axis.

18 This interpretation is confirmed by data regarding the GDP of Zhaoqing (30.3 billion dollars in 2015, according to official statistics), while the GDP of Shenzhen was almost nine times higher, reaching 269.5 billion dollars that same year (Guangdong Statistical Yearbook 2016).

19 Situated on the west part of the Pearl River Delta, Zhaoqing is surrounded by an intricate hydrographic system overshadowed by the west river (Xi Jiang), mountainous areas such as the Dinghu Mountain, and natural woodland reserves.

20 In 1984 Guangzhou was defined a coastal open city. The following year the PRD economic zone was established. The PRD economic zone covered an area of 21,500 km^2 incorporating four cities (Foshan, Jiangmen, Zhongshan, Dongguan) and 12 counties. In 1987, the State Council increased the economic zone to 44,300 km^2 and included seven cities (Foshan, Jiangmen, Huizhou, Zhaoqing, Qingyuan, Zhongshan, Dongguan) and 21 countries (Chen 2011).

21 The plan underscores the importance of central cities - Guangzhou, Shenzhen and Zhuhai – and creates a development watershed (the estuary area of the Pearl River): three functional belts stretching from north to south, and five economic development axes from east to west (Bie & Derudder 2015).

22 The Reform and Development Planning Outline for the Pearl River Delta region (2008-2020) envisaged an expenditure of roughly 2 trillion renminbi (RMB) (US$322 billion) invested in more than 150 projects to enhance major infrastructures and create a colossal transport, energy supply and telecommunications system network.

23 The three metropolitan areas are: the Shenzhen-Dongguan-Huizhou metropolitan area, the Guangzhou-Foshan-Zhaoqing metropolitan area and the Zhuhai-Zhongshan-Jiangmen metropolitan area (*Reform and Development Planning Outline for the Pearl River Delta region 2008-2020*)

24 According to the Development Plan of Guangzhou, Foshan, and the Zhaoqing Economic Circle (2010-2020), the cluster of cities included the administrative regions under the jurisdiction of Guangzhou, Foshan and Zhaoqing, with a total land area of 26,232 square kilometres and a permanent population of 23.813 million.

25 In 2015 the population registered in the districts of Duanzhou and Dinghu (districts with the urban settlement of Zhaoqing City) was equivalent to 665,600 individuals, distributed as follows: 494,000 in the Duanzhou District and 171,600 in the Dinghu District (Statistical Yearbook of Zhaoqing 2016).

PART TWO

Bringing space back in.
A reflection between methodology and experience

If the first part of this thesis discusses how global urban theories are constructed by using a conception of space based on placing networks and flows at the center of reasoning, this second part represents an attempt to rebut that idea through the construction of two arguments. First, the construction of a conceptual framework that understands the relevance of materiality, locality, and specificity of places in the process of interpretations of any urban phenomena. This means recognizing that theoretical constructions do not have to be nor should be based on distant and absolute observations. Instead, they should be based on flexible and inclusive interpretations that elaborate on physical space as a mechanism through which to produce geographical knowledge. Second, it builds a methodological and experiential reflection around the practicalities and operationalization of the study of physical space empirically.

For the construction of these two arguments, the following pages address in a very synthetic and down to earth way, the issue of space and elaborates on the construction of a foundational framework that infuses the network-dependent space with nuances of physical spatiality. To do this, it uses some concrete examples that seek to clearly illustrate the differences between possible spatial visions, while recognizing the difficulty of addressing the term space as a geographical concept (chapter four).

After establishing a clear interpretation of physical space, the focus shifts to the construction of methodological reflections on how to approach physical space to achieve significant knowledge production. These reflections are very much grounded on my personal experience while developing this research, and therefore, they represent a continuous back and forth between real-life situations and methodological indications. As a result, they are constructed in an active narrative mode that attempts to transmit the considerations and complexities to study physical space on first-hand basis; therefore, they might sometimes adopt a nonliar and somehow chaotic form. Within those nonlinear articulations, they attempt to tackle two fundamental points. First, it tackles the relevance of the observation point. An issue that informs the idea that depending from where we observe the space we are studying can, and indeed does, change the understanding we can produce from it. Mainly, the text explores the relevance of embodied and grounded spatial explorations in the form of fieldwork. For this, it inquires about the role and capacity of our bodies and ourselves in the research process (chapter five). Second, explores the ways of processing and elaborating the acquired spatial information through the use of visual method as instruments that in addition to documenting, favor the discovery and construction of geographical facts (chapter six).

In some way, this part, through re-inserting physical space to the picture, seeks to build the base on which the observations, interpretations, and spatial explorations of the Pearl River Delta are constructed. Therefore, during its construction, it is possible to read between the lines - sometimes in a subtle way and sometimes in a directly and transparently - the motivations and decisions that shaped how the successive part operates.

Chapter 4

Re-materializing the idea of thinking spatially

Using the space as the starting point of any geographical inquiry can have many meanings, nuances, and interpretations (Harvey 2006). It is an ambiguous starting point since, even though we indirectly think and argue about it regularly, we hardly directly engage with what it actually is and how it actually works (Massey 2005). We barely interrogate it in depth, and still, it is a mysterious word that we continue to use[1] (Crang and Thrift 2000; Thrift 2008; Harvey, 1973). In the words of anthropologist Edward Hall (1959, 188) "Yet we treat space somewhat as we treat sex. It is there, but we don't talk about it. And if we do, we certainly are not expected to get technical or serious about it". Indeed, it is difficult to cross over geographical research – or any social science research - that does not involve the term space. Even if the term is regularly considered as the "fundamental stuff of geography" (Thrift 2008, 85), it is used with such abandon that its meanings get commonly mixed up. However, this inattentive use is not a consequence of a lack of interest nor importance. Neither is a response of superficiality, but it is more a result of an extreme difficulty when trying to describe it in depth. Space is just one of those concepts that is flexible enough to mean very different things – as if there is such thing as a concept with a bounded meaning – and to be used in many situations[2]. Indeed, space is perhaps one the most unbounded words that circulate within geography. It is a word surrounded by so many interpretations, uses and debates that just approaching its consideration becomes an intimidating thought[3].

As Massey (2005) admits having done, in this chapter, I am not directly tackling what "space" is or how it has been used. In other words, I am not attempting to make an all comprising definition of it or cover the many interpretations and meanings it has had[4]. On the contrary, I only attempt to briefly present the framework upon which this research grounds its "spatial readings" to a more physical space. Unquestionably, this is not an easy task since "space", its "spatiality" and its "materiality" are already definitions challenging to grasp, and to narrow down. However, is it still essential to set some ground base reflection for the empirical and methodological processes that would be following presented. Being said so, this brief reasoning around the idea of space does not represent an attempt to elaborate a historiographic or disciplinary reconstruction of the uses and interpretations of the

concept. For this research, that task would be superfluous since there is no a unique or agreed discourse about space and its spatiality but rather a variegated spectrum of takes on the theme (Amin, 2002). What is indeed relevant for this research is to elaborate on the takes and implications of the meeting points between globalization, space and materiality. With that, the attempt is to construct a use of space that complements the interpretative frameworks presented so far. A framework that does not exclusively relies on the power of networks, but one that that starts from the materiality of space. In this space, what we see, what we live, what we touch and what we interact with plays a fundamental role in narrating the composition and functioning of certain places.

For approaching this issue, the chapter starts by inquiring the space of globalization, as a space that enhances the idea of connectivity by erasing the problem of distances, undermining the role of geographical position and marking "a new ontology of place/space relations" (Amin, 2002:385). Then, the discussion attempts to offer a different possible perspective concerning a more grounded globalized spatiality. Therefore, it moves towards valorizing physical space. By doing so, it elaborates on the idea of a space that is itself the result and reflection of the ethereal processes that flow through it. That is, an approach that considers physical and material space as something that can be indexed and inquired in order to construct meaningful interpretations of the ongoing processes taking part in a particular place. Finally, the chapter elaborates on the idea that from studying the spatiality of a particular place, it is possible to extract a located geographical knowledge that can then be reconnected and rearticulate with broader and more abstract theoretical thoughts that excess the territorial boundaries of the place.

In a sense, this chapter represents a breaking point for this investigation. A change of direction to the way of studying urban phenomena at a global scale. A construction of a direction that instead of starting from distant, general and intangible facts to produce an understanding of the spatial relationships that govern urban centers on a global scale, starts from the localized, visible and particular to build theorizations. Theorizations that instead of seeking to generalize or categorize, manage to interpret and understand global processes from the importance of the place. That is, it is not about displacing or denying that today's world works through a globalized space. It is about the fact that this globalized space has spatial consequences. Moreover, these consequences are indeed significant. These count and matter. Therefore, it is worth taking the time to seriously explore and think about them.

4.1 Stressing the space of globalization

"Global relations are social connections in which territorial location, territorial distance and territorial borders do not have a determining influence. In global space `place' is not territorially fixed, territorial distance is covered in effectively no time, and territorial frontiers present no particular impediment"

(Scholte, 2000; 179)

Globalization[5] is,

"centrally about the spatiality of contemporary social organisation, about meanings of place and space associated with intensified world- level forces and raised global connectivity"

(Amin, 2002:385)

"a process which embodies a transformation in the spatial organization of social relations and transactions"

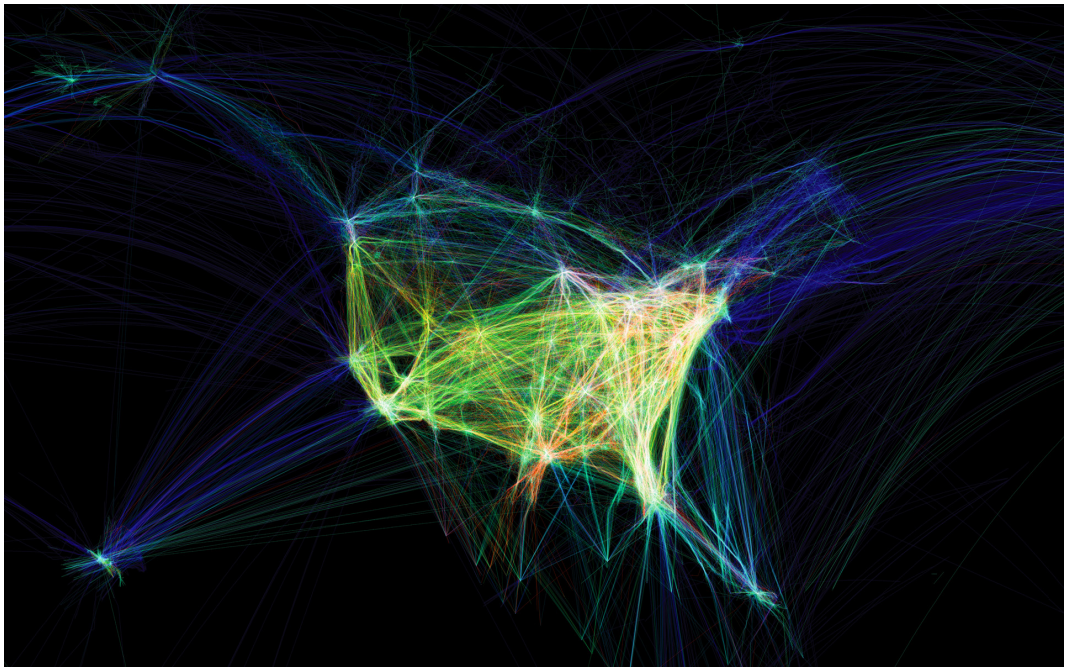
(Held et al, 1999:6)

Based on the presents extracts, today it is widely accepted that there is a strong relationship between space and the social, political and economic processes that occur in that space, both playing a fundamental role in the construction of the other, therefore, creating a complex socio-spatial relationship between them, a relation that it is necessary to analyze thoroughly to understand any urban phenomenon. However, considering that these processes are constituted by a variety of dimensions that interact and relate contemporaneously; the majority of the interpretative frameworks and readings that this research has discussed so far, (either used as an entry point to understanding urbanization processes in relation to globalization, or with the specific objective of studying the Pearl River Delta in relation to a global performance level), seem to offer a biased reading of the urban condition. Quite dependent on networks and flows, these interpretations seem to be constraint to the limits of one-dimensionalism[6] and to privilege a single dimension of socio-spatial processes (networks) over the variegated forms that are permanently intertwined, therefore falling into rather abstract, ground-detached and abstruse interpretations hardly able to cope with concrete empirical ground-based research. Jessop et al (2017:389), argue that this one-dimensionalism has contributed to an "unreflexive churning of spatial turns, leading to short intellectual product life cycles for key socio spatial concepts, limiting opportunities for learning through theoretical debate, empirical analysis, and critical evaluation of such concepts".

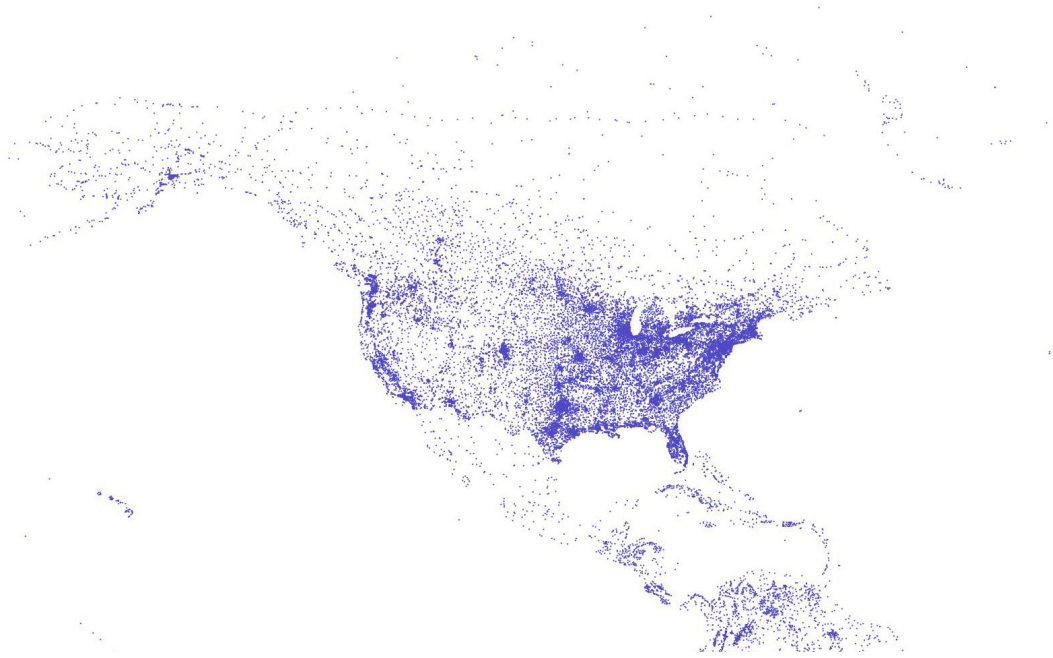
With that premise, they call for a more systematic recognition of polymorphy, where socio-spatial relations are considered in multiple forms. In particular, they suggest that the distinct socio-spatial dimensions, namely, territories, places, scales and networks, are to be viewed as linked between one and other, and to be

contemporaneously considered, even if each of them problematizes different issues. Even though the different "spatial turns" they highlight have each emerge in specific periods[7], the interpretative frameworks that point towards globalization as a way of understanding urban phenomenon discussed in part one, seem all to fit into the latest "network turn", which starting from the intensification of a globalized world, verges towards networks and flows as a way of achieving interspatial interconnectivity (Amin, 2002; Castells, 1996) and as a way of understanding the contemporary urban space (Lyster, 2016). As in any of the other previous "turns", the different exponents of the network approach, or "network centralism"[8] tend to neglect the role of any other forms of interpretation and present their own interpretative dimension as the essential feature to understand any phenomena. For instance, when Manuel Castells (2003) declares that "places are not meaningful in themselves but only as nodes of existing networks", he neglects the idea that location, materiality and the geography of a specific place are important in today's world and gives full importance to its relation and belonging to a network capable of connecting it elsewhere. Indeed, by sustaining this, he dissociates the notion of place from a location, since instead of belaying it to traditional territorial constraints, he liberates it within a larger mesh of connectivity. A mesh that based upon point to point connections, is capable of bypassing and continually eroding geographical and territorial links.

This liberating idea of place is taken even further by Clare Lyster (2016:17) when she declares that "geography is no longer a prerequisite for urbanism; the network is". Here again she denies the relevance of place, in this case through the lens of logistics, and promotes the agency of networks in the creation of new geographies that are liberated from the restrictions of place and physical space. For instance, she uses the example of Ryanair permeability through the world as a way of illustrating how the network constructed by the flying and service routes acts in the globalized world as and urbanizing agent for small places. In consequence, she argues how the network creates new geographies that can transform apparent irrelevant places into pivotal sites. Not because of the place itself or its characteristics, but because they do become "a node of an existing network" (Castells, 2003). There is no doubt that the network is powerful, but there is also no doubt that this network is not constructed upon thin air. If we see a flight patters map, like for instance Aaron Koblin's map of North America (Fig. 4.1), we see a collection of lines that ephemerally represent a particular piece of the world. In it, we can indeed "be remained of how mobile we are […] we have become indifferent to one particular location over another" (Lyster, 2016:17). If we see closer and with a more intentional observation, we can also see how each of those ethereal lines has a concrete starting and ending point. A point that is represented on the ground by the presence of a very specific element, an airport. The relevance of that point become evident when instead of seeing the lines, we expand our vision to see the points. It becomes even more notorious when we zoom-in thought satellite images to capture precisely in what way they are grounded (Fig. 4.2). After all, those airport points do not only belong to the flying network, the also belong and take shape in a particular place that is much more than



4.1 | *Flight Patterns. Aaron Koblin. 2005*



4.2 | *The World, Traced by Airport Runways. James Davenport. 2014*

a mere global node.

Castells's and Lyster's vision is somehow seconded by the idea that in order to understand a particular territory it is fundamental to visualize the geographies and networks of exchange of that particular territory (Thün et al, 2015). That means surpassing the forms and structures to focus on flows and systems that construct the space. That is the approach taken by RVTR in the study of the Great Lakes Mega Region (ibid). Their study concentrates on creating what they called "Shed Cartographies" (p. 30), a collection of oligoptic views[9] that explore the region through thematic or industry clusters that focus on their associated networks, meta geographies and organizations (Fig. 4.3). However, this Sheds represent a visualization and spatial representation of the flows and exchanges taking place in the region without elaborating the physical artifacts they are based on. An strategy like this one leaves room for questioning How does such interpretation relate to the way space is actually structured? How is it possible to relate the layered complexities of an operating territory to the physical artifacts and objects that literally figure the space and shape the spatial relations within it? Just as in the informatic field is not possible to fully operate and inquire a software without considering the presence and relevance of the hardware, it not possible to inquire a space exclusively from its operating network. Without locating and anchoring the systems to the ground they become only one dimension of information, a dimension that tells one side of the story.

Visions like the examples previously mentioned, are born from an interpretation that sees space, exclusively rendered by active communication flows (Lyster, 2016). Visions that chose not to see the material and grounded because retain networks are sufficient. This self-reliance on networks - or to back to the discourse of one-dimensionalism, in any other singular dimension - besides risking giving an interpretation that is detached from the reality, risks constructing an explanation that can only be seen as an abstraction of the dimension they are claiming to interpret. Therefore, falling into a self-centered, biased reading that could be considered imprecise, reductionist and chaotic (Jessop et al, 2007). A considerable attempt to overcome these limits is to use different dimensions as different points of entry to the study of any particular spaces. Spaces that do not limit to be only an empirical space or a flow space, or an image space or as place space (Thrift, 2008), but that lean towards constructing new attempts of fitting these four possible categories together. By doing this, it is possible to start thinking about space in new and different ways that are combinatory and inclusive. Ways that allow to imagine, rework, and raise awareness, of how it is necessary to rethink what constitutes contemporary space.

4.3 | *ComodityShed. RVTR. 2015*

4.2 Valorizing the relational physical space

If the first part of this thesis was very moved around ideas that emerge from the conception of space as an unbounded dimension circulated by a continuous and unstoppable movement of ethereal things. From now on, this research moves towards a different interpretation and use of the word space. One that seeks to reintroduce and combine a material and tangible dimension to that impalpable network of flows. One that attempts to overcome the elusiveness of physical space by infusing it with concrete relations between its operation and its shape. One that has at its core the notion of a relational space grounded in materiality and formal expression.

Of course, the idea of a relational space has a long history within urban studies, but emphasizing its material dimension can add some novelty to the notion. In his text *Social Justice and the City*, Harvey (1973) describes *a possible space* as a

relationship between entities that exist only because objects endure and relate to each other. He calls that a relational space, one that is undergoing continual formation as a consequence of the agency of things facing each other in more or less structured circulations (Thrift, 2008; Harvey, 1973). This view of space opposes the nineteenth century idea of space as absolute, closed, fixed, immobile and pre-existing (Harvey, 2006; Beech and Larsen, 2014), since instead of considering it as a "thing in itself" (Harvey, 2006), it considers it as a "process in process"(Thrift, 2008). This inside-in consideration means that every dimension, actor, process, form and situation taking place in a particular space cannot be considered independent, but on the contrary, has to be understood as closely tied with all the other entities and units that interact. Therefore, producing geographies that are always dynamic, incomplete and forever coming to a being. That collocates space far away from stability and absoluteness and drives it closer to inner dependency, interpretability, variation and heterogeneity. Indeed, the different conceptualizations of space that each of us uses can be endless, since they are conditioned by the nature of the phenomenon under investigation and by whom is investigating, as Harvey (1973:13) writes:

> *"space is neither absolute, relative or relational in itself, but it can become one or all simultaneously depending on the circumstances. The problem of the proper conceptualization of space is resolved through human practice with respect to it. In other words, there are no philosophical answers to philosophical questions that arise over the nature of space - the answers lie in human practice. The question "what is space?" is therefore replaced by the question "how is it that different human practices create and make use of different conceptualizations of space?"*

Within those words, there is a direct objection to idea of pre-defining space. Indeed, the idea of first discovering what is space, and then, proceeding with the analysis of urban phenomena by fitting the understanding of such into general conceptions of space fades into unimportance, as space can become whatever we make of it during the process of enquiry rather than prior to it (Harvey, 1973). Under that logic, it is therefore superfluous to try to fit space by itself into a single conceptualization, however, is appropriate to acknowledge that it can change depending on the circumstances. So how does this research on the spatiality of global urban theory in the Pearl River Delta shapes the conceptualization of space? First, by recognizing the necessity to understand that the way diverse global and local processes take shape on the ground concerns the nature of the physical dimension of space, the relations it creates with the processes and the spatial form they adopt. Second, acknowledging that material and ethereal elements are not only interconnected, but are indeed codependent. Third, recognizing that is not only important to understand the how's but it equally important to understand the where's.

Being said so, the entry point to the issue is based on the materiality and spatial form that these processes leave behind. Without limiting to a detailed morphological

or space syntax analysis, the relational physical space in use starts from the material traces and signs that the different spatial dimensions leave behind, and continuously combines these tangible traces with the more incorporeal and operative relations that exude from them. That is, this research traces back the signs that networks, territories, places, scales, economics, politics, cultures, production, actors and even history leave in the physical space we inhabit and starts building on that as a way of approaching the complexity of urban processes.

This entry point is adopted as a way creating a field on which space can be indexed in a way to say something meaningful about the ongoing processes taking part in a particular place. For a conceptualization of this gender to work, it is mandatory to rely on the fact that physical and tangible space is where unmaterial processes take place. Therefore, is a reflection that puts physical space at the center of the equation and represents an alternative approach towards the understanding of places in relation to globalization. By all means it is not a denial of the "carefully worked-up connections through which what we know as the world interacts" (Thrift, 2008:88), that would be contradictory since at the very essence of a relational space is the idea of relations and dependence. It just about infusing that hypermobile space with some grounded particularities that make it a participant in the operation of extracting material information that has been progressively accumulated in places and elaborating on that as a primary source of information and knowledge. This means constructing upon an approach that is not concentrated exclusively in the global performance of the place or its untouchable traces (even if taking these facts into account), as it has been the case of the studies concentrated in the Pearl River Delta under the perspective of a global city-region. But an approach that based on spatial and material details uses localized acquaintance as an instrument to understand and elaborate a more generalizable knowledge that besides enlightening the ongoing processes of the area, can relate to what is happening in other parts of the world, and can provide knowledge about the urban condition.

Notes

1 Indeed, in many cases we use it without been fully aware of it meaning since we have inherited as part of our vocabulary and imagination (Lefebvre 1991).

2 When referring to the Word "space" David Harvey (2006) argues how it should be a word included of the top of the list of contemporary keywords. For him, together with "culture" and "nature", space should be listed as one of the most complicated words in our language, since expanding and clarifying it meanings implies a task of losing ourselves in deep labyrinth and metaphorical complications.

3 For instance, in human geography it has come to be seeing as a relational term constituted, formed and produced through practices (Amin 2002). Taylor (1999) defines it as the realm of abstract principle, rules, rationalities, science, administration, bureaucracy and institutions. Jerran (2013) considers it as a characterless vector through which places are dispersed.

4 For in-depth inquiring the meanings and uses of space there is plenty of literature that has directly confronted whit this topic (See Massey, 2005; Warf and Arias, 2008; Thrift, 2008; Amin, 2002; Crang and Thrift, 2000; Castells, 1991,2009; Harvey, 2006)

5 The argument of globalization is inquired in-depth in the first chapter of this thesis (See page 47)

6 On the limits of one-dimensionalism and their reflection in methodological tendencies in contemporary sociospatial theory, see Jessop et al (2007)

7 During the 1980's the Place dimension gained stretch under the view of place as a relationally constituted, polyvalent; in the late 1980's attention turned to territorialization; the 1990's gave place to a turn to scale; and most recently the focus has been on networks.

8 In their work regarding theorization of sociospatial relations, Jessop, Brenner and Jones argue how following a one-dimensional approach can take towards an overly narrow analytical focus and quasi-reductionism, therefore falling into the traps of methodological territorialism, place-centrism, scale-centrism and network-centrism. In relation to the latest, they highlight how it "entails a one-sided focus on horizontal, rhizomatic, topological and transversal interconnections of networks, frictionless space of flows, and accelerating mobilities" (Jessop et al, 2007)

9 Views constructed with the use of Latour's and Hermant's "Oligopticon"; an apparatus capable of seeing only one thing but with high precision. Idea directly related to studying a place through the use of layers (See page xx of this thesis).

Chapter 5

From where to look at the space? Finding an observation point

How do we approach a relational physical space?
How do we start looking at it?
What difference does it make to assume one observation point or another?

This chapter is an attempt to answer to these apparent simple questions by exploring two principal observations points that attempted to grasp as much first hand spatial data as possible. One that is distant and abstract, and another that is personal and embodied. The first one, illustrated in the form of aerial sights, explores the potentialities and difficulties of approaching a particular place from the sky. Either in the form of satellite images or aerial photography, it constructs a narrative around ideas that regard the role of a vision that is not natural to our human sight. In the process it adapts these considerations to how this observation point is used in the case of Delta explorations. The second point of view is articulated around a vision from the ground. A vision that is directly linked to the idea of fieldwork and complete embodied immersion. Indeed, it reports methodological considerations interweaved with my own fieldwork experience. In the process inquires three fundamental considerations: the issue of reflexivity, the acknowledgment of a positionality and the openness toward unexpectedness and discovery.

Without a doubt these overall considerations are not presented as a manual of best practices or steps to follow. Quite the contrary they are clearly based on a personal and constant process of trial and error. A not at all lineal process that resulted in plenty adaptations, corrections and adjustments. In a sense, this chapter is deeply based on Burgess (1982) idea that there is not one successful formula for doing effective fieldwork, therefore elaborates on the conviction that much can be learn from reading other experiences and problems. That is the reason it not a total positivist narration. On the contrary many failures, frustrations and reorganizations can be identified in the following lines.

5.1 Aerial sights: Contemporary views of the public sphere

Perhaps one of the most strikingly and immediate approach we can adopt when trying to grasp the spatial transformation of a given territory is to see its evolution through the aerial sights that technology has offered us is the past years. Either in the form of satellite images or aerial photography, contemporary aerial sights offer a different insight that derives from a new possible observation point that is simultaneously abstract and realistic (Kaplan, 2018). One that is not natural to man, one that until recently was exclusively reserved to military perspectives[1], one that was typically unavailable to the public's eyes and that Cosgrove (2001) has termed as profoundly grounded in the *Apollonian Gaze*[2]. This apparent unearthly standpoint[3] (Parks 2001) offers an apparent "unobstructed sight" (Kaplan 2018, 1), a new synoptic vision that delivers a greater proximity between the real and the representation (Desimini, 2016) and at the same time great distance between the panoramic or territorial and the bodily or close-up, privileging the first and neglecting the second (Parks, 2001). In a sense, they provide us with the "God's Eye" (Cosgrove and Fox, 2010:8), and allow us to approach the space with a "sense of mastery" (ibid); a sense that allows establishing relational connections that exceed our human reach, scale, and presence. Hence, producing what Gonzalez (1995) calls a "bury of the subject", intended as privileging geography over "auto topography". That is, leaving aside or potentially erasing from the frame, the minute traces of human life, and the small personal elements, therefore presenting a clear overview of a place that is capable of bypassing subtleties and pursuing extensive coverage. In this sense, aerial sights represent a particular form of observation and perception; one that is distant, remote, and even abstract (Kaplan, 2018).

Precisely due to the distanced view they provide, through "views from above" it is possible to grasp individual and particular features of the ground and place them in relation to broader systems and contexts, revealing patterns and creating geographies that otherwise would remain hidden and unnoticed, hence attempting to "see" what at glance appears to be "unseeable" (Kaplan, 2018). In that way, aerial sights help to establish context for the individual features we might find in the ground. They not only help to situate spatial elements or features, but they also allow us to situate ourselves into broader contexts both in space and in time (Cosgrove and Fox, 2010). A situation that generates knowledge and familiarity to the places under observation, since with one snapshot, it becomes possible to experience an unfamiliar place entirely in our hands. It becomes possible to explore places that are world opposite to our location; therefore, distance and relative location become in a way superfluous and unbinding. Cosgrove and Fox (2001) argue how the overcoming of distances as a binding element is a reflection of the higher altitudes from which aerial images are being produced. Hence instead of depending on human eyewitness, the images are obtained remotely through electronic transmissions. By this, not only distances, but also human dependency is overcome, therefore giving place to the rise of a new spatial documentation, one that is permanent, unstoppable,

and continually monitoring the surface of the word with great detail and precision[4]. However, even if direct observation is not at the center of aerial images, their remoteness nature continues to privilege vision and imagination as the principal senses to register geographical knowledge (McCormack 2010)".

The constant documentation collocates potential spatial knowledge and power at the hands of the public domain. Through popular platforms such as Google Earth, we as regular citizens, and as well as researchers have access to unlimited aerial data and visual ideas of spaces that intentionally or not, we might never have physical access to[5]. Through the availability of these easy-interface platforms, we can access almost everything and any place of the globe with the zoom and scale we desire. As Kurgan (2013) argues, "today, a nearly real-time zoom from the whole earth to a picnic blanket is available on our desktops" (p. 20). That capacity can be directed translated to power (Mangold and Goehring 2019), power of knowledge, surveillance[6], and access that allows us to "see something close up, but from far away" (Kurgan, 2013) without even being noticed, without leaving a trace and with a facility that has now taken part of our daily lives. Indeed, satellite images have transitioned from state secrets to common places, to everyday instruments at our disposal for indulging indolent curiosity, as now citizens are indirectly encouraged to take the state's viewing position. Under this perspective, aerial sights have gone through a process of democratization that puts spatial images at the disposition of everyone, everywhere and every time. Indeed, they have become so much part of our daily lives that we are starting to take them for granted. Kaplan (2018) argues that we have come so used to their presence in daily routines that even if they symbolize a representation and abstraction that is not natural to human eyes, they are indeed becoming our natural way of seeing and approaching regular spaces[7].

The perpetual entry point to the globe that aerial sights offer, represents access to an unlimited archive of information both in time, location ,and space (Parks 2009). In that sense, it becomes possible not only to access distant places, but equally, distant times become reachable and scrutinizable. Indeed, behind aerial sights, there is a strong relation to temporal cognition. In a sense, they are time sensitive; they open a window towards times, therefore make possible retrospective and prospective views, offering what Parks (2001:594) calls "a potential for diachronic omniscience", that is a vision through time that is grounded in the timeframes or snapshot we select to use. The capacity to "time travel" makes available a direct confrontation of one same place in different time lapses, this encourages immediacy both in comparison as in apparent understanding. For instance, when Nasa distributed two false-color satellite images of the Pearl River Delta, the first one from 1979 and the second one from 2003, the difference between the two was striking (Fig. 5.1 & 5.2). The earlier image was dominated by a lush of vegetation strangely interrupted by few structures, the later image showed an absolute domination of urban structures. Those two images not only documented the transformation, but made it evident, straightforward and direct.

5.1 | *Pearl River Delta on October 19, 1979. Observed by NASA's Landsat 3*

5.2 | *Pearl River Delta on January 10, 2003. Observed by NASA's Landsat 7*

Similarly, the series of aerial photographs taken by William Garnett on the instant construction of Lakewood, California, what would eventually come to be disparaged as 'ticky-tacky houses' (Cosgrove and Fox, 2010), was an attempt to accomplish a similar goal. A goal of making evident the moment of transformation of a particular place and leaving a permanent mark on an ephemeral timeline (Fig. 5.3 & 5.4). A mark that is possible to trace back with notable precision, and that allows doing a reconstruction of the particular events and moments that have shaped the territory we have today before our eyes.

If in a sense, aerial images at our disposal allow us to be anywhere at any time, exactly how do they do so? Exactly how can we know a place without being there? Is it possible to visit a place without setting foot upon it? In other words, are aerial images enough to extract knowledge of a place? Those are questions raised during the construction of the volume Focus on Africa (1941) by Richard U Light, where the first aerial images of Africa were taken[8]. Concerning this, Parks's (2001) position offers some relative answers. She argues that for instance, satellite images function only as an overview, as an approximation of the space and of the events that take place in such space. Due to their remoteness, abstraction and instant nature, they are more guided by partiality and selectivity that by objectivity and omniscience. Therefore, they represent a type of raw output that is unstable, uncertain and open to many interpretations and uses (Kurgan 2013). She goes further and elaborates on the fact that satellite images do not speak by themselves since they have nothing evident about them. She argues that there is necessity to interpret, decode, and circulate them in order to make them useful and meaningful. For her, "unless the satellite image is selected and displayed, it remains dormant, gathered as part of an enormous accumulation of image intelligence that can be stored and used later" (p. 594). Furthermore, even when it does get in circulation, it does not fulfill it registry capacity, but instead calls for a process of local validation and situated knowledge (ibid), a process that overcomes the abstraction of distant views from above through methods of interpretation that yield deeper truths (Kaplan, 2018).

5.1.1 From sky to ground in an age of technologized vision

"We can't physically be everywhere, but with satellites, we can get a pretty good idea of what's happening everywhere. You don't have to be there to see things ... It's the key to winning modern warfare".

(Barella 1996)

Even if, in general discourses aerial imagery circulates as a popularly believed mean to provide the ultimate objective representation of the world beyond the limits of the human eye (Kaplan, 2018), their distant looks are not as objective or reality as they seem to be. As indicated by Mayer (2008), they are not deterministic, they are never one thing, but they demand a constant reorientation in relation to the

5.3 | *'Grading Lakewood' in California, photographed by William A. Garnett, 1950.*

5.4 | *'Plaster and Roofing', Lakewood, photographed by William A. Garnett, 1950.*

ground, one that is built on close-up readings that "corroborate the orbital gaze" (Parks, 2001: 598). Parks argues that the way of shaping these remote images and avoid adopting what Virillio (1989) calls an "eyeless vision", is through a process of infusion. A *semiotic infusion* that is situated and grounded and that fills the images with a discourse that goes beyond the mere satellite's or camera's point of view. Therefore, complementing it with the richness of partiality, situated knowledge, and local tales, all of which imply closer views and representations of the space (Parks, 2009). However, undertaking a grounding process can, at the same time, have some counterproductively degree, since as Kurgan (2013) argues, it can often raise more questions than it answers, therefore leaving evidencof how open to interpretation aerial images are.

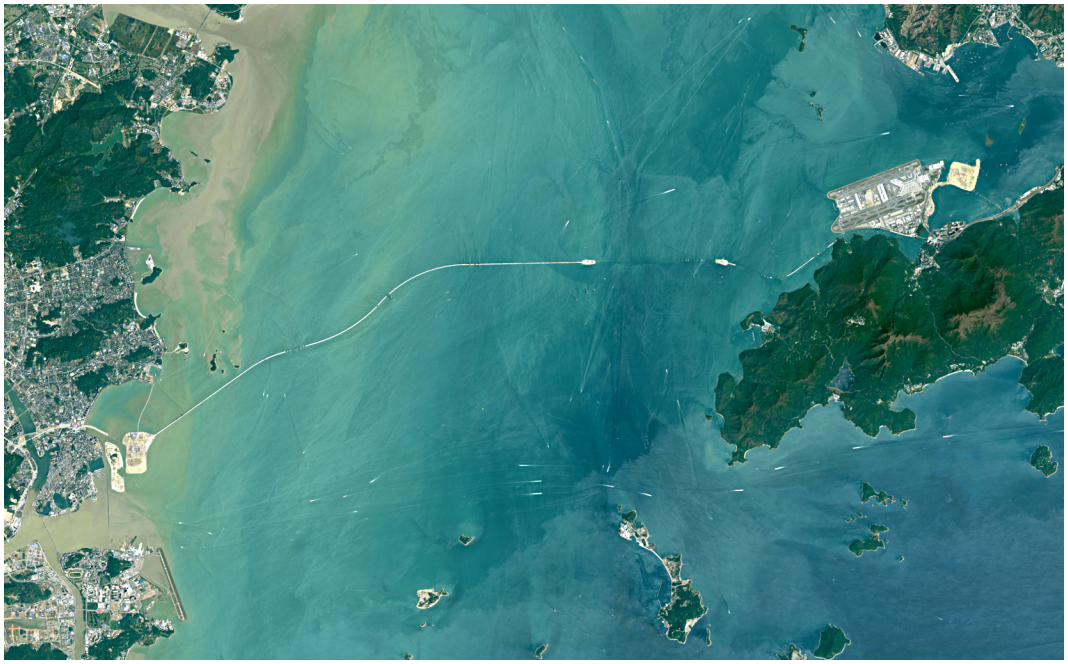
5.1.2 Pursuing the speed of Chinese urbanization

The necessity of shifting the position and moving the eyes "from the orbit to the ground" (Parks 2001, 605) was evident when approaching the spatial reading of the Delta. Even though there are several "eyes in the sky" (Kaplan, 2018, 22) that I could usufruct for looking at the Delta, they offered me information that not only remained distant or abstract, but in most of the situations remained outdated or incomplete. In fact, in the Delta, territory potentially considered as transitional landscape (Frassoldati and Casonato 2010; Meyer and Nijhuis 2014), the most recent aerial sights both in the form of satellite or aerial images could not follow the speed of the transformation of the place. The assumptions and deepening planned upon the distant but up-close observations via satellite images were rendered almost useless at the second they were confronted with the ground. In a similar experience, Frassoldati and Casonato (2010) narrated this same situation when they wrote "Hours spent at our desk preparing journeys, selecting interesting locations from previous studies or visits, were simply pulverized in front of building sites, new warehouses, different roads or ponds design" (p. 10). I shared the same experience, I saw villages disappear before my eyes and skyscrapers raise from nowhere (Fig. 5.5), fishpond be transformed into touristic lakes, and infrastructural axes emerge unexpectedly. That is, a whole collection of transformations and urban objects of which aerial images showed no trace of – at least not yet[9].

By presenting this situation, I do not mean that explorations through aerial sight became purposeless. On the contrary, their role only needed to be recalibrated and reconsidered. In that sense, aerial sights became navigational images that offered an initial overview of the Delta and that conducted its spatial exploration through crutial moments of its transformation. Understanding aerial sights under this exigent context and particular use, means recognizing where do its utility and limitations rely on. For instance, they contribute into observing the macro transformations, not the micro; they serve to construct a preliminary idea of a place and to identify large scale patterns, not to have an absolute or real vision of it; they serve to track and follow through the extraordinary – for instance in the case of the Delta, the

construction of the HKZM Bridge[10] (Fig. 5.6)- not the ordinary or the everyday transformation – at least not in immediate mode; and they work towards decoding the generalities of a place, and its consumption at glance, but not its particularities or detail. For all the briefly named "not"s, the answer is on the first line of this section: moving the eyes "from the orbit to the ground" (Parks 2001, 605).

5.5 | *Debris from the demolition of a rural village in Dinghu, Zhaoqing. Photo by the author. 2018*



5.6 | *Natural color satellite image of the construction of the HKZM Bridge. Image Captured by the Operational Land Imager on Landsat 8. 2016*

5.2 Views from the ground

There is something about exploring unknown places from up close that has always caught my attention. Long walks or bike rides that offer me a calm and paced displacement have been the best way I have found to understand the spaces that make up a specific place and see the materialization of its immaterial processes. For me, crossing any space to get to know it and analyze it generates a feeling of significant and strong proximity. Feeling that should not be ignored or belittled, but on the contrary, I consider should be valued and recognized. Perhaps this is a response to a personal necessity born from a position that sees the possibility of walking serenely in urban spaces – or in any space at all - as a privilege, as an extraordinary situation and as a luxury to which I have not always had access. After all, I come from Caracas, Venezuela, the second most dangerous city in the world (Citizen's Council for Public Security and Criminal Justice 2019). A city that has long closed the doors to its pedestrians and that had programmed my brain to consider that walking equals danger and discomfort[11].

This precondition, instead of limiting or training me against the possibility of walking and exploring, generated in me quite the opposite. It generated an innate need to explore space by foot, and from very close, every time the opportunity presented itself. A necessity that once again appeared the first time I approached the Pearl River Delta. What began as an impulse driven by curiosity, exaltation, and necessity of confronting what I had remotely seen with the first hand direct observations, started articulating and taking shape as a complex methodological process that acknowledged the possibility researching beyond a written, textual or aerial realm. This meant putting myself in the field, on firsthand, and using what can be felt, experienced and seeing, as a way for start inquiring the geographical reality of the Delta. After all, what could be more stable than a geographical knowledge generated through a pursual of a "Ground truth"? (Kaplan, 2018, 34)

Roaming through space, that is, exploring it in motion and at a specific moment, is not something new within the academic world, much less within the world of geography. Thrift (2005) characterizes it as an important process for spatializing social theory by studying how human actions are bounded within time and space. Wylie (2006) describes it as a process that allows the understanding of place, landscape and even of oneself through the intersection between space and subjectivity. Cosgrove (2008) defines it as an embodied process involving direct and sensual contact with the spaces to be studied, a process he calls "Survey", a process of total overview literally and figuratively (see also Hein et al. 2008; Solnit, 2001). An important point evidenced by these three possible interpretations of firsthand spatial explorations, is precisely the dependence of the process with the subjectivity and perception that each of us, as researchers, brings to the arena. Since we are in fact, human beings who live through a material body, much of what we perceive is closely related to our sensory experience when crossing a space.

This ability to use the body itself as a tool for collecting information is evidenced, for example, when Sheller and Urry (2006; 216) argue that it is necessary to "re-centering the corporeal body as an effective vehicle through which we sense, place movement, and construct emotional geographies"[12] (see also Crang, 2002; 2003; 2005). This means that senses - mainly sight - have been and continue to be fundamental in determining how we perceive experiences, places, the world in general and ourselves[13] (Cosgrove, 2008; Thrift, 2004; Phillips, 2005) as well as in understanding the object of inquiry (Latham, 2003). Affirmation that is essential when discussing about extracting information directly from space.

This way of learning from space itself and from the situations and relationships that occur in it, stems from the construction of a fieldwork that recognizes its functionality in being an ongoing process that emphasizes discovery instead of verification (Gerring 2001; O'Brien 2006). Without a doubt, doing fieldwork is not an appropriate way of learning for everyone (Hope, 2009; Moser 2008). It is not a simple and straightforward task, but a task that in a context such as China, can become a deeply frustrating and at the same time intensely motivating and eye-opening experience[14] (Heimer and Thogersen 2006). Based in this duality, is therefore essential to approach it with an open attitude towards unexpected empirical discoveries capable of redefining and feeding back the research project itself. In a way, this means giving up part of the power and the control that we have as researchers to the field itself, and letting it guide the process of discovery, while maintaining before it a positive attitude capable of recognizing the scientific value of the unexpected findings it might offer. Pieke (2000) defines this as "scientific serendipity", that is, a faculty of making happy and unexpected discoveries by accident.

According to Pieke, the situations that allow the appearance of these unexpected discoveries can indeed be created, consequently giving discoveries a lower degree of randomness. Pieke's "Serendipity" represents perhaps the healthiest approach with which to enter fieldwork, particularly in a context such as China. A context where the initial questions with which we address the research, tend to fail capturing the complexity of ongoing situations, and a confrontation with the actual field pushes us to reevaluate our original ideas. This field's potential forces us to redirect and reformulate the course of the investigation, an act that represents a continuous effort to gather theory, concepts, concrete evidence and discoveries. This reformulation is indeed something positive, since some of the most interesting and unexpected findings emerge exactly when the complete conceptualization of the problem under study is reshaped in the fieldwork process.

On a general level and in specific ways, those reflections are particularly relatable with my fieldwork experience at the Pearl River Delta. At the time of my first visit to the Delta, which took place just one month after starting the investigation, my research focus was to understand the role of small cities within large urban

agglomerations that operate on a global scale. This focus led me into globalization studies and large urban epistemologies that define and interpret different urban contexts. Consequently, this theoretical field directed me to investigate how the Delta had been interpreted under theses global approaches and consequently to building a mental image of the shape it may had taken on the ground. To my surprise, when I finally entered the field, the theory-based image I had built in my head and the image I was seeing with my eyes not only did not correspond, but on so many scales and depths they differed and contrasted directly. The mental image that I had built upon global literature and distant aerial explorations did not seem to mirror the spatiality of the place. What I expected to find was not there, the place I was so anxious to explore did not actually exist. In its place, there was something much richer, heterogeneous and complex that literature (to my knowledge) had not grasp yet. Indeed, the Delta interpretations I had read, all of which were highly based on the understanding of the place as a global city-region, somehow missed the mark, felt short, were somehow contradictory and misled instead of clarifying what the Delta was.

This unexpected theoretical incompatibility was perhaps the greatest motivation for changing the focus of my research and direct it towards what it is today. Through what Gerring (2001: 231) calls "mutual adjustments" and Kaplan (1964; 77) calls "successive definitions", every encounter with the Delta evolved the focus of my research and led it towards a search to locating global urban theories to the ground in order to make intelligible what was actually on the physical space. The research adjustments that started from the notion that knowledge is located in space (Søther, 2006), shaped my idea of fieldwork towards a more uncertain and open process that, unfortunately, as well as bringing benefits, brings problems and a wide spectrum of uncertainties. Uncertainties of not knowing what the outcome will be or if there will be indeed a guaranteed result (ibid). Many times, I founded myself reflecting on where was it taking me to explore a rural area that seemed to be forgotten by the world, or an abandoned area that looked like no one's land, or the largest CBD in the region, or a densely-urbanized area. Indeed, after each day of exploration, my mind was flooded with doubts that repeatedly asked *How does this area relate to the area I visited yesterday? How significant is this space in relation to an area a thousand times larger? How can this piece of land have global significance?* And the most common of all, *Do my understandings of this place make sense? How can I extract the specifics that I am seeing here on a larger scale that covers the Delta and other contexts? Is this finding actually relevant? Is it taking me to the right direction?*

Now, after months of having finished fieldwork – if there is such thing as finishing fieldwork- I start to understand where those questions came from; from a position of suffocation and loose of perspective. In fact, taking part in an extended fieldwork is an overwarming experience. It produces the sensation of being completely submerged and immersed in the place and in the phenomenon

under study. This situation makes it necessary to distance oneself from it, at least momentarily, as a strategy to put thing into perspective. A distancing operation allows us to reframe our empirical findings, relate them to a broader context and stablishing in an objective way, their relevance within the study. By taking distance I do not mean suspending or pausing the field, but moving around it and shifting from the ground, from the air, from the center, from the border and from any other position we might grasp. This mobility allows us to have a multifocal observation of the problem that comes beneficial to the research. Understanding the Delta from Zhaoqing, from Zhaoqing New Area, from the train, from the bicycle, from a boat or from any other point of view, helps to deepen the knowledge and spatial discovery of the area. It is a long and complex process, but one that I am convince is entirely worth it.

To summarize, the fieldwork that is carried out in this investigation is one that works as a "mode of learning". One that considers exploring any space is a strongly personal process where each of us will be able to respond according to the different sensibilities that each one has. One that lies in the direct and active contact with an "other" – person, space, context, situation- who challenges us to rethink our preconceptions and amplify our senses. At the same time, it is a process that allows us not only to describe or imagine, but also allows us to locate, situate and point in a concrete way. That is, it is a process that allows the constant crossing between two seemingly distant dimensions of reason, the theoretical and the empirical. If, on the one hand, we approach the exploration of physical space with a series of preconceived theoretical constructions that we intentionally - or not - seek to verify in situ. On the other hand, the discoveries and diversities that fieldwork introduces, directly stress these theoretical constructions by questioning them, reinterpreting and feeding them back. This rearticulating allows building a knowledge that is not entirely theoretical nor completely empirical, but rather that negotiates a middle path (Anderson, 2002). A path that draws on the notion of "Third Space", as developed by Soja (1996), where it is argued that the process through which the world is understood is not based neither on using an exclusionary approach limited to measure and map the material world, neither in one that is limited to approaching it exclusively under conceptualizations and theoretical constructions. Instead, it seeks to create interpretations and understandings that include elements of both approaches. That is to say, an interpretation that puts in contact subjectivity with objectivity, abstract with concrete, real with imagined. An articulation of this type becomes only possible when fieldwork is used as a way of "taking down to earth" or crashing against reality the abstract theories discussed in the first part of this thesis.

In a way, although it began as an unintentional action, the operation of stressing the construction process of urban theory by providing relatable spatial readings of this part of the world – as it could have been done using any other place - became the center of this investigation. Little by little, the vast category of global city-region started to dematerialize, or rather re- materialize in front of the richness

and heterogeneity of the Delta's spatiality. Re-materialization described in depth in the section *Personal explorations from the field* (see page 129).

5.2.1 Finding my place: inquiring reflexivity and positionality

Penetrating the fieldwork means getting the chance to establish a new identity as a researcher (Zhao, 2017). An identity that we cannot construct but that constructs itself according to our background and to how that background has shaped who we are today. Indeed, as researchers, we do not enter into the field as a neutral and unbiased character, nor as empty vessels, idea sustained for instance by Guelke's (1974) conception of idealist human geography. We instead enter it as rich individuals that "speak from a particular place, out of a particular history, a particular experience, a particular culture, without being contained by that position" (Hall, 1992; 258). Any position that suggests the capacity of achieving total objectivity and neutrality is indeed what Haraway (1988) calls an illusion and a "god-trick", since "there are no neutral observers and no research is completely unbiased" (Moser 2008, 384). Studies on positionality and reflexivity offer a good starting point for contextualizing these issues. Not by chance, they have become recurrent words within the construction of researches based on qualitative methods, and battle horses in feminism and poststructuralism approaches. Approaches that according to England (1994), opened geography to a range of voices to speak through challenging a hegemony of neopositivist empiricism based by the notion that the researcher is omnipresent and all-controlling.

Understanding reflexivity means undergoing a process of self-discovery, or as defined by England (1994, 82) means a "self-critical sympathetic introspection and self-conscious analytic scrutiny of the self as researcher". That is, learning and acknowledging where do we position as researchers, and connecting that to the process of research. Instead of assuming that we can produce a universal knowledge that derives from our observation of the world from a distant and impartial outside (see Rose, 1997), reflexivity calls for a promotion of an attitude where we acknowledge that we belong to the world we are studying. We are indeed inside it, therefore how we position ourselves in relation to it, do has consequences. Many scholars have emphasized the importance of becoming a reflexive researcher (see Attia and Edge, 2017; Moser, 2008; Lynch, 2000), and within that, they call for a recognition of each's positionality into the research practices.

Reflecting on positionality signifies recognizing our uniqueness, first as individuals and then as researchers. That means identifying how do we handle our researcher status, our insider/outsiderness, our gender, ethnicity, nationality, education, or social class when doing research. It represents a strategy for contextualizing why do we understand things the way we do and based on that moving forward towards practices and interpretation that built upon our strengths. Being aware that we occupy certain positions can help to construct a research path that is more suited to who we are. It can help to direct the type of fieldwork

more suited for each of us, the type of knowledge we should pursue, or the context we should explore. Therefore, avoiding falling into a research failure caused by the incompatibility of the research site and methods with the researcher (Moser, 2008). So, translating these reflections into practice, is only pertinent to attempt to understand Who am I in my research context? Who am I when doing fieldwork in the Pearl River Delta? In a few words, I am a young, Latin woman, from the middle class, graduated student, western, western and again western. At least that is the persona that everyone can see, that is the first impression I generate. However that is not all that I am, according to Moser (2008) those are only my external meta-categories. According to her in that description there is a main characteristic that is missing: personality.

When narrating her experience in Indonesia, Moser (2008) illustrates how the external categories she belonged to, quickly loosed relevance in the field by an increased significance of her personality. By this, she elaborates on the idea that sometimes our personalities rather than our positionalities allow us to navigate through fieldwork in more adequate ways. Even if in her case, the aspects of her personality were connected to achieving deeper relation with a group of villagers, and in my case I pursue deeper freedom of mobility within the, I can relate with the idea she is attempting to transmit. An idea that sustains that success in the field partly depends on the personality or emotional intelligence of the researcher. So how did my personality influence my spatial explorations in the field? I like to consider myself as a curious, patient, calm, analytical, courageous and optimistic person, not easily shaken by unexpected situations. This means that while doing fieldwork it was only natural for me to operate in a way that resonated to who I was. Indeed, the Delta explorations were based on a sense of freedom that prepared me to momentarily concede the control and to expect the unexpected. Wolcott (2005, 183) argues that this is in fact relevant since "A fieldworker must rely on his or her ability to surrender to what the field observations actually reveal rather than prematurely superimpose structure on them". I cannot imagine having done my fieldwork in any other way; it surely was not perfect. Nevertheless for me and for this research, it was useful.

5.2.2 A resigned outsider

"Once one has arrived in China, the outsider/insider dichotomy suddenly no longer only applies to a limited group of academics. On the contrary, the insiders are the Chinese, this multitude of people who trade, shout, walk, talk, drive and just belong in the place where the fieldworker is foreign"

(Sæther 2006, 47)

In my self-description, I emphasized being identified as Western because although this did not represent an obvious limitation for me, since I embraced it as a part of who I was as a researcher, it automatically placed me in the position of the

outsider. People that I encountered in the field did not care about the fact that I was a woman, or young or middle class. They only cared about the fact that I was western. Indeed, it was evident, I am not Chinese, all the people I met in the field knew it, noticed it, and there was nothing I could do about it. That is the reality of my identity, and somehow, I had to make it work. Unfortunately, even if I tried to bypass my non-Chinese nature, this unchangeable fact mechanically pushed me into many asymmetrical relations (Sæther 2006), not only with the local people I encounter on my exploration, but also with the "academic insiders". Either in the middle of the countryside, inside a classroom in the SCUT[15], in a Chinese urbanization dedicated conference, or in my Airbnb apartment in Guangzhou; these insiders automatically perceived me as an unexperienced, out of range, estrange researcher. *Why are you studying China? Why did you not study something in Europe or Latin America? Are you sure you can understand China without speaking Chinese?* Where all questions received during the eight months that lasted the fieldwork.

I was supposed to be the one mastering the field - or at least attempting to - and yet I was continually receiving suggestions and skeptical looks from Chinese colleagues, flatmates, and locals. More than once, the fieldwork decisions where questioned and misunderstood. Every time I was headed to a relatively unknown place of the Delta or to a non-touristic part of the region, I was invited to go somewhere else that showcased in a better way the significant urban progress that China had achieved. For example, my colleagues, a couple of urban planners from the Guangzhou Urban Planning and Design Institute, suggested me to go to newest development areas of the city; Cindy, the Planning chief of Zhaoqing New Area, carefully guided each of my visits because according to her, I was not able of being by my own in the middle of their construction site because I could risk getting lost or, even worst, distracted looking at what I was not supposed to see[16]. Apparently, for the local insider, just since I was not Chinese, it made it impossible for me to be capable of navigating the area on my own. This status as an outsider was, as Søther (2006) suggest, an uncomfortable situation, a challenging role that took time to become familiar with.

5.2.3 Personal explorations from the field

"It is perhaps from everyday landscape, vulgar and disdained, that we can draw the complex and contradictory order that is valid and vital for our urbanistic whole"

(Venturi 1966, 103)

Even if I consistently received perplexed stares wondering why would I, a foreigner, explore unmapped rural tracks, instead of enjoying the comforts that rapidly modernizing cities offered, I decided – indeed needed – for an important part of this research to be based on Cosgrove's idea of "comprehensive survey". A survey that consisted of in-depth and consistent fieldwork that lasted eight months

and that covered the whole extension of the Pearl River Delta from many points and by many means. Indeed, I toured the Delta by every mean I could afford to, and from every position I could possibly reach. By myself, with locals, with foreign colleagues, by foot, by bicycle, by car, by bus, by train, by ship; from agricultural fields, from CBDs, from industrial sites, from construction sites, from the peak of mountains, from valleys, from the middle of fishponds, from abandoned sites; under the sun, under the rain, and so on. Every possible situation I could think of, I pursued it, since I always felt a sense of freedom when moving around the Delta (Fig. 5.7). Even if in many cases I did not know what to expect, an urge of curiosity pushed me to go finding something new. Almost as an anarchic response to wanting to know the place from its roots and to grasp every inside information I was automatically denied for not being a local. Indeed, can say that my own curiosity[17] played an important role in shaping the way fieldwork was carried out. That is a good thing, since curiosity-driven research can lead to significant scientific and cultural advances (Hunt, 2009) and indeed can reach beyond 'key stages' and skills matrices, to something more profound (Phillips, 2012).

The eight months of fieldwork were carried out in three equidistant but profoundly different visits[18]. Each of them was focused on a specific task and motivated by a different set of necessities. The first visit, perhaps the most striking one, was my first encounter with the Pearl River Delta, and with China. This initial visit was an exploratory one, it was useful to become familiar with the area and realize the dimensions of the phenomena that were occurring in the place. It was mainly focused at the study of Zhaoqing and Zhaoqing New Area[19], therefore played an important role not only in giving a real face to the Delta, but also helped to establish an interest and curiosity in understanding the role of this relatively small city within a system such as Pearl River Delta. A curiosity that evolved into using Zhaoqing as one of the main observation points of this research.

The second visit was the one that covered much of the Delta territory since it was mainly focused on exploring and understanding the spatial organization and functioning of the Delta agglomeration. It attempted to obtain a comprehensive idea of the operating machine behind the global city region, therefore it was built around two primary operations. First, inquiring the internal nodes of this urban region, that is the main urban centers that constitute the Delta[20]. Second, moving through the large transport systems that operate at regional scale[21], that is the main infrastructure axes that connect the principal urban centers of the region. These two operations allowed me to experience the regular face of the global vision. A face that any regular visitor can experience, a face that has been repeatedly portrayed in the existing literature of the area and a face that is built based on a small percentage of the actual deltaic territory. Indeed, focusing on the main urban centers felt somehow exclusive, limiting and even banal. There was so much that was being left behind, so much richness in between those urban cores asking to be explored.

While the second trip was concentrated in the consolidated urban centers of








5.7 | *Fieldwork situations in the Pearl River Delta. Photos by the author. 2017 & 2018*

the Delta, the third and final visit focused on everything that was outside of them. I moved my attention to the peripheries, to the transitional spaces, to the spaces than seemed to be unintentionally there and that were not documented or included in the reasonings and mental constructions of place[22].

The objective was to understand how these apparent irrelevant parts were effectively incorporated into the existing global system they claimed to belong to. In this case, instead of using the primary mobility system provided by the region, I appealed to more permeable and freer modes of transport such as cycling, local buses and walking. This seemingly simple decision gave me access to depths that would otherwise have remained unattainable. In a way, this operation allowed me to enter the "Delta's backyard", a place that is reserved for the locals, for the daily lives and for curious researches like myself. A "backyard" that extends silently throughout the extension of the Delta's territory and that functions as a complex machinery that synchronizes the heterogeneous of small parts that compose it. These spaces, the unknown ones, resulted in being the most interesting and stimulating ones. They were, in fact, the spaces where everything was constantly changing, where the contrast and inequalities were materialized on a daily basis, and where the space became something hardly describable by words since it was made by indeterminate amalgamations of what can be simplistically distinguishable as urban fabric and farmland (Bolchover and Lin 2013).

All in all, the combination of these three journeys revealed how the Delta is constructed upon ambiguities. Ambiguities that make necessary observing the contradictions, paradoxes, collisions, synergies, contestations and abandonments of the place. Indeed, the Delta is a landscape that is much more diverse and richer than everyone can expect. It is not a homogeneous apparatus that operates towards global standards, but it is a heterogenous and fragmented entity that finds its strength in the almost arbitrary combination of its infinite parts. Combinations that can seem irrational and unpredictable at the surface, but that in fact belong to an operational machine that maneuvers in many depths, and contrary to mainstream ideas, functions at many speeds. Without a doubt, the speedy and fast one is the best accepted speed by Chinese urbanization studies. Often cataloged as extraordinary and unprecedented, it has been used as a way of infusing uniqueness to the Chinese case. Indeed, when visiting the Delta, it is easy to perceive this speed of transformation. For instance, after each visit, the Delta's landscape became less recognizable. Some elements appeared without warning, others disappeared without leaving a trace, while others changed completely in appearance and function. Similarly, elements that were isolated were suddenly integrated into regional transport networks and early stages of construction sites were combined with fully finished flowerbeds or parks.

There is no denial about the existence of a fast-changing landscape, one that can be rapid, chaotic and in some way strange. However, there is also a necessity to acknowledge that urban transformations taking place in this area can also be slow, calm and common pace. Outside of the frenetic transformations there are

places that intentionally or not are managing to resist the transformation, or at most transforming on its own timeframe. Frassoldati (2010) describes this places as uncertain landscapes that locate between persistence and transition. As places that are in search of recognition since they cannot confirm or deny its own identity since they want – and need - to neglect or redirection its own pasts. These places that swing at the edge between modernization or traditionalism and globalization or localism, are in fact to be found all around the Delta.

For instance, they can be found in the form of villages[23] (Bolchover and Lin 2013) that in their many shapes, locations scales and functions, operate as the buffers between urban and rural (Fig. 5.8). It is also possible to trace these places through practices. Practices that refuse to die even though the adapted spaces for them to subsist no longer exist. In fact, these practices can become so strong that they can re-adapt the spaces of contemporary life so that they are functional to the more traditional way of life. This is the case of practices linked to the Delta's water system, a minute system so heavily shaped by human activities that still manages to resist the heavyweight of urbanization[24]; or practices related to private agricultural production, a production that uses farmland without any urge for efficiency, but as a mean predominantly used for subsistence[25] (Fig. 5.9).

Even if the speed neglected spaces described in the previous lines coexist with the well-known rapid urbanization, it is not easy nor immediate to grasp their existence. At first glance, they seem unchangeable places, unaltered by the events that have occurred in the past forty years and resigned to remain static and immutable in time. But under dedicated observation they emerge as slow but active places that leave in the field the traces of their process of transformation and adaptation.

Unfortunately, while being immerse in the ground these interesting ephemeral narratives disappear, vanish and hide behind the scale and weight of the mass urbanization. They become almost impossible to identify if not by training and using our eyes in a dedicated way. Feng Jian (2010) suggests the adoption Vertov's idea of a Kino-eye[26] as a strategy for tracing the permanencies and marks left in the space by the subtle spatial transformations, since adopting a Kino-eye allows to make visible what apparently is not, and allows paying attention to the hidden places and facts (Smith, 2008). Just as the Kino-Eye uses visual recomposition and change of perspective to look at perhaps regular things under a new and more in-depth perception, our eyes in the field should attempt to operate under the same logic and go beyond the natural mode of working. Indeed, a dedicated observation and montage procedure like this one can result useful for picking up the subtle traces of the Delta and reorganizing its puzzling combination of elements into more linear paths of inquiry. It is a possible strategy to go beyond the global visions directly from the field and a strategy for processing the information collected in it in a way that is rearticulated and reassembled to fulfill the questions behind the research.

5.8 | *New villagers houses and agricultural practices on the outskirts of Liantang town, Zhaoqing. Samuele Pellecchia. 2017*

5.9 | *Personal crops in Dinghu District. Samuele Pellecchia. 2017*

Notes

1 Even though the initial stage of satellite images can be traced back to the Global Positioning System, a network of twenty-four military satellites that still functions as a way of locating the exact position of almost every electric device, today, they have become a regular way of navigation. Indeed, since the 1980's when they offered complete global coverage, they have been expanded to a broad public of users outside the military and state entities.

2 In his test Apollo's Eye, Cosgrove (2001:2) argues how this gaze is a "synoptic, omniscient, intellectually detached" view that transforms our understanding of the globe in visual representations of geographical domination and unity. That is, it is a perspective that allows putting together the vision of unity, entirety and totality into a single view, therefore lacking real objectivity and absorbing the mastering of individuality (Nitzke and Pethes 2017).

3 When referring to the nature of aerial sights, and in particular to satellite images, Parks (2001) highlights how the perspective they offer is not just unhuman but unearthly. By this, she intends to highlight how behind their production and use there is an implicit detachment and abstraction that requires a further elaboration in order to translate the raw image to more grounded points of view. Indeed, in her text, she questions if it is actually possible to overcome and appropriate the remoteness of aerial nature to in effect turn it upside down and invert its logic of omniscience.

4 For instance, Landsat 8, the latest launched satellite under operation, acquires approximately 400 images per day, hence over 140.000 images per year and nearly one million images since started operations (Cosgrove and Fox, 2010). Today operating with a spatial resolution of 15 meters for most areas of the world and reaching a resolution as high as 15 cm in cities such as Las Vegas.

5 However, with access to information comes potential conflict. Shapes of governmental buildings have been partially modified to the apparent shape they assume from above in the United States; incensed citizens have expressed their concerns after seeing through aerial sights the disproportionate areas of land occupied by royal residence in the United Arab Emirates; polemic artistic messages have been produced in order to be decoded only from aerial views.

6 Even though the issue of surveillance through aerial and satellite images is not inquired in this thesis, it remains an important point to consider when deepening in the use of aerial sights, since as Kurgan (2013) argues, this remains a critical capacity when dealing with war zones, international conflicts and terrorism. Not casually, "the privilege of seeing closely from great distances has until very recently been reserved for governments, spies and militaries" (p. 99). See also (Mangold and Goehring 2019)

7 In relation to this, Cosgrove (2001) argues that these views from above are only the natural result of our human ingenuity and technical achievement, and in the end, they represent the destine of human sight.

8 Focus on Africa (1941) provides the first photo transect of the continent. Covering a distance of 32.000 km north from Cape Town, the images produced remain a reference for the African geography and land use practices. The images cover from large landscape visuals to close ups of local farms.

9 I make emphasis on the yet, because the "vision machine" (Parks, 2001) of satellites continues operating, hence the emergence of to the date updated images was indeed a fact.

10 The Hong Kong – Zhuhai – Macao Bridge, one of the largest infrastructural projects that has invested the Pearl River Delta in the past years, was closely documented through satellite images since the beginning of its construction in 2009 until the start of its operations in 2018. Indeed, there is possible to make a step by step reconstruction of the

process as for instance is available in the special feature "Three cities, one bridge" made by the South China Morning Post. Available at https://multimedia.scmp.com/bridge/

11 With an average of 110 violent death per 100.000 inhabitants, the city has been recognized as the Murder Capital of the World, and has often being described as a "fearscape" (Kairuz 2010) that is conditioned by disruption, isolation and a struggle for control.

12 In relation to this, Crang (2005: 232) elaborates on the idea when he declares that "The body has recently become an important topic *of* work, but not yet something *through* which research is often done". This represents a call for reflection on what research is and the multiple ways it can be done.

13 This point is considered by Sheller and Urry (2006) as one of the fundamental points of what they call "the new mobility paradigm". Although unlike in this case they use this field to place mobility as their object of study - and not as the way in which an immovable object is studied- it is important to cross this reference. Since it is strongly based in recognizing materiality as a means through which extract first-hand information.

14 Although much of the work that addresses the issue of Chinese urbanization is based, even partially, on fieldwork, the process is hardly told or documented in the scientific debate. In fact, issues such as overcoming the language barrier, dependence of the researcher on local assistance, political restrictions to which the fieldwork is subject or apparent and refutable uniqueness of the Chinese case, when present, they are treated as secondary considerations of apparent irrelevance in the outcome of the investigation.

15 Stands for South China University of Technology, the Canton university where I spent over six months as a visiting PhD student between 2017 and 2018 at the school of Architecture and Urban Design.

16 This issue connects with the fact that as in many other contexts, the Chinese case is an example of how fieldwork can potentially be controlled or dependent on the political regulations and control systems of a country. For instance, the book Doing Fieldwork in China (Heimer and Thogersen 2006) highlights the strong presence of the party-state at the moment of doing research. In the text the authors argue how fieldworkers "are walking in the footsteps of the Chinese Communist Party" (p. 12) since direct political-ideological control and intangible influence of the dominant Party discourse are still very relevant. Even if this research does not touch particular sensitive topics, the I could still perceive a strong attention towards promoting and showcasing the progressive discourse of Chinese Urbanization. In fact, I was encouraged by party members to visit the "pillars" of the local progress and insistently discourage to visit rural towns destined to be destroyed or evicted.

17 As a meter of fact, the Concise Oxford Dictionary defines curiosity as 'a strong desire to know or learn something' (Pearsall, 2002, p. 351).

18 The first visit carried out in January 2017 lasted 2 weeks, the second visit made in autumn of the same year lasted three months and a half and the third and final visit lasted 4 months and was carried out between late spring and mid-summer of 2018.

19 At the time, the construction of this new town was at very early stages and it was still possible to clearly see the large agricultural area that separated the historic city of Zhaoqing from the rest of the agglomeration of the Delta. Indeed, there were no finished projects, the only usable elements were a handful of infrastructural axes in the form of bridges or roads and two education centers, one corresponding to a local university and the other to a local school. These two finished elements were isolated from any other type of urban form, and indeed surrounded by endless construction sites.

20 Besides Zhaoqing, this second visit explored the cities of Shenzhen, Dongguan, Guangzhou, Foshan, Zhuhai, Zhongshan and Jiangmen.

21 Namely the navigable water routes that penetrate the Delta, the different rail systems (high-speed railway, railways, intercity tracks), the rich network of highways and speedways that cover almost surface of the Delta.

22 In particular I moved towards the transitional space between Foshan and Zhaoqing. One of the last remaining internal areas of the Delta that is on a state of incompletion and transition.

23 For instance, Bolchover and Lin (2013) distinguish between Urban Village, Factory Village, Suburban Village, Contested Village and Rural Village as the spectrum of spatially diverse possibilities to be found in the PRD.

24 The relation between human practice and the contemporary water system of the Delta is further explored in the Chapter 7 of this thesis.

25 The issue of agricultural production in the Delta is further explored in the Chapter 9 of this thesis.

26 The Kino-Eye was a montage procedure devised by the Russian director Dziga Vertov during the 1920's, as an avant-garde experimental attempt at decoding the world through the lens of a film camera (Latific, 2018). It was conceived by Vertov as a mean of capturing what he believed to be "inaccessible to the human eye" (Bulgakowa and Bordwell, 2006. That is, the films using a Kino-eye, would nod not attempt to imitate human vision. Instead, by forming a montage based on the assembling and editing of film fragments, the Kino-Eye aimed to activate a new type of perception (ibid).

Chapter 6

Processing the spatial observations: decoding physical space through visual methods

Thrift (2008) argues that images – in any of their forms - are crucial elements of space since it is often through them that we register and imagine the spaces that surround us. He goes further and elaborates on the idea that images can reach such as strength to be capable of constructing a very space of its own. A space he calls "Image Space". A space where images can reach more importance that the space itself and therefore be a large part of how that space is constituted. Such reasoning places images in a privileged relationship with the spatial dimension. A relationship that allows direct access to space and that allows it to be used as a way to extract information and spatial knowledge. Consistent with this line of thought, this chapter explores the use of images and their larger family of visual methods as a way of processing the spatial observation obtained in the previous chapter. In a more specific way, the chapter elaborates on the use of photography and mapping as two possible enter points to producing spatial information. Indeed, a consistent point portrayed in the following lines is the fact that photography and mapping are not considered neither used as impartial, passive or merely documental. They are both articulated under the idea of agency. An agency that is capable of directing, discovering, creating and impacting the ground from which it is produced, and the ideas and theories that emerge from it. In the discourse, it is also evidenced the importance of the person behind the construction of this images, since after all, photography and mapping are both processes that depend on the rules, ideals, intentions and goals of the person behind them.

Once again, the ideas set forth below are a reflection of the empirical and applied experience of this research. Although they take inspiration from different cases that I consider successful - and that are presented relatively during the text - the final result is an adaptation of methodological and theoretical considerations to the case of the Delta. It is a process that responds to the particularities founded in the place, and therefore represents and interpretation of the place itself.

6.1 Producing geographical knowledge through visual methods

When the intention is articulating and addressing contemporary urban and spatial issues from reading physical space, it is not enough to challenge dominant spatial epistemologies, but it is also necessary to resort to methods and tools that manage to move us closer to grasping information that physical space contains. That is, it is necessary to use tools that help us to document, transcribe, and process information primarily of spatial and sensory order that we find in the ground and the field. Images and visual methods represent potential means through which exploring this spatial information in a way that does not merely represent a given reality, but in a way that enables them to serve as powerful agents capable of shaping that reality (Crosgrove, 2003: 257). This vision of images, situates them above the dualistic image-text iconological conception, (John, 2001: 196), a conception that traditionally has risen text above the image as a means of theoretical exploration. This collocates images as a form of geographical knowledge making (Crouch and Toogood, 1999: 86). A knowledge making that continually negotiates between the visual and the verbal, the embodied and the disembodied, the material and the discursive and that operates in a dialectical way (John, 2001; Roberts, 2012).

This research understands and manages the potential of images and visual methods under this perspective. Considers that "the visual is central to claims to geographical knowledge" (Rose, 1993: 86), since visual images are material agents (Roberts, 2012) that have a direct ability to make information emerge that may not be immediately accessible through thoughts or words. For instance, visual materials can reveal what is hidden behind the mechanisms of the ordinary and can emerge information that is generally taken for granted (Knowles and Sweetman, 2004). They make things visible (Rose, 2014); they can be a tool for revealing, and uncover the most profound aspects of a phenomenon (Sweetman, 2009). Just as fieldwork does, they go beyond the traditional text-driven research to challenge us questioning geographic convictions with a disposition to be surprised (Deutsche, 1995). Likewise, images represent a universal language that does not need translation; In addition, they allow the researcher to reflect recurrently both on what they found in their fieldwork and on the relationship they developed with it (Emmel and Clark, 2011), a particularly useful quality when the field under study is difficult to access.

It is in these points where lies the importance of insisting on visual media as a method to delve into the complexity of contemporary territorial and spatial dynamics, under a logic that moves away from the "meta" spatiality and towards an understanding of the material, visible and grounded space. A space where economic, social and economic processes that govern contemporary urban transformations are expressed, translated and rooted (Steenbergen et al, 2009). In this way, relentless urbanization, territorial widening, urban inequalities, infrastructure led development, increasing complexity of governance and planning systems, economic, demographic and environmental crisis and many other urban related

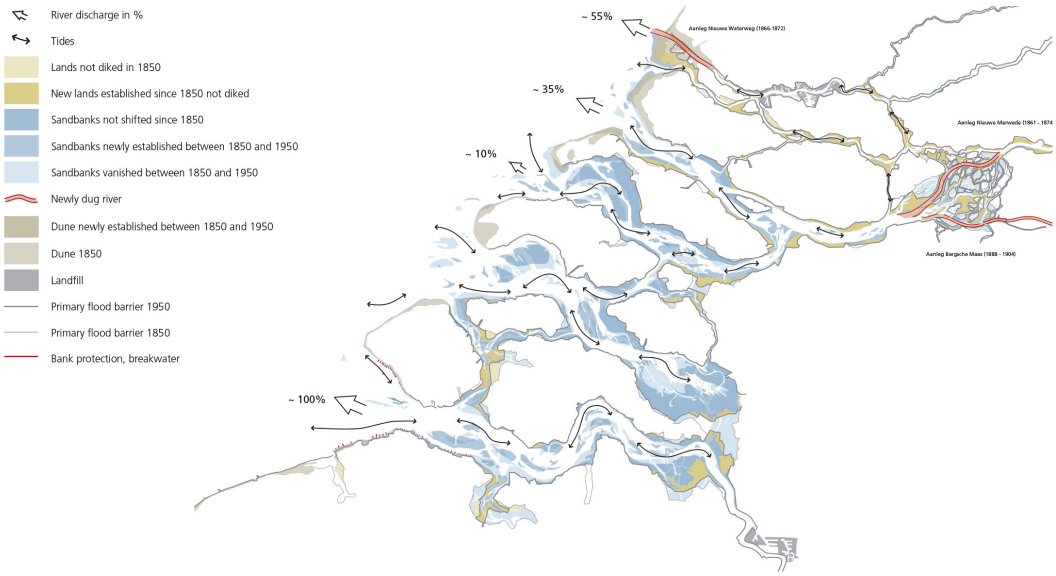
issues - all factors which contribute to perennial transformation of our landscapes and dynamic redefinition of their collective imaginary, of their internal relations and of their ways of interpretations - become legible and visible under the lenses of maps, images, photographs, videos and diagrams focused at the observations of space.

Despite the potential laying behind the use of visual methods, during the past two decades, the geographical sphere, has produced a considerable skepticism towards visual as a means for the extraction and production of geographical knowledge. Holliday (2000) implicitly supports this fact when he regrets the fact that the social sciences in their broad spectrum have repeatedly neglected the use of visual methods in the study of spatial dynamics. Either because urban theories, especially those that deal with the relationships between globalization and urbanization, are closely linked to the use of statistical data, flow analysis and metadata processing (Desimini and Waldheim, 2016). Either by the risk of approaching images from an exclusively iconographic perspective and objectifying realism (Crang, 2003; Roberts, 2012; Della Dora, 2009; Mukherjee, 2015). Thus, even though geography in its purest character has always involved creating and interpreting images (Cosgrove, 2008: 15), today, a visual theory is lacking (Mukherjee, 2015). Images continue to be seen as materials that bring risks of interpretation both under subjectivity and superficiality as well as under reliable or misleading / transparent or manipulated duality.

In this regard, Rose (2014) argues that one of the most radical change that has invested the social sciences in recent years has been the recurring proliferation of research methods that one way or another rely on visual representations to originate theoretical reflections and explore research questions. Indeed, qualitative method in general and visual methods specifically, have made their way into the scientific study of geographical and urban phenomena[1] (Crang, 2002; Gomes and Berdoulay, 2018). A phenomenon that Puwar (2009: 382) already anticipated as "the recent fetishization of visual methods"[2]. This has generated a significant increase in the number of authors who address the issue both in a theoretical-methodological framework (eg Brottom, 2014; Driver, 2003; Olsson, 2007; Rose, 2003, 2007; Ryan 2003), as well as at the operational and empirical. Ranging from attempts to visualize the planetary urban (Katsikis,2018), to studies on urbanizing Deltas in transition (Meyer and Nijhus, 2014; Meyer and Dammers, 2014), to the study of the contemporary geography of megalopolis (Thün et al, 2015) and to the study diffuse urbanization (Vigano et al, 2016), among others. These represent contemporary examples of how geographical and urban knowledge is being produced through the creation of cartographies, interpretive maps, photographic reports, schemes, among others (Fig. 6.1). All these means have helped geography and urban studies to take every day with greater force, directly or indirectly part of the visual theoretical and methodological debate predominantly dominated by sociology and anthropology literature. This renewed interest in the production of knowledge through the visual,

represents in some way a return to the roots, after all, geography was born as a visual discipline that has historically relied on the use of maps, globes, models and illustrations for its development (Roberts, 2012; Sui, 2000).

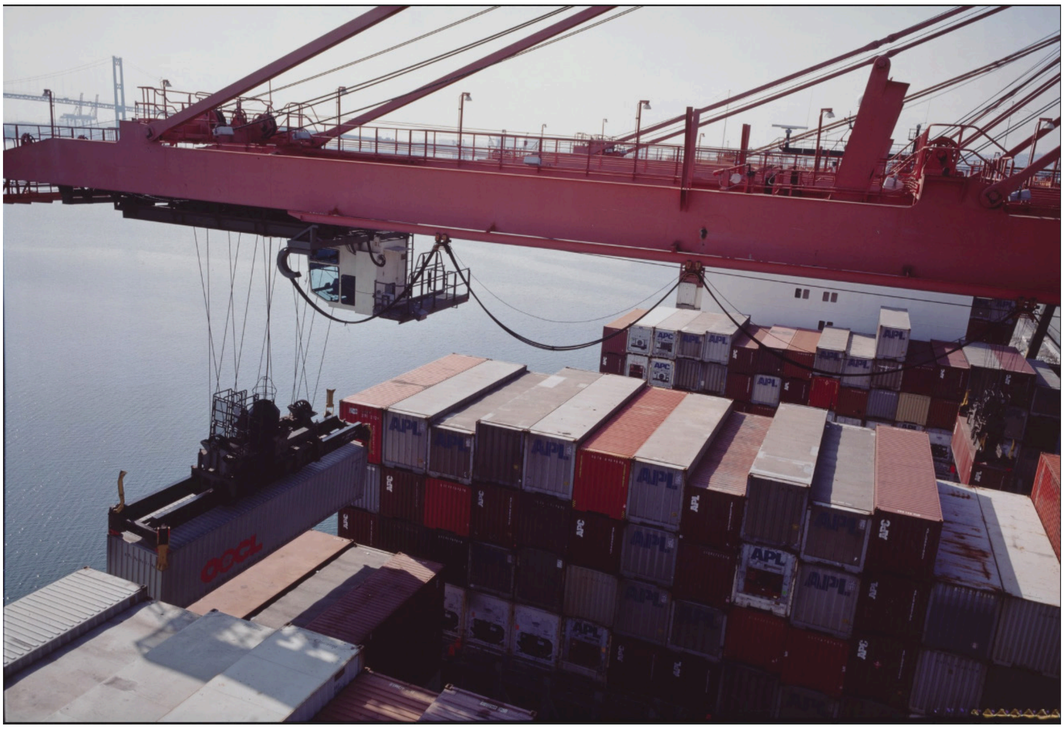
Although this reconciliation to the use of visual methods has taken place, geography has done so under a particular way. While social studies have focused heavily on the use of visual material as input capable of recalling information by the object of study - for example showing photographs to interviewees to help motivate their memory and collaboration[3] - the geographical field uses the visual material mainly as a tool for extraction and production of information, data and knowledge. Therefore, generally the visual methods are used as a means and not as an aesthetic end (Crang, 2003). This gives to different types of images such as photographs, paintings, drawings, films, maps and cartograms, an acquired potential additional to a communicational one, that is, images acquire a pedagogical and heuristic potential (Gomes and Berdoulay, 2018). The line of work that focuses on studying landscape as a territory has a long tradition of using visual materials in this way (eg. Oloriz, 2019). A situation repeated in studies of urbanization processes through the lens of art (eg Sekula, 1995; Franco, 2015; Jiehong, 2015; Hou Hanru's exhibition Between Past and Future: Art of the Pearl River Delta). In fact, visual arts have played a particularly relevant role in the construction of new spatial readings since, as Rogoff (2000) argues, the visual field helps to move away from consolidated positions and to overcome "unequivocal knowledge". That is, exploring a phenomenon through the visual field it helps to overcome the ideological positions and platforms that we have at our disposal to create and dictate new relationships between theories, contexts and objects.



6.1 | *Water dynamics- Interventions in the water system. MUST Stedebow. 2015*

For example, the work of Allan Sekula (1995) in *Fish Story* uses visual material precisely in this way (Fig. 6.2). It does this through the study of marine space as a way of exploring, questioning and exposing epistemological questions related to labor and the nature of globalized capital. For this, instead of mobilizing the maritime space exclusively as a visual space, he uses photography, essay film, and theoretical writing in a contemporaneously and complementary way as tools for extracting the critical realism of the phenomenon. Thus, it also manages to mobilize the maritime space as a socio-economic space that is part of the imaginary and real geographies of the advanced capitalistic world. Sekula's work in Fish Story is particularly interesting since it is mainly based on a direct observation of the space that is mainly processed through visual methods with the aim of producing a critical-theoretical conclusion. In the process, he investigates a phenomena that despite starting from a complex global scale, has a strong relapse in specific contexts, spaces and moments, thus adopting a trans scalar dimension that is mobilized through the use of photography as its driving vehicle[4].

If we see the use of the visuals from this perspective, then they become an efficient method for getting a grip in the vast complexity of the space and the landscapes that make it up (Picon, 2003). Therefore, geographical explorations represent a valuable field of reflection for the return of visual practices as an essential part of the process of building spatial knowledge (Gomes and Berdoulay, 2018). That is why this research is based on the use of visual methods, in particular the use of photography, diagrams and mapping, as the basis for the spatial study of the Pearl River Delta.



6.2 | *Hammerhead crane unloading forty-foot containers from Asian ports. American President Lines terminal. Los Angeles harbor. San Pedro, California. Allan Sekula. 1992*

Indeed, using this visual approach to the study of the Delta is particularly valuable and significant effort. It represents a counterweight to the multiple studies of the area that have ignored the spatial component and have concentrated on studying its operation and relation with global issues from a point of view that is un-material and a-spatially and strongly influenced by the category of global city region.

Synthetically, the antagonizing narrative that this research attempts to construct uses photographic surveys done during extensive fieldwork and maps constructed during the entire duration of the research, not only as a way of documenting the changes and characteristic that emerges from the Delta in a more prompt and immediate way. But they contribute unpacking the complexities of its space and dynamics, in a way that reaches greater depths were a simple observation or broad theoretical reflections cannot arrive. Photography and maps become instruments through which regulate the focus, detail and depth of each observation and analysis. Therefore, they are used as tools through which to isolate, reintegrate, compare, reconstruct, relate and abstract the spatial parts that make up the territory of the global city-region. These same photographs and maps become the tweezers with which to lift the different layers that are related in the physical space. In an even more significant way, they become the instruments that help me to lift the Global city region category, and discover what spatiality is hidden beneath it. By doing this I indirectly put into test the beforementioned capacity of visual methods to be "discoverers" of information that goes unnoticed, unseen or unobserved.

6.2 Photography: a methodological instrument to delve into the complexity of the territorial and spatial dynamics.

The most immediate mental reference to which our mind is directed when we talk about visual material is undoubtedly photography. Since its invention in 1839, it has made its way to our daily lives. It has become an immediate and straightforward instrument to which we all have access. The field of research has reflected this accessibility to the production of images (Heng, 2017; Hall, 2009). Hence photographs have by far become the most common type of image created in any research that uses visual research methods. Perhaps their popularity could be attached to how easy they are to create[5]; or to the belief that a photograph is a trace of what was really there when the shutter snapped, that is, the photograph was given the notion that they provided evidence (Sontag, 2006; Hall, 2009). In fact, photography is often considered as an instrument to get to know things almost decisively. When Thoreau said, "You cannot say more than what you see," he assumed that sight took first place among the senses within the task of knowing, exploring and capturing the essence of place. Idea reinforced by the fact that photography at its early stages was consolidated as an extension of the eye of the middle class Flaneur[6], once again locating sight at the first place. Concerning this, Sontag (1977) argues that "The photographer is an armed version of the lone walker

who explores, stalks, crosses urban hell, the voyeuristic walker who discovers in the city a landscape of voluptuous extremes". Also, Thomas (2013) in his Decay photography analysis describes the photographer as an armed urban explorer, as the irreverent traveler who seeks to discover through photography what others ignore. That is, photography becomes the tool to capture the findings that are made in a specific place, it becomes a tool to apprehend the unofficial realities of the spaces it explores[7].

It is necessary to stress how behind this apparent ease of generating images that represent a truth, there is also an ease of constructing that truth through the simple process of creating a photograph. Although the act of photographing implies a denial of intervention, that is, the one that captures the image does not intervene within it, this does not mean that the photograph becomes an act of mere passive, random or without consequences observation. On the contrary, behind photography there is a strong agency and intentionality[8] (Sanders, 2007). By using pictures, we can trace and elaborate on thing that are not evident or not visible since intentionally made photograph make thing visible (Law, 2004). Indeed, a photograph, understood as an investigative instrument, is not the result of a circumstantial moment where an event and a photographer meet randomly, on the contrary, taking a photo represents an event in itself as it implies evidencing, ignoring, emphasize or pursue an idea. That is, it is a merely intentional act capable of applying a filter to the spatial reality in which we place ourselves, since the photographs respond to what is requested of them (Krauss, 2002).

It is common to find photographs that try to alter in some way by romanticizing the space they portray and falsify reality. For example, the rapid urbanization of China has been frequently portrayed under these characteristics. Images that show the unprecedented urban and economic development and growth, a symbol of progress and development of China as a nation, are opposed to bucolic images that show the resistance of small rural towns to the edge of abandonment or destruction in the face of the imminent arrival of urbanization. Images that on one way or the other try to sell an idea of improvement and collective advance towards the global civilization that the country aspires to reach. After all, as Sontag (1977) argues, the camera has had great success in its function of beautifying the world.

Another factor necessary to question is the relationship that photography has with the perpetuation of a fragment of time. Taking photographs is by default a slow pace endeavor that affords the photographer the time to reflect and delve into the complexity of the place. Composing and decomposing the elements of the space, photography reveals how we see the world and offers a vision of it. Whiting this process, it is possible to freeze a moment and a space, to make it immortal and assign it some level of importance that it would not have enjoyed under another circumstance. Thanks to its ability to approach time as a sharp, static fraction of time, which does not flow (Sontag, 1977). That is, it gives us the possibility of

returning to it, looking again and again, with varying degrees of depth and looking for different nuances, even though what is actually portrayed in the image no longer corresponds to reality. This is perhaps one of the greatest potentials of photography: the ability to hold on to the present just before the moment of its disappearance and the ability to rapidly record "facts" in front of landscapes that constantly change over time (Sterling, 2016; Jiehong, 2015). That ability to capture the change in its present condition is perhaps the main strength of photography in a context as changing as the Chinese and in a transitional landscape like the Pearl River Delta. Where maps and satellite images are not able to keep up with the current transformations and where the only way to be aware of the current status of the transformations is to be physically present in the space under study.

A clear example of the potential of photography in capturing spatialities before they disappear is the long documentary process that geographer and photographer Bruce Connolly has made during the last 30 years[9]. In the different articles that he has produced for China daily, the most recurring theme that the author maintains is how capturing in images the urban transformations that he founds in his exploratory routes, has been the only possibility he has had left to be updated and informed in the progress of the same (Fig. 6.3 & 6.4). Indeed, this is a reality that Samuele Pellecchia, the photographer responsible for much of the photographs that this thesis exposes, and I went through during the explorations in the field. Each field visit revealed new discoveries and new spatialities that were not yet reflected in maps, satellite images, documents and statistics. As a result, the only tool that allowed us to capture the spatiality we faced every day in the field, and use it to update our knowledge of space, were the hundreds of photographs that were taken every day, since as Collier (1986) argues, photography can help to preserve the first impressions of the field in a responsible and usable way, since the camera does not need our detailed knowledge to capture the spatial complexities that are placed in front of us, and with that capacity it helps us to "accurately record materials and circumstances about which we have limited knowledge "(p. 16).

These hundreds of photographs helped me to reconstruct in the most precise way possible the state of progress of the transformations of the Delta, the advancement of the urbanization lines that "destroyed" the rural towns that were in its path, the infrastructure axes that crossed immense agricultural fields, and that were only recognizable there, crossing the space, coming into direct contact with its ground and were only documentable through photography. Photograph that allowed me to return to space again and again even when I was physically away from it. Photographs that have allowed me to analyze the space carefully and reconstruct and decode its transformation process through the instantaneous fragments that the camera has captured. That is to say, in this context, photography not only represents a documentation tool, but rather as Sterling (2016) argues as an unchanging interlocular in the discussions between urbanization, densification, categorization and globalization.

6.3 | *Yanling Road, Guangzhou (Now part of Tianhe area). Bruce Connolly. 1992*

6.4 | *Expressway to Shenzhen (Now Guagshen highway). Bruce Connolly. 1998*

6.2.1 Between transparency, distortion and visual production of knowledge

Many of the scholars that relate to urban photography argue that the camera is hardly objective (Rose, 2014). Although at birth it was understood as a means to provide empirical visual evidence capable of replacing the subjectivity of the painting, since 1982 with the volume Thinking photography by Victor Burgin, the idea that behind photography existed a degree of transparency started to be seen as a fallacy. In a way also as a utopia since the meaning of a photograph could not be separated from its temporal, spatial or discursive context since these are somehow social constructions that direct the viewer towards a particular position, that is, they are deceptively persuasive. Even if the object illustrated in the photo can tell a story, the way in which it is photographed can tell another. Collier (1986) argues that in fact the greatest weakness of photography is the person behind its creation, that is, the person who uses and controls the camera, since it can hardly be completely released from bias or personal projections. As a consequence, it is not only important to focus on what is photographed but it is equally relevant to understand by whom, and at what time it is photographed (Rose, 2014).

These statements that question the transparency of photography and its extreme vulnerability to the person operating the camera, have also been questioned in a more contemporary and empirical way. For instance, this point is treated indirectly in The City After Chinese New Towns[10] (Bonino et al, 2019), when Pellechia argues that during his process of photographing the Chinese urbanization through the observation of three new towns, one of the most difficult tasks was to detach from the "Deep-rooted Western prejudices that often I find himself criticizing in other people's observations or interpretations " (p. 33). This statement is committedly repeated when working in geographical contexts that make us question our own understanding of reality and the phenomena we encounter. Bruce Connolly (2018; 2017) also makes a similar statement in his work on the evolution of Shenzhen, the construction of Lanzhou and the change of rural life in the inland territories of China, when he declares how contradictory it has been to photograph China, in relation to its own logic and conceptions.

Similarly, Tim Franco (2015) does so in Metamorpolis, a study on the difficulties faced by a large part of the rural population in the process of finding their space within a rapidly developing metropolis such as Chonqing[11] (Fig. 6.5). Finally, in a much more personal way, photographer Sebastiao Salgado also does it in his explorations on the geographies of extraction or migration, photographic explorations that Sassen (2011) considers capable of producing knowledge in themselves[12]. Other exemplary cases of the use of photography as a tool for knowledge production and as a bridge between visual production and theoretical production is for instance, the work of Jiang Jiehong (2015). In his work he seeks to document the Chinese contemporary urban transition through a combination of photography and critical essays that question the levels of development, demolition

and construction of contemporary China under an art-inspired perspective. Similarly, the work of Luca Casonato (2010) in the study of a 70km long section of the Foshan municipality proves how through a systematic photographic construction of cataloging, listing and taxonomic visualization, it is possible to reach a level of reasoning theoretical grounded on the site. These cases exemplify how through operations like this it is possible to achieve what Tormey (2013) holds as a visual focus to theoretical conceptions, that is grounding theoretical abstraction to the hardness of the place.

However, the only way to ensure that images not only document the development of space, but as illustrated in the preceding examples, are themselves the ones that allow observing, describing, studying, questioning, interpreting and analyzing it, is for them to be built as research sources (Roca, 2012). But how to do that in practice? How to connect the camera, with the field, with space and with theoretical reasoning? How to take that step so that photography is not only documentary if it is not a methodological instrument to delve into the complexity of the territorial and spatial dynamics? These are methodological questions that this thesis repeatedly faced during the last three years.

Finding an answer to these questions was not a simple task since the methodological construction of photography in the field of urban studies is not rigorously categorized, so the discourse tends to be generic and not very specific (Tormey, 2013). Given this, in his text Cities and Photography, Tormey presents an attempt to understand methodologically how photography operates in the urban sphere. She considers that "in order to unpack the complexity of its use in the city, is necessary to differentiate between photography in the city / and the city / of the city[13]. Each of these gives photography a different basis and objective, the second one being the closest to the way in which this research attempts to use photography. That is, interest in using it as a tool that does not stop in the descriptive dimension of the space it captures, but as a research method that through "looking with intention" (Sanders, 2007; 181) operates in a more substantial way with the objective of understanding as ideas and phenomena "ground themselves on the landscape" (Sanders, 2007; 182). This way of using photography seeks to give it a critical inquiry capability (Rose, 1996), a capacity of analysis of pre-established interpretations and models (Rogoff, 2000), and a capacity of producing knowledge (Sassen, 2011; Rose, 2014).

6.5 | *Urban agriculture in Chonqing. Tim Franco. 2015*

6.3 Mapping: a practice of ground-based spatial reassembly

"There are some phenomena that can only achieve visibility through representation rather than through direct experience"

Corner, 1999

To delve into the complexity of contemporary territorial and spatial dynamics requires to adopt conventions that are equally complex (Mostafi, 2016). One of these complex conventions is the act of mapping, an act of map construction that is directed towards the production of grounded spatial knowledge. Indeed, mapping (as a verb) can become a practice that affords a great proximity to the manifestation and manipulation of the space itself. It represents a concrete bridge through which to connect and reconnect theoretical and abstract ideas to the ground, making emerge an interpretation of the space that is both a conception of the eyes and of the mind.

The mapping operation allows the construction of complex interpretations and theorizations that are woven between the abstract of the theory and the concrete of the physical space, so that during the process, it goes through continuous analytical back and forward that leads us to more accurate responses to urban, and not only, extensive issues. However, despite this ability to offer greater proximity to the space itself, mapping as a practice, has been diminished and even supplanted by data-driven research (Desimini, 2019). Even when it resists the pressures of a world every time more governed by flows and abstractions, it does so in a feeble way. It becomes a fully data-dependent operation that results in distancing from the grounded spatial characteristics that relate to the human scale in order to reach the large and distant spatial patterns that cannot be grasp from the everyday living and appropriating a space. This divergence between the way map can be constructed – that it, using as a base located inputs or standardized data- risks to produce what Tsing (2015) defines as "Cartographic friction" between the map built through data and the map built through space[14]. That is, the "reality" that each map transmits, strongly differs from the other.

When I refer to mapping as a practice, I refer to a process that is grounded in the production of topographic maps[15] (Desimini, 2019) that are not used merely as visual thinking instruments (Söderström, 1996), but as an agency for both production of the territory as for the creation of the place (Corner, 1999). That is, I refer to the construction of maps as an active practice capable of producing spatial knowledge (Nijhuis and Pouderoijen, 2014; Veldhuizen and Pfeffe, 2016) and of redefining the that is set to interpret and deconstruct through narrating, symbolizing, re -relating and re-inscribing the relationships that occur in the space (Presner, 2014). In this way, I refer to the mapping process as a way of inquiring past, present and future transformations of the space in it most physical form, that is, the landscape (Furlan, 2019; Secchi, 1992).

This use of mapping as a practice, has had several interpretations and objectives through time. Perhaps two of the most interesting are first, the idea of mapping as an indisputable mirror of reality, therefore, reproducing the geographical information in a precise, absolute and accurate way. The second is mapping as a way of producing knowledge and ideas, therefore divorcing maps from the ground replication and giving them the freedom to move through different spatial-temporal readings[16]. The first approach, mainly present during the 1970's and 1980's sees the process of mapping as a deterministic action, relaying on data as unquestionable truth and closing the way for the emergence of the unexpected, experimental, intuitive and unseen (Montoya, 2007; Deluze and Guattari, 1987). Under this approach, the creation of maps is repeatedly seen as an atheistic elaboration (Crampton, 2001) that lends itself to the representation of power-knowledge in the forms of political interests, supremacy, and the hidden agendas[17] (Harley, 1989), example illustrated for instance when comparing the different projections that the surface of the earth has had during history[18].

The second approach mainly introduced in the 1990's by the work of James Corner (1999) envisions mapping no longer as a tool of description but as an instrument capable of revealing and realizing hidden potential. The main desire behind this practice is not the desire for novelty but to uncover what might remain hidden, in other words, its goal is "seeing the unseen" (Nijhuis and Pouderoijen, 2014: 13). It is thus a process of revelatory excavation, a process of finding and founding, rather than a complete final product (ibid).

In other words, as Bick (2014: 25) writes, "while maps (noun pl.) Are long associated with technocratic instruments of imperialist authority and control, Corner attempts to recover the original exploratory and entrepreneurial character of mapping (verb), as a liberating and productive activity". Indeed, in Corner's approach, mapping is particularly useful in the constructing and interpreting of lived space. Since regardless of the scale of the context, that is, either on a very small scale or across extensive territories, it is a practice capable of relieving realities that we neither imagine nor hope to discover. As highlighted by Nijhuis and Stellingwerff (2011), understanding mapping as a process and not as a product, can help us understand the landscape and consequently the physical space in a more comprehensive way, where emerging insights help us analyze relationships that are constituted between the parts and the whole, evaluating this not only as the sum of its parts, but in its entirety. Since it is then an act of knowledge and a human ability, which within its freedom, allows us to establish patterns, orders, emphasis and hierarchies. Then "mapping allows us to digest information in a rational and systemic way, which is a personal process influenced by the choices and judgement made by the interpreter "(Nijhuis and Pouderoijen, 2014: 13).

Precisely because of map's proximity to the understanding and use of the physical characteristics that space adopts, their ability to decode how the most abstract, etheric and ephemeral processes materialize and their ability to relocate

to the center of the debate the spatial dimension that has been so many times de-emphasized, this research attempts to reintroduce their use as a practice capable of achieving a geographical production of knowledge through construction as an open process to experimentation and discovery. Recognizing, however, that these do not constitute objective representations of the present, but on the contrary, they represent distortions tied to a specific moment (Desimini, 2019), to a specific look (Monmonier, 1996 look for another) and to a specific objective (Corner , 1999). That is why Monmonier (1996) in a very provocative way uses the word "lie", to motivate the development of new perspectives on maps. In his text How to lie with maps, he argues that it is not only easy, but necessary to lie with maps since, in their most basic operation, they transfer the significant relations of the complex three-dimensional world to the equally complex two-dimensional world. And for this, it is mandatory to go through a process of distortion, abstraction and codification, what he calls "White lies", which are based on three basic attributes of scale, projection and symbolization, which in turn represent the possibilities and limitations of Map construction (ibid).

Following these interpretations, the approach I try to follow takes some elements of reference in the idea of "thick mapping"[19] as used by Furlan (2019: 134) or Presner et al. (2014: 17). In this interpretation of thick mapping it is argued that despite their natural flatness, maps can be quite thick and attempt understand how the cultural context and human practices develop spatially, passing through socio-economic and cultural realities through which man acts (Favaro, 2017). To do this, it is based on collecting, adding and simultaneously visualizing different layers of geographical or place-specific data (Presner et al., 2014). The construction of maps through this concept of thickness works as a strategy to reveal, collect, visualize and synthesize the different layers that make up both the physical landscape and the cultural space (ibid). So that it gives the map the ability to correlate, reassemble and reveal the interrelationships between the different elements and processes that are deposited on the ground (Furlan, 2019) and make potential and contradictions emerge in relation to a larger milieu (Corner , 1999).

Based on this reasoning behind the process of building maps as a tool for the production of spatial knowledge, I take as reference the essential operations that Corner (1999) casts when he states that "there are three essential operations in mapping: first, the creation of a field, the setting of rules, and the establishment of a system; second the extraction of isolation, or 'deterritorialization' of parts and data; and third the plotting, the drawing-out, the setting-up of a relationships, or the "reterritorialization" of the parts ", and I translated them into a more lineal and simplified process. In this way, the creation of the field, the extraction of isolation and the plotting synthetically become Scaling, Layering, and Discovering, three operations on which the maps that make up this research are built upon.

6.3.1 Scaling

"Scale is a human construct that locates an observer/modeler relative to a set of objects distributed in space, time, and magnitude. It explains nothing in and of itself, but its perspective may influence the discovery of pattern and process "

(Easterling and Colin, 2004:66)

Just as it is necessary to adjust the lens through which space is studied, it is necessary to define the distances under which it is observed. Scaling is an operation capable of regulating this distance of observation, and in the process, defining both the level of detail, or grain with which the territory is observed and represented, as well as the upper and lower limits of the context in which we located our studied phenomena (Nijhuis and Pouderoijen, 2014). Desimini (2019) argues that scale is a powerful tool in spatial studies and in mapping practices, since it is capable of relating subject and representation, while governing content selection and detail, and indicating a depth of knowledge and access. Hence, the operations that rely behind the act of scaling automatically define a field of inquiry, a place of study and the rules under which it is inquired (Corner, 1999). Under this interpretation, changing scale implies entering into a new standpoint, a very close one, a very far one or the many nuances that exist between these two extreme points. Within that movement, some elements of the space can indeed appear or disappear from the general picture, some aspects can become more or less relevant and our relation towards the object of analysis can be change from a personal one to a distant one[20].

When regulating the scale, we can zoom in or zoom out in relation to a particular place or phenomena. Furthermore, within the process come to a. uncover aspects and relations that are not necessarily present or visible in both scales b. Assume strategic thinking depending if we are seeing from up close or from afar; c. Move between different positions that open different but complementary perspectives. This research leans towards an idea that sees this capacity of scaling as something positive that allows to examine – in this case- the Delta from many viewpoints, all of which have virtues, that should not be considered as fixed, permanent positions. After all, the best operations are those which move between zooming in to explore the particularities of a problem or place, and then zoom out to explore and connect with relations and patterns (Kanter, 2011). These types of operation do not divide, privilege or chose any scale of observation in particular but rather learn to move across a continuum shift of the possible perspectives.

That was the strategy I adopted for studying and mapping the Delta. A multiscale strategy of moving from reduced scales that provided very close, near perspectives that allowed me to grasp the details, richness, particularities and minute elements; to larger scales with broader, distant, detached perspectives, capable of building trans scalar relationships that connected the most imperceptible particularities with greater global systems. For instance, in the case of the Delta,

this operation of moving from close-up to distant and vice versa, allowed me to put into context, the mere exitance of small crops that from the ground appeared to be isolated, and from a more distant look belonged to a rich net of apparent urban agriculture. Or the fact that what appeared to be randomly scattered villages into rubble, where a way more articulated an organized process of land use substitution that originated strong waves of eviction. Indeed, when mapping and viewing form up close, it was easier to represent the forms and spaces that make up the Delta in a reliable and complete way. After all, this is a scale that derives and equate to the scale of human occupation; therefore, it acknowledges reaching levels of detail in a privilege, sharp and focus way (Desimini, 2016). By the contrary, looking from a distant point implicated adopting an abstraction (Crampton, 2001), and leaving out details to give space for generalizations (Jiang, 2014), that more often than I expected resulted in uncovering local systems that where imperceptible from a reduced scale.

Somehow each level of scale allows to tell a different narrative about the Delta. The distant scale is a story that we already know very well, we can easily find it in all the literature that defines the PRD as a global city-region and is the narrative that builds up the first part of this thesis. The nearby scale is a valuable but almost not existing narrative that we hardly find in the literature. In itself is irrelevant since it is limited to self-description, therefore need to be complemented with scalar jumps that put aspects into relation. In this sense, close-up, medium and distant scales through which this investigation moves are fundamental[21] for moving around the exploration of the Delta and the scrutinizing of global categories.

6.3.2 Layering

Perhaps the main operation on which the thick mapping idea is based is through layering. In simple words, layering implies the superposition of distant independent layers for the construction of a "thickened" surface capable of providing and producing information on several levels. This operation allows spatial elements to be identified and reorganized in a stacked manner to reveal the complexities of the territory under study. Either through the use of sophisticated coding systems or through the simple operation of isolating the traces of spatial elements or 'deterritorialization' of parts and data (Corner, 1999), studying a particular space or process through layers is an operation aimed to extract specific elements from the territory and isolate them from the noise background so that these are clearer and more visible. This operation allows not only to superimpose the isolated elements, but to correlate them between them and revealing their interrelations, their synergy and contradictions. When these separated layers are overlaid together, not only do the relationships between them emerge, but each one's ability to reinforce or deny each other becomes visible (Cattoor, 2019). If the layering operation is understood in this way, then, addressing the landscape through the layers is particularly useful since this in itself is a layered system[22] (McHarg, 1969). A system where each of its

layers has not only its own dynamics and relationships but also each layer is related to the other existing layers, thus having the ability to influence each other (Meyer, 2014) and reveal the logics behind these influences (Furlan, 2019).

Through the creation and use of layers, it is also possible to invoke time (Desimini, 2019). Indeed, time-layers help to understand and visualize how an area has been transformed within a particular time frame. Somehow these temporal layers, despite being no longer visible at regular sight, manage to coexist in the stratified space, and represent a window through which it is possible to move forward or backward. In a way, the idea of a stratified space resonates with the notion of palimpsest. A notion that in an urban context, suggest that any space is compose by superimposed layers of geography, history, culture and politics that lie beneath the surface. Indeed, considering that the word palimpsest in it most neutral form refers to an ancient manuscript that has been over-written with more recent information, contemporary landscapes can be seen under the same logic. Hence, they might show traces of older forms and symbols that exist in diverse layers of meaning that are waiting to be revealed, interpreted and understood by those who encounter them (Marvell and Simm, 2016). Layering gives direct access to these stratified deposits and favors the immediate comparison of spatial characteristics, organization of its elements and relevance that each of the parts has taken indifferent times. These in a way that helps to quickly and efficiently access information (Montoya, 2007).

Indeed, the layering operations that this research uses in order to construct a multi-layered spatial narrative of the Delta are based in these two main types of layers. On the one hand, I use Time-layers, which help to visualize in a direct way the strong transformation that this area has gone through during the last forty years. On the other hand, I use topological layers that refer to the main spatial systems that build this territory are used. The first type focuses on recreating and inquiring the transformation of the Delta since it was dominated by an extensive agricultural landscape, that is, right after the opening to the China Market in 1978, until today, where Agricultural areas have been progressively replaced by a space that continually stresses the limits between what it traditionally defines as urban space or rural space, differentiation that does not find a solid base in a context like this. The second type of maps, focuses on isolating or decomposing the Delta into its main spatial systems, namely water, infrastructure, production and built environment[23]. Based on this, I seek to weave and recompose the relationships under which the Delta works, in a way that understands in a more concrete way how the immaterial elements that govern the understanding of this space under the logic dictated by global urban categories (for example global-city region) materialize in the physical space.

Surely such an operation is useful in any context that we might want to study, but in the case of the Pearl River Delta, layering becomes an absolutely necessary operation. Trying to understand the spatial logics that regulate the functioning of the Delta without an approach that allows momentarily decomposing

its parts is an impossible task. The heterogeneity, density and spatial richness of which this territory is composed is only digestible, at least initially, through the study of its parts. Only playing with the possibility of highlighting or hiding some of its elements is it possible to understand their relationships. Agricultural fields, towns, cities, industries, rivers, fishponds, construction sites, wastelands, forests and infinite built extensions cross repeatedly at such a rapid speed that if they are not seen through dedicated layers or lenses they become indistinguishable, as they merge into a monolithic, saturated block of "urbanity".

6.3.3 Discovering: not an act of reproduction

As stated before, the maps used and constructed in this thesis do not necessarily correspond nor to a legit reproduction of the Delta's condition, nor to a plain documentation of its physical space. They are rather directed to make visible some of the aspects, characteristics and phenomena that otherwise would be neither visible neither considered in the spatial analysis. Make visible while setting -up relations and reterritorializations of their intrinsic parts (Corner, 1999). They are built upon the idea that "in mapping, one objective is to discover (by seen) meaningful physical and intellectual shape organizations in the milieu, structures that are likely to remain hidden until they have been mapped" (Robinson and Petchenik 1976, 74). In a way, constructing maps under this logic means using them as an instrument for spatializing what cannot be seen and cannot be related. It becomes a way of illuminating systemic relationships that define the way space works and exposing the underlying conditions upon which "realities" have been written. Therefore, mapping as a discovery practice encourages reconceiving the logics of a determined place according to geographic spatial logics rather than according to artificially created findings. That is, it can help to construct relational fields that web together infrastructure, geographies, flows, and material artifacts to the territory (Thün et al. 2015).

However, undertaking a map construction process that is based on discovering, is strongly related to a sense of unexpectedness. Depending on the decision we take as the minds behind the cartographic constructions, depending on the information we grasp from space and depending on the way we put in relation that information, the result can be and indeed is entirely bewildering, with no possibility of foretelling the final output or being ready for unforeseen spatial relations that arise. This unexpectedness represents for this research a positive attribute. A way of approaching the question of *What else can the Pearl Delta be if we look beyond its globalized visions? How can be redefine the so called "global" city regions – or any other global urban category - with its geography, instead of a completely economic entity?* questions that drive the direction of this research. Adopting any spatial analysis, and not only mapping practices under this logic of discovering, means giving space to possibilities. Abundantly of possibilities that could result in what O'Brien (2006) calls a proliferation of multiple lines of inquiry, where he calls

for a production of knowledge that is opened to be tested, if not by us, by others, and a knowledge that is variegated and opposed to the idea of "broad covering laws and sweeping generalizations" (38). An approach like this one, entails the assumption of a theoretical eclecticism that does not conform with "looking for a general theories of holes" (Shapiro 2002, 609) [24], or verification of theories, but instead puts discovery at the front of the chain of operations, and embraces it as an strategy for bypassing the practice of "ill-fitting a priori categories" (Gerring 2001, 231).

Certainly, discovery and unexpectedness have been two recurrent approaches within this research, after all, there is some degree of both in every research that attempts on addressing a complex phenomenon. But in this case, they were intentionally present in the initial stages of fieldwork and continued to be deliberately included until the very last visit to the Delta. They took part in the processing of the collected spatial information in the form of photography and diagrams, and they continue to be present in the map construction process. However, acknowledging their presence during this complete process does not mean that this thesis was set free from theoretical, methodological or empirical rigor. In fact, theoretical background, methodology end empirical observation were meticulously shaped so that they could create a "controlled space" for this degree of unexpected findings, and so that they could be flexible enough to incorporate and further elaborate on those. Hence, the maps and reflections that make up this spatial exploration are the product of stages of unilinear reasoning, even some naïve instincts and moments of great lucidity. Some of the maps came at early stages of the research and respond to a small degree of discovery since they aimed at providing basic knowledge of the Delta and its transformations in the most possible impartial way. Some others, especially those that were produced at the final part of the research, reflect a higher degree of freedom towards discovery, since they aimed at deepening a track or a precise fact that emerged either in the fieldwork or literature review. In their various shapes, scales and forms, and from their variegated cause of production – from a geographical necessity, a curiosity, an instinct, from fieldwork, from a concept, from a theory or from an idea – the maps used in this research all aim towards finding and making visible some aspect that have not been grasped before.

Notes

1 The emerging field of visual methods has been repeatedly characterized as "visual sociology" (Grady, 2008; Pauwels, 2010) due to its solid historical use within the discipline, however, because the use of these methods is not limited to the sociological field, but on the contrary its use has extended to different disciplines, Rose (2014) considers that it is preferable to refer to this set of methods under the term "visual research methods".

2 To explain the increasingly recurrent use of these methods, it is possible to position oneself in relation to different academic positions. On the one hand, the increasing popularity of these visual methods is attributed to the technological changes that society has undergone (Sweetman, 2009), emphasizing how access to the production of visual material has been simplified, developed and massified (Pink, 2001). On the other hand, its importance is tied to the prominence of the contemporary visual culture that surrounds us (Knowles and Sweetman, 2004; Spencer, 2011) and a daily life based on "hyper-visuality" (Rose, 2014), that has made banal to question the fact that we are in a world full of images.

3 For instance, Sarah Pink's work on visual ethnography (2001)

4 To carry out this study that adopts a trans scalar and eclectic dimension, the images used belong to different typologies and scales so that a single pictorial mode does not predominate but a variety of images ranging from the specific detail of the object to the wide panoramic composition , thus revealing the complexities at the points of contact between the most minute scales and the most global processes.

5 A fact that has been commercially emphasized since the beginning when, for example, the slogan of the first Kodak in 1888 was: "You press the button, we do the rest"

6 See (Boutin 2012; Jenks and Neves 2000)

7 An example of this is clearly illustrated, for example, in works such as Naked City, an unfiltered visual exploration of the New York street life in the 1930s and 1940s (Weegee, 1945),

8 An agency based on the fact that photography is capable of operating dually as a material basis, that is, as an object, and as a predefined point of view (Rose, 2014). Behind each photograph there is a tacit intentionality that responds to the fact that the final result is always an image that someone prechosen to create, since, photographing is framing, and framing is excluding (Sontag, 2004).

9 During this period, he has dedicated himself to photographing the process of transformation of China in an extensive way, and with a strong focus both on the development of the Pearl River Delta and on the development of the railway network that today extends throughout the Chinese territory.

10 An interdisciplinary publication that illustrates the result of a research based on inquiring urbanization processes and Chinese exceptionality and ordinariness from the study of three Chinese New Towns, namely Zhaoqing New Area, Zhengdong New District and Tongzhou new Town. The research was conducted by the China Room Research Center of the Polytechnic of Turin with Ecole Polytechnique Fédérale de Lausanne and the Tsinghua University.

11 Considered the fastest growing city in all of China, Franco uses photography to observe the conflicts between the concrete urban rise and the nature and how its inhabitants are using the spaces they are left with.

12 "Salgado's photography produces knowledge beyond the actual visual content in his photograph, and in this sense his photography is heuristic […] He finds articulation between

the particularity of the local event in his photo with a larger process that engenders it" (p. 439). In these words, Sassen sustains how in cases like Salgado's, photography can narrate complex phenomenon in a far more encompassing manner that the traditional and standard means of narrations that academic world is used to.

13 "In the city" corresponds to the commercial, social, political and cultural use of photography as a result of urban capitalism; "and the city" corresponds to the existence of photography as an application that contributes to elaborate on the pre-established conceptions of the city, that is, as a means of producing and transmitting information by different agencies and under different objectives; "of the city", introduces photography as documenting the city and as possible representations of ideas about the city)

14 Situation clearly illustrated in the study on the mapping of the fishing villages or kuppans of India, carried out by Beelen (2019).

15 Topographic maps should not be confused with geographical maps, which adopt distant resources for the description of the world (Harvey, 1980), nor with topological maps, which ignore the geographic location and scale to abstractly represent a system. (See Coomans et al, 2019), nor with what Corner (1999) defines as tracing, which are limited to reproducing what is already noun.

16 When reference is made to divorce land maps, it is not understood that the map no longer relates to the current state of the territory's surface, rather it is understood that it no longer has the obligation or the task of reproducing it reliably. That is, the map is no longer used under a rigorous logic of reproduction and communication, such as Robinson (1952) imagined, to be used as a tool to the possibility. Possibility of experimentation, discovery, reassembly, deconstruction, reconstruction and interpretation.

17 To these power relations that are transmitted through the maps, Harvey (1989: 9) calls them "second text within the map", where he maintains that through a very subtle reading of the maps, these can be examined as if they were texts , since they are able to provide powerful rhetoric between the lines.

18 The projection elaborated by the cartographer Gerardus Mercador (1569) for the most "correct" navigation of the sailors, the Buckminster Fuller's Dymaxion map (1954) projected onto the surface of an icosahedron, which can be unfolded and flattened to two dimensions., Or the Matteo Ricci's map Kunyu Wanguo Quantu (1602) that places China in the center of the world, represent examples of this rhetorical power of maps.

19 In his book Hypercities Thick Mapping in the Digital Humanities (2014), authors further elaborate on the idea of thick mapping by defining it as a process through which a set of relationships are represented graphically through the combination Micro and macro analysis encourages the creation of multiple interpretations instead of complying with reporting facts or information that is considered given, objective or complete.

20 McMaster and Sheppard (2004) further elaborate on the relation between scale and geographic inquiry. In their text, scale is considered as intrinsic to nearly all geographical inquiry, and indeed assumes such a relevance that they argue it is very difficult to identify a discipline that is completely "scaleless".

21| The scales used for the spatial analysis of the Delta are describe in the Third part of this thesis (see page 163)

22| This idea of the landscape as a layered system can be considered as the main influence under which several contemporary mapping and design practices were built that see the operation of layering, a strategic movement to understand the relationships of physical space. Among these include among others the works of Corner (1999), Mathur and Cunha (2001), Berger (2006), Shannon (2008), and Bélanger (2009).

23 See Part Three of this thesis (page 163) to deepen into the different layers that this research uses for the spatial study of the Pearl River Delta.

24 In relation to this, Shapiro (2002) argues that even if we concentrate on developing a theory of such kind, it could only be of an exceedingly general kind. This would help providing a very general knowledge, but it would not be of much help in understanding anything worth knowing about phenomenon or place in question.

PART THREE

Grounding spatial explorations in the Pearl River Delta

How do global processes settle on the ground? What can the physical space say about the operation, structure, and shape of the global city? How can one visualize the different speeds and shapes of interwoven spatio-temporal processes? What spatial relapses do these processes have? Does the physical space help us explore new complexities of urbanization? In what ways? How efficiently and deeply? How different are these spatial readings from the readings guided by globalization theories?

The third part of this dissertation represents the findings and initial discussion of the research, as it answers the questions raised in the previous lines by constructing spatial explorations of the Pearl River Delta that investigate how the processes and pressures of the global city are illustrated, materialized and concretized on the ground. It that sense, this part puts physical space at the center and uses it as the primary conductor between material and intangible, between particular and general, and between concrete and abstract. Indeed, the spatial explorations that arise in the following pages are not a fortuitous result of spatial observation, but more firmly, they represent a direct result of embodied spatial observations conducted in eight-month-long fieldwork across the area of study. Fieldwork that recognized and exploited subtle, mundane, obvious, and unexpected physical attributes, as potential hints and revelatory aspects from which to extract and elaborate geographical knowledge. Hence, more than often, the issues brought up in the following pages do not emerge for looking at the evident, extreme or spectacular, but emerge from picking up subtleties and spatial ordinaries to stretch them until connecting with broader processes not directly accessible or visible from the ground.

Two facts organize the spatial exploration constructed in this part, one relates to the organization of spatial explorations, and the other relates to the depth of such observations.

The first organizes spatial explorations according to three macro layers that do not operate in isolation but in constant correlation with each other. These three layers consist of the *water system* (chapter seven), *the circulation space* (chapter eight), *and the built environment* (chapter nine). All three macro layers that result from the intersection of what Scott presents as the primary components of a global city-region, with the fundamental components of the Pearl River Delta. Each of the three layers in use assumes a "thematic" look, in the sense that it focuses on observing the area through a lens focused on a specific theme[1] elaborating on issues that go far beyond the "theme" limits[2]. Regarding the components of global city-regions Scott (2019, p.7) declares:

"*City-regions are composed of a remarkably heterogeneous variety of social and economic entities and relationships […] the primary components of the urban land nexus can be systematized by reference to three principal types of interlocking and overlapping land use: production space, in which goods and services are generated and exchanged; social space, where differentiated residential neighborhoods make up most of the urban landscape; and circulation space, which channels movement and communication through the entire fabric of the city*".

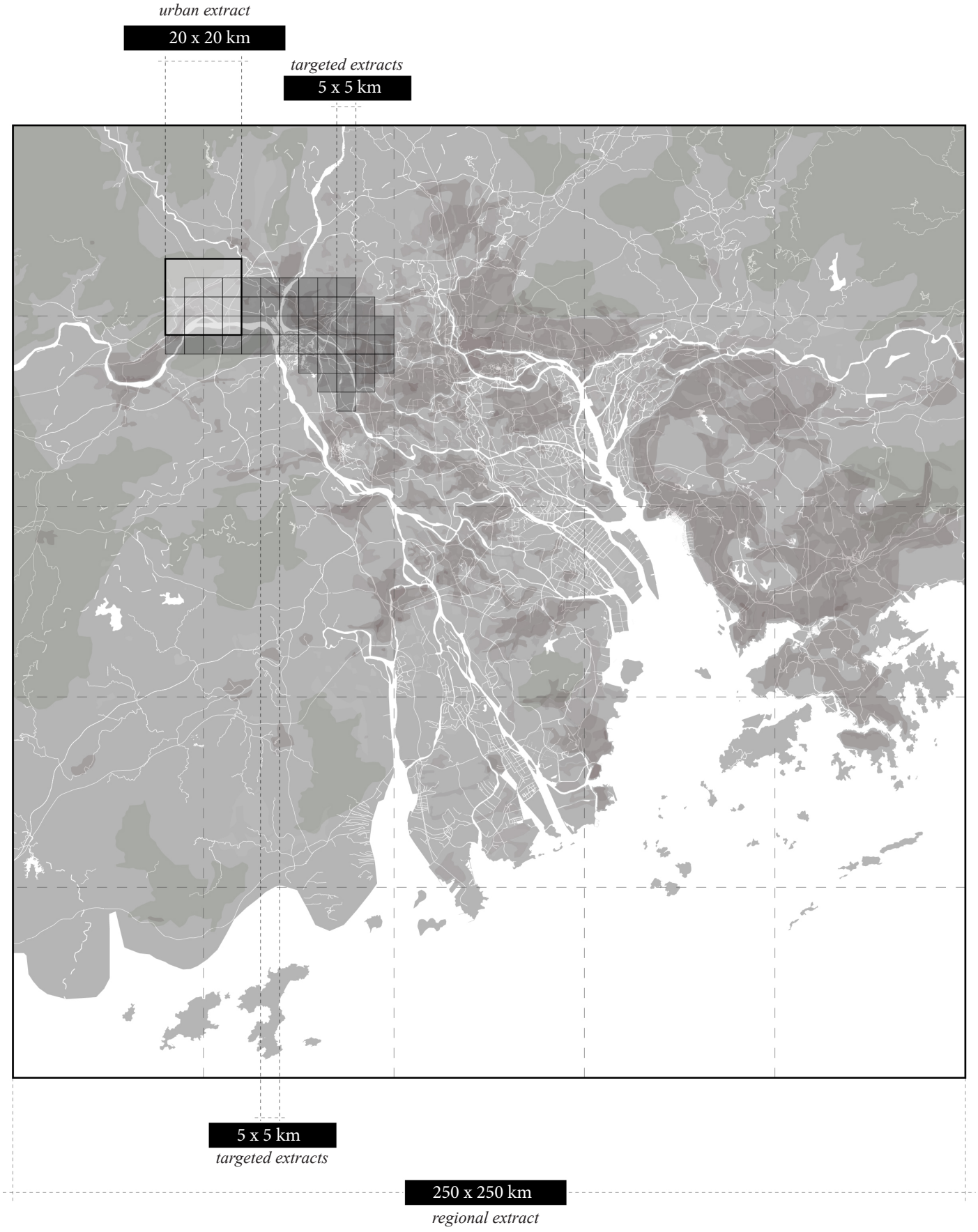
The second fact that organizes the constructed spatial explorations is defining the scale, grain, and extension of the spatial observations. For observing the PRD, the following pages mainly use three extracts of the territory that respond to three different scales with three different grains.

The first extract consists of a sample of 250 x 250 km that includes in its entirety the central territory of the Pearl River Delta. It consists of a *regional extract*, where it is possible to visualize and interpret the spatialities and characteristics at the regional level as if it were a solid spatial unit. This regional extract is the scale that allows visualizing better the operations that have progressively transformed the Delta into a physically integrated space since it reflects large-scale operations and projects while obscuring the minute spatialities. The second extract, a local one, consists of a sample of 20 x 20 km, focused in the city of Zhaoqing and in the construction of Zhaoqing New Area. It represents an *urban extract* as within it, is it possible to inquire about the spatial characteristics of the soon to be urban settlements. This extract is focused on a space currently under construction. Therefore, it is located in a temporary mobile space capable of scrutinizing the past, present, and future of the transformations. The third extract, a combination of *targeted extracts*, consists of multiple samples of 5 x 5 km, all situated between the Dinghu and Sanshui district – namely between Zhaoqing and Foshan municipalities. These extracts are not fixed to a particular space but are rather constructed to inquire with great detail the spatialities and materialization of specific issues.

Together these three different and complementary spatial extracts construct a trans-scalar approach that is used across all three layers of observation since this

trans-scalarity allows linking relationships and spatialities that exist within non-contiguous and non-immediate scales, in a direct way (Bardier, 2007).

Overall, this third part empirically inquires in an analytical, critical, and sometimes even descriptive way the past, present, and future spatial transformations of the Pearl River Delta. It represents a grounded and empirical analysis that seeks to uncover the complexities and richness hidden behind the evident global interpretation of the area, as well as the misconceptions, detached imaginaries, and false opulence embedded within global vision of the Delta. Through their lines, these emerging spatial narratives speak of a Delta that, for many, may seem unknown, strange, and even contradictory; A "different Delta" that does not speak about its global successes and scopes but one that speaks of its innermost conditions and complexities. Complexities that, despite being recurrently denied by global approaches, reveal themselves as intriguing points of discussion capable of confronting and sharply contrasting the consolidated assumption of the Delta.



III | *Location and extension of the regional, urban and targeted extracts*

Notes

1 Bruno Latour and Emilie Hermant describe in Paris, Ville Invisible, an apparatus that works within the same logic, the "oligopticon"; an apparatus that sees only one thing, but in great precision. The construction of this apparatus emerges in contraposition with Foulcault's idea of "panopticon". In relation to that, he writes: "From the oligoptica, sturdy but extremely narrow views of the (connected) whole are made possible–as long as connections hold."

2 Different researches in the area of urban planning and urbanism, have successfully worked through the use of layers to perform a detailed study of the space and its relationships. For instance, The Delta Urbanism research lead by Han Meyer ad Steffen Nijhuis identified three sub-systems present in every delta of their comparative study, each of these sub-systems represented a layer of analysis: the layer "substratum" consisting on the natural system of territory and water, the layer of networks of infrastructures and the layer of occupation, including urban patterns and agriculture. In a similar way, the research made by Bernardo Secchi and Paola Vigano on the Metropolitan region of Venice uses the differentiation of the layers water as the natural, artificial flows and water control systems, and asphalt as a category that includes the entire mobility network, as the main elements of territorial structure (Vigano et al, 2016). In the same way, Thün et al (2015) have used this layered approach in the study of Great Lakes Mega Region of North America with the difference that in this case each layer was a visual assembly of data that worked as a recreation of "artificial geographies", namely the visualization of the geographies of networks, fluxes and exchanges. Overall, such researches have worked upon nature layer, water layers, concrete layers, network layers, infrastructure layers, mobility layers, occupation layers, and many other layers that result for the particular intentions of each spatial analysis. In light of these precedents, it seems only rational to follow that layering approach when deeply analyzing the space of the Pearl River Delta.

Chapter 7

Water System: a crossroad between landscape, modernization, infrastructure, and ecology

Just as Thrift (2008) considers space as the fundamental "stuff" of geography, Swyngedouw (2004, p. 1) considers water as the indispensable "stuff" for maintaining urban life. He argues that "without an uninterrupted flow of water, the maelstrom of city life and the mesmerizing collage of interwoven practices that constitute the very essence of urbanity is hard to imagine" (ibid), as water is an essential asset of human settlements (Shannon & Meulder, 2013). Despite the relevance of water within urban life, addressing it is not a simple task, as it does not constitute a single object of analysis but rather a crossed set processes, practices, meanings, uses, and forms that continually cut across disciplinary boundaries and frequently shifts between material and abstract apparatuses (Gandy, 2006, 2014). Indeed, water can become the medium for the flow of money, power, and relevance; it can become a means towards shaping a territory; it can assume a visible form; it can disappear while operating from the dark; it can manipulate and transform and at the same time being manipulated and transformed; it can turn natural environments into complete human-made artifacts; it represents a problem when is too much and a problem when is too little; and it can be the opening door towards the study of more traditional and broader urban issues (Gandy, 2014; Meyer & Dammers, 2014; Meyer & Nijhuis, 2014a; Swyngedouw, 2004; Viganò et al., 2016).

In the case of Deltas, water assumes even greater relevance and becomes the main constituent and characteristic element of the territory. It operates as the backbone on which all other systems that make the operative, useful, and functioning deltaic space are based and structured. Indeed, it produces a sufficiently strong, malleable, and porous base to penetrate and influence all dimensions of the physical space. In the face of an urbanized Delta, at a spatial dimension, water represents the element through which achieving the domestication of nature and the creation of new forms of nature bowed down to human needs (De Meulder & Shannon, 2019). At a political dimension, it can link individual bodies to one another, since as it flows, it is capable of transgressing geopolitical boundaries, defining jurisdictions, creating competition, and cotemporally being used and disposed (Bakker, 2012). At the economic dimension, water facilitates core commercial activities, such as agriculture, fisheries, cargo traffic and goods processing; and at an ideological dimension, it can be a channel through which materializing specific imaginaries.

As in any other urban deltas around the globe, in the Pearl River Delta, water is the conductive thread that connects each of the processes that occur in the place. It works and exists continuously under different forms, uses, interpretations, and relevances. It also opens windows towards understanding how particularities of the place connect to larger-scale processes. In an attempt to address the importance and complexity that the multiscale and multifunction water system adopts in the Pearl River Delta, this chapter analyzes in-depth the water presence in four fundamental dimensions. First, the use of water as an instrument for the domestication of natural space. Second, the existence of water as an element that justifies the persistence of practices and minute relationships. Third, the transformation of water into an infrastructure of globalization. And fourth, the use of water as an enrichment of contemporary urban processes. Four dimensions that probably do not address the infinite levels surrounding the concept of water in an urban environment, but that certainly address four fundamental pillars of the spatial organization of the area.

7.1 A human-made waterscape

Theoretically, delta regions as places that represent a gradual transition between land and water, are not undetermined but rather built by the natural dynamics of rivers, sea currents and sediment transport (Meijer et al., 2016). However, in most urban deltas, urbanization has played an essential role in shaping the configurations present today[1]. Indeed, in the form of infrastructures for drainage, navigation, flood defense, construction of ports and management of water systems for agricultural purposes, urbanization has completely transformed the natural conditions of contemporary deltaic territories (Meyer & Nijhuis, 2014b). Today, in responsible or irresponsible ways deltas represent the masterpieces of human domain over nature. Attempts at the supremacy of control capable of breaking natural cycles and phenomena to the will of man and his activities.

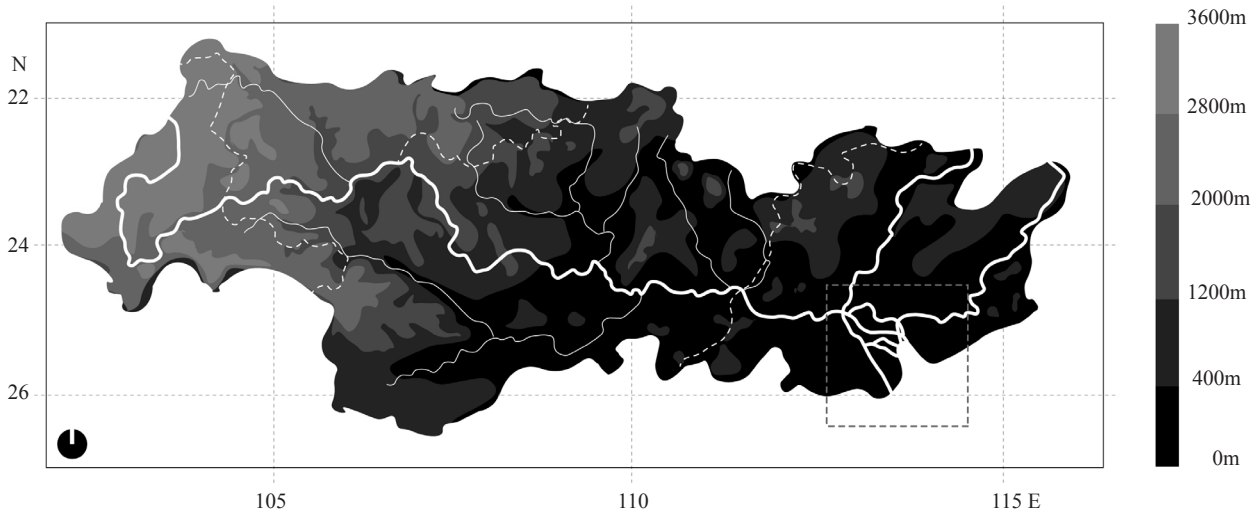
The Pearl River Delta is a mere reflection of this fact since, purely natural processes did not create the spatial configuration we see today, by the contrary, it was heavily shaped by the interest of its early inhabitants and by historical events that invested the area (Marks, 1998). Events that responded and somehow continue to respond to the transformation of the lower lands in malaria-free spaces, initial experiments on flood control, creation of *shatans*[2] that eventually evolve into the sand flats we can see today, land reclamation processes, levee building and construction of a pond landscape for intensive agricultural use (Weng, 2007). Based on all of these actions, in order to understand the evolution of the Delta, it becomes necessary to appreciate how its water systems has formed, deviate and responded to human interventions. For achieving so, it is fundamental to explore the south China environmental end economic historical report written by Robert Marks and under the title *Tigers, Rice, Silk and Silt. Environment and Economy in Late Imperial South China*[3] (1998) and elaborate from there towards more contemporary approaches.

In his text, Marks invites us to change the perspective from which we view south China. This means surpassing the American or European traditional vision – from east looking west – and adopting a vision similar to the one that Chinese use for reading its own geography – from north looking south. By doing so, it is possible to avoid a vision marked by the first elements we encounter – coast, coastal cities and then explorations of inland territories to the great river systems and mountain ranges of China – and use a vision that recognizes that Chinese civilization originated north and gradually spread south, where it arose and flourished at the gates of the Delta. Assuming such viewpoint, somehow means acknowledging that in the case of the Delta "Mountain Come First" (Marks, 1998, p. 17) and therefore the majority of the events and actions that initially modified its physical conformation are a product of migration waves that progressively occupied low height lands. Naturally, the forces and events that today continue to shape the Delta are no longer result of internal or local or vital adaptative dynamics. Today the area besides being understood and used as one of the most vibrant and diverse ecosystems in the world (Costanza et al., 1997) , it is also recognized as one of the most globally connected and economically productive areas. As consequence, the contemporary transformations of its territory are a frank result of capitalizing on the natural advantages the area provides. Either the state, formal or informal self-organizations continue to alter and adapt the characteristics of Delta in order to make it more performative at global level and more distant from its rural past.

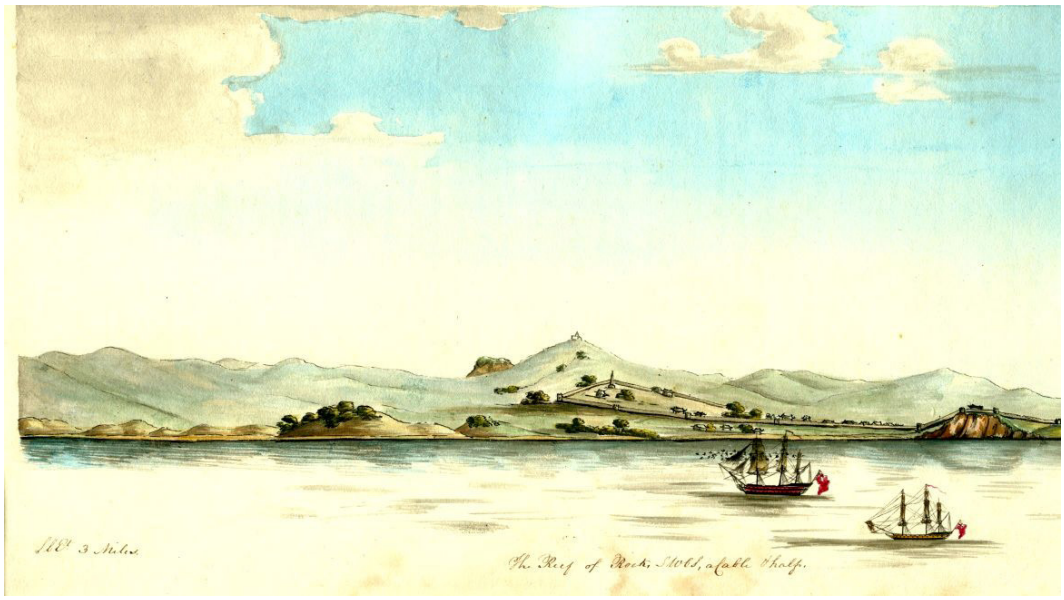
7.1.1 Understanding the natural system

Understanding the past and origins of the water system of the Delta is fundamental for understanding its operative dimension today. From and hydrological and geomorphological view, the extended river systems that constitute the Delta consist primarily in three main sub-deltas, namely the East, North and West Rivers. Those sub-deltas converge in the Pearl River Delta and then empty into the South China Sea (Marks, 1998; Weng, 2007; Wu et al., 2016). These subsystems formed by sediments originated approximately 40 thousand years ago constitute what is considered one of the most complicated fluvial networks in the world. A network that through the Pearl River, the second largest river in China[4], originates on the Yunnan Plateau and crosses low terrain hills and mountains for an extension of over 2400 km eastwards until reaching the "eight gates" into estuarine bays (Fig. 7.1), namely, Humen, Jiaomen, Hongqili, Hengmen, Modaomen, Jitimen and Hutiaomen (Wu et al, 2016). This intricate network of watercourses has some particularities of its own. First, it is highly dependent on the rainy season, therefore the flowing water suffers high fluctuation between seasons, as consequence the landscape on the coastal land is repeatedly altered and redrawn. Second, the rivers that compound it carry the least amount of silt of any other Chinese major river system, as result, they are not strong enough to wash the soil to the ocean, but strong enough to carry enough silt to settle at the mouth of rivers and began forming the Delta. Third, due to the stational rain, the rivers lie in valleys with sides cut too sharp for cultivation,

this has produced, together with the particular local topography, the existence of little valley land fit for agriculture, and the creation of alluvial soils captured to create the Pearl River Delta (Marks, 1998). These particularities have come to turn the Delta recognizable as a "curious combination," as the British Naval Intelligence named it, of alluvium, hills, islands, and bay. Which can be interpreted as if the Delta is not an actual or pure delta, but a rather exceptional structure (Fig 7.2).



7.1 | *Pearl River Basin. Image re-elaborated by the author based on Wu et al (2016)*



7.2 | *Deforested land, and landslides near the mouth of the Pearl River in 1793*

Perhaps two of the most distinguishable characteristics of the river system are by one hand the topography that organizes the rivers and canals, and by the other hand the numerous tributaries this topography has produced. Indeed, the Delta is surrounded by hills to the east, west and north with an average height of 500 m above sea level; within the Delta itself there are over 160 hills and terraces that oscillate between 100 and 300 m height and represent the remains of former islands. In total they occupy about one fifth of the deltaic area and set the ground for the water to flow (Weng, 2007). In fact, this rugged topography has contributed to the emergence of a rich and dense water network formed by over 100 main river branches that circulate for a total length of over 1700km. These branches deposit 20% of the discharged soil in the Delta and drag the remaining 80% to the sea, causing a seaward extension in the mouth of the Delta of over 40 meters per year (ibid). Despite the fact that the Delta is naturally a dynamic system constantly changing, human presence in the Delta has not fulfilled a mere observer role of the natural dynamics that steadily but slowly shaped the space. Human presence has been rather explicitly existent and active in the Delta's transformation process.

7.1.2 Adapting nature to man

"Just 3,000 years ago, the delta was perhaps half its current size and even 1,000 years ago had not increased much beyond that; in the past millennium, though, the Pearl River Delta has doubled in size, largely as a result of human action [...] rivers were altered to meet human need, and pioneers began to settle in the delta".

(Marks, 1998, p. 32)

The historical evolution of the Delta, as the evolution of any other urban delta in the world, has been deeply marked by every phase of its human occupancy and by a chain of historical and cultural events that invested the area. In a synthetized way, the human presence has been marked by the creation of spaces that allowed settling agricultural practices commonly understood as Chinese, - like for instance irrigated paddy fields from where to harvest rice crops; fishponds from where to feed the silk industry -or more contemporarily produce fish-; while particular events have shaped the territory from a pursual of sanitary security, water control, migration waves and connection to the outside world. Indeed, before the succession of these transformations, the area was not to be considered as a delta, it was "in fact still open sea, albeit a fairly shallow bay […] dotted with islands" (Marks, 1998:66). A landscape that started to radically change from the Yuan dynasty on (after year 1350) as consequence of (in chronological order): *"*the early settlement patterns and agricultural technology of the Chinese in-migrants in northern Guangdong; the building of water control projects in the lower reaches of the West, North, and East Rivers from the Song on; the Mongol invasion of south China in the 1270s and the consequent displacement of the Chinese population from northern Guangdong to islands in the Pearl River estuary; and the creation of new lands off the islands in the estuary by the refugees *"* (Marks, 1998, 68) (Fig. 7.3).

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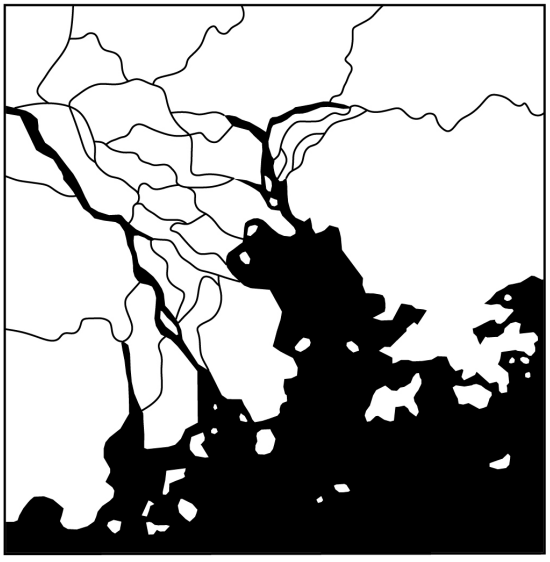

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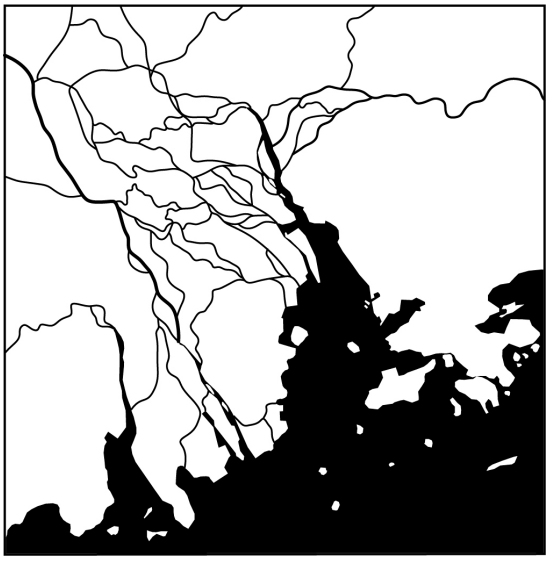

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7.3 | *Evolution of the PRD coastline. Image re-elaborated by the author based on Marks (1998)*

That complex chain of events is synthetized in three main operations that reflect how locals, just as Vigano et al (2016, p. 22) argue in the Venice lagoon, "defended themselves against water, while also considering water their greatest resource". First, the control of malaria and other tropical diseases, second the construction of mechanism for flood control and third, the land reclamation processes for agricultural production. The first, malaria, is an inevitable evil since water has a specific relationship with malaria due to the larvae of the Anopheles mosquitoes, which acts as vectors for the disease and develops in water[5] (Gandy, 2004). In the Delta's case, the presence of the disease influenced the settlement of migrants from the north and forced them to alter the environment into one more hospitable for humans and inhospitable for the mosquito, giving start to the ecological changes of the area (Marks, 1998).

The second, flood control, responded to two radical situations, too much water or too little water. The solution for that problem fall into levee and dike construction. From the first large project made to protect the regularly flooded area of Zhaoqing, to the latest developments aimed at protecting the Delta against climate change, the area has passed from having barely 350 km of levees and dikes in Yuan dynasty, to having over 1300 km by 1950 and over 2100 km in 2011 (Marks, 1998; Weng, 2007; Zhang et al., 2013). This process opened floodplains and lowlands to agricultural production and allowed a concentration of agricultural wealth in the area. This represented a closed circle where the more dikes were built the more enclosed agriculture fields grew, therefore, raising the elevation of the delta, and progressively evolving the environment from and aqueous one to a terrestrial one (Weng, 2007).

The changes in the water courses impulsed local inhabitants to further experiment with sedimentation and therefore the third and final determinant operation began, the land reclamation process. It was carried out mainly by the complementation of the existing dikes and levees with the construction of sand flats, mostly man-made configurations that promoted and accelerated depositing the sediment in the swamps bordering the river channels and the no longer existing bays. After years of sediment accumulation, these flats were finally transformed into crop land by planting legumes and progressively incorporating rice (Marks, 1998). A crop that in the Delta could not be successful within this nature-inspire technology.

The land reclamation process was accompanied by another development, the dike-pond system that still today characterizes a large part of the Delta's lowland (Fig. 7.4). Built by local farmers through excavations and incorporation of plants and fish grow, this mechanism turned into a unique type of cultivation that integrated agriculture and aquaculture[6]. The pond system was largely strengthened after 1800 by the flourishment of commercial silk industry, when the mulberry-dike-fish-pond system expanded across the Delta as consequence of the high profit

value that the system provided to the farmers. A value that originated from political decisions that closed seaports in Jiangsu, Zhejiang and Fujian provinces and left as

7.4 | *Dike pond system at the coastline of the Pearl River. Samuele Pellecchia. 2017*

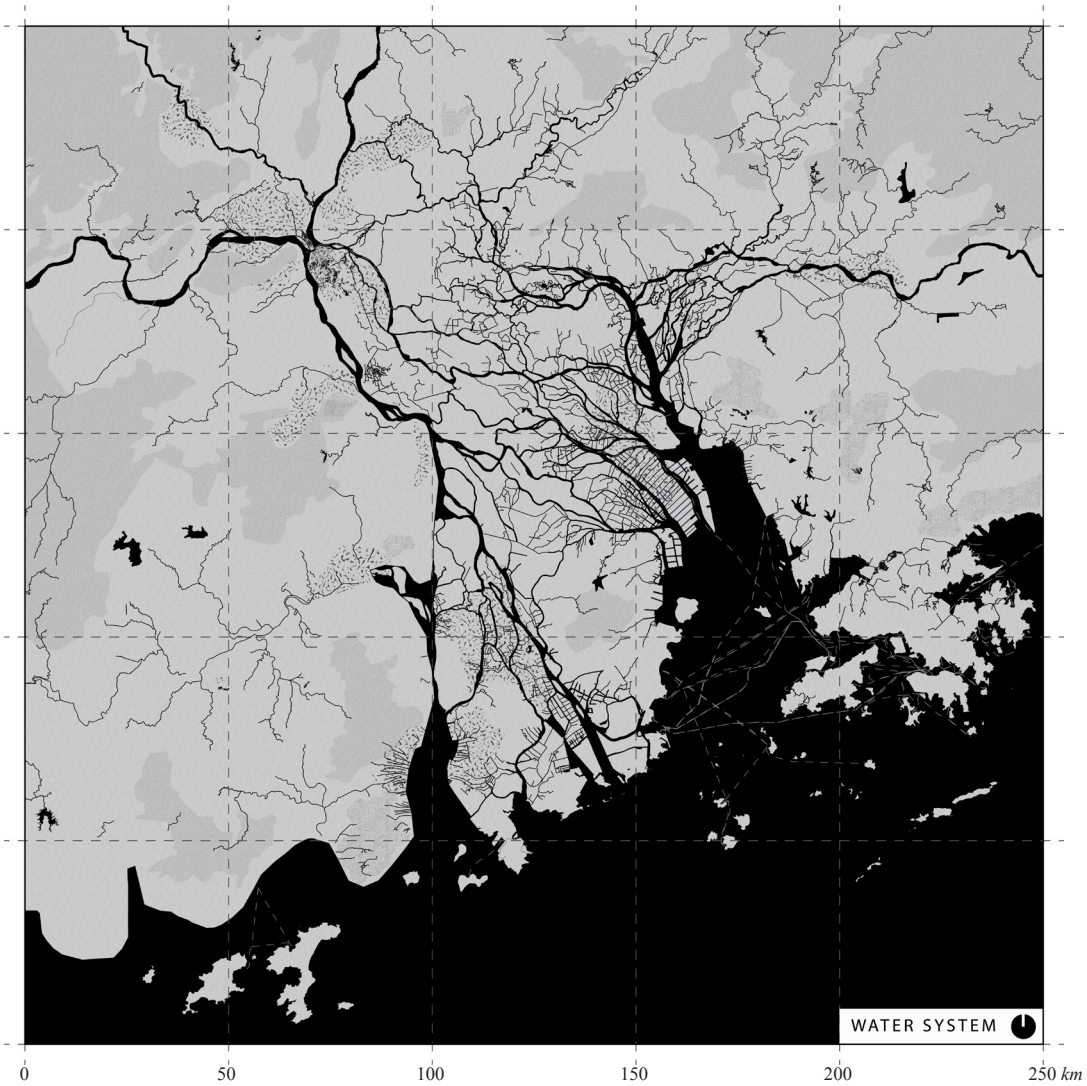
the only open seaport the port of Guangzhou. These political and economic changes raised the price of silk in Guangzhou and therefore the practice extended all around the Delta (Weng, 2007). Together with the previously mentioned operation, they started to construct the basement for the deltaic landscape we can appreciate today.

The brief historical evolution of the water system of the Delta[7] serves to establish two very contemporary points. First, the fact that contemporary transformations of the Delta's water system continue to follow the same logics that originated over a thousand years ago. Naturally, malaria problems have been overcome, but the idea of altering the development of water flows and the creation of new lands persists. Not so much with the interest of generating new areas for agriculture, but as a response to the massive densification and urban occupation that covers the Delta. Indeed, many of the main coastal cities of the delta progressively depleted the available space for their urban and economic development, so they turn to the same operation that historically "made the Delta", land reclamation. Cities like Hong Kong, Macao, Guangzhou or Shenzhen continue to conquer the sea as response to needs that go far beyond local water control or crops protection. Today these rather respond to pursuing strategical benefits from local conditions by knitting networks accessible and available only from these privileged positions they create. One clear example of this is the Nansha Port in Guangzhou, a port created by the progressive construction of strategical land. It is a remarkable case since it was created with the intention of acquiring a leading role in transshipment, therefore displacing Hong Kong, and providing the only possible deep-water port of the western Delta. An operation that would be impossible to achieve on the existing land of Guangzhou. A land that has been shaped into inland waters and can only conform with a shallow water functioning, restrictive in freight cargo terms[8].

Second, the fact that majority of Delta's water system neither has been nor continues to be shaped by large infrastructuralization processes since "it is not the outcome of a comprehensive engineers' work" (Frassoldati & Casonato, 2010, p. 13). Indeed, there is not possible to identify a large water management project like in the case of Los Angeles and its almost invisible concrete river[9], or in the case of Mumbai and its very present but very inaccessible giant water pipes[10]. In the Delta, enormous water infrastructures such as dams and aqueducts, that became part of a distinctive technological landscape, have been nowhere to be found. The logics behind water alteration have not responded to the consolidated idea that assumes that water development as an infrastructure derivative from the emergence of municipal forms of governance or the interest of the state in carrying out large infrastructural projects that promote the transformation of nature at the service of man and their environment (Gandy, 2004). The logics of the Delta have been somewhat responsive more to strongly local and individual dynamics closely linked to the construction of specific works that aspired to solve immediately and restricted problems mainly of flooding and crop protection. Indeed, there have not been absolute interventions, on its place a continue but fractured line of small interventions has been responsible

for all the work (Ruddle & Zhong, 1988). It is reasonable, until now it was not necessary to consider large and abrupt water transformations since 95% of the required water was diligently delivered to every part of the Delta by its intricate and permeable canals. Water was available for everybody, immediately accessible, persistently present. There had not been any need to find it, it came alone.

However, this situation is abruptly changing since the contemporary urbanization pattern of the Delta is incompatible with the water distribution of the area (He, 2005). Significant disparities between eastern and western Delta are eroding the system efficiency and are demanding to abandon the intensification of natural processes to better respond to a "perfect synthesis of engineering science with urban modernity" (Gandy, 2008: 108). A synthesis which has brought more harm than good since it has not only attempted against the "natural" system that historically created a sustainable ecological organization in the Delta, but also attempted against the spaces, practices and cultures that depend on this system on a daily basis. Based on this new large-scale development period, the contemporary



7.5 | *Contemporary water system of the Pearl River Delta*

water system of the Delta has adopted an eclectic nature and a hybrid form (Fig. 7.5). Large waterflows, small internal canals, fishponds, irrigation canals, "natural" wetlands, technological flood controls and new urban water features overlap each other and live together within the comprehensive water foundation of the deltaic territory.

7.2 Remnants of a local Aquaculture landscape and minute water relations

Although a quick look at the Delta allows to see it as one of the densest and most urbanized metropolises in the world, a detailed and sensitive look brings to light how this idea is nothing more than an optical illusion. The delta is not a monolithic global block that implants in the ground, it is rather an irregular and perforated mesh that extends for over 40,000 km 2 and expands and contracts at will to generate tensions and relationships with different parts of the globe. Under this well-known mesh there are multiple spatialities and local systems that are based on the construction of minute and dense relationships that find their origin in the agricultural nature of the place. A nature that not only struggles to maintain and adapt over time, but one that has progressively built the foundation on which the apparent global machine operates today. Rural villages, navigation canals, local ecological systems and local economic practices, all dependent on the value of the very traditional dike-pond system that has characterized the Delta's landscape, are today vulnerable and threatened by the advancement of urbanization and industrialization (Sun et al., 2019).

Indeed, the perishable, sensitive and disappearing water system that has marked the landscape of the Delta is vanishing, and together with it, the spaces, practices, villages and local relations that depend on it (Tai, 2018). If until now, agriculture and its relationship with water had been the main factor in the construction of a delta that would respond to the needs of a "water civilization" (Frassoldati & Casonato, 2010), today that role is reversed, as the ponds that once surrounded any other form of agricultural life in the Delta, are now reduced and at the mercy of urbanization.

In fact, when touring the Delta, especially the coastline and the western part of it, the recurring image characterizing the landscape is small successions of ponds attached to each other. These ponds extend accompanying the urbanization process, hide within the spaces its leaves behind, and cautiously border the increasingly consumed line coasts of the "city." At first glance these ponds seem not to belong to the logics that direct the evolution of the Delta, they seem to be independent enclaves' remnants of ancient local practices. The main visible connections they have are small rural towns mimetized between urban fabric, small fields that are built on the outskirts of water villages and small local markets open to trade on an extremely local scale, being *small* the key word of their nature. In fact, the particularity that accompanies the PRD Pond System is precisely the force that it finds in operating its

minute pond scale in an articulated manner. Unlike other deltas such as the Yangtze or Mekong, where the ponds are organized extensively and developed as large operations for aquaculture development, the PRD builds its water-based economic growth from below, from spontaneity and from leveraging opportunities. Either thanks to taking advantage of the silk trade, or thanks to the rotation of crops and fish under local demands, local farmers have used the malleability and versatility of the fertile delta soil to maintain relatively stable production and incomes (Bosselmann et al., 2010). Even today, much of the delta's rural population, especially the older population, continues to depend on this millenary productive practice for its own subsistence and for small-scale commercialization.

Trying to understand the persistence of this traditional system in the Delta can start from different points of view. At the spatial level, the presence of these ponds represents a rupture, an incongruity to the urban logics that govern, for example, the eastern part of the Delta (Fig. 7.6). At a social and cultural level, these represent a resistance and an adaptation ability to an idea of a city that seeks to abolish the rural past of the area. On a historical level, they represent continuity and persistence driven by the inhabitants themselves. And at the economic level it represents perhaps the biggest question of all. Since how it is possible to connect these reduced and localized productions with the role that the PRD aspires to reach globally? To answer this question, it is necessary to understand that today's remands ponds are neither the result of disregard nor the product of fortuity. On the contrary, they are an economical, ecological, cultural and lifestyle reflection of local wisdom (Tai, 2018), directly responding to pressures that exceed their own scale. To understand these pressures and their spatial relapses, it is necessary to expand the vision to the role of aquaculture in today's world.

7.6 | *Fishponds at the edge of urbanization. Photo by the author. 2018*

Aquaculture defined by the Food and Agriculture Organization of the United Nations (FAO) as the controlled breeding of aquatic organisms such as fish, shrimp and mussels[11], is today the fastest growing food production sector worldwide (FAO, 2018; Ottinger et al., 2016; Sun et al., 2019). It is a sector that operates in an increasingly global environment since fish is one of the most traded food commodities worldwide, accounting for a value of over 150 billion US dollars (Ottinger et al., 2016). Today the sector accounts for almost half of the fish consumed worldwide, 47% to be precise, and it is expected to reach by 2030 a contribution of 54% of the global production (FAO, 2018). When looking at the distribution of its water-based productive hotspots, there are a number of critical points that directly relate to the persistence of a ponds system in the PRD.

In the first place, the role of China. Asia contributes to 90% of the global aquaculture production. In particular, for several years China has occupied the leading position with a contribution by 2016 of 62% at global level[12], a percentual that signifies that the single country has produced more than the rest of the world combined since 1991 (FAO, 2018). Among Chinese territory the provinces of Guangdong and Shandong, and in particular the Pearl River and the Yangtze River Delta coast lines, contribute to the highest shares to the national aquaculture volume (Stiller et al., 2019). The relevance of the Chinese aquaculture economy is also enforced by the fact that since 2002 the country has been the largest exporter of fish and fish products, and since 2011 the third largest importer[13] (FAO, 2018). However, this apparent economic relevance is defeated when comparing it to other sectors, as aquaculture represents only 1% of the total national merchandise trade (Chinese Statistical Yearbook, 2018).

This dualistic between the relative insignificance of the sector at the national level, and the economic power that it represents at the international level, is reflected primarily at the spatial dimension. Spatially, it is easy to perceive how the spaces that contribute to the construction of this water-based economy are by on one side more and more shattered and displaced by urban processes, and on the other they are under constant expansion. Stiller et al (2019), in the study of aquaculture patterns in the Pearl River Delta, use satellite image analysis to identify three main characteristics of the Delta's aquaculture. First, they evidence an expansion of the surface destined for aquaculture from 1990 to 2016. An expansion that progressively moves away from the coasts and expands inland, following the patterns of the internal rivers. This expansion occurs exclusively in the western part of the Delta, specifically in the area between Zhaoqing and Foshan (Dinghu and Sanshui district), in the area between Foshan and Jiagmen, and in the lower part of Guangzhou, near Nansha. Second, they identify a slowdown in such expansion, mostly concentrated in recent years, as a result of a substitution of land uses where rural land is transformed into urban land. That is, preference is given to urban development over aquaculture development. Third, when comparing the PRD with other hotspot deltas of aquatic production, the Delta's ponds pattern results as considerably smaller than in the

7.7 | *Fishpond distribution and relations between Zhaoqing and Foshan*

other deltas. That means the traditional pattern of small dimension pond is still present in the area (Fig. 7.7).

In the second place, government policies addressing global demands. The Thirteenth Five-Year Plan for Economic and Social Development of the People's Republic of China (2016-2020) when addressing the issue of scarcity of farming space, parceling of aquaculture production among small-scale producers and degraded environment for fish productions, moves away most the traditional emphasis in increasing production and moves towards making the sector more sustainable and focus on healthier production as respond to international demands of higher quality produce. The Plan calls for a shift from extensive to intensive aquaculture and a more energy-efficient production. Contemporarily calls for a reduction of wild captures and controlled growth of pond production[14]. Indeed, state policies and new regulations have started to change the scenario for the Delta's pond system, as local and international initiatives are beginning to transform and control the shape and operation of the traditional ponds.

Seeing the internal and external pressures to which traditional ponds are subjected, it is noticeable how these ancestral spaces are caught between different possible scenarios. On the one hand, the state proposes the reduction of production for the recovery of a more ecological and respectful system towards the environment and its inhabitants. On the other hand, the areas traditionally occupied by this water system are being replaced by new industrial and urban centers, within this, they have been forced to migrate to higher grounds, thus promoting the disintegration and intensification of small family productions.

Finally, economic interests push the transformation of traditional systems into more efficient and productive systems that point towards intensification of production. In fact, the ponds initially built by farmers are progressively replaced by intensive systems that not only increase fish production but also incorporate the use of small pig farms and geese to feed the ponds. However, this intensification of production, which is supplemented by the use of large amounts of chemicals and antibiotics, is accompanied by a high level of pollution that ends up damaging the same spaces and inhabitants from where these practices emerged. Indeed, instead of respecting the natural logics on which they were constructed, they are now contra productive to the local system they are implanted on. The small villages and small navigation canals that have historically rely on the ponds, are now suffering the consequences of a destroyed environment and disconnected water system.

Looking closer to this "trapped water spaces" raises many incongruities. Paradoxically, pond-dependent spaces, despite being placed within a territory that is surrounded by tributaries carrying 95% of the fresh water required by the region (Yao et al., 2015), do not actually have daily access to this water, or at least not in a safe way. The fact that these rural spaces are located in an area that has water

resources 6,9 times larger than the national average and 1,5 times the international standard is not reflected in their living conditions (He, 2005). It is well known that urban and industrial densification of the delta has brought as a main ecological consequence extreme pollution levels in its waters, but equally polluting are the new intensive pond systems[15] (FAO, 2018; Ottinger et al., 2016; Stiller et al., 2019).

Pollution problems in China are not a secret, these expand towards air, soil and water pollution, the latest being the most critical one (M. Wang et al., 2008). Recent studies of the Delta's environment have evidenced the contamination level of the Delta's water, highlighting how its pollution levels are considerably above the standard Chinese pollution parameters. When tracing back the potential causes, intensive aquaculture emerges as one of the leading reasons of pollution (Fig. 7.8). Indeed, being constructed under unregulated processes, ponds mainly discharge into the nearest water flow the can have access to, therefore affecting above all, nearby settlements, which commonly consist on rural villages that house the inhabitants who do not want or cannot move to the city. These inhabitants are entirely dependent on the water flows that surround them, flows that are now practically unusable (Zhang, 2012). This reality brings to light a problem that despite having no immediate spatial relapse develops its spatiality over time. That is, access to clean potable water[16].

For many years China has had a strong rural-urban gap that has brought massive inequalities between its differentiated inhabitants[17] (Verdini et al., 2016). Access to clean water is one of the many possible reflections of this issue as the

7.8 | *Sanitary conditions of family own fishpond in the PRD. Samuele Pellechia. 2017*

water conditions within and without the city can drastically change. Indeed, outside the "plumbed city" (Gandy, 2014: 6), access to safe drinking water is particularly reduced, as there has not been comprehensive implementation of piping projects for plugging the net of rural villages to the water supply system and as traditional local supplies can no longer be safely used.

Contrary to the case of the cities, where since 1950s the state has implemented different extensive water sanitation programs, rural areas have been considerably neglected (Zhang, 2012). Indeed, the China Health and Nutrition Survey 2009 (CHNS) shows that by 1990 more than 70% of rural households were dependent on untreated water from springs, rivers, lakes or wells, and by 2009 over 55% of rural population maintained the same condition, a condition that persist until today meaning that over 300 million rural people are still dependent on unsafe water (Zhang, 2012). Even if there are few strategies addressing the issue, such as the Drinking Water Improvement Program and the New Socialist Countryside policies[18], the situation in rural areas is still considerable precarious.

While new urban areas are being constructed on top of "invisible" and complex piping networks, farmers and rural inhabitants resort to self-construction of very "visible" and simple water conduction systems or manual extraction through buckets and small containers (Fig. 7.9). Villages within the PRD fall into these conditions as it is regular to see ancient facades covered by thin webs of blue water pipes; pipelines deployed along the roads to reach some natural water channel; collections of buckets in the dark corners of the alleyways of the villages; in the

7.9 | *External pipes in rural villages of Zhaoqing. Samuele Pellechia. 2017*

best case is possible to locate clean water tanks that supply the town; in the worst case, the inhabitants can be seen directly using the river water for their daily living activities.

All images that strongly resonates with Matthew Gandy's words when he narrates, "*The relative absence of water infrastructure is paradoxically reflected in a jumbled landscape of pipes, open sewers, tankers […], water vendors […], and buckets […] explotative and often health-threatening arrangements in the "city of buckets"*" (p.6).

Summing up, it becomes clear how if at first, behind these water-based spaces and minute relations was an idea of persistence, it may be more appropriate to understand them as spaces of subsistence and relations of mediation. Spatial mediations between the global and the local demands. Indeed, these water-based and minute spaces do not belong to urban frenzy of Delta, neither belong to strictly traditional rural logics of its past. Instead, they float and let themselves be carried away by the interests that a specific moment offers them. They are a kind of wild, malleable and flexible card that represents the buffer between a rural past and an urban future. It is not possible to know with certainty what will be of the future of these spaces and the relationships that they bring. But it is possible to say that they probably find a way to continue existing within the forgotten spaces of urbanization.

After all, seeing the larger picture is possible to understand that in reality these are not residual spaces, rather they are indispensable and necessary spaces. They are essential as labor in the economy of the area, and they serve as a breeding ground for the masses of workers that sustain the world's most significant aquatic production. However, despite their relevance, they are spaces left to their fate and destined to continue fighting alone, since as proven by recent years, the state has not been able to respond to its demands and has not been able to provide the most basic services to its population.

7.3 Water as the infrastructure of globalization

Water in the Delta does not only work through minute and local relationships, but it also functions as the infrastructural space through which the vast network that makes up global trade operates and settles. Understanding water as an infrastructure space means understanding it not only as a physical network in a hidden substrate, but understanding it as a hidden in plain sight point of contact, medium, and "updating platform unfolding in time to handle new circumstances, encoding relationships […] or dictating logistics" (Easterling, 2014, p. 14). Each year millions of cell phones, batteries, electronic components, shoes, clothing, among others, continuously cross the waters of the Delta to reach their final destinations on the other side of the world. Their presence, domination and relevance have transformed the waters that once served as the platform on which to build a rural society, into waters that operate

as an infrastructure of globalization. An infrastructure that, through its system of ports, manufacturing industries, cheap labor, and standardized trade routes, allows the PRD to be almost physically connected to any place in the planet. The waters that once served as the local mobility network today are practically exclusively transited by "cargo ships that now resemble buildings, giants floating warehouses shutting back and forth between fixed points on an unrelenting schedule" (Sekula, 2000, p. 147).

The fishing boats and canoes historically present, are now extinguished or dragged to the banks and most inner channels (Fig. 7.10). Indeed, the water space is transformed, transformed into something that continually looks out of the Delta as an apparatus that allows circulating goods, value and power. This water transformation is not only visible directly from the place, is equally evident when observing digital platforms such as *Marine Traffic's*[19] real time vessel circulation. A visualization that highlights how at any time of the day, the Delta is being crossed by more than 500 cargo ships, in a continuous high-density traffic that follows conventional routes mostly concentrated in the Pearl River and West River, passing through Hong Kong, Shenzhen, Guangzhou, Foshan and finally Zhaoqing.

This dense transit that today responds to the massive concentration of manufacturing factories, logistics activities, and to export-oriented industrialization driven by foreign direct investment (Wang, 2014; Yang, 2012), once responded to deeper water-land-trade relations based on fortuity of being the only gateway of the country under the means of the Canton System[20] (Carroll, 2010). Observing the larger picture, the relationship between water, global trade and the Pearl River

7.10 | *Water transit in the West river of the Pearl River Delta. Bruce Connolly. 1993*

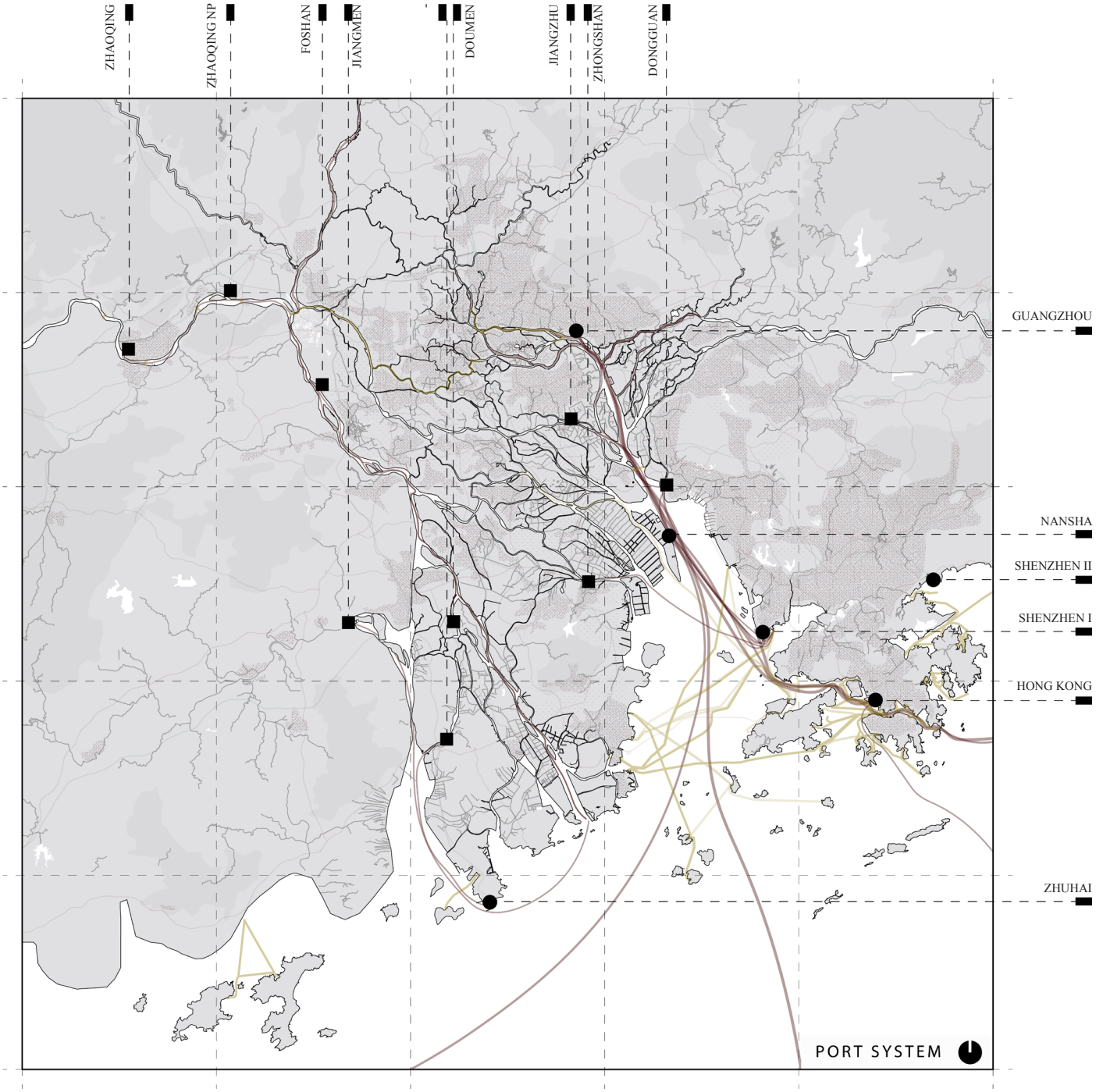
Delta, is a historical relation[21], one that can be divided in four main stages. The first one, corresponds to the historical role of the Delta and puts at the center the city of Guangzhou and its historical international position as trading port city. Indeed, the city started first as local trading center in Tang Dynasty (618-907 AD), and turned into the main trading port with Southeast Asia, South Asia and Middle East, as it became the starting point of the maritime Silk Road to the Arabian and European markets. It served as the only port capable of trading with foreign merchant's ships and was indeed the largest port in China, taking advantage of the preferential policies and flexible regulations that have characterized the Delta.

The second stage corresponds to the dependent relationship between Hong Kong and the Delta, a period where the two entities worked under the formula "front shop, back factory" (Zhang & Kloosterman, 2016). In this period, taking advantages of early containerization[22], Hong Kong manage to ship over 95% of China's containers, becoming the monopolistic transshipment hub of China and therefore becoming the busiest port in the world in the 1990s.

The third stage is marked by the birth of the Port of Shenzhen in 1994, a fact that is accompanied by an improvement of the port and transport infrastructure capable of competing with the weight and prominence of Hong Kong. In fact, as of this date, the smaller Delta ports began to invest heavily in their operational capacity in order to reduce the hegemony that Hong Kong had achieved to the date. This fact is reflected in the extension of the surfaces of the ports, the creation of mobility networks aimed at increasing their hinterland and the creation of specialized consortia for the control and improvement of the mainland logistics offer (Wang & Slack, 2000).

The fourth and final stage is strongly marked by the union of China to the WTO in 2001[23], as it responds to the creation of an integrated port network based on restructuring and infrastructural specialization. Indeed, as the relative positions and roles of the Delta's container port system began to change, the port system has entered a period of restructuring and decentralization (Wang et al., 2012), where peripheral ports have climb in relevance, trade shares have become partially distributed, and mainland's dependence on Hong Kong has come to an end. For instance, the shares of Hong Kong reduced from 95% in 1990s to 40% in 2018; in 2014 for the first time Shenzhen surpassed Hong Kong in shipping container volume as the first handled 11,06 milion teu and the second 10,7 million teu (Guangdong Statistical Yearbook, 2018).

Within this highly dynamic and competitive network there is, however, a structure that not only governs operability but also directs the spatial development of the Delta area (Fig. 7.11). The main seaports, consisting on Shenzhen Port, Guangzhou (Nansha) Port and Hong Kong Port respectively third, fifth and seventh world's larger container ports[24], each fulfills a specific function and focus on a particular target. For instance, the Port of Shenzhen is concentrated in international trade, the port of Hong Kong specializes in international transshipment, and the port



7.11 | *Port system of the Pearl River Delta*

Deep port

Shallow port

Cargo route

Passenger route

7.12 | *Unloading bananas at Zhaoqing. Bruce Connolly. 1993*

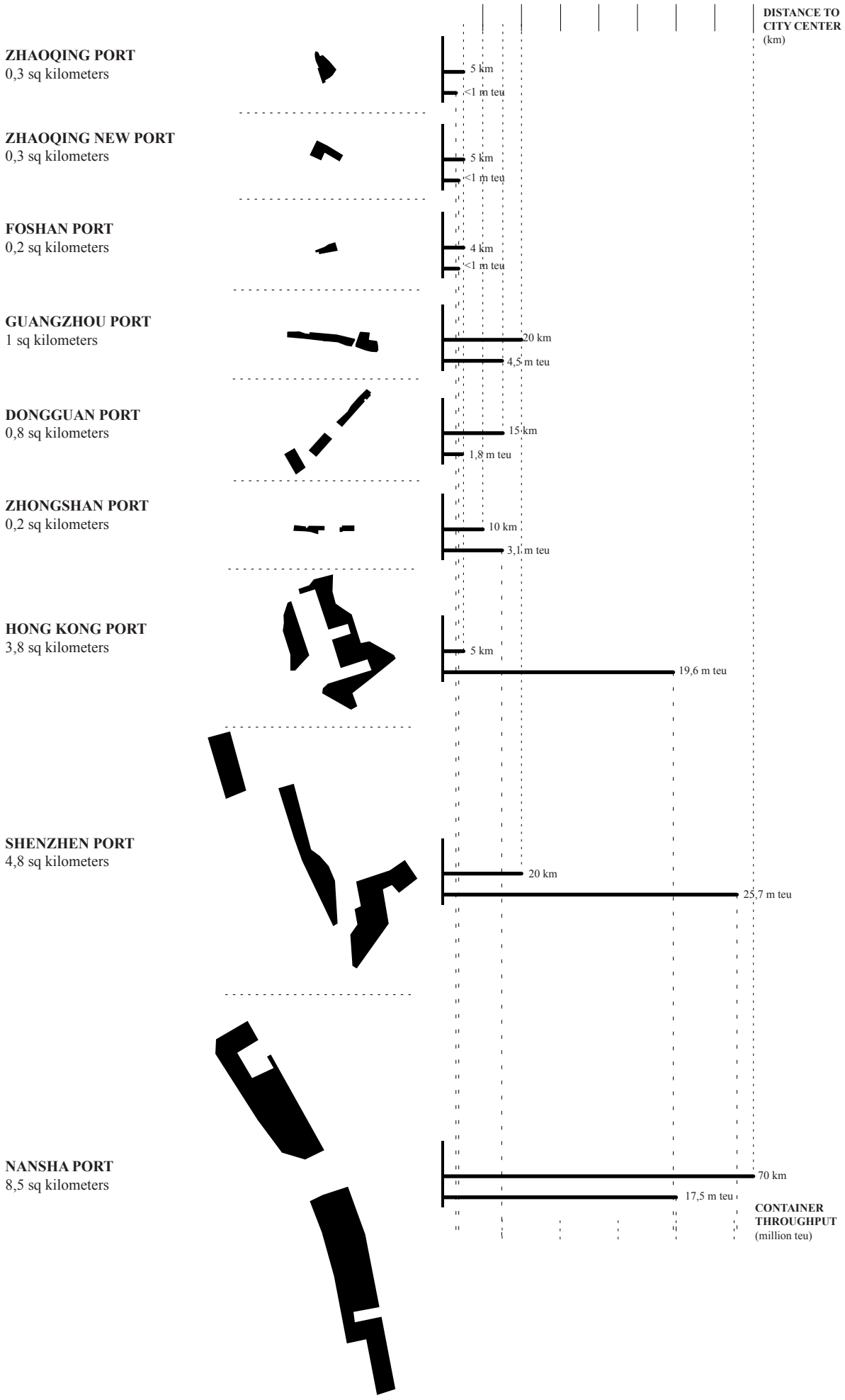
7.13 | *Local port near Zhaoqing New Area. Samuele Pellecchia. 2017*

The evolution of the port of Zhaoqing clearly reflects the limited growth that the city has had in recent years. While the large ports have increased exponentially, the Zhaoqing port has been limited to a process of technological updating.

of Nansha - until now[25]- focuses in regional trade and transshipment. In parallel, these main ports are complemented by an internal network of river ports that operate as feeders (Li & Yip, 2016), among which Dongguan, Foshan and Zhaoqing are responsible for maintaining the flow in the internal water channels that penetrate the Delta and aggregating and repacking inland cargo. These are undoubtedly ports of much smaller dimensions - while seaports have an average area of approximately 4 km2, riverports hardly exceed the 800.000 m2 - grounded on more local relations and dynamics that reflect the historical subtleties that have shaped the city. That is, while river ports have remained tied to their host cities, not only on an operational level but as local urbanizing agents, sea ports became considered as "strategic operational nodes in global trade routes and shipping networks" (Hall & Jacobs, 2012, p. 189), therefore breaking the idea that cities and port develop together as integrated functional-economic spaces, and following a path characterized by independency.

Indeed, when observing the type of spaces these water-based nodes create, the above-mentioned duality is clearly visible. Internal ports, which operate with great enthusiasm and expectation, develop as small appendixes embedded within the cities that host them. They are dependent on their dynamics, on their infrastructure, on their labor forces and on their degree of connectivity. In fact, their development is limited by the urban fabric that surrounds them, as they expand until saturating the space and grasping the viability that the city offers them. For example, in Zhaoqing the port is located in the western end of the city, trapped between the hills and the urban fabric, without the possibility of expanding or reinvesting, it is dependent on the city's demands. In the hope of achieving greater autonomy and profit, in 2010 it was proposed to build a New Zhaoqing Port[26], one that instead of depending on the historical city would depend on Zhaoqing New Area as again, it would be embedded within its administrative area and reliable on the city's infrastructure (Fig. 7.12 & 7.13).

On the other hand, large seaports are developed as more independent entities that rely on their internal organization, on the infrastructure and road network specially created for them and on the strategic geographical position they pursue. That is, these ports look more outward than inwards the Delta, as these do not depend on what happens in their immediacy. Indeed, they depend on the decisions made miles away, on the markets that are located across the world, and on the flexibility that sites of production have now taken. In Sekula's words, "Today the relationship between the sea and the land is increasingly the opposite of what it was in the nineteenth century. Sites of production become mobile, while paths of distribution become fixed and routinized. Factories are now like ships: They mutate strangely, masquerade, and sometimes sail away stealthily in the night in search of cheaper labor, leaving their former employees bewildered and jobless" (2000, p. 147). Indeed, Delta's ports acknowledge the fact that they are located inside the "world's factory" and behind that location there is a consolidated economy and imaginary supported by cheap labor, velocity and reduced cost production. Seaports



7.14 | *Indicators of the main ports of the Pearl River Delta*

do not concentrate on that, they focus on functioning as the *well-connected gateways* of the millions of containers that hide and bury the evidences of exploitation and inadequate labor forces in the remote extends of the world. When these global water nodes are located in the physical space, it is seen how they work based on the most intensive capitalization of their current or potential location. For instance, Nansha Port, despite belonging administratively to the city of Guangzhou, is located 70 km south of its center in a location that was intentionally created for the purpose of "reaching the sea" (Bruno, 2018). Shenzhen Port and Hong Kong Port sit on carefully designed artificial land extensions with polished and defined geometries that increase efficiency and densify capacity (Fig. 7.14). Port configuration, especially large-scale seaport developments have proven to be strong enough to alter the Delta's coastal lines in search of strategic positions capable of consolidating them as nodes of global trade; to redistribute the use of the large - and not so large - water channels in the area; to guide and mark differences between the east side and the west side of the Delta, and finally they have been able to disconnect through connecting.

Using water as a global infrastructure has connected the Delta with many places in the world but at the same time has severely fractured internal relations[27]. Places like Los Angeles or Singapore have become the Delta's hinterland (Sekula, 2000), while internal locations have become increasingly inaccessible by water. Indeed, water now represents power, represents openness to the world, represents connections and international relevance as its flow it materially linked with the flow of money, and power (Swyngedouw, 2004). It is a visible and apprehensible representation of the economic wealth of the region that slides by in the water channels through ships operating as rarely isolated entities (Gregson et al., 2017). Indeed, the many cargo vessels that now command the Delta's water system are not to be considered as isolated or independent, it is in their nature to relate to a larger visible or implied whole, a whole that does not exclusively belongs to the Delta, but a whole that belongs to everything outside it. A whole that constantly looks for connections by reinventing the global dynamics, dynamics that once again through initiatives such as the Belt and Road Initiative[28], and in particular the New Maritime Silk Road and its intention to reclaim Guangzhou's presence, point towards putting the global waters of the Delta at the center of new international trade routes and new controlled developments, therefore sidestepping recent negative impacts of USA-China trade war, which already have proven to slow down manufacturing and cross-border logistics industries in the Pearl River Delta during 2018 and 2019.

7.4 Water as enrichment of urbanization

Just as water has become a means through which allow circulation of practices, power, and money, it has also become a means for the circulation of ideas and ideals that tie together nature, urbanization and modernity. In fact, in the Delta, behind the simple conception of water there are many discourses that

use it to value, strengthen and justify the progress of the extensive contemporary urbanization. They use its malleability, as a mechanism to transform the urban space into an aesthetically pleasing, environmentally sustainable, culturally responsible and above all, modern enough space for the new social middle class[29] that seeks to be the reflection of the new Chinese society. In a sense, controlled, well-designed, efficient and nature like water features become the reflection of a "middle-class utopia" (Shepard, 2015, p. 93) grounded on providing a suburban new way of live that falls between the margins of new urban China and the enclosures of poor rural China (Ren, 2013).

To illustrate these ideas, it is pertinent to use a concrete example – Zhaoqing New Area - capable of directly visualizing the versatility and strong ideological meaning of water as an enriching element of urbanization. In particular, it is useful to address this issue from two starting points. First considering how water has become a standard of modernization, and second considering how through its presence, its alteration and promotion, water has been used as an instrument to build an ephemeral ecology and sustainability. Addressing water under these approaches means understanding how it not only works as a means through which the circulation of tangible or intangible elements is allowed, but means understanding it as a "brutal delineator" and malleable matter capable of generating new urban forms and spaces that respond to specific meanings and rhetoric (Gandy, 2004).

7.4.1 Raising a banner for modernization

"Water lies at the intersection of landscape and infrastructure, crossing between visible and invisible domains of urban space. Water forms part of the material culture of modernity, ranging from private spaces of the home to vast technological networks that enabled the growth of cities, yet it is also powerfully inscribed in the realm of imagination"

(Gandy, 2014, p. 1)

Gandy's powerful statement highlights how water is strongly linked with the notion of infrastructure as a technical and organizational domain which allows the operation of an urban entity in terms of water supply, moral, hygiene and aesthetic. In his words, it is indeed a large unnoticed skein of technological systems that forms part of contemporary experience of modernity. A modernity that comes from the notion of reaching a "modern infrastructural ideal" (Graham & Marvin, 2001, p. 43) that asserts the positive transformative powers of modern technologies as "vital material bases" (Graham, 2010, p. 1) for the urban space. Indeed technological network such as water, gas, electricity, information among others, are what Kaika and Swyngedouw (2000, p. 120) consider "constitutive parts of the urban […] material mediators between nature and the city" that in contemporary urbanity are largely invisible, hidden and locked inside pipes, conducts and cables that disappear in the apparently marginal urban underground[30]. An underground that - at least in

consolidated and privileged spaces - is often taken for granted, deeply naturalized and eternally muted, as without knowing exactly how, we can assure that in almost any of our contemporary cities, every time we open the tab water will flow to satisfy ours needs.

The construction of Zhaoqing New Area does not form part of the consolidated and privilege urban space mentioned before. It is indeed quite an opposite scenario. The project of the new town completely starts the design and construction of the city from the ground. The extensive and now almost inexistent organization of fishponds and agricultural land on which the city is implanted does not have any infrastructure capable of supporting urban life. There are no pipes, there is no drainage, there are no electrical or computer services, everything must be built from scratch. Everything represents for the area a complete novelty and a strong declaration of progress that indicates leaving behind the old rural life to give way to the new and modern urban life. What would typically be considered a normal infrastucturalization of the territory, in Zhaoqing New Area is regarded as an extraordinary achievement that deserves to be exposed and celebrated both for future inhabitants, investors and for the curious visitors who cross the area. And indeed, it is celebrated and enjoyed as a symbol of progress.

Within the extensive construction site of the new town, one of the most strategic positions is occupied by a panoramic platform that, in addition to expose the future projects that will fill the flat grid of the new city, allows to see from above the construction progress of a brand new lake and of an underground gallery that will host the various infrastructure networks, including water (Fig. 7.15). A modular

7.15 | *Platform showcasing the construction and projects of the water-based landscape. Samuele Pellecchia. 2017*

gallery that extends for a length of 45 km and locates below the main streets of the city, organizing in a clean and orderly way the well-lit network of structures that will allow the city to operate as a complete last generation urban machine. At the base of the platform, there is under exposition, a real-scale model of the modules that make up the gallery (Fig7.16) . A model that can be visited, accessed and photographed freely and that shows how its spatiality, symmetry and ease of internal movement offer Zhaoqing the best possible service performance. As if it were a monument that is necessary to visit, all institutional appointments have this 1:1 model as a mandatory stop[31], stop that each time is permanently documented and displayed on the official website of the New Town along with words such as *modern*, *technology* and *efficiency*.

This on-site exhibition pavilion is of course a temporary element that celebrates - while still visible - the advancement of modernity and infrastructuralization of water and other services. It represents a temporary emphasis that shouts and evidences the existence of this technological icon before it is covered by the city's aboveground elements and disappears forever from the collective urban imagination. That is, without questioning the operational and infrastructural efficiency of the system, its mere presence is used as a marketing tool that justifies the progress of urbanization, distinguishes the confined urbanization from the many others that are carried out in the Delta, attracts new possible inhabitants seeking to change and improve lifestyle, and draws investors and actors willing to bet on a city that at least in its most integral part works on a network that declares to operate at the latest vanguard.

> *The underground gallery not only organizes the main basic services such as water and electricity. It also guarantees that in the event of a malfunction, the visible city will remain isolated from any work that may compromise its carefully designed spatial quality.*

7.16 | *Real-scale model of the underground corridor. Samuele Pellecchia. 2017*

Projects such as gallery-based water channeling of Zhaoqing New Area are not just an infrastructure project. They are a strong statement of the direction towards which the Chinese Urbanization process is headed. A direction that knows how to use the spatial elements that make up its cities to build a concrete urban image by evidencing and dulling one or other urban elements. For now, water management is highlighted, once its constructive stage is over, probably the spotlight will be based on another element capable of continuing the legacy of the message.

7.4.2 Building and branding an ephemeral ecology

Within new urban developments, water does not reduce exclusively to an infrastructure system, it becomes also a central nerve that through the use of rivers and lakes as distinguishable attributes of cities and towns, connects the urban landscape, public activities and social aspects, to a notion of sustainability and environmentalism (Shannon & Yiyong, 2013). In line with this idea, as cities begin to market themselves around the ideal of ecological awareness, ecological purification and sustainable urbanization, within the new urban developments that are investing the Delta, there is a contemporary sense of advantage in incorporating water features that mimicry nature into urban designs. Water courses, waterfronts and green areas that recreate backgrounds to be found in natural landscapes are being used as pennants that enunciate the change of direction of the Chinese urbanization towards a more sustainable pattern.

This relatively new search for urban sustainability is born as a response to the acute environmental crisis that has invested China in the past years, a crisis that has forced to reevaluate the violent urbanization path and to redirection it towards a virtuous urban model capable of responding to sustainability and environmental risks (Brombal, 2017; De Meulder & Shannon, 2014). As a result, it is claimed that urban water and green spaces have "progressively lost their purely aesthetic role and become instrumental in defining strategies capable of responding to current and future challenges of urbanization" (Rinaldi, 2018, p. 167). When looking at the programs this line of thought has produced, initiatives such as the Sponge City Program[32], the Low Carbon Cities Initiative[33], or the Eco-Cities strategy[34] come to light. The first one, a poorly implemented intention of addressing water shortage by enhancing absorption capacities of urban areas - therefore reducing the intensity of rainwater runoff -, the second one a provocative invitation to cities to reduce their carbon dioxide emission and energy consumption, and the third one a *tabula rasa* solution for creating new cities in a sustainable development model. All of them as part of a chain of strategies that seek to comply and prepare the way for the definitional vagueness of the "green" development model proposed by the China's Thirteenth Five-Year Plan issued in 2015[35].

Behind this chain of environmental discourses that proclaim the presence and use of water and greenery as the ultimate strategy for achieving sustainable

and ecological aspirations, there is however a great gap that hides both the lack of implementation of those concepts, and the political, ideological and economic interest in adopting these "green" characteristics (Lo, 2014; Rinaldi, 2018; Shepard, 2015; Williams, 2017). On the one hand, the simplistic association that exits between the words sustainable, ecological and water and green areas makes the spatial implementation of these initiatives equally simplistic. Landscape projects, recanalization of water, substitution of land uses and simple urban furniture are assumed as signs of sustainable and ecological city. Complex reorganizations of the natural elements of space become ecological improvements and recovery of local landscapes. Construction of large parks that integrate vegetation and water are exposed as the ultimate fulfillment of a greener urbanization.

Behind each of the operations that remodel the territory of a "green" city, there is a fundamental statement that makes clear the label under which the city wants to be recognized. A label that mobilizes a whole branding strategy that instead of selling a true ecological and sustainable space, sells what the habitants and investors consider the ecological ideal. Within the construction of this ideal, water plays a fundamental role. It is a symbol of urban boosterism, in this sense, "water is being enlisted in the rebranding of urban space as never before" (Gandy, 2014, p. 17).

This situation is evident, for example, in the construction of Zhaoqing New Area. According to its masterplan, the new city is promoted as a *low carbon natural, livable and ecological city*, capable of offering great contact with nature and capable of providing the inhabitants of the Delta with a healthy, pleasant and environmentally friendly space. It promises to give a high quality of environmental life and a wide variety of open spaces that, in the presence of water, achieve blending the urban to the natural landscape. The masterplan also argues that the main strategies for the design of the city are indeed the respect of the landscape's patterns of the place, the use of existing water systems and flows for flood control and landscape creation, and the search for an overall pleasant natural environment. However, seeing the way these words ground into the space might construct another narration of the new town.

Although the new town is vended as a natural city, in reality there is nothing natural in it. The rivers that organize their cultural buildings were carefully redesigned and channeled to form a network organic enough to appear as a product of nature; the system of ponds that had existed in the area is completely eliminated for the creation of the Yenyang Lake[36], a central lake around which the most important public buildings are organized. External ponds are transformed into an urban wetland park. And small canals that crossed the territory become the basis for the construction of a "duplitecture" (Bosker, 2013, p. 2) capable of creating extensive themed communities through the most banal fetishization of its elements (Fig. 7.17). The ideal behind the *low carbon natural, livable and ecological city* is exclusively built through a water-based landscape project. A project that encompasses the

7.17 | *Water manipulation within Zaoqing New Area*

whole extension of the new town and on its way transforms everything it finds in a succession of parks, canals, lakes, rivers, wetlands, and even a reinterpretation of urban aquaculture located at the eastern end of the development. In other words, an extensive organic network of water flows that functions as the skeleton of the rest of the urban design is carefully created. Upon this water network a road network is then implanted to prepare the lots for the future arrivals of its investors.

The state of progress and the order in which the elements that will make up the new town settle on the ground, also demonstrate plenty of the strategy of using water as a tool to market and build an ephemeral ecology on which to base the identity of the city. In fact, the current state of the construction site shows how the main element on which the future of the new town rests is precisely its "natural" landscape. It seems that before moving forward with the channeling of services, with roads construction, or with the buildings that will give life to the area, the most important thing is to finish the landscape and comply with the sustainable city label. Parks are already completely finalized, the landscaping around the few road axes is perfectly organized, the lake, the rivers and the small canals are ready to be used. No matter that 80% of the city does not yet exist, it seems that the essence of the sustainable city radiates from there, from its water-based urban landscape (Fig. 7.18). A water landscape that is there, on display, on plain sight for everyone to see, to declare that despite not being completed, and in fact being quite far from completion, the new town is actually going in the right direction.

By promoting the progress of the construction of the new town, the images that the municipality uses show how large water based lanscape projects are the nodes from which the rest of the city radiates. City that does not exist yet. So these nodes represent carefully designed small urban enclaves in the middle of infinite and deserted rural spaces.

Who uses these spaces? Who are they for? Why do they exist before everything else? Surely not to be used by the inhabitants since the future city still does not has any.

7.18 | *Advancement of the water-based landscape in Zhaoqing New Area. Zhaoqing N. A. 2019*

Not all of the new town has reached its future ecological form, but some parts, carefully selected and materialized, have already reached the final goal, and are presented as a glimpse of what is to come. This of course makes evident the greatest incongruencies and contrasts. A perfect waterfront surrounds a city of cranes and tractors, a completely finished lake is an oasis within the orange desert produced by soil movement, and a recovered water channel crosses a rural town waiting for its demolition.

By looking at Zhaoqing New Area, or at any other new urban development in the Delta, it is clear how water courses that used to sustain and balance local practices and ecosystems are becoming mere urban amenities that operate as visible elements of "ecological gentrification" (Gandy, 2014, p. 17). Behind hide strategic political maneuvers geared towards a larger scale imaginary which wants to justify the massive urbanization that continues to be carried out by promoting a new lifestyle closer to both nature and the advantages of the city. That is, if we go beyond the rhetoric of the green city, we see how this banalizes and reduces the complexities behind the idea of ecology to the simplest and everyday elements of an urban environment. Complex and natural watercourses are treated in a way of producing what Gandy (2014) calls "cosmopolitan ecologies" that operate through the construction of "elaborate simulacra of wild urban nature" (ibid). What happens in Zhaoqing New Area is not an isolated situation, on the contrary it is a situation that repeats in the whole extension of the Delta, and to some degrees can be also identified in many other contexts around the world. To see it, is only necessary to take a detailed look at the urban water of the Delta, poorly replicating the natural water patterns of the area, and strongly infusing suburban developments with an essence of sustainability.

Notes

1 Since Deltas and coastal areas are the most urbanized and urbanizing areas worldwide, and indeed many of the world's largest metropolises are located in delta areas, it is necessary to inquire the relations between water and urbanization. Not only in regarding the potential flood risk that these areas have acquired under the face of climate change (risk exemplified by recent flood such as New Orleans 2005, Japan 2011 or Bangkok 2011) but also regarding the consequences of accelerated land-use changes, economic and politic pressure, and globalization and technological progress See (Meyer & Nijhuis, 2013).

2 *Shatan* or *sand flats*, are the fields created by initial settlers that consisted in the sandbars formed wherever the current slowed sufficiently for the transported sediment to settle. They were created mostly on the downstream side of islands and they consist on truly new land areas since they literally arisen from the water. They represented a strategy for growing the Pearl River Delta since they added land where none has previously existed (Marks, 1998).

3 Marks's work represents a substantial starting point since it is one of the few availableacademic works that attempts to build a historical reconstruction of the Pearl River Delta (or Lingnan region as discussed in the book) from an inner perspective that acknowledges the anthropogenic "making" of the Delta's contemporary condition. Indeed, in his work, instead of adopting a distinctive "western look" typically characterized by biased and extraordinary visions, follows an inner observation point that extract Chinese knowledge and resources in an all-encompassing way (See Marks, 1998).

4 Second largest river in China after the Yangtze river and third largest delta after the Yangtze and Yellow River Deltas (Wu et al, 2016)

5 Matthew Gandy in his book *The Fabric of Space. Water, modernity and the urban imaginatio*n (2004) uses the city of Lagos to further elaborate on the relation between water systems and malaria from a perspective that includes the role of the postcolonial state in the construction of the modern city. It is an interesting perspective to confront with the case of the PRD since it puts in contact the presence of political and governance actions undertaken by political entities (Lagos case), against the promotion of independent self-made solution carried out by inhabitants (PRD case).

6 For instance, the combinations included Mulberry trees, fruit trees, sugar cane, and flowers with different variations of carp fish, specially grass carp and mud carp (Weng, 2007)

7 For a complete and in-depth historical reconstruction of the processes and event involved in the making of the Pearl River Delta see (Marks, 1998)

8 The relation between port and water system is deeply inquired in page 188.

9 See (Gandy, 2014)

10 See (Gandy, 2008)

11 Represents the contrast to wild-capture fishery, a food production system radically declining due to the increased global demands of fish for human consumption (FAO, 2018).

12 For instance, at global scale China produces 90% of carp, 40% of tilapia and 50% of penaid shrimp, and its general production is ten times larger than the second global producer, India (FAO, 2018; Ottinger et al., 2016).

13 Partly due to the large quantities of produce imported for processing and re-exportation (FAO, 2018).

14 If the plan is fully executed it is expected that the total Chinese share will slowly decrease

as other countries start to expand in the sector. According to the FAO, African and Latin-American countries are expected to have the fasted aquaculture growth in the next years due to an expected increase in fish consumption. Indeed, in those areas the consumption is expected to increase in 37% and 33% respectively See FAO (2018).

15 Indeed, the aquaculture industry heavily pollutes the surrounding waters both freshwater bodies or streams and seawater. Wastewater created during aquaculture production is often discharged unfiltered causing the accumulation of pharmaceuticals and heavy metals,. Accumulations that accelerate eutrophication, and enhance harmful algal blooms (See Stiller et al. 2019).

16 Access to safe drinking water is not a problem restricted nor to the pearl River Delta's rural lands nor to the Chinese territory. It is a world scale issue that has activated significant number of programs destined to solve the issue. (See World Health Organization reports)

17 A gap mostly evident in economic and social development that in simple words has been caused by an administrative differentiation between the two land uses, a strong emphasis and investment in urbanization and industrialization and a planning system that has been constructed for achieving growth (Long et al., 2010; F. Wu, 2015; Ye, 2009).

18 The ongoing *Drinking Water Improvement Program* started operating in the late 1980's and consist in a series of guidelines for the implementation of rural water plants aimed at providing fresh water to villagers (see Zhang, 2012). The construction of a *New Socialist Countryside* is a program approved as a government policy by the National People's Congress in early 2006. It is a macro-policy that attempts to foster urban-rural integration by improving the living conditions of rural areas and reducing poverty conditions. In particular focuses on agricultural and infrastructural modernization, ecological sustainability, and provision of public goods such as basic education and social welfare. The program is mainly targeted to achieve advance production, rich life, civilized (local) atmosphere, clean and tidy villages and democratic management in rural areas (Ahlers & Schubert, 2009; State Council, 2006).

19 See https://www.marinetraffic.com/en

20 The Canton System, created in 1757 due to a lack of interest in international trade, refusal to adapt to the demands of a changing world, and perceived threat at political and commercial level, were the set of policies that regulated China's trade with the West until its defeat in the Opium War. The policies concentrated all Chinese's trade in the port of Guangzhou and abolished any other form of international trade in the Chinese territory. It was abolished in 1842 when the Treaty of Nanking was signed as a mean of allowing first British merchants, and eventually all foreign merchants to stablish deals with the different Chinese open ports (Carroll, 2010).

21 For a detailed historical review of the relationship between trade, ports and the PRD see (Liu et al., 2013; Wang & Slack, 2000; Yang, 2012)

22 After the cargo container, an American innovation of mid 1950's, the initial container port of the Delta's area was created in Hong Kong in the early 1970's (Liu et al., 2013), roughly contemporary to containerization in Europe and USA. With a small delay, other ports in the Delta began to their containerization process after mid 1970's, in particular the port of Guangzhou and its relative unfavorable location, never managed to reach the success of Hong Kong.

23 Joining the World Trade Organization represented a significant step for China and for transforming the global geography of supply chains, since this action was followed by large industrial relocations that pursued considerable cheaper labor at the expenses of contained increasement in transformation cost (Curtis, 2009).

24 Ranking according to the *Top 50 World Container Ports 2018* created by the World Shipping

Council. See http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports

25 Considerable efforts are been made by Guangzhou authorities to increase the relevance of Nansha Port at international level. Indeed, the aspiration is to progressively redirect the international transshipment volume currently anchored to Hong Kong towards Nansha. This intention very much away from the need to function in a regional level, explains how a location that points more towards the rest of the world than to Guangzhou itself was favored.

26 The Zhaoqing New Port was proposed and approved in 2010 by the Transport planning and Research institute together with the Ministry of Transport and Communication Bureau of Zhaoqing through the "*Overall planning of Zhaoqing ports*". The planning envisions the port as a new regional transit center capable of achieving economical scalation to the point of reaching by 2025 approximately 85% of the total throughput in Zhaoqing (Li & Yip, 2016).

27 For instance, Shenzhen Port serves as a base for more than 130 international shipping routes and as a base for two internal passenger lines; Guangzhou maintains 80 shipping routes and again only few passenger lines.

28 The Belt and Road Initiative (BRI) or also known as New Silk Road (NSR) is a grand geopolitical and macro-economic vision announced in 2013 by the Chinese Government. It is the last and most ambitious evolution of the long season of "go west" policies aimed at achieving a controlled and decentralized urban and economic development in the regions of the West. It consists in building a new trade route towards Asian, African and European countries capable of operation both by land (Belt) and by sea (Road). In its maritime extension, recovers the main presence of Guangzhou and especially the Delta as one of its key points within the Chinese territory (Berta & Frassoldati, 2018; Liu & Dunford, 2016).

29 Ren (2013) defines Chinese middle class as a growing social group defined by political orientation, consumption preferences, income and cultural capital that accounts for barely above 10% of the national population. For her, although they still represent a minority, they are indeed the driving force behind and the target group of the emerging Chinese cultural industry.

30 In the introduction of his book *The Fabric of Space: Water, Modernity, and the Urban Imagination Gandy* (2014) articulates in a condensed way how the modernity of a city's infrastructure can be measure on its relation between visibility and invisibility. As "the modern town was based on a concealed infrastructure" (Vigarello in Gandy, 2014 p. 14), while in the "horizontal city" of the Global South "everything is fully available at gaze" (Appadurai in Gandy, 2014 p. 6). That is, there is a direct relationship between invisibility and infrastructural development.

31 Not only do institutional visits have the obligation to go through this infrastructural icon, in my fieldwork, each of the visits I made as a researcher necessarily included the respective stop by the model and construction progress of the gallery.

32 The Sponge City pilot program was rolled out in 2015 after the announcement of President Xi Jinping declaring that cities should become like "sponges". Since then, sixteen cities have been selected as pilot projects and directed towards achieve in a short period, capture, purification and storage capacity of rainwater (Rinaldi, 2018; Williams, 2017).

33 Promoted by the Central Government starting from 2005, the different policies that make up the Low Carbon Cities Initiative, have targeted industry, buildings, transport and public spaces to address climate change, energy security and sustainability issues (Lo, 2014).

34 Williams (2017) in his book *China's Urban Revolution. Understanding Chinese Eco-Cities* argues how the term still remains loosely defined. Indeed, he highlights how the absence of a strict definition has proven to be useful because it has allowed for the term to become popular

as a “moral or ethical imperative” (p, 3) without the need of being scientifically or concretely explain.

35 “China was one of the first countries in the developing world (as it classifies itself) to strategically introduce sustainable development on a national and regional policy level and has been using it as a way to promote a new direction for its urban development” (Williams, 2017, p. 15)

36 The construction of the 2 square kilometers lake was finished in late 2018 after the complete remodulation of the ponds and canalization of the Jiukenghe Reservoir, located to the north of the new area.

Chapter 8

Circulation space: overlaying networks and redefining distances

Infrastructure can assume many different forms and meanings. Perhaps one of the most immediate and traditional ones is its material manifestation as a means that facilitates flows, circulation, and mobility. Mobility that can be considered the ultimate condition and requirement of modern life (Shannon & Smets, 2010). Mobility of people, of goods, of time, of services, and of every other possible object capable of sustaining urbanity – and not only - in a quick, safe and reliable way. A mobility through a circulation space in the form of streets, paths, highways, railways, tracks, bridges, among others. Indeed, every day the Pearl River Delta gets crossed by over three million people and by over eight million tons of goods (Guangdong Statistical Yearbook, 2018). Generating frenetic mobility and back and forward relocation that overtakes the existing 215000 kilometers of highways, the over 4150 km of railways, and the 350 kilometers of intercity tracks that make up the dense, continuous, and interlocked circulation space of the Delta. An over transited circulation space that, in a sense, is what holds together the Pearl River Delta. Indeed, the circulation space that englobes the Delta has actuated in different fronts and at different stages. It includes road, highways, railway, intercity, navigation and aerial networks, all working as intertwined modes of infrastructure able to harmonize and connect the different nodes of the deltaic system, while being able of extending and deforming in order to weave and integrate the potential urban fragments that gravitate around it.

The different spatial elements that make up the Delta's circulation space are not limited to function as mere flow containers, passive or inert objects. On the contrary, behind each of its improvements, developments, integrations and expansions, there is a strong agency seeking to give shape, direction and unity to the territory of the Delta. As result of this intentionality and visibility behind the infrastructuralization of the territory, this chapter explores precisely in what ways the materialization of the circulation space, alters and influences the spatialities of the Deltaic territory, since after all, "the visibility of modern infrastructure of the Delta has always defined the global ambitions of the area" (Hilgefort et al., 2019). In a sense the chapter explores the more tangible consequences of the hardware that supports Castells's (1996) "space of flows". More precisely, first, it inquires how circulation space has functioned and continues to function as an isotropic mesh

capable of operating as a catalyst for urbanization. Second, it explores how trough the overlaying, substitution and densification of mobility networks, the circulation space seeks to redefine the notion and perception of distances while integrating the region into a coordinated spatial unit guided by political and economic ambitions. Third, it inquires how this existing and politically dependent mobility system emphasizes or discards one space over others; some land uses over others and some inhabitants over others. That is to say, it questions to whom this complex network of mobility responds to and what inequalities raises its implantation in the ground. These three explorations, despite dealing with issues that extend beyond the spatial dimension, seek to emphasize precisely the spatial consequences behind each of these issues.

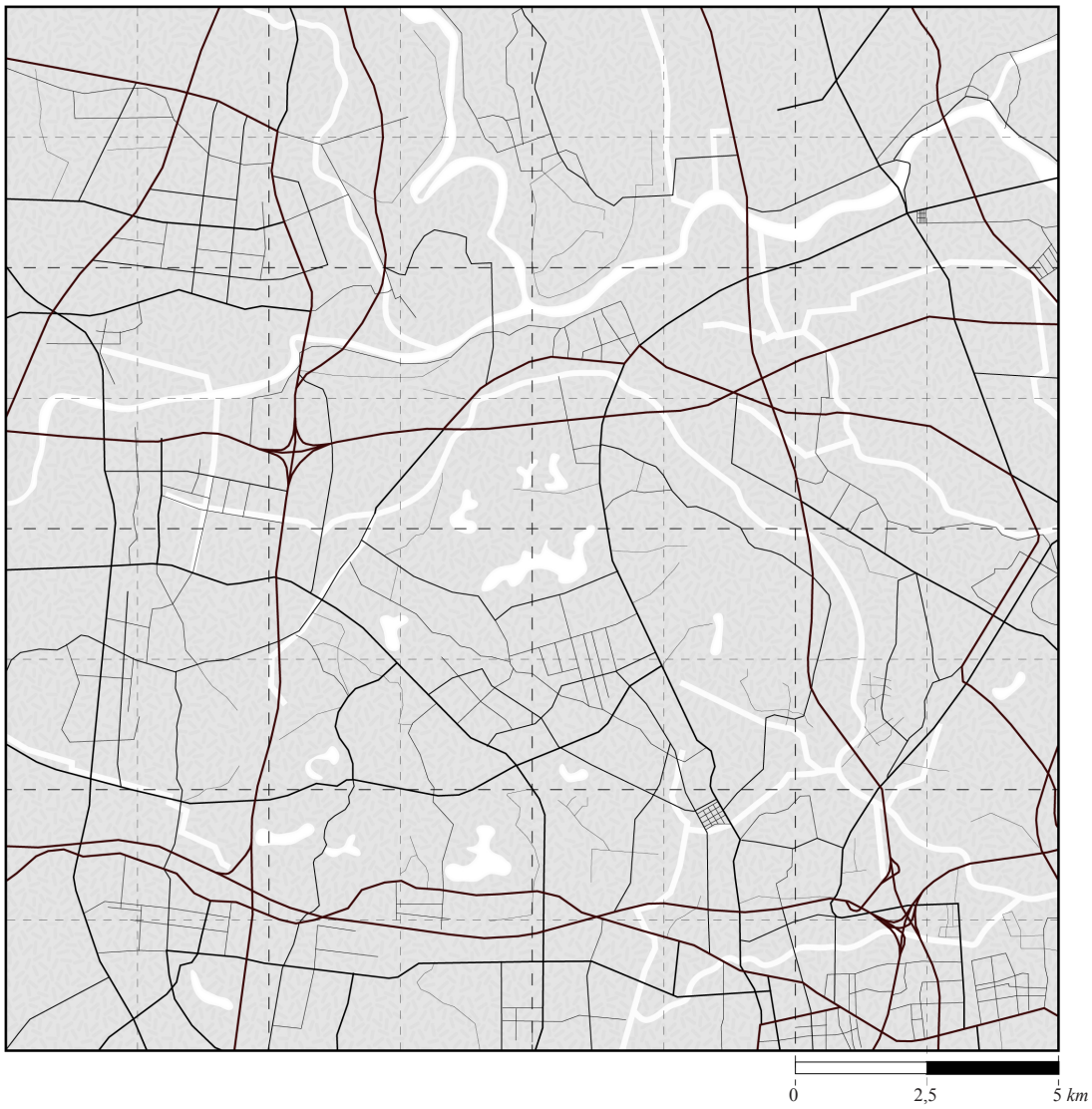
8.1 Catalyst of a disaggregated urbanization

Traditionally it is assumed that cities, towns, agglomerations, or any other physical form that may reflect an urban character, originally defined its location based on the availability of rivers, fertile lands and the natural resources offered by specific geographies (Lyster, 2016). Subsequently, these were based on trade routes that in one way or another guaranteed economic subsistence based on trade, transport, or service of agricultural goods (Amin & Thrift, 2016), that is, there was a strong dependence between the city and the agricultural practices carried out outside the city.

Today, the situation is very different, as agricultural areas are not the only productive spaces, but quite the opposite, every day with more force, cities are assuming a productive and almost autonomous role that essentially depends on one thing: connectivity. Connectivity that is provided by a progressive laying down of infrastructure that ensures the survival of continuous circulation[1]. That is, today, the city is no longer dependent on the agricultural areas – at least economically – and it is now dependent on the infrastructures and mechanisms that allow it to grant a particular level of connectivity[2]. Indeed, there is a strong relationship between urbanization and infrastructure. However, if first infrastructure could be considered as a result of urbanization, now that role has changed to the point of infrastructure becoming an accelerator of urbanization (Amin & Thrift, 2016).

This change in the role of the infrastructure is particularly visible in the contemporary circulation space of the Pearl River Delta. Here, infrastructure - in this case mobility infrastructure - has not simply been an urbanization accelerator but has been the main catalyst of a type of urbanization that is disaggregated, and that stresses the logical traditions that associate the efficiency of cities with the advantages of agglomeration[3]. Clearly, this does not mean that the Delta denies agglomeration logics, this would be absolutely contradictory since precisely the logic under which the global city-region operates is through the agglomeration of its parts. However, it means that in a sense, it is necessary to rethink what has agglomeration become? What forms does it assume today? Within the Delta

territory, it is not mandatory to be attached not even near an urban center, it is more important and necessary to be connected to the circulation space that organizes the territory, as here mobility infrastructure is not just a set of lines or axes that go from point A to point B, it is instead a dense network that covers the space it finds at its disposal. In that sense, infrastructure is, therefore, an isotropic mesh that extends and deforms in order to weave and integrate the fragments that gravitate around it (Fig. 8.1). That means infrastructure is potent enough to function as an efficient apparatus capable of producing and defining the logics under which territories operate (Velikov & Thun, 2017), and powerful enough to make the city "explode and implode" (Brenner, 2013).



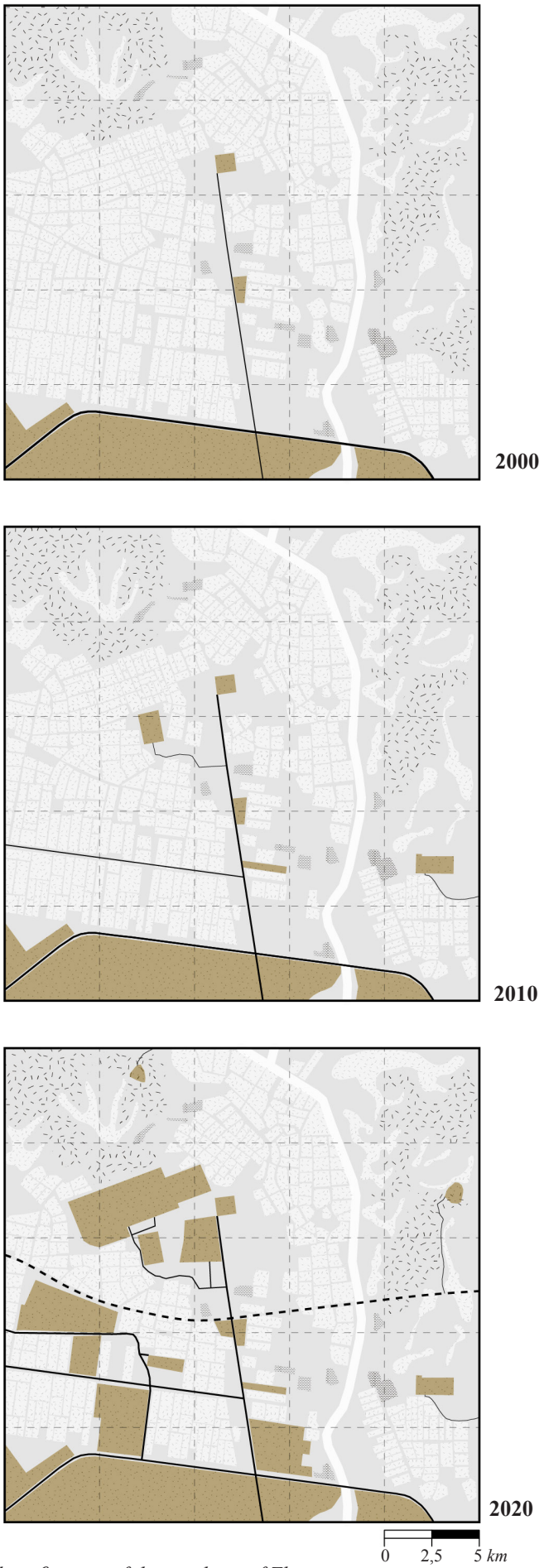
8.1 | *Mobility infrastructure as an isotropic mesh between Zhaoqing and Foshan*

The logics of the Delta are not straightforward, at a glance, the area reflects uncountable "urban-like" clusters randomly distributed and working as inversed enclaves capable of defining their own borders and rules. That is, new towns, industrial parks, gated communities, university towns, residential compounds, among others, appear as isolated, unrelated fragments of urbanity that strongly rely on the circulation mesh to function and to belong. Indeed when these pieces of urbanity are located in the territory, it becomes visible how very few of these are located in the vicinity of the consolidated cities, these are rather scattered in the available spaces they find, with the assurance that regardless of how "far" from urban centers they might be, they always have the possibility of being "nearby" to the expedited roads that connect them to the urban centers[4]. This is the main characteristic of the delta's circulation space. Its complex and flexible network of multi-scale overlapping infrastructures capable of penetrating to the deepest depths and capable of extending to the most remote confines.

8.1.1 Empowering the peripheries

The assurance of always being potentially connected to the circulation network, that offers the dense maze of mobility infrastructure, encourages the acceleration of mushrooming urban developments all across the Delta. Regardless of its distance to consolidated urban centers, new urban-like developments are occupying the outermost places of the Delta, thus originating an empowerment of peripheries capable of transforming them in brand new over capacitated urban nodes. Not only the peripheries of the whole Delta's area are being empowered, but internal peripheries of the existing cities are also being acknowledged as potential places of development (Bedir & Hilgefort, 2019). While the outskirts of almost every city within the Delta are being transformed by a parade of construction sites (Shepard, 2015), peripheral cities are being drag to the center of the area and cities at the fringe of territory of the Delta are being plugged in the Deltaic infrastructure network, meaning that the actual geography of the Delta is been transformed by the capacity of linking distant places to each other.

For instance, Huizhou, a city that does not strictly belong to the Pearl River Delta, is rapidly being linked to the region by the numerous mass-transit connections taking shape between Shenzhen and Huizhou. Equally, Zhaoqing New Area, which is located outside of the urban core of the Delta, will be easily reachable through different overlapping infrastructure networks. Highways, high-speed trains, intercity tracks and a complete collection of urban and rural roads, will contribute on connecting the new peripheral development to the rest of the agglomeration, making it a part - or at least making it feel part - of the centrality. Finally, small independent developments driven mainly by the frenetic real estate dynamics of the area that fill the farthest edges between the rural and urban areas of the Delta, are supplied with simple road connections that plug them into the dynamism of mobility and ensure its accessibility from any consolidated urban nodes (Fig. 8.2).



8.2 | *Evolution and densification of the outskirts of Zhaoqing*

This ability to cover practically every minimum area of the Delta's territory is giving rise to the beginning of a spatial transformation and reorganization that relies on the potential range of the circulation space to transform urban and rural territories alike. Within this transformation, the importance does not longer fall into single massive urban developments characterized by extreme densification or concentration of flows, people or services, but the importance rather falls into the more "dispersed availability of well-connected hubs" (Shannon & Smets, 2010, p. 15). Hubs that thanks to their density, interrelation and codependency manage to operate at distance as if they were a unique spatial unit. This is a type of urbanization that, at least within the perimeter of the delta does not rely on agglomeration but relies on connectivity and mobility both for the development of its productive areas, and for the development of its residential, cultural, educational and sports areas. It is a type of urbanization based on the rich mesh of mobility capable of giving absolute freedom of implantation to future potential developments. Indeed, the infrastructural mesh serves as the basis on which urban development, freely from proximity ties, progressively fill the available spaces. That is, regardless of their location, these scattered pieces of urbanity as long as they connect to the mobility network, they are guaranteed their relevance to the urban dynamics of the area.

Behind all this process of reorganization of the Delta there are two main motivations that are taking advantage of the existing infrastructure to achieve its objective. First, industrial upgrading through the relocation of low end and polluting manufacturing out of the core of the PRD and its subsequent substitution with high value-added industries. What in the 2000's started as a top-down state-initiated restructuring attempting to move labor intensive and low edge industries from coastal to inland areas[5] (*Directive Guidelines of regional Distribution of Industrial and Labour Relocation in Guangdong*, 2008; *Guidelines on Construction of Industrial Relocation Parks and Acceleration of Industrial Relocation*, 2009), turned into particular initiatives moved by increasing production cost[6]. This has originated for a large number of industries to exchange their relatively urban location for new destinations increasingly distant from the center and more established in the fringes of urbanization. Therefore, abandoning traditional and inherited centralities to create new potential spaces of power and relevance.

Second, new lifestyle aspirations lead masses of people to explore the new urban forms distributed throughout the territory. These urban migrations are the materialization of three things. First, opportunism of the real estate market that takes advantage of the availability and willingness of local municipalities to make available former rural land in order to gain additional funds generated by urban development. Second, lower land prices, lower construction cost and contained travel times, that derive in the creation of residential areas that enjoy something they could never have within the urban fabric, space[7]. Third, the need of moving away from the dense, congested and conflicting urban patterns that characterize the Chinese cities, maintaining the same level of connectivity and the same privileges

of any other urban core.

Local governments, which are the main actors behind the liberation of residential, commercial and industrial land and which operate as monopolistic suppliers of land (Wu, 2015), are aware of this infrastructure potential to the point of investing in it to raise the price of land within the process of land sale to developers. In Wu words, "the government used land revenue to invest in infrastructure […] and therefore convert the required rural land into serviced land so as to raise the land value, which leads to a premium price for commercial and residential development" (p, 81). Indeed, the initial step of any peripheral urban development within the Delta consist on expanding and densifying the mobility grid, therefore, offering a generic platform for diverse economic, social and general urban activities to flourish while encouraging the opportunity for experimental and innovative speculations (Duranton and Puga 2000). In some way, this way of taking advantage of the existing road density and this way of promoting the development of the urban through inflows of dispersed but hyper connected parts, reflects a certain overcoming of the idea of which the city - understood as a bunded and closed unit - it is the only center from which the urban notion can radiate. That is, thanks to the expansive transport network, much more happens outside the city – again intended as a bounded unit - than inside it. The traditional and consolidated city is monotonous, dense, chaotic, saturated, over circulated and overvalued. Outside of it is where the true metropolitan, dynamic, active, polycentric urban life is developed with different strengths and different nuances. A disaggregated urban life that could not be possible without a always evolving circulation space like the one that crosses and sustains the territory of the Pearl River Delta (Fig. 8.3).

8.3 | *New roads connecting the peripheries in Foshan. Photo by the author. 2018*

8.2 Infrastructure as a booster of regional integration

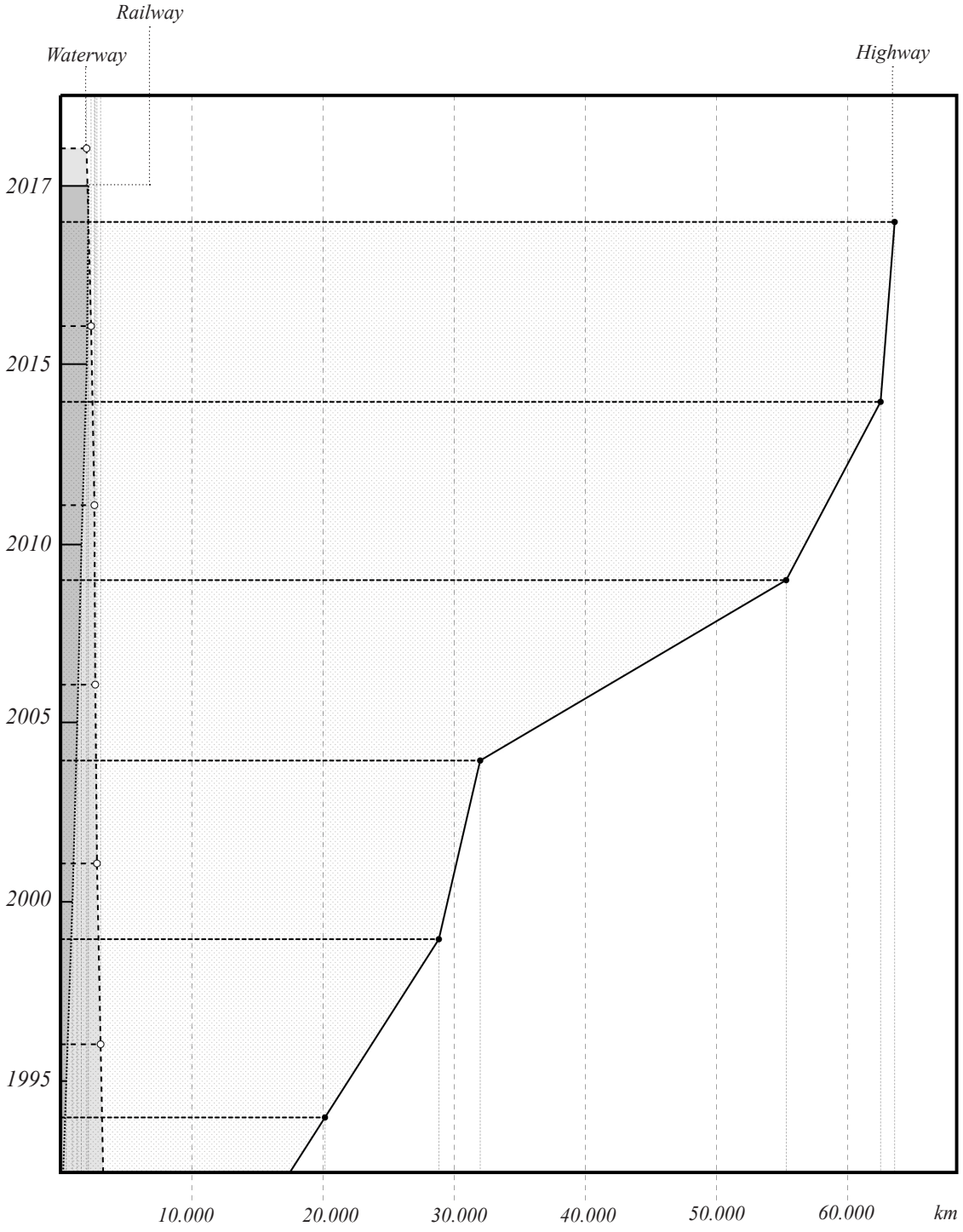
The rich isotropic mesh that structures the Delta was not intentionally created to accelerate disaggregated urbanization, nor to promote mushrooming developments, nor to empower and connect the peripheries. Instead, it was generated to integrate, unite and consolidate the Delta's territory through a long process of spatial transformation and infrastructural development strongly guided by a political and economic ambitions.

Indeed, in the Pearl River Delta, infrastructure has been the clearest strategy for achieving integration of the region in a physical level. It has been strategically used as an amalgam between the main cities and between the different urban, industrial and rural areas that have developed in their respective hinterlands. In a strict sense, the road infrastructure has been used by the state as a tool through which to guide the spatial development of the region, put focus on areas of interest and exclude or neglect potentially convoluted areas. It has also been a tool to build the urban machine that works in an articulated and coordinated manner and more recently it has functioned as an instrument to overcome old logics that gave priority to the intercity competition over regional collaboration (Wu, 2015).

There is a wide range of literature that focuses on studying in a specific way, the political and administrative logics that have guided the structuring of the Delta's circulation space with the aim of achieving regional integration (Chen, 2018; Ma, 2012; Y. Yeung, 2006; Y.-M. Yeung, 2005). Undoubtedly an objective that has been overly achieved, since today it is difficult to find an urban space that does not connect in one way or another to the road network, therefore a space that does not belong to the regional logics. However, just as it has been relevant to study the ideals and strategies that have shaped the place, it is necessary to give equal importance to the way in which these directions have materialized in space. That is, it is important to understand how the complex circulation space that supports the delta is organized, grounded and materialized. That is, it is important to understand precisely in what way this infrastructural regional integration has been progressively assembled. There are some keywords that help to understand how this mobility infrastructure has been deposited on the Delta's ground, for instance *expansion* and *juxtaposition* are two good entry points.

Perhaps one of the most celebrated urban advances in addition to urbanization itself has been the vast *expansion of the mobility network* in which China has invested in the past years. Indeed, in less than 30 years, the country has built more than 70,000 kilometers of railways and more than 3,745,200 kilometers of highways, which represent more than the built infrastructure made by any other country in the world [8]. Among those over three thousand kilometers of infrastructure, 2% are concentrated in the PRD (China's Statistical Yearbook, 2018), an area that represents one of the highest infrastructure densities in the national territory[9]. Indeed, the

infrastructure network of the PRD has been expanding since the beginning of the 1990s (Chen, 2018) to the point of triplicating and becoming the thick network that today shapes the densely populated landscape of the region (Guangdong Statistical Yearbook, 2018). If at the beginning this network consisted of few axes aiming at connecting production sites with export points, it is now an extensive web that connects not only sites of production but also connects every little fragment of urbanity distributed in the area (Fig. 8.4). Building a mobility system of such scale



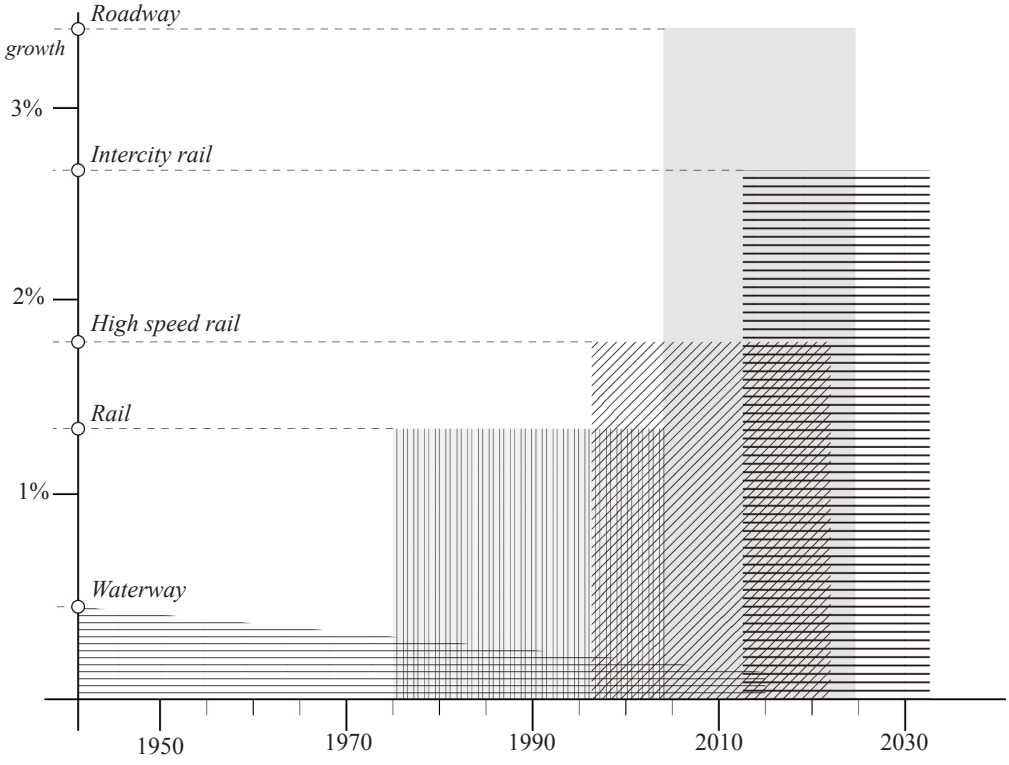
8.4 | *Mobility network expansion in the PRD between 1995-2017*
Source: Guangdong's Statistical Yearbook 2018

has however been neither immediate nor unidirectional, nor continuous. On the contrary, the expansion has taken place in different stages that reflect distinctive periods and intentions (Chen, 2018; Yeung, 2006) (Fig. 8.5).

A first stage, guided by a vision of "double cores working through a point-axis development" proposed by the *Modernization Plan for the Pearl River Delta Economic Zone* (1996-2010) corresponds to the intention of connecting the large urban centers in an efficient way. That meant settling the first railways mainly between Shenzhen and Guangzhou and investing in creating an metropolitan corridor capable of developing in an integrated way[10].

A second stage corresponds to the arrival of large river-crossing bridges aiming at annealing spatial fractures produced by the transformation of water into an infrastructure of globalization and, consequently, covering for the decline in water transportation by the inflated proliferation of highways and vehicle transportation means[11]. This is perhaps one of the most significant stages because impulsed by the *Coordinated Development Plan of Urban Agglomerations in the PRD* (1996-2016), signifies the first attempt to the construction of a transportation network that did not focus on points and axis but was rather concentrated in connecting cities into a regional system.

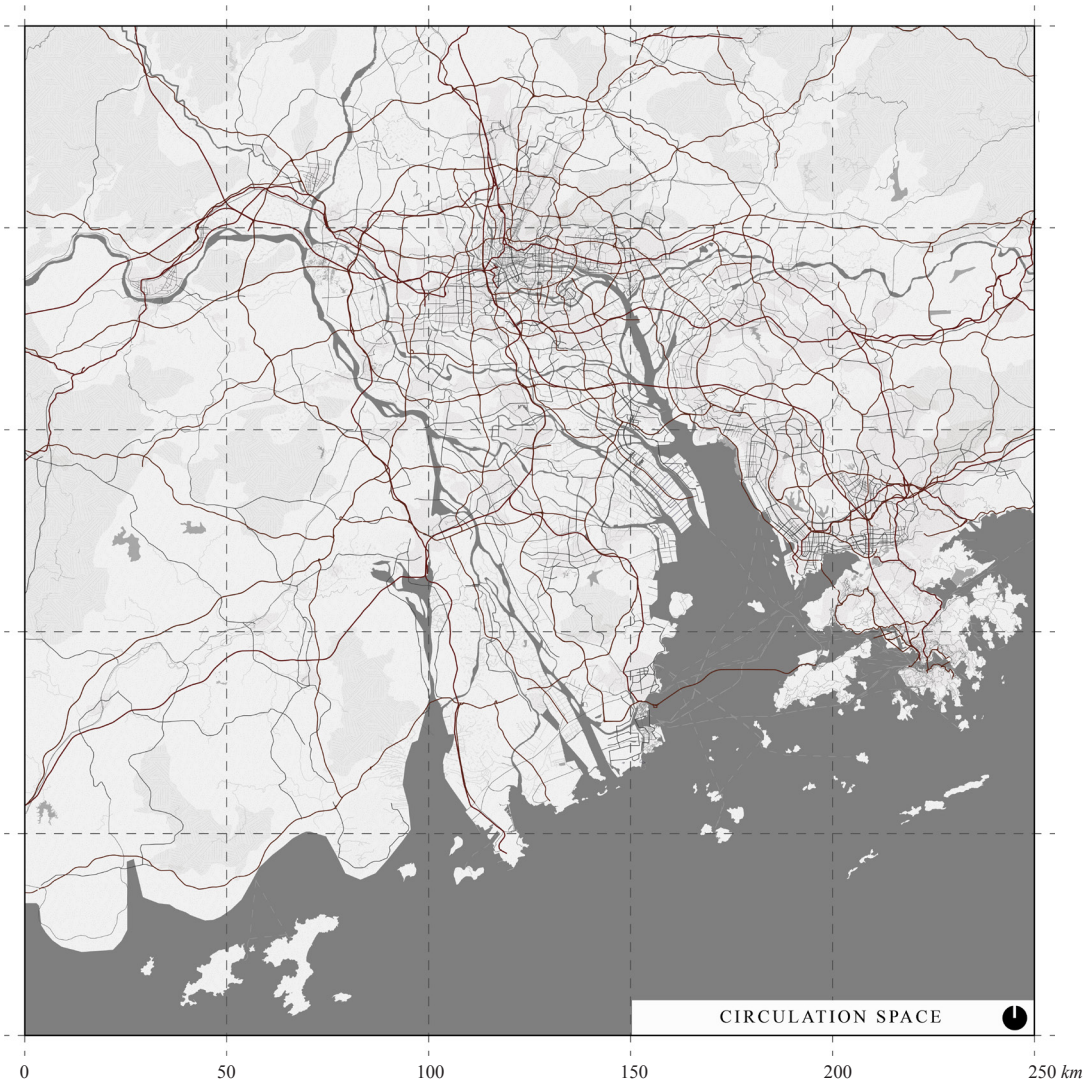
This regional integration was strongly strengthened in the third stage through the incorporation of high-speed trains and subsequent intercity railways network. The first, guided by the *Outline of the Plan for the Reform and Development of the PRD* (2008–2020) aims at connecting not only the nine main cities of the PRD



8.5 | *Transport mode changes in the PRD. Re-elaborated by the author based on Chen (2018)*

between them, but also aiming at connecting them to the broader highspeed national railway network. The second, impulsed by the *Pearl River Delta Intercity Railway Network Plan* (2009) envisions the construction of 16 lines for a total of 1478 km capable of connecting nearby cities within a radius time of one hour, therefore enforcing the creation of metropolitan clusters and commuting patterns that later on could evolve into the main internal three metropolitan areas of Delta[12].

Of course, these stages do not have a definite beginning or end, on the contrary, they commonly overlap and enhance almost in parallel[13]. Consequently, while some infrastructuralization strategies respond to the effective circulation needs of urbanization progress, others are considerably ahead of it. Therefore, they are implanted in the ground as an advancement of what is to come and as a signal that guides in which direction the urban fabric should continue to expand.



8.6 | *Circulation space of the Pearl River Delta*

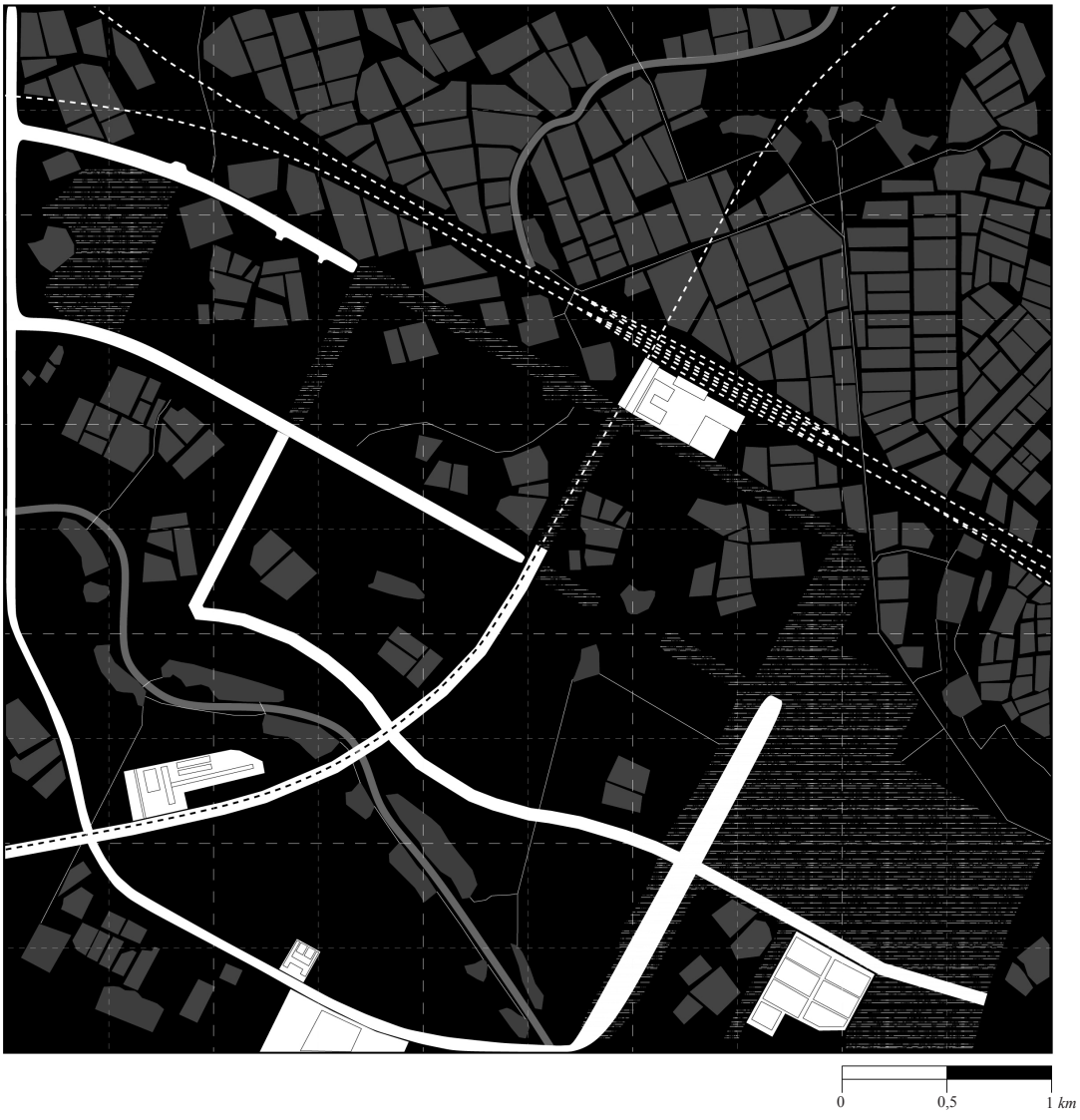
One relevant example of this progressive and incomplete transportation expansion is for instance, the case of Zhaoqing New Area. There, the old Dinghu train station, which consisted of a simple platform that sporadically received trains mainly from Guangzhou, has been replaced with a new high-speed station that seeks to become a new mobility node for the municipality and a new encouragement for strengthening traffic in the western part of the delta. At least this is how it is described by the multiple official statements, plans and projects presented by the state. However, seeing how this new station is grounded, it appears as this new high-speed station is rooted over a future city that does not yet exist, and that for many years will not exist. That is to say, the station operates as an advancement of what is to come, as a preview of the future urbanization and as a portal to the rich and dynamic circulation space that develops a little further east.

Indeed - for now - it represents more an ideal and a potential connection than a genuine link with the regional network, since despite being fully built and in full operation, the station is completely isolated from other mobility systems of the place. The nearest highway is 5km north of it, the closest urban settlement 4km away, the industrial area 4km away and the nearest street, is more than 3km away[14]. Of course this is only a temporary situation, a temporary disruption of the infrastructure (Graham, 2010). The integration of the station with the local context is only a matter of time since the new town - or at least its road network - advances at full speed to reach it, to connect to it, to integrate it into its brand new urban fabric and thus connect itself to the regional network (Fig. 8.7). It does not matter that – again, for now – the station is suspended in the middle of a spread of fishponds (Fig. 8.8), it is enough to know that it operates as a magnet that attracts Zhaoqing's urbanization away from is historical center, and towards the east, towards the agglomeration, towards the frenzy of economic and social dynamics for which the Delta's core is well known.

Although the case of Zhaoqing illustrates how the infrastructure is used to integrate the disaggregated urbanization, perhaps the greatest political and administrative declaration through which the mobility infrastructure has recently worked relies on bridges. The presence of the large bridges not only attacks the spatial fracturing caused by water and the possibility of reconnecting to create highways, new large-scale bridges mainly attack the noticeable development difference between the eastern part and the western part of the Delta. Different efforts have been made to try to connect the two banks, the Humen Bridge, operational since 1997, Nansha Bridge, opened in 2019 and the beginning of the construction of the Shenzhen-Zhongshan Bridge, which is expected to begin operations in 2021. Although this succession of bridges has meant a progressive integration between the two banks of the delta, none of these have meant such a strong political and administrative statement like the recently opened Hong Kong - Zhuhai -Macao Bridge (HZMB). Indeed, the HZMB, long 55 km and worth US$18.8 billion, represents for the region the piece capable of achieving the ultimate regional integration, as it represents a

physical declaration behind the intention of integrating once and for all Hong Kong to the rest of the Delta (*Outline Development Plan for the Greater Bay Area* 2019-2035). That means improving connections not only with the eastern area, but also and mostly with its western part, thus seeking to close the mobility circle both physically and temporarily[15].

Although the bridge represents a testimony of the great infrastructure that weaves the Delta and represents the role of the state within the area, in reality for now it is not very functional (Hilgefort et al., 2019). On a physical level, it has a small number of channels (3 in each direction) and it does not allow any public means. At the administrative level it represents a problem since drivers need special licenses for cross-border travel, which are particularly expensive and limited to obtain. In this way, this latest attempt of regional integration highlights the difficulties of managing the borders and mega infrastructures of the PRD.



8.7 | *Advancement of Zhaoqing New Area's grid towards Zhaoqing New Station. January 2020*

8.8 | *Zhaoqing New Station. Photo by the author. 2018*

Seeing the progressive materialization of the circulation space of the Delta it is easy to identify each of the layers or types of medium that have accumulated in the space, since each of the infrastructural layers has an "standard profile" (Shannon & Smets, 2010, p. 22). Extensive highways cut the space in the form of enormous straight axes that demolish and alter everything in its path; Railways float over the urban or rural fabric without stopping to think about how they might affect the spaces below them; the road system goes into the depths of the delta weaving a minute fabric of connections. These stratified systems do not touch, do not accumulate and rarely connect on specific nodes since they do not work through accumulation or increase, but they do work through *juxtaposition of its parts* (Fig. 8.9). That is, the circulation space does not primarily focus on building continuity, it rather focusses on building density, density capable of shortening times and redefining perceptions of distance. Density capable of providing infinities of access points to the mobility network. However, this redefinition of distances is not only connected to density, it is also closely bequeathed to the technological increase that each new infrastructure layer adds to the system. Navigation, vehicles, trains, high-speed trains, intercity track, each one contributes to increasing the speed of transport and with that increasing the circulation potential. That is, thanks to this highly technician and dense circulation space, the Delta, despite continuously expanding its reach, feels smaller, more domestic and controlled every day.

8.9 | *Infrastructural juxtaposition in Zhaoqing. Samuele Pellecchia. 2017*

8.3 To whom does infrastructure respond?

"Inevitably and unavoidably, infrastructure fundamentally changes the original situation of a territory. While establishing a connection, it produces a rupture […] infrastructure often isolates by constructing barriers […] the intrusion of the machine into the natural, bucolic landscape challenges the ecological balance and the beauty of the scenery."

(Shannon & Smets, 2010, p. 52)

"One person's infrastructure is another's difficulty"

(Graham, 2010, p. 13)

The fact that the mobility infrastructure is so deeply used as a political tool for the construction of a solid administrative unit raises the question of to whom does this circulation space answers? Who is it for? What spaces does it include and what space does it ignore? Based on what factors?

It is clear that the infrastructure, in any of its forms is much more than a collection of the technical objects that work together to build a system, it is also a strong political tool that in its materialization involves the construction of connections for ones and barriers for others (Graham, 2010). That is, behind all infrastructuralization of a territory the built network tends to privilege some spaces, users and interests over others, thus being a strong driver of both social, economic as well as political interests.

However, this potentially strongly ideologized infrastructure is not ethereal, it is rather composed of actual physical stuff that cannot be reduced to a mere discursive dimension (Amin & Thrift, 2016), that is, it is not enough to stop analyzing the meanings and guidelines that certain projects may have, it is necessary to take a further step and see how these ideological intentions are reflected in space. Indeed, the intention behind the large-scale capital-intensive infrastructural projects that have given shape to the territory of the Delta is, as discussed before, an intention of integration. But integration of what? Of whom? With what purpose?

It seems that the answers to these questions are clear, the *Outline Development Plan for the Greater Bay Area 2019-2035* answers them very transparently; integration of productive and economic poles, traffic integration of people operating as commuters; all with the aim of building a globally competitive unit capable of being at the level of the largest global regions in the world. Nevertheless, precisely what does that mean? In a nutshell, it means that to the state, which is the main actor behind the infrastructuralization of the Delta, the goal is building a highly efficient and highly hermetic infrastructure system. That is, a circulation space created and designed to achieve the unique objective of "global like" regional integration. As a consequence, spaces and places that do not contribute or are not considered potential future suppliers to that goal are bypassed, ignored, and neglected by the state's massive infrastructure projects. Referring to neglected spaces does not mean that in them the presence of physical infrastructure is not evident, since infrastructural indifference can also be manifested through the paradoxical scenarios of distinction, a distinction where the strong infrastructural presence is evidenced by the lack of accessibility to it (Easterling, 1999).

8.10 | *Efficient and hermetic mobility system in the PRD. Greater Bay Area. 2017*

In the case of the Delta, the neglected spaces correspond to the rural areas. Indeed, each of these monumental axes of infrastructure represent a kind of barrier for the "rural" space of the Delta, and in the same way, a straightforward declaration of exclusion. In fact, the hermetic characteristic of this system, manifests itself not only at the level of accessibility or functionality, but it also has a robust spatial relapse. Highways cross the rural land as large impenetrable axes, railways appear on the rural space as floating structures apparently leaving the latter untouched. Indeed, the circulation space highly operates from the altitude, almost as overlooking everything below it and, therefore, repeatedly leading to the creation of self-referential objects[16], capable of attracting attention and capable of working from the absolute disregard of local context (Fig 8.10). Indeed, in rural areas, the massive regional infrastructure works under a sense of detachment that reveals the indifference and even remoteness from their immediate surroundings, therefore, even if the mobility network is developed to serve mobility needs, it solves the needs of the large productive, logistic and economic centers, while undermines rural settlements and practices (Ma, 2014; Ng & Jiang, 2014).

In the Delta, this situation is undeniable, while a simple aerial image shows how the infrastructure network barely touches the rural land, and when it does, it does so in specific and subdivided points; an image from the ground shows how space is continuously interrupted by the rear parts of this infrastructure. That is to say, besides ignoring these rural spaces, the regional infrastructure produces in them a complete collection of leftover spaces along its fringes. Bits and pieces of abandoned in-betweens that progressively build a non-place of dispersed urbanity. As a consequence, within these rural spaces, infrastructure or rather the lack of access to it becomes an accelerator of inequalities.

While the "potentially global" areas have redundant means of transport routes and circulation speeds at their disposal (Fig. 8.11), neglected rural spaces conform to the fractured local connections that remain at ground level, to the new leftover spaces that this suspended infrastructure network leaves on the ground, and to the restrictive means of transport allowed by existing minute mobility spaces, namely bicycles and small motor vehicles (Fig. 8.12). Operating under these conditions means that within spaces outside the regional circulation space, transiting is becoming increasingly tedious, as it is not only necessary to overcome the natural distances dictated by geographical location, but is also necessary to overcome the barriers and obstacles that the supposed global city implants them on the ground. That is, while regional integration uses infrastructure to redefine distances, to "compress" the Delta and to make it feel nearer, more domestic and accessible, it actually expands it and moves it away from the spaces and habitants that are at the very base of it.

8.11 | *Highspeed train crossing rural lands in Zhaoqing. Samuele Pellecchia. 2017*

8.12 | *Bicycles in the fragmented rural roads of Zhaoqing. Samuele Pellecchia. 2017*

Notes

1 In fact, many of the contemporary urban theories, especially those derived from understanding the urban from a global perspective, define the importance and relevance of a city based precisely on its level of connectivity with the rest of the world. Connectivity measured in the form of flows, money, goods, people, industries, among others.

2 This connectivity can take many forms. It can be visible, invisible, permanent, ephemeral, material or immaterial, it does not matter, the important thing is that it allows people, vehicles, trucks, goods, services, and any other element with moving capacity, to easily flow, to move from a place to another, to become mobile and to circulate (Amin & Thrift, 2016).

3 See (Rodríguez-Pose, 2011; Scott & Storper, 2015)

4 For instance, Zhaoqing Municipality locates it newest technological area 20 kilometers away from the Zhaoqing New Area and over 45 kilometers away from the historical city; Guangzhou locates its new university town in a island 15 kilometers away from its center; and Foshan locates its newest residential district 25 kilometers to the south of its center.

5 The set of Guidelines stablished 26 pairs of new industrial relocation parks mostly correspondent to the external and less developed areas. Indeed, according to (Li & Fung, 2008) the original location of the industries where Foshan, Shenzhen, Guangzhou, Dongguan and Zhongshan, while the recipients of the relocation are Zhaoqing, Huaiji, Qingyuan among other peripheral cities of the province.

6 Cost production has increased mainly due to the rise of labour cost, shortage of labour, and the more stringent requirements to provide employees with various types of social security, working hour limit and overpay time. For instance, in Dongguan and Shenzhen, two of the most productive cities of the Delta, the average minimum wage doubled between 2002 and 2010, causing local entrepreneurs to acknowledge that if they stay within the core of the Delta, they cannot longer compete on low prices (Yang, 2012).

7 For instance, average land princes can vary from between 240.000 and 350.000 yuan/mu in cities like Guangzhou, Shenzhen and Dongguan, to between 100.000 and 170.000 yuan/mu in outskirt areas of the PRD such as Zhaoqing or northern lands. Equally, construction cost can vary from 1100 yuan/m2 to 450 yuan m2 depending on the location (Yang, 2012).

8 Although China today has the most extensive infrastructure network in the world, the country was a relative latecomer. In 1911 despite the large area, the country had only 9,000 km of railways. Since then, driven by the progressive policies of Deng Xiaoping, the mobility infrastructure has been considered as one of the main engines of economic growth, stability and connectivity.

9 For instance, the rail density of the PRD is two times higher than the density in the Yangtze River Delta and one and a half time higher that the Beijing-Tianjin-Hebei (Chen, 2018).

10 Indeed, thanks to the early railway presence, this area turned into a continuous urban corridor with great economic efficiency, since goods where produced in Guangzhou, or Dongguan or Shenzhen, and then were directly exported from the open ports of Hong Kong. An efficient system that sharply unbalanced the weight of the eastern and western areas of the Delta and that still today represents the most circulated corridor of the area.

11 Indeed, after the opening in 1988 of the first river-crossing bridge located in the south channel of the Delta, particularly between Guangzhou and Panyu, the number of bridges in the PRD has reached over 15.000 bridges covering a total span of over 2.200 km (Guangdong Statistical Yearbook, 2018). This fact gave green light to the proliferation of highways and vehicle transportation means, therefore the extensive web of minute rural path started to evolve into large infrastructural axes capable of crossing large distances and overcoming the

dependence of big cities. This translates into the incorporation of small and medium-sized cities into the mobility network, thus distributing population growth and participation in the economic dynamics of the region in a slightly more uniform manner.

12 Namely the Guangzhou - Foshan - Zhaoqing metropolitan area, the Shenzhen – Dongguan – Huizhou metropolitan area and the Jiangmen – Zhongshan – Zhuhai metropolitan area.

13 For example, within the area of Zhaoqing, the extension of the intercity railway, the advances of high-speed trains, the expansion of highways and the internal road system that connects urban developments with each other are built contemporarily. Similarly, at regional level, parallel progress is being made with the construction of intercity railways - so far only four lines are operational, including Guangzhou-Foshan-Zhaoqing, opened in 2016 -, expansion of internal and external highways, and multiple large -rives cross projects that seek to balance and integrate the eastern and western side of the delta, such as the Nansha bridge, Shenzhen-Zhongshan bridge or Hong Kong Zhuhai Macao bridge (See page XX)

14 This temporary isolation of the new station with its immediate context becomes evident when visiting the area. It is enough to take a train to arrive in less than 40 minutes from Guangzhou South to Zhaoqing New station, however it is necessary to take two buses and one taxi to arrive in much more than an hour from the New station to the center of Zhaoqing.

15 Indeed, since the start of operation, travel times by car between Hong Kong and wester cities has been considerably reduced, this represents an important improvement since number of private vehicles in the Pearl River Delta is strongly increasing, and transportation by car is the most popular mode of transport of the area (Yang, 2012).

16 Two of the main characteristics of the last major infrastructure projects that have been built in the delta are precisely “beautification” and the ability to serve as “magnificent references”. This means that somehow the visibility of these, attempts to impose a landscape dominated by mobility, where each of the elements functions as a monument of mobility and as glorification of infrastructure (Shannon & Smets, 2010).

Chapter 9

Built environment: a continuous dissolution of borders

"The 21st-century metropolis is a chameleon. It shifts shape and size; margins become centers; centers become frontiers; regions become cities"

(Roy, 2009, p. 827)

Perhaps one of the most visible and outstanding characteristics of a large city-region like the Pearl River Delta is its heterogeneity. In a single 80 kilometers and 60 minutes high speed train ride from Guangzhou to Zhaoqing, is possible to repeatedly enter and leave a central business district, very dense urban areas, industrial areas, agricultural areas, a rural villages, a new towns, high and low-density suburbs, university towns and many others urban-like forms. All by passing through a collection of rivers, canals, fishponds and infrastructural meshes that in one way of the other seem to tight everything together. The area is so richly filled and saturated that is difficult to clearly define in which type of space we are. It is no possible to identify administrative borders, it is no clear where one city finishes and another one starts, is never possible to assure being outside the city. Every seems to be so urban, so rural, so blurred and combined that after a while looking through the windows everything seems to be just the same and the Delta's space becomes an infinite extension of *homogenous heterogeneity* that is difficult to grasp, to define, to delimitate and above all to label.

Based in the conditions of the Delta, this chapter tackles its intrinsic heterogeneity, density and progressive saturation of the place as a continuous dissolution of borders between urban objects and areas. The strategy for doing so is approaching it under three entrée points. The first one uses the suburban expansion of Delta as a test ground for inquiring the collection of urban fragments that compose the area. In that sense, it focuses on acknowledging the spatial richness of the built environment that connects the main cities of the Delta, all while understanding what is this endless urban like space made off, how is it organized, how is it changing and according to what logics. The second entrée point focuses on stressing the productive machine as a diffuse productive area that seems to

infinitely expand and stretch. In particular this point addresses the persistence and adaptations of neglected productive activities and practices that mushroom across the space exploding every land at their disposal, therefore assuring that every meter can count towards a productive space. Finally, the third entrée point focuses on what urbanization leaves behind, that is, the spaces that the advancement of urbanization rather ignores, discards, or unintentionally creates. In that sense it inquires how these are spaces temporarily cough within the loop of becoming urban, trapped within a lethargy state, waiting to be transformed and to be part of the inhomogeneous mesh that covers the Delta. To do this, instead of seeing these spaces as negative residues, the objective of this point is to see them as potentialities and as spaces that in just a matter of time will become something else.

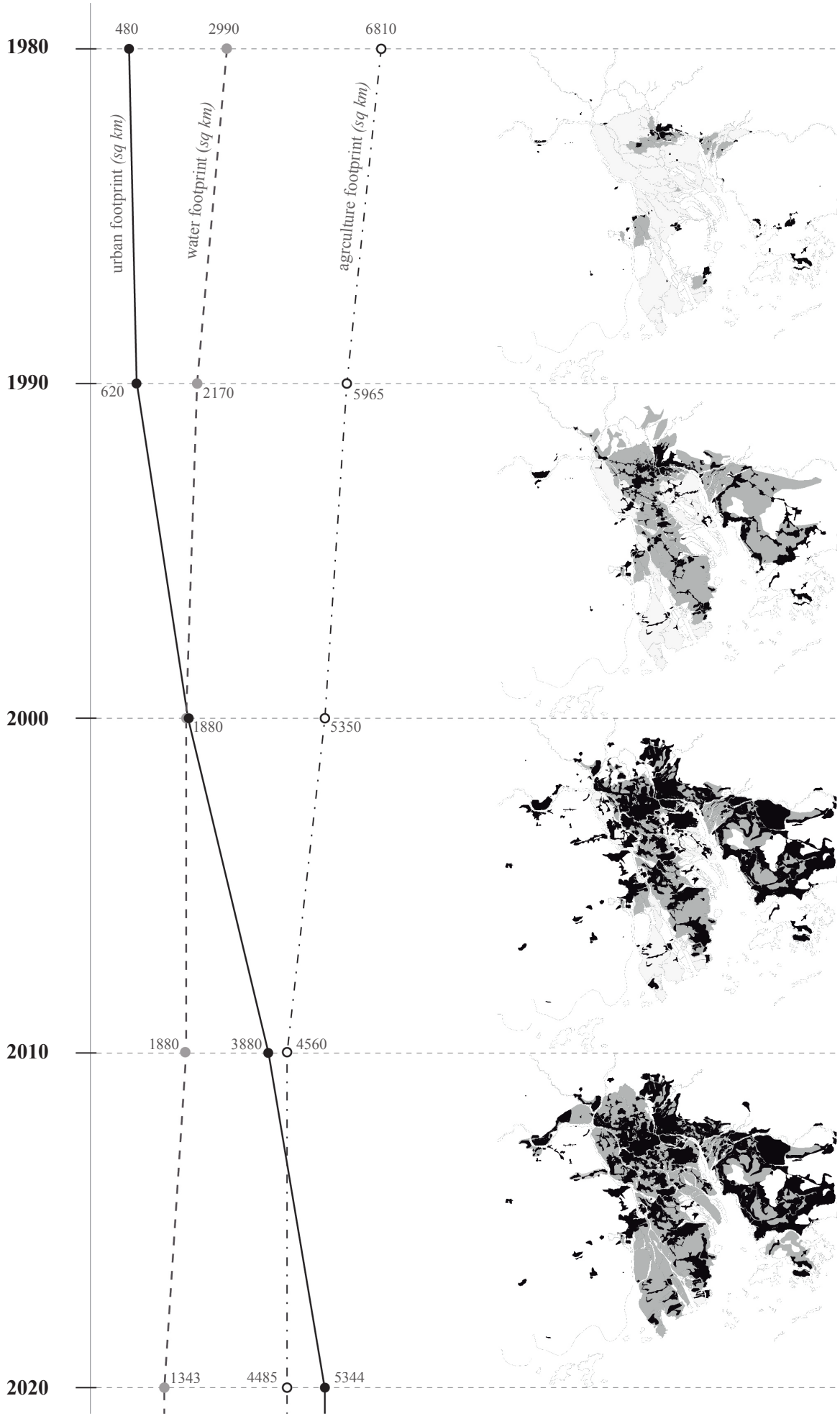
9.1 Disarranging suburban heterogeneity

Within the Pearl River Delta, it is safe to assure that everywhere and everything is progressively urbanizing[1]. Certainly, at different speeds and following diverse paths and forms, the whole territory seems to be gradually moving towards a clear urban destination. One that sees every available space as a potential urban resource capable of expanding the reach of the urban without following particular rules, distinctions or logics. Indeed, in the Delta, urban areas indiscriminately expand in every direction merging cities together, bypassing administrative borders, challenging the proximity to the city and rebalancing centers, peripheries, and hinterlands to the point of creating a never-ending urban mesh that on daily basis challenges the idea of a sharp urban/rural dualism and leaves everything beyond this dual categories as a grey area uncapable of being labelled and regulated[2].

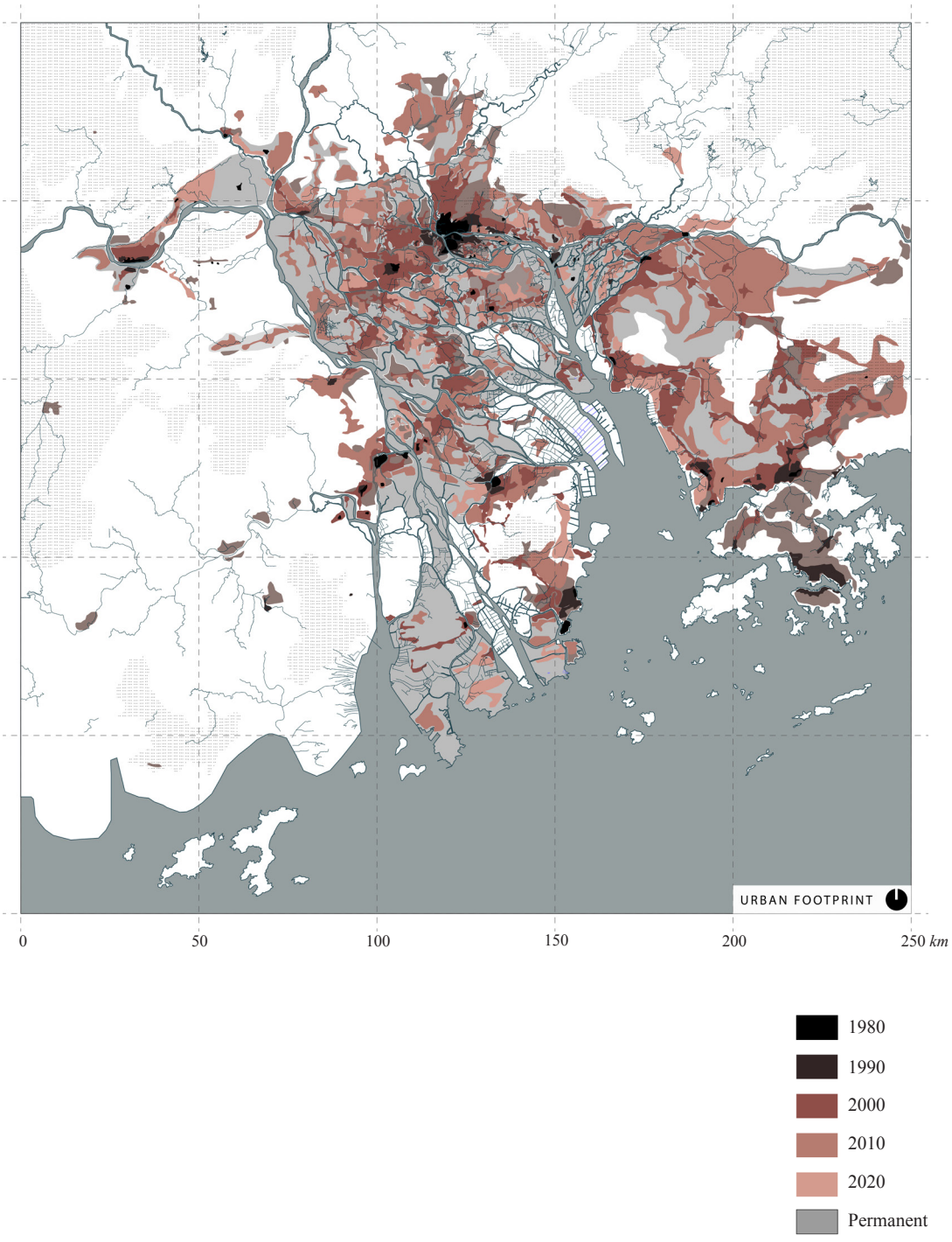
Scholars have often referred to this extensive grey area as suburban space (Ren, 2013; Shen & Wu, 2013, 2017; Wu, 2015), however acknowledging that due to the sharp urban/rural distinction that in China emerges as a political and institutional complexity, this suburban space is indeed complicated to understand, as additionally, in opposition to other Western contexts, it is not characterized by residential settlements ruled by low-density, demographically homogenous middle class (Beauregard, 2006), but instead is a space ruled by heterogeneity and incongruities, and occupied by great variety of inhabitants.

Taking inspiration from the notion of exopolis presented by Soja (2000), the suburban landscape of the Delta seems to respond to the logics of a "social and spatial organization of the post metropolis that seems as a result to be turning inside-out and outside-in at the same time, creating havoc with our traditional ways of defining what is urban, suburban, exurban, nor urban, etc. "(Soja, 2000).

Indeed, the Pearl River Delta is just that, continuous dissolution of borders between what we call urban and other characteristically «urban» qualities. Despite the strength that this ambiguous suburban space reflects today, its presence is a recent phenomenon that emerged as result of the combination of the rapid urban growth that the Delta, among many other Chinese cities, has experienced in the past two decades, and the introduction of institutional changes since market oriented reform[3] (Shen & Wu, 2013). These institutional changes weakened the austere city borders and allowed an extensive and rapid expansion. Indeed, this trend is very visible when visualizing the evolution of the urban footprint in the Pearl River Delta during the past thirty years (Fig. 9.1). If in the early 1990's the area was still characterized by compact cities scattered around the territory without any apparent physical connection, since the 2000's hinterlands and surrounding rural areas have been transformed into a semi continuous agglomeration characterized by a tremendous socio-spatial heterogeneity (Governa, 2019).



9.1 | *Evolution of the PRD urban footprint between 1990 and 2020*



9.2 | *Built environment of the PRD in 2020*

A heterogeneity that expands omnidirectional, extensively, and possesses at the same time such a density and juxtaposition of typologies and uses, that can at glance be seen as a homogeneous never-ending urban spread (Fig. 9.2). But there is nothing homogeneous about it. Within this sea of elements that seem to float in no apparent order, infinite landscapes are formed that respond to entirely different and even contrary logics. Technological and industrial areas attached to new middle-class villas, rural villages resisting next to vast developments of high-rise apartments, university campuses enclaved within agricultural extension and a continuous urban expansion that recurrently shift between urban and agrarian landscapes. These are all the contradictions that compound the suburban space of the Pearl River Delta, as a space that is indeed characterized by great level of density, dynamism and economic power. Indeed, Shen and Wu (2017) considers it the new "space of capital accumulation"; and the commanding element of an emerging geography of employment and economic activity that is not entirely tied to city centers, but that instead creates it owns polycentric structures capable of working within the rich and dense network of mobility and housing that stretches outside city cores.

Different scholars have argue how behind the emergence of this suburban space there are two influential factors, first the evolution from a passive government led process to an active market-oriented process (Feng et al., 2008), second, a renewed desire of pursuing livable environment outside of congested cities (Shen & Wu, 2013). Indeed, it can be said that suburban spaces in the Delta have resulted from a "commodity housing development" (Wu & Phelps, 2011, p. 414) that in addition to suburban infrastructure and local industrial projects have manage to turn neglected outskirts and peripheries into appealing suburban areas capable of accommodating a multiplicity of residents in particular types of settlements.

Overall, there can be identified three main groups of suburbanites that can be recognized according to their origins: local natives, migrants from other places and residents from the cities (Shen & Wu, 2013). First, local natives, mainly consisting in farmers, have been caught within rapid urbanization and industrialization of the countryside, regularly been compensated by land circulation processed where collective land becomes property of the local state. Within the process many families move to commodity houses in nearby townships or new towns (Fig. 9.3), however with a strong disadvantage moved by lack of education and discipline outside the nonagricultural sector. A disadvantage that results in the emergence of mainly elderly farmers trapped in poverty status, which attempt to continuing carrying the agricultural actives they have always practice in brand new urban spaces that are neither prepared nor planned to supports this agricultural activities (He et al., 2009). This issue results into contradictory scenarios where personal crops are stablished between old rural villages and new residential areas.

Second, migrants from other places, specially from other rural areas

are attracted to the spreading new suburban manufacturing and employment subcenters encouraged by industrial restructuring and rapid economic growth. These newcomers can again be separated in two groups. A first group consisting in migrant workers mainly concentrated in the manufacturing sector, which have limited access to the housing market due to limited economic conditions, therefore they tend to concentrate in low-cost private rental houses scattered through the urban peripheries and in proximity to their working sites (Feng & Zhou, 2005). The second group consists on migrants that instead of being attracted by the opportunities offered by the manufacturing sectors, are attracted by the service sector concentrated in cities. These migrants come with a relative advantage as they come with educational background and well stablished access to the labor market. Therefore, these professional migrants [4], often in necessity to rapid access to city centers, tend to locate in owned cheap commodity houses on the urban edges as practical solutions for efficient and rapid commuting to their destination cities (Fig. 9.4).

Third, residents from other cities and from central districts are increasingly supplanting their residence in the city by better housing conditions in the suburbs, since as Davis (2000) highlights, Chinese population is experiencing a consumer revolution. A revolution that translates into the fact that people has become active urban consumers seeking for improved lives through housing and domestic consumption. Indeed, the idea of a suburbia made of marginal locations and neglected peripheries has changed for an image based on high profile projects such as high-end gated communities, industrial parks and shopping centers that do not settle for a single predefined typology, but that are rather heterogenous and even exuberant as the more that often recreate ostentatious, decorative and "western"-style forms and typologies (Bosker, 2013; Wu, 2010) (Fig. 9.5). These inhabitants are the mayor motors behind the success of the Delta's suburbanization because they manage to maintain active the real state machine that operates from the background. Indeed, these spaces and users represent the most evident expression of the demand for capital investment that is investing not only the Delta, but overall China (Shen & Wu, 2013), since for homebuyers, these dislocated "high end" properties have become "an opportunity for speculation and primary store of wealth" (p, 1827). Indeed, numerous middle-class families compete to purchase second and third houses in these suburban areas as a strategy for facing inflationary pressures[5].

Above all, these three housing demands are the reflections of different necessities, opportunities, situations, and conditions that produce and collocate in, radically different spatiality and urban like objects. Creating therefore a heterogeneous suburban world that extends across the whole territory of the Delta.

9.3 | *Housing for local natives in Zhaoqing. Samuele Pellecchia. 2017*

9.4 | *Housing for urban migrants in Foshan. Samuele Pellecchia. 2017*

9.5 | *Housing for residents of other cities in Zhaoqing. Samuele Pellecchia. 2017*

9.1.1 A saturating collection of urban fragments

When talking about the suburban expansion of the Pearl River Delta, it is not possible to talk about a continuous or lineal expansion that transitions rural into urban areas in an organized, uniform or radiating way. There is not an epicenter from where urbanity exudes, there is not a direction of expansion, nor a place of origin. Instead it is possible to talk about a suburban expansion constructed through the emergence of urban fragments scattered around the territory in what at first glance seems to be aleatory order. Indeed, a complete collection of urban fragments has progressively emerge densifying the available space to the point of progressively saturating it. Gated communities, high-rise housing, institutional axes, landscape projects, new towns, industrial areas, ports, and many other pieces of urbanity compose what can be defined as a patchwork urban space. One that behind its apparent homogenous and uniform façade, hides nuances and fragments that isolated represent purposeless urban enclaves, but combined, therefore connected, represent a powerful urban machine capable of combining contrasting and proximate urban objects in a successful way.

Even if there are some large-scale rules and policies mostly dictated by the regional development plans presented in the third chapter of this thesis, the multiplicity of urban fragments that construct the Pearl River Delta can be interpreted as almost independent fragments capable of dictating their own rules of finance, citizenship and production. In that sense they operate under the logics of what Koolhaas (2001) named enclaves, Easterling (2014) refers to as zones and Bolchover and Lin (2013) interpret through the use of the word village. That is, as pieces of urbanity that when put in relation to their surroundings, produce a chain of paradoxes, collisions, contestations, synergies and relation that mostly emerge from a pure notion of contrast. Indeed, when looking at the urban objects of the Delta, it is possible identify an indeterminate amalgamations of it parts, their point of contrast and the abrupt difference between one space and the other. It is however possible to provide an initial and partial categorization of this collection of fragments, one categorization that recognizes the infinitive typologies and processes behind each apparent similar space, and therefore one that does not attempt to organize every component of the Delta into fixed and bounded boxes, but only attempt to offer an interpretative key, or a point of access to understanding how this fragmented suburban space is constructed.

Following this interpretative exercise is a useful activity since it helps re interpreting and re learning about many types of spaces that we have seen elsewhere, in different contexts, times and under different lenses and goals. However, looking at them in the Pearl River Delta adds a particular level of understanding, since these are not spaces that replicate elsewhere logics, but these are space that combine what has been done elsewhere with the rural past of the area. In that sense, the fragmented suburbanization the next lines scrutinize is a result of a process of urbanization tied directly to the rural origins of the place and to the global ambitions of the region. It responds to rural logics and traditions while coping with global aspirations and demands. Therefore, it is a space that showcases numerous irrational and unpredictable adjacencies. For instance, travelling thought the Delta it is possible to find informal settlements next to formally planned commercial blocks, abandoned houses next to new high-rise towers, farmland next to golf courses and heavy industries (Fig. 9.6), fishponds next to cutting edge technology factories, educational centers next to never-ending construction sites. All fragments that evidence the diversity within this area, and all fragments born under distinctive forces and conditions worth of understanding.

In particular these fragments cope with two main conditions, first the idea that they are strongly distinguishable among each other, and second, the idea that they occupy the available space they find on their way. In that sense they can be distinguished as *continuative urbanity, service urbanity, new status urbanity, productive urbanity, and contested urbanity (Fig. 9.7)*.

9.6 | *Contrast between farmland, housing and heavy industries in the PRD. Samuele Pellecchia. 2017*

Continuative urbanity. These spaces represent the most traditional expansion of the generic, formal city. In that sense they replicate the same agglomeration logics that started the evolution of the area. They locate within the fringes of the consolidated cities and therefore depend on an interlocked relationship of codependency where the fragment needs the power and dynamism of the city, and the city need the space and innovation of the fragment (Bolchover & Lin, 2013).

Service urbanity. Suburban space has become the potential space of the PRD. It has been empowered both by the presence of infrastructure as by the presence of service spaces that besides sustaining urban operation outside city center allow the dynamism and reinvention of activities to be carried out. In some cases this represent the new spaces of the Anthropocene (Bedir & Hilgefort, 2019) as they allowed the dislocated presence of robot labs, battery factories, E-commerce villages, technological supply chain and post-human landscapes destined to work as the platform of global and local logistics.

New status urbanity. Through the construction of a new type of suburb, it is possible to materialize a new social status and new social aspirations. Indeed, the presence of property island often demarcated, walled and securely segregated from their surrounding context is the materialization of the new middle-class status in the Delta. Separated from the rest of the settlements and connected to the city through the increasing availability of private car, these represent a response to a demand of improved lifestyle, a demand that by replicating western styles, following the development of villas and introducing high status urban elements into the suburban space, have transformed it into a new real state experiment site (Shen & Wu, 2013).

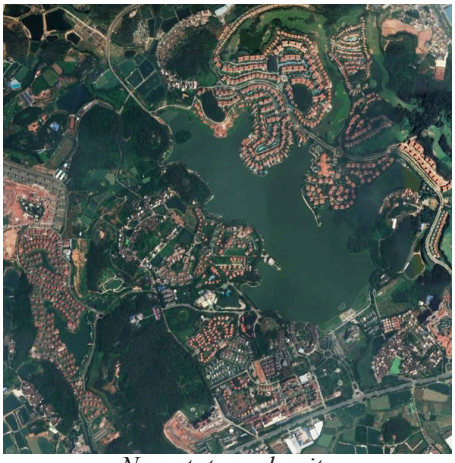
Productive urbanity. The fact that the PRD became known as the Factory of the World resulted from an extensive productive urbanization linked to industrial logics carried out in small scale. Indeed, the Delta cannot be identified as the historical industrial cities of Manchester or Detroit, since its productive forces cannot be linked to the presence of massive industries. Instead, the productive power of the Delta is linked to the addition of multiple interconnected productive units scattered around the territory in form of mesh. Mesh that is further inquired in the section *Stressing the productive machine.*

Contested urbanity. These are the result of loopholes within policies, plans, developments and intentions; Indeed, these are the spaces that are yet to be transformed but that are already surrounded by transformation. In a sense these represent the contestations, point of contrast and of inequalities that will be further explored in the section *What the urbanization leaves behind.*

Continuative urbanity

Service urbanity

Productive urbanity



New status urbanity

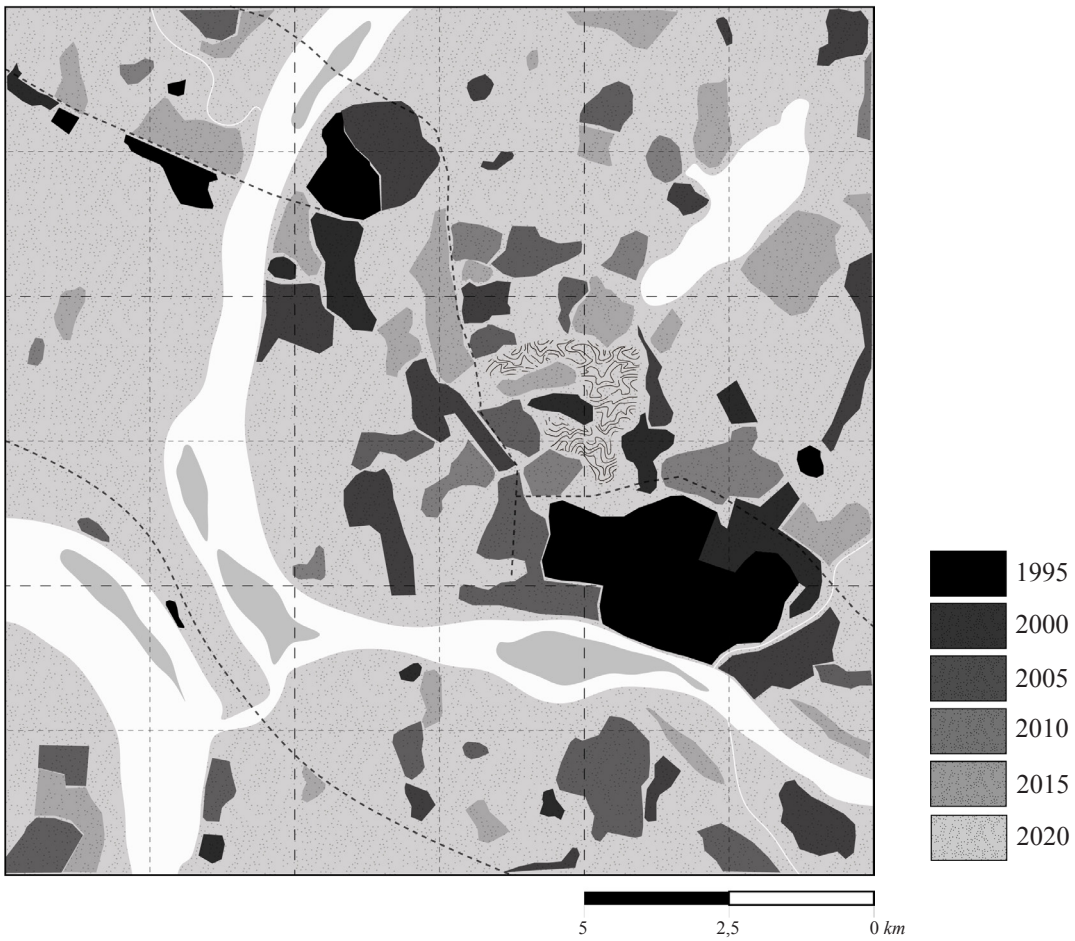
Contested urbanity

9.7 | *Urban fragments within the Pearl River Delta.*

Overall, these fragments even if each responds to its own logics and to its own strategies, all together are intentionally or unintentionally working toward a progressive saturation of the available space. If once the expansion of the Delta was mainly directioned towards expanding its reach, today these fragments of urbanity are not pursuing further reach, but they are pursuing further density and further internal connectivity by occupying and adapting every available space they find on their way.

This overall goal is clear when observing the situation of Zhaoqing in relation to the rest of the Delta. If the city has been historically separated from the central agglomeration by extensive land of agricultural use, with the construction of Zhaoqing New Area the situation is changing. The new town, which can be considered as a fragment of the *new status urbanity,* places itself in the only large remaining available space of the central Delta, and together with it, it attracts a brand-new collection of smaller urban developments that operate as urban parasites, attached and taking advantage of the dimensions and relevance of the new town.

Indeed, the peripheries of the Zhaoqing New Area and the infrastructural axes that connect it with its surrounding are being carefully escorted and followed by residential and commercial constructions that by occupying the space attempt to mimic the logics and esthetics of the new town (Fig. 9.8). Just as the historical



9.8 | *Progressive saturation within Zhaoqing municipality.*

centers of the Delta "exploded" in the early 1990's, now in 2020, due to space shortage this urban explosion has shifted toward the peripheral construction sites.

Indeed, the internal available spaces within the Delta are rapidly turning unavailable and within that process the solution has been to expand the peripheries. But until when? When will this expansion stop? Perhaps it will be a never-ending expansion, but for sure it will first pass through a spatial saturation of the area.

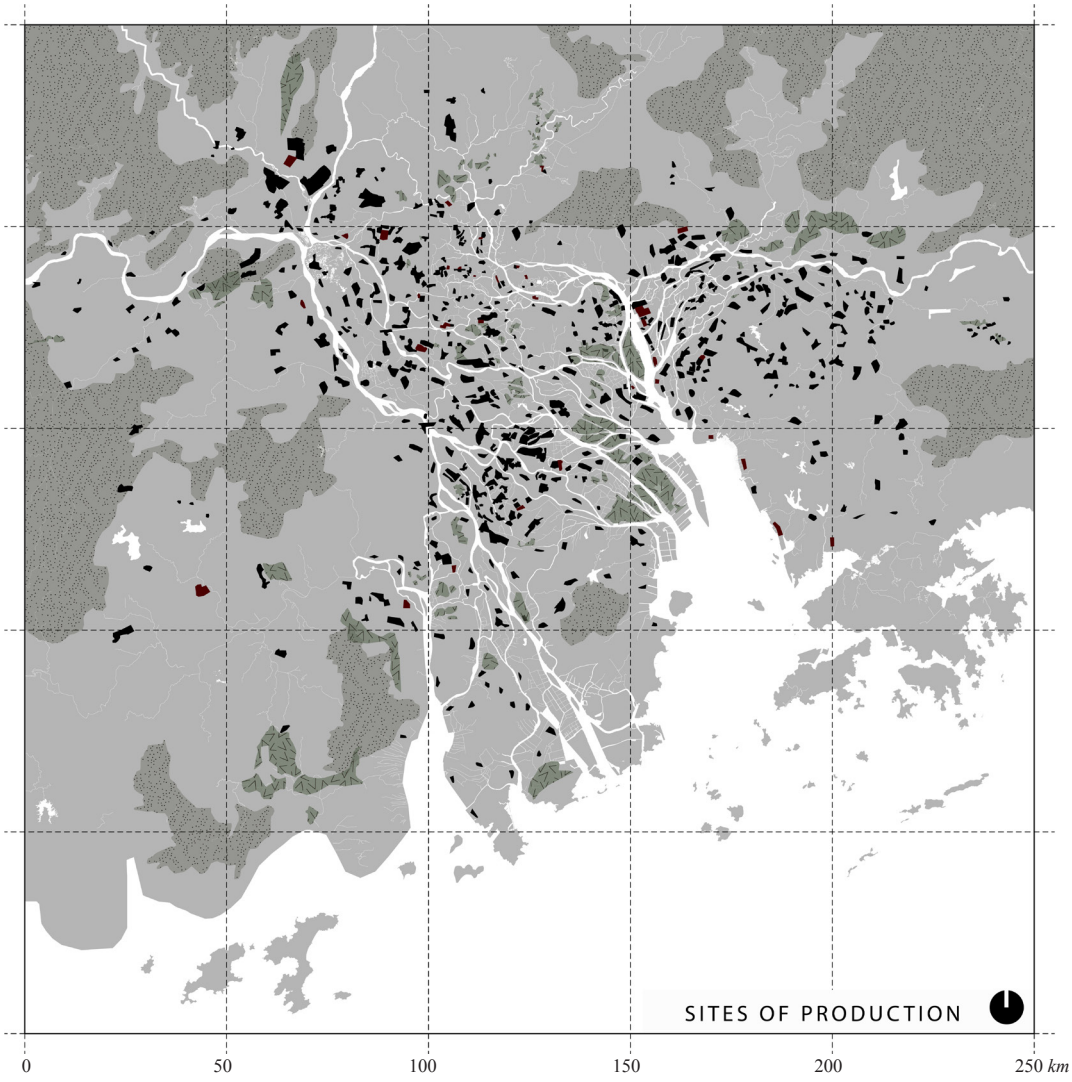
9.2 Inquiring the productive machine

If the residential areas can be considered as the most relevant contemporary motor behind the suburbanization of the Delta, its productive side was the initial detonator of such suburbanization. After the industrial production took hold in 1978 and global and national industries relocated to the Delta to take advantages of the attractive conditions offered by special economic zones, abundant resources, cheap labor and financial incentives, many of the existing local villages mainly destined to agricultural production were transformed and interested in industrial production (Wu, 2015). This industrial interest transformed dispersed local villages into industrial villages[6] that catalyzed in a vast ranging of small-scale productive entities, inter industrial village networks and medium productive compounds that produced the many plastic toys, shoes, buttons, domestic appliances, furniture, and computer bit that resulted in the recognition of the place as the World's Factory (Bolchover & Lin, 2013). This productive emergence resulted in the abundance of available labor that infused by the entrepreneurial nature of the area (Hanru & Obrist, 1997) was not concentrated in and specific area, industry of sector, but instead it was a large labor force built by the existence of many minor productive sites. Minor productive sites that where distributed across the whole extension of the Delta and that manage to attract masses of migrants to the hinterlands of the Delta.

This characteristic of production based on small productive centers is maintained today in the territory of the Delta. Indeed, the productive sites mushroom all across the area offering small variations in the scale of production but large variations in the product that are being produced (Fig. 9.9). From high end electronic devices promoted by the idea of turning the Pearl River Delta into a world-class innovation center, to mass production of low value items flooding the world, to agriculture goods aimed at feeding local and distant populations, the variety of productive nuances of the delta is reflected in its spatial distribution. The expected space of the variegated industries of the Delta are its hinterlands, a category that has been traditionally neglected by the studies of the area focused in the large cities[7]. Indeed, it is difficult to find sites of production of any sort within the consolidated cities of the Delta, these are rather located in between rural areas (Fig. 9.10) and surrounding new urban developments of the peripheries (Fig. 9.11).

In their study of the ongoing transformation of the Chinese countryside,

Bolchover and Lin (2013) map the location of this productive sites within the area, they define them as “factory villages” and argue that the main characteristics of these settlements is the diversity of industries that this areas catalyze.



9.9 | *Sites of production in the Pearl River Delta*

9.10 | *Dispersed sites of production in the PRD. Photo by the author. 2018*

9.11 | *Concentration of production and commerce in the PRD. Photo by the author. 2018*

Despite being born from a great diversity of production, their spatial relapses are much more restricted. Indeed, productive areas can be initially grouped in four main spatial forms. First, compact and specialized industries, mostly dedicated to the extraction and manipulation of raw material or chemical processes, these are commonly located within the shores of water courses and considerable detached from any other urban settlement, taking advantage of the presence of the infrastructure to connect to the productive system and regional markets.

Second, amalgamation of anonymous warehouses dedicated to the mass production of low-end goods. These areas mostly located at the peripheries of consolidated cities or as annexes of local villages are the most direct evolution of the township and villages enterprises (TVEs) that emerged after the economic reforms and exploded in the early eighties[8]. Indeed, these amalgamations are particularly heterogenous as they can be formed by a small group of local industries dedicated to the particular production of one good, or that result in large scale gated compounds containing over 300.000 workers and combining production facilities with workers dormitories. As highlighted by Bolchover and Lin (2013) these are still today the most common productive entities present in the area of the PRD, nevertheless, at the same time they are the most difficult to identify in a spatial dimension since they are interspersed within patchworks of factory compounds, villages, and housing developments covering the area of the Delta.

The third spatial relapse of this productive diversity consist on the presence of technological industrial parks. If the productive agglomerations mentioned before are a product of entrepreneurial activities under state guidance, the industrial parks that have emerged in the Delta in the past fifteen years can be considered as the result of partnerships between private enterprises and local governments attempting to increase land revenues and driving regional development through the construction of industrial hotpots. Indeed, these industrial parks are the result of plans carefully designed by the municipalities in order to prepare a land ready to attract small and medium industries under preferential economic policies and treatments. Consequently, these parks are generally located as independent fragments of the cities that host them and rely heavily on mobility systems to remain connected to them. Arriving to assume the dimensions of a true and own small city, these function internally as independent entities, where it is not only possible to work, but also under limited conditions, it is possible to live, and carry out a social life.

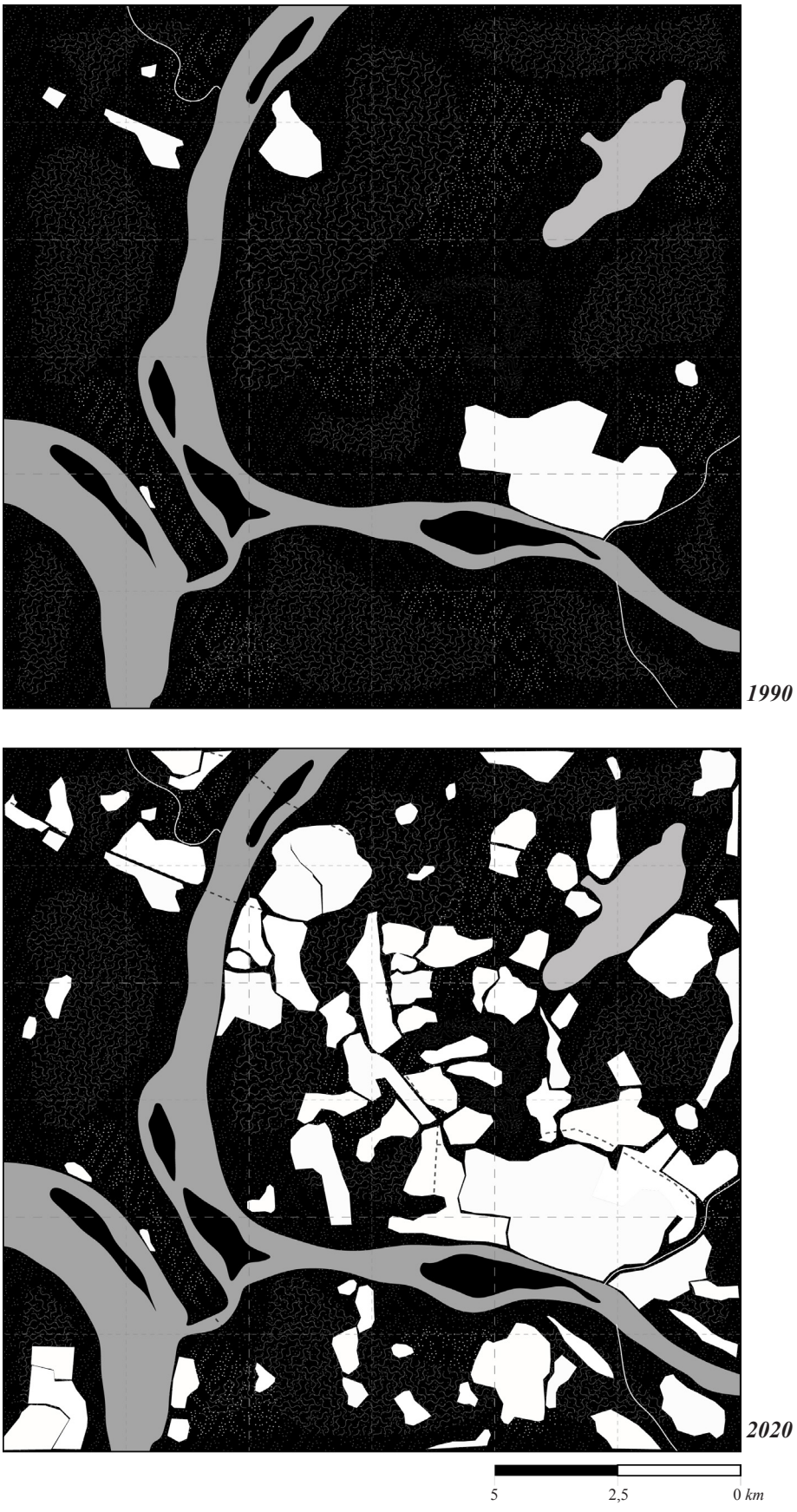
Finally, the fourth relapse of this multifaceted productive machine consist in the rural and agricultural production of the area. A sector that despite having been at the center of the productive capacity of the area since the beginning, today it can be considered the less regarded productive space, the most taken for granted space and paradoxically the productive space with the largest risk of being reduced to the point of disappearing. Issues that are addressed in the next section of this thesis Every meter counts to production.

9.2.1 Every meter counts to production

Although the productive, and therefore economic past of the Delta is closely linked to its agricultural capacity, today the situation could not be more contrary. While industrial and manufacturing areas conquer land; agricultural areas lose it at exponential speeds. In fact, despite being a much more invasive, permeable and extensive production system, this agricultural production nowadays goes almost unnoticed due to its high fragmentation.

The idea of crop fields that extend infinitely and that are interrupted only in the presence of urban or industrial centers is a thing of the past. Now the fields of cultivation and the agriculture practices and productions are increasingly cornered by the success of urbanization and industrialization. This cornering has led to agricultural areas not only reducing their size[9], but also fragmenting into pieces. Thus, becoming productive areas that largely go overlooked as they blend into the remaining "natural" and "rural" landscape of the area. Indeed, as mentioned before, it not possible to consider these agricultural spaces as pure rural or not urban areas. Quite the contrary, they belong to the spatial heterogeneity of the urban PRD. In that sense some fragments of this agricultural production could indeed be interpreted as a new type of urban agriculture that challenges the idea of an urban-detached productive land. If generally policies and plans envision the idea of urban agriculture, as strongly politically driven practices destined to improve food security in urban areas, or as a way to create sustainable communities, the sort of urban agriculture investing the Delta does not need to promoted at all, as it is born from the nature and from the past of the place.

Indeed, the agriculture production of the Delta represents not only the search for economic development, but more strongly it represents a way of life linked to the former farmers that struggles to survive in marginal spaces, as cities grow and occupy the land of former rural villages. In that sense, fragmented agricultural areas in many cases are just practices that resist to die since many of the former farmers simply do not know what else to do, therefore they continue to cultivate even if all that was known to them has disappeared, and despite the fact that all the space around them plays against them (Fig. 9.12). Of course, these farmers do not have their own land on which to grow, nor do they have much of the collective land of their villages, since in most cases that land has already been sold and transformed into top-level housing developments (Herrle et al., 2014). All these farmers have at their disposal are the leftovers from the urbanization. The leftovers of the great real state, infrastructural and industrial developments. That is, a few randomly distributed square meters of which they appropriate and transform into what they know. Under an absolutely precarious condition, these farmers take in charge of transforming every square meter they find at their disposal, and thus moved by personal intentions, they indirectly ensure that every square meter counts to production.



9.12 | *Fragmentation of the agricultural area in Zhaoqing*

Crossing the Delta it is possible to grasp a peculiar type of spaces that result invisible under any other type of vision. Those are the personal agricultural areas that mushroom across the territory as acupuncture transformations that prolong the traces of a previous agricultural activity (Fig. 9.13). These are not part of the formal economic or productive system. These are not counted or considered when drafting development plans that decide their future. In fact, these recondite and minuscule spaces do not represent any relevance either for the state or for the region, and contradictorily they represent everything for those who work those lands. However, the greatest disadvantage of these spaces is not to belong to no one, but rather to not belong to anything. That is, they do not make up a production network, they do not respond to the regional markets and demands. These do not depend on the dynamics and demands or the place where they are located nor the region nor the global region. These are fragmented, disjointed fragments that respond to themselves and the subsistence needs of each farmer. In this sense, these spaces that take advantage of every available meter are trapped within itself. Of course, it would be impossible to think about how these seemingly insignificant spaces could collaborate in the production of food for the masses, after all the region does not depend on these spaces, but the rural inhabitants do. The inhabitants that the urban system leaves behind do indeed depend on these spaces and on their limited production to subsist. Somehow these spaces highlight one of the many dark sides of the massive urbanization. The contrast, inequality and survival of those to whom the great processes turn their backs.

9.13 | *Recondite personal crops in Zhaoqing. Photo by the author. 2018*

Although these minuscule fragments are alienated from the regional productive system, it is still possible to uncover fragments of agricultural production of larger dimensions that contribute to generating more than 1700 million dollars a year, which represents 2% of the regional GDP (Guangdong Statistical Yearbook, 2018). These are still remnants of the historical rural past of the area. Naturally, these space no longer endure as pure agricultural areas, they have been "contaminated" by a broad degree of complementary rural industries that cut across crops fields with the presence of ponds, minor rural factories and animal warehouses mostly related to pig and cows farming (Fig. 9.14). These spaces represent the formal side of the agricultural production of the Delta, these are the spaces destined to feed the millions of inhabitants of the place. And still, these are in large potential risk of being displaced. In fact, they are already being displaced, as its restricted presence evidences it. Through a satellite vision it is easy to locate them in a map since their presence coincides with the only large green spaces shown in the image, mainly in the new lands of the core of the Delta, in the peripheral areas of the regions, and extraordinarily between Zhaoqing and Foshan municipalities. If from far away these places look clean, green and pure, for up-close that image assumes another strength, as these places somehow have remained frozen in time. Most of the work is still done manually, once again proving the reliance the country and the region have in the masses, products are dried in the rural road without any sanitary regulation, and the consequences of polluted soil and water effects on daily basis the quality of products.

9.14 | *Agricultural and rural complementary productive sites in Zhaoqing. Samuele Pellecchia. 2017*

Seeing the different productive spaces of the Delta becomes visible as this is a place that finds its strength in the combination and dialogue of the fragments, and in the same way in the strength of quantity. In particular, seeing the relationship and conditions of this productive system and its agricultural dimension, it becomes clear how the Delta moves in a direction and speed completely contrary to its rural spirit. This is not a secret, it has been this way since the economic reforms, however this rural detachment is not homogeneous. There are isolated but representative cases that oppose resistance, however a temporary resistance, sustained by the inhabitants who actually lived and knew the Delta as a rural space. The new generations know little and are little interested in this past. They look elsewhere, towards the development, progress, wealth and quality of life offered by the city and its industry.

9.3 What urbanization leaves behind

Despite the strong presence of the variegated urban and not so urban objects that progressively saturate the Delta, there are some spaces that seem to be untouched, ignored and rejected from these logics. These are blurred spaces, ambiguous territories, land in perennial and at the same time never coming transformation. These are space that due to conflict, contestation or simply disinterest, are left behind from the urbanization process, therefore represent the unresolved situations, the loopholes of the system, the grey areas and the discrepancies between land ownership in the region. These forgotten spaces are strongly characterized by being in-between states, that is, being partially abandoned, half finished, half demolished, always in a state of incompletion and transition, and always in the hope of becoming something else. These are spaces that are located in between the heterogenous fragments that this chapter has mentioned so far, therefore they represent the points of contact, the places of collision, the evidences of contrast, paradoxes and synergies between the urban fragments of the Delta. Indeed, these are interstitial and unintended spaces. Space that belong to no one and belong to all.

Interstitial and unintended spaces represent perhaps one of the spaces with the greatest presence in the Delta. They are spaces that are easily overlooked when examining cities and urbanisms from a remote bird's-eye perspective, but hard to avoid noticing when crossing them under 40 degrees and 90% humidity weather. In a sense these spaces can be interpreted as borders between the different urbanities of the Delta, therefore they represent the space in between the outwardly disjointed urban enclaves not only dividing, but also joining together pieces of urbanity. These borders and boundaries are not at all rigid lines or walls, but rather three-dimensional socio-material spaces that Iossifova (2015) calls *urban borderlands,* Breitung (2011) defines as *filter spaces,* Gandy (2016) defines as *unintentional landscapes*; in that sense they are the claimed, appropriated, inhabited, shared, continuously negotiated, maintained and often even nurtured spaces of co-presence and coexistence. The undisclosed elements of these spaces do not only resume as

unpurposive created esthetic encounter with nature as Gandy (2016) shall put it. These are neither brownfields nor wastelands, they are more relatable as "spaces of contestation and dismantlement, the spaces where imposed political will is contested and where need and want emerge" (Iossifova, 2015, p. 104). Indeed, in the Delta these are the spaces of resistance, the resistance to transformation that has invaded the PRD in the last 40 years (Fig. 9.15). They are the spaces that they are in the limbo between the agricultural past of the area and the urban future, they are the spaces where some of the original characteristics of the place can still be recognized. They are also the places where the greatest contrasts and the greatest paradoxes are found, since these, having no clear line of development, borrow what they have around and adapt it to the traditional practices that still persist in them. In a way, these spaces become the spatial expression of inequality since they represent the bridge between what was once considered urban and rural, and without belonging to one or the other category, they act in both directly. I that sense they are not fixed or homogeneous, but instead they are often negotiated, not purposely maintained and occasionally even celebrated as the most evident spaces of difference, self-expression, spontaneity, unplanned and informal.

Within the Pearl River Delta these transitional spaces might assume many and once again variegated forms, as indeed they are a direct result of their immediate surroundings. Within the large suburban spread they appear as the backyards maintaining the proper distance between new gated communities, within agricultural lands they emerge as failed projects of new housing or general urban developments that will never be completed (Fig. 9.16), within the rural areas they materialize as unfinished and already abandoned houses at the outskirts of the most active rural villages, within dense urban fabric they consists on the lower level of the aerial infrastructural axes, and within large construction sites, such as Zhaoqing New Area's they represent the points of disconnection and the portal to a rural past, landscape and lifestyle (Fig. 9.17). They are indeed as present and as lived as any other defined fragment of urbanity, therefore they deserved to be explored not from a negative perspective of rejection, but from a vision of potential transformation. As if it were latent spaces, waiting to be activated, transformed and included in the logic of the place.

9.15 | Urban *interstices between Zhaoqing and Zhaoqing New Area*

9.16 | *Abandoned spaces in the PRD. Photo by the author. 2018*

9.17 | *Urban interstices between Zhaoqing and Foshan. Photo by the author. 2018*

Notes

1 Roy (2016) in her reflections about critical urban theory, highlights the existence of three relevant analytical points about the urban. Among this three, the first one she highlights is the need of paying attention not only to what without a doubt is urbanized, but to pay attention to what is always in the incomplete process of becoming urban. What she calls the "constitutive outside" based on the work of Mouffe (2000).

2 According to Governa (2019) in China, "There is a clear-cut urban/rural distinction that de facto excludes suburban space, or at least complicates comprehension" (p, 217).

3 Indeed, suburbanization process is a recent phenomenon in China, as the traditional Chinese city under restricted planned economy was indeed compact (Wu, 2010). A situation that changed after the economic reforms that invested China in the late seventies where beside introducing a land-leasing system capable of injecting incentives to local government to promote large scale urban developments, large scale urbanization was promoted as an strategy for achieving growth. (Shen & Wu, 2017)

4 These professional migrant often consist in upwardly mobile, young university graduates who have advantageous position in the labor market and have managed to acquire a decent job in professional services or government agencies in central cities. (Shen & Wu, 2013).

5 Compared to the housing market within consolidated cities, the investment in the suburb is less expensive, but offers larger apartments, shorter return similar level of accessibility and services.

6 The transformation of rural villages into industrial villages or "factory villages" (Bolchover & Lin, 2013) is not only a product economic reforms, but it is also a result of a particular encouragement of the central state that seek the restructuring of the collective farm system, creating incentives for farmer to branch into other productive sectors with the capacity of selling any surplus produced over the required state quotas at market prices. This change did not limit to the agriculture sector, but it reflected in the industrial dimension as well, as factories could now operate under those same market logics, therefore increasing production in order to increase revenue.

7 Even if until now hinterlands have been a neglected issue within urban studies not only in the Delta but a general scale, these now represent the center of the urban future, as hinterlands are now the spaces where dynamism, capital accumulation, web of relations and connectivity are locating (Brenner & Katsikis, 2020)

8 TVEs, consisting on local townships operating as industries with access to the market have been a crucial point in the urbanization and industrialization process of the rural lands of the Pearl River Delta, since they allowed rural villages to transition into an industrial production that better responded to the market demands of the area. Indeed, by achieving a system based on collective economies and the power of mass production TVEs managed to expand their role within the productive sector of the area and play a catalytic role in transforming the Chinese economy from a command economy to a market economy.
(Batisse & Brun, 2006; Cheung & Leung, 2018; Wu, 2006; Wu et al., 2013).

9 According to the Guangdong Statistical Yearbook 2018, the sown area of farm crops in the Pearl River Delta has reduced since 1978 in over 40%, which translates in the loss of over 1000 square kilometers of crops, mostly concentrated in the loss of grain crops that include rice, tubers and soybeans.

CONCLUDING REMARKS

There is a substantial and marked distance between the construction of contemporary urban theories that seek to make sense of the complex and rich urban world where we find ourselves and the physical and tangible space through which this urban and hyperconnected world materializes. From the beginning, this research set as its objective the broad and ambitious target of problematizing this distance and inquiring an alternative approach capable of going *beyond globalized visions of the urban*, by following an approach based on up-close and spatial views of the urban realm. Therefore, this research was based on the use of *physical space as the primary tool to build geographic knowledge capable of being extrapolated beyond geographic boundaries.*

Of course, to talk about global visions and urban theories can lead to very vague and broad discourses loaded with reflective, complex, and profound reasoning; therefore, it was essential to maintain the discourse close to the ground through three fundamental strategies. First, relate theoretical reflections with the need to understand and consider the Pearl River Delta's physical space and particularities. Second, avoid the ambition of constructing all-comprising theoretical reflections by recognizing the value of variety and heterogeneity. Third, regulate the reach of the discourse by focusing on investigating the point of contact between globalization and urbanization through the use of the categories of world cities, global cities, and global city-region. Even if the discourses within this research are mostly focused around these three popularly circulating categories, the reflections that raise around them can be indeed extrapolated far beyond them, as they are three of the possible products of following a global understanding of urbanity.

In order to establish the theoretical framework upon which this research was constructed, the first part of this thesis focused on inquiring the origin, implications, uses, reaches, and limitations of globalized visions, by questioning both at a theoretical and empirical level the meaning of understanding urbanity through a global lens. Therefore, it inquired about the rise of globalization and its proximity to

urbanization in a context that envisioned the construction of an allegedly borderless world, capable of constructing new metageographies, and transforming the idea of achieving global status as a shared political aspiration. In the process, literature highlighted how some places seem to be much more anchored to global labels than others. For instance, the research showcased how the Pearl River Delta has been one of these cases, as it has been continually portrayed and organized both by regional authorities and economic interests under the dominant description of a global city region. Indeed, existing literature showed how existing interpretations have tried to reconstruct the Pearl River Delta's uprising in the world hierarchy by studying exclusively its economic development, level of polycentrism, foreign direct investment, and degree of connectivity. Therefore, literature -academic and non-only- has shown very well how this node of the global economic network works and situates regarding other nodes of equal relevance. Nevertheless, little has it say about its materiality, its spatial characteristics, and the hidden elements behind this spatially detached look.

Indeed, looking at the Pearl River Delta, evidenced how global-cities analyses have done much to enhance understandings of cities and urban studies in a globalizing economy, but have not offered a clear picture of the spatial characteristics of the cities they are describing. They considered economic fluxes, power relations, social demands, economic inequalities, and many other breaking points that do not talk about the space itself. This issue highlighted the necessity of re-discovering the spatial characteristics hiding behind these well noun problems and starting from the lecture and reconstruction of the space itself. This necessity to bring space back into the study of places was methodologically tackled in the second part of this thesis.

Elaborating on the ideas of a relational space, the second part inquired from where and how it is possible to address and construct spatial narratives of places, recognizing the necessity of being permanently open to discovery, to the unexpected, and the different. It addressed the capacity of visual methods and fieldwork in the collection of spatial subtleties. Furthermore, it recognized the importance of changing the observation point at a geographical and personal level to allow the production of firsthand spatial geographical knowledge.

The third and final part of this research put into practice the invitation raised in the second part; therefore, it constructed Pearl River Delta's spatial explorations derived from the observations carried out during fieldwork. This action allowed for the emergence of significant conflicts, gaps, differences, and frictions between what is said about a global city region and what it is seen when crossing its space. Differences that without an in-depth spatial reconstruction of the region would have remained hidden and latent beneath the heavyweight of the global city-region etiquette never to be inquired or considered within the definitions and ideas that understand this particular form of urbanity. Differences and conflicts addressed in the following lines.

Filling in the gaps: interlacing between what is said and what is seen on the ground

Addressing the Pearl River Delta, an area that can be considered as the maximum exponent of the seemingly unprecedented and extraordinary Chinese process of urbanization and economic development; as well as one of the many strongly labeled and therefore analyzed places under a strictly global perspective, evidenced how there are at least two ways of seeing large urban regions within their role as nodes of a global economic system. The first vision consists of a globalized one, a vision robustly influenced by global performances, recognition, and leadership (vision presented in part one). The second vision consists of a grounded one, a vision strongly constructed around the materialization of global forces and the consideration of the particularities and subtleties of such materializations (vision constructed in part three). These represent two visions potentially considered opposites, for which, as the hypothesis of this investigation suggests, the interpretations derived from them can construct counter-narratives of the same space.

The following pages address and confront these opposite narratives by *inquiring what is said* and *uncovering what is seen on the ground* of the PRD. *Inquiring what is said* refers to disassembling the existing global visions of the Delta, since as literature and the first part of this thesis suggested, global visions have heavily circulated and been recurrently presented in the area. Furthermore, they have consolidated in the imaginary of the region and have become entrenched as the default reading of its urban centers. Conversely, *uncovering what is seen on the ground* refers to exposing the constructed grounded visions. These visions regularly have been approached scarcely and skeptically, as they have been mistakenly regarded to be over localized and lacking scientific rigor due to their consideration of particular and even non-repeatable elements.

Such inquisition and uncovering processes are tackle under four conclusive points raised by the spatial explorations constructed in the third part. Namely, the contrast between unit and fragment, the exceptional nature of such fragments,the shift from the center to the periphery, and the potentiality of ordinary and interstitial spaces over outstanding and bounded spaces.

From the consolidated unit to the disaggregated fragment

As evidenced in the first part of this thesis, one of the most relevant bases of global visions is the ambition of seeing and portraying each region mainly as an economic unit. A unit that is identifiable from a distance that operates as a compact block responding unidirectionally to external pressures and requirements. Chapter three highlighted how in the Delta such vision and pursual of unity, are present for instance, behind the comprehensive development plans that ambitioned to incorporate special economic zones and special administrative areas; or behind

expansive infrastructuralization projects ambitioning to redefine distances between global urban centers; or even behind local and limited initiatives directed to improve regional integration of secluded centers.

Indeed, for someone who has never visited the Delta and is dedicated to studying it through the literature and planning documents that have been built around it, the Delta represents a solid unit of global economic control, and the ultimate gate to development, trade, flow, modernity, and technological advance. Moreover, it represents an integrated entity that moves collectively and inclusively towards progress, leaving nowhere and no one behind. I built this image of the Delta myself at the beginning of this investigation in 2016. An image that was crushed almost immediately on my first visit to the site in 2017, since when traveling along its highways, canals, small roads, transitional spaces, grey areas, rural remnants, and places of resistance, I was faced with scenarios that made me wonder again and again, how can this have any weight in the world economy? How can this be recognized as part of a global city region? What is the weight that this space can have in a place that has an economy equivalent to different small countries in Europe? To my surprise, the answers to these questions that emerged directly from the subtleties of the ground were much further from the consolidated literature, that from long walks of spatial exploration I took. They were much further from the global visions of unity, and much closer to grounded perceptions of fragmentation.

The tripartite spatial explorations constructed in the third part of this thesis came across the notion of "fragment" in different situations and under different circumstances. For instance, they evidenced it in the form of remnants of local aquaculture when referring to it as trapped water spaces acting as disjoined succession that resist in between the advancement of urbanization. They also evidenced it when speaking about a disaggregated urbanization that gravitates around fragments adhered to efficient transportation systems. Moreover, they directly addressed it when arguing that the Delta is being saturated by a collection of urban fragments that do not respond to particular logics or directions of expansion. Using such space-based narratives gives a significant hint on the relevance that fragments assume in the experience, rhythm, and functioning of the Delta's urban life, and therefore in the alternative vision of the Delta as a nested superposition of fragments.

Addressing the fragmentation of the Delta in greater depth, the fragments that compose it operate as interconnected enclaves that dictate their internal logic of function, finance, citizenship, production, and development. Zhaoqing New Area is a significant example of this type of fragment as regardless of the rural logics and practices rooted in the place, the project drastically transforms its occupied territory under logics that little or even nothing has to do with its surroundings. The new town uses its water features, its new infrastructure network, and its façade of "ecological city" to distinguish itself from its rural background and create a remarkable new urban space with facilitated urban citizenship access. In the same

way, the large global ports that contribute to the infrastructuralization of the water system presented in chapter eight, elaborate under the same logic. Such ports occupy a rigidly bounded, exceptional space that breaks the continuity of the logic of the context that surrounds them. Instead of connecting with their surroundings, they strive to establish connections with distant places.

Additionally to the construction of new towns or the implantation of new ports, the notion of fragment in the Delta is also reflected by the emergence of a multiplicity of urban forms. University towns, new industrial or logistical poles, specific extraction centers, extensive gated communities, and even confined crops and fishpond spreads are just some of the infinite variables that make up the Delta. All variables which are recognizable and delimitable at a glance as each represents a highly contrasting and well-defined fragment. Indeed, as presented in chapter nine, the fragments that compose the Delta drastically differ from each other since they are directed towards multiple directions of spatial, economic, and social development. At the same time, they do so at different speeds and through distinctive stages. Of course, this is nothing new since urban fragments represent somehow the materialization of the polarization of urban spaces and the most intrinsic nature of the urban condition (McFarlane, 2018). Nevertheless, that contrast between fragments puts in evidence how global approaches consider some of them as the only face of the urban Delta. In contrast, other fragments are intentionally discarded and academically extinct.

For instance, observing at the minute water relations of the Delta, its mobility network, or the spaces left behind by urbanization, it becomes clear how rural, transitional, and contested fragments, remain invisible and irrelevant to the global city-region. After all, the global vision is an extremely selective vision that carefully selects a handful of elements to take into consideration among the endless territorial palimpsest.

Altogether, it is possible to argue that the Delta's spatial explorations reveal not only how the idea of unity under which global cities operate is a myth that disappears before the fragmentation of their spaces. But also explicitly revealed the weight that unconsidered fragments have in the current functioning of the Delta. Since behind the anonymity and incognito character of the renegade fragments, a powerful but delicate network of spaces and processes builds the bases that sustain the operation of the global machine known to all.

The fragment as a space of exception

By looking at the spatial explorations of the Delta, it is possible to say that the juxtaposition of fragments that compose the deltaic territory operates under a progressive construction of spaces of exception. That is, territories that have kept open the possibility of suspending and reformulating laws and regulations for new

approaches that pursue specific and pioneering targets. Such allegation emerges from the fact that the deltaic's disaggregated fragments of urbanity emergence from particular projects developed according to diverse agendas of economic and urban growth dictated by local municipalities. Indeed, they result from local agendas that allow lifting regional laws in favor of convenient, exceptional rules related to production, tax exemptions, shipping requirements, and production standards. Also, they lift internal codes of environmental impact, citizenship, and working registrations.

When referring to the notion of spaces of exception, I do not refer to an idea of exceptionality. That is, the exception is not envisioned as a way of differentiating what has happened in the Delta to what has happened elsewhere, but rather as a way to understand how within the region, it has been simple to lift the barrier of the norm. Moreover, this idea of spaces of exception neither directly relates to the concept of *state of exception* initially formulated by Carl Schmitt (1922). While Schmitt›s definition conceives *exception* as a special and provisional condition where the legal and entirely existing order is suspended or disturbed by an unlimited authority in the face of an emergency or severe crisis threatening either the state or the public good, in the exceptional spaces of the Delta it not possible to talk neither of provisional condition, of threat, of danger nor unlimited authority. The logic behind spaces of exception of the Delta above all responds to a pursual of maximal capitalization and exploitation of particular bounded pieces of land. A capitalization capable of bending the planning regulations to satisfy investors, stakeholders, and even uncertain state demands. Indeed, chapter three and the construction of the third part of this thesis brought to light how the flexibility of the jurisdictional and planning directives - despite being promoted as rigid, intransigent and bounded to the intentions of the Communist Party of China – is a particularly significant attribute influencing the transformation of the Pearl River Delta. There, as in many other Chinese contexts, local governments act with entrepreneurial character to attract and carry out urban developments that transcends normality and attract investors' interest. Therefore, the state has been capable to "look to the other side", and to lessen as long as it results in a positive impact on development. After all, in the Delta exception is made for the "regional benefit and growth", and still today, the idea of exception represents one of the main pillars of the economic and urban growth of the region.

As a result of this perennial possibility of annulling "the rules of the game" in favor of interest satisfaction and capital attraction, the presence and emergence of exceptional spaces sponsored by local governments have and continue to mushroom all around the Delta. Once again, the case of Zhaoqing New Area and Zhaoqing High Tech Zone, or for instance, the case of Nansha Port are evidence of this fact. On one side, the two initiatives of Zhaoqing act to create a new urban pole easily distinguishable from the existing others by its allegedly unique urban and ecological features. On the other side, Nansha Port pursues a leading trading role

by creating a detached operational center never attempted before, situating nearly 60 km away from the city it serves, and occupying hectares of land that did not exist a couple of years ago. However, the construction of exceptional fragments is not limited to large and bounded projects, but it crosses different scales. University towns, free trade areas, enclosed residential areas, and logistic or production centers all operate under the same logic and create almost independent urban enclaves that function as market tools, as urban containers, and in the most successful cases, even as replicable templates of urbanity.

Additionally, behind the exceptional nature of the fragments of Delta there is indeed a strong component of experimentation. For instance, Zhaoqing New Area is being constructed as a pioneer Low Carbon Ecological City, and Nansha Port represents the first attempt of the region to create a new port by land reclamation. Even if the ideas of space of exception and experimentation suggest a certain degree of novelty, the experimental nature of the spaces of the Delta is not something new or unprecedented. Urban, economic, industrial, and political experimentation has been a strategy repeatedly used all over the region since, as stated in the third chapter of this thesis, the Pearl River Delta has been the ultimate Chinese urban laboratory. From the initial Special Economic Zone of Shenzhen, to the integration of the two Special Administrative Areas of Hong Kong and Macao, to the latest attempts of constructing coordinated new areas under the impulse of the Greater Bay Area relaunch, the pursual has always been to achieve something new and alternative.

From the global center to the dynamic periphery

The strength of global theories has accustomed us and led us to put attention and prominence in the consolidated centers of regions. In the Delta this leading role has been played by the centers of Guangzhou, Shenzhen, and Hong Kong, or more specifically by its financial and commercial centers. While the peripheries, spaces of conflict, spaces in transition, and spaces in the process of transformation have been marginalized from any type of theoretical consideration capable of speaking of an active region in global economic systems. The spatial explorations of the Delta constructed in this research, and its derivative interpretation as a territory built from the progressive emergence of fragments of exception, brings to light how limited such urban-centric vision is, as space suggest that peripheries of the Delta are not indeed irrelevant or inconsequential, but quite the contrary, they have an active and leading role in the functioning and nature of the well-known global region.

In fact, the fragments of exception that build the Delta are not implanted nor do they seek to occupy the consolidated centers, but on the contrary, these seem to have in common the particular logic that they progressively occupy and densify the periphery of the Delta and the peripheries of the inner cities that comprise it. While consolidated centers remain immutable and crystallized, everything that is

outside of them is dynamic and everchanging. Fieldwork visits evidenced this by documenting how external urban spaces, changed radically with each visit thanks to the continuous appearance of new construction sites and new urban fragments. Indeed, this point was directly addressed when discussing the empowerment of peripheries by the densification and expansion of circulation space, as well as when inquiring the disperse productive machine of the Delta, and its progressive saturation.

By addressing those three points, it became evident how there is no room to consider further peripheries and marginal spaces of the Delta as neglected, negative, monotonous, or secondary spaces. On the contrary, those spaces, within all its fragments, seem to be the future of the urban Delta. It is there where the materialization of the global processes keeps taking form. It is there where most of the regional activities take place. Furthermore, it is there where the region continues to be built, where it produces, where it is connected, and where it is related. By looking at the spatial features of the global city-region, it became clear how now more than ever, the fragments that occupy peripheries have acquired significant degrees of autonomy. In the process, turning conceived spatial organizations inside out and creating distinctive patterns of urbanization that find in peripheral spaces the possibility of achieving new over capacitated urban nodes.

The idea of turning the city inside and turning margins into new centers is not entirely new. Such a statement is the core of Roy's (2009) 21st-century metropolis, and it is a perceivable fact when crossing the Delta. Indeed, the city is fully available there, at the peripheries and margins, as much or perhaps even more available than it is at the centers and overemphasized nodes. Standing there, it is possible to see with its own eyes how the city materializes. The forms it takes, the productive models and relationships that it establishes. They are all there, evident to the naked eye. They are openly announcing and declaring its urban, current, and dynamic conditions. A condition that in the case of the Delta claims and deserves its prominence and weight.

From fragmented spaces of exception to the ordinary interstices and borders

So far, this conclusive section has interpreted the Pearl River Delta as a patchwork of fragments of exception that saturate and progressively empower the peripheries. There is however, a powerful space that hides behind this interpretation. Such hidden space consists of the borders, interstices, and connecting urban fabric between said fragments. It represents the physical space where urban fragments collide or articulate with each other, as it is their contact point and the amalgam that holds everything together. This interstitial space full of ordinary but undefined urban forms represents perhaps one of the most interesting, delicate, and incognito points of this territory as it has not only been neglected by global visions but more radically, it has not even been noticed.

Noticing or defining this space is not a direct or straightforward task since it is a space that, despite spreading across the entire Delta, does so subtly and imperceptibly. It is undetectable against satellite images, imperceptible to economic flows, and invisible for the construction of statistics. However, from direct contact with the Delta's physical space, it becomes not only visible but constant. It is constant in the minute water spaces that struggle to survive in the face of urbanization, or in the remnants of a water culture that resist in leftover spaces. It is also visible along with the residual spaces, along with massive regional infrastructures and in between the bits and pieces of fragmented urbanity. Moreover, its most visible condition is in the spaces that urbanization leaves behind and in the leftovers of such urbanization. Chapter nine directly addressed these two visible conditions, by arguing how such interstitial but ordinary space is adapted through improvised acupuncture transformations that are inconsistent, fluctuant, and used to operate as "artefacts of dominant discursive processes" (Agnew, 2008, p. 176).

Perhaps one of the most notable characteristics of this interstitial and connective physical space is its malleability, as it is a space that cannot be regarded as defined or completed since it never rests with the assurance of its final condition. Contrary, it always awaits its process of re-bordering, redefining, and responding to a number of touching and contrasting interests (Salter, 2008). Indeed, when considering this physical space made by ordinary borders and interstices, it is necessary to acknowledge its dynamic nature and its capacity of repeatedly including and excluding pieces in a state of incompletion and transition. Indeed, this border and interstitial space is positioned within a crucial crossroads, since it represents a meeting point and separation point. In this sense, "it is negotiated, maintained, and occasionally celebrated space in-between the different" (Iossifova, 2015, p. 104).

Being an in-between space, it occupies each available space and excess of the region and, consequently, it is the battlefield between contrasts, disagreement, and influences of the place. Moreover, this ordinary connective space is also the place where the greatest contrasts and the greatest paradoxes are found, since, having no clear line of development, this interstitial space borrows from what it has around and adapts it to the traditional practices that persist in them. In a sense, this is a space situated in a limbo between the agricultural past of the area and its urban future. It owes part of its essence to the rural past of the area and part of its aspirations to the urban and global future of it. Therefore, it represents determinant space with potential for reinvention, adaptation, dynamism, all while functioning as a spatial reserve that stands out within the tide of urban fragments that are less and less identifiable with time.

The emergence of this interstitial but ordinary space represents perhaps one the most significant findings of this research as it represents a floating space that even if it has remained incognito for the academia and superfluous for the planning

system of the Delta; it has been available for its inhabitants and potentially latent for the future of the region. In that sense, it is a physical space that undoubtedly is worth continuing to investigate and to inquire further to enrich the knowledge of city regions and our overall urban condition.

Final reflections: beyond the Pearl River Delta

The relevance of the notions of fragment, spaces of exception, periphery, and potentiality of borders and interstices within the urban study of a given space, are the result of an up-close and spatial exploration of the territory. Indeed, these observations do not come from understanding urban processes from a broad, distant scale or global visions that operatively scrutinized a region but spatially ignored it, nor from starting urban studies from the large urban and global categories that we have today at our disposal. On the contrary, these observations come from momentarily forgetting that these categories exist and opening the imagination, as Massey (2005) suggests, to all possible trajectories of narrative that may exist, to only subsequently connect our narratives to the existing categories, as a form of questioning, refreshing and reinterpreting them.

Indeed, looking at globally relevant urban regions beyond globalized visions, highlights how behind their positivist façade, there is an extensive collection of urban complexities awaiting to be inquired. Complexities that are far more challenging and present that the performance of their central economic nodes and far more extensive that the location of their trade centers. Indeed, even though these regions, more than often categorized as global city-regions that continue to be defined through their economic centers, the true transformations, and developments that continue to maintain the operation of the center are found in the spaces outside them, particularly in their peripheries. Peripheries nowadays have a leading role in regional development. It is in them where most of the regional activities take place. It is there where the region continues to be built, where it is produced, where it is connected, and where it is related. Contrary to the idea that the peripheries are the residue or leftover of the global city, the peripheries are today its true center.

However, this research showcased how it al also necessary to readdress urban peripheries, not as consolidated suburban expansions that homogenously conquer rural land, but as fragmented pieces of urbanity hold together by a connective urban fabric. A fabric that has remained unexplored as it represents a conflictual space that belongs to everything and, at the same time, belongs to no one. A fabric that has not extraordinary characteristics but, on the contrary, is made of the most ordinary things and by the most ordinary hands. A fabric that represents a succession of spaces that are still undefined and that probably will remain as such since they do not claim to achieve protagonism. They conform with being there, available for whoever needs it. These are the type of space this research considers we must further concentrate as these are the spaces that genuinely can open the doors to

understanding how a global city works - if it actually works. While economic centers are relatively easy to understand, in fact, they have been carefully planned, built and strategically placed to give the production machine a face or put a global façade; the retro, seemingly unplanned spaces that lie outside the grid of visible order are the true pillars of the global relevance. Since as shown in this research, the potential and dynamism of urban regions is not in the parts that global visions acclaim, emphasize, and celebrate. On the contrary, the future of them is in spaces that these visions ignore, forget, and marginalize.

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Although the notions of periphery, fragment, exception, and interspace are concepts that challenge the classic global visions through the spatial study of the Delta, their greatest value is that they reveal the geographic richness that lies behind the use of global categories. Furthermore, they open up the possibility of continuing to explore and discover in this and other places marked by global approaches, the generally overlooked spatial riches, and the subtle lines of inquiry that are hardly pursued. The value of these explorations more than arguing that all global regions work under these logics, is arguing that at least regions like the Delta do not work any longer under the logics we have always heard.

Indeed, the conclusive arguments raised in the previous lines do not attempt to affirm that urban regions work following the logics of the Delta, but they attempt to open a new window towards the recognition to variety, freedom of interpretations, and freedom of creation of theoretical constructions that do not seek to label or catalog. Therefore, the spatial explorations and its conclusive reflections are an operation that immensely opens up the field of urban studies starting directly from the physical and lived reality. A reality that, after all, is the one we are faced with day by day. Much has been said about the flows that transit our hyperconnected world work. However, where, how, and through which spaces these flows circulate remains as an unknown and ambiguous incognito, an incognito that the spatial infusion of urban theories can help or at least attempt to clarifying.

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BEYOND GLOBALIZED VISIONS

Problematizing urban theory through spatial explorations of the Pearl River Delta

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