

URBAN MORPHOLOGY IN THE SOUTH - SPONTANEOUS AND INDUCED FORM.

Eliana Rosa de Queiroz Barbosa, Patrícia Capanema Alvares Fernandes, Nguyen Thanh Tú

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ABSTRACT

The paper is an urban morphology comparative study between four southern cities: São Paulo, Jakarta, Hanoi and Belo Horizonte, aiming to disclose common spatial outcomes of similar development processes, guided by positionality. Urban morphology was the tool used to read the distinct territories and territorial scales, through direct observation enabled by a joint fieldwork between the three researchers involved in the study. Therefore, the current research proposes a direct comparison of these elements, using fragments of four cities of diverse socio – politic and cultural backgrounds, but with similar industrialization and urbanization processes, aiming to reveal similarities between each city and its development; and the consequences of their urbanization process in a local scale.

Key words: Urban morphology, Southern theory, Relational studies

1 INTRODUCTION: COMPARING SOUTHERN CITIES

The paper¹ is an urban morphology comparative study between four southern cities: São Paulo, Jakarta, Hanoi and Belo Horizonte, aiming to disclose common spatial outcomes of similar development processes. Urban morphology was the tool used to read the distinct territories and territorial scales, through direct observation enabled by a joint fieldwork between the three researchers involved in the study.

Here, the object of discussion is the space itself, its characteristics and its use, analysed through its elements, under the lens of urban morphology, offered as the appropriate tool to read the cities. Therefore, the current research proposes a direct comparison of these elements, using fragments of four cities of diverse socio – politic and cultural backgrounds, but with similar industrialization and urbanization processes, aiming to reveal similarities between each city and its development; and the consequences of their urbanization process in a local scale.

The production of the city is dependent of public and/or private investment and, whenever there is a lack of investment in a specific sector, i.e. whenever spatial development is not *induced* – driven by public or private stakeholders –, urban citizens and rural migrants self-organize several city functions and build city fragments, constructing spaces based on informality, in a *spontaneous* – in opposition of *induced* – way. The relevance is to identify similarities on how these territories were established and how each city has coped this process, aiming to discuss which “southern” tools could better integrate all the fragments of the contemporary city.

The chosen Latin American and Asian Cities – Sao Paulo, Jakarta, Hanoi and Belo Horizonte, offer a variety of urban conditions related to similar dependent economic processes, each evolving and developing in its own rhythm. The cultural differences however counterpoint these similarities, when one realizes how each city has chosen to deal – or not – with the spatial consequences of development during the last decades and what is the urban form today.

Sao Paulo and Jakarta were chosen due to their importance and economic relevance on their specific contexts, Latin America and South East Asia, respectively. The expansion of Sao Paulo – both spatially and demographically – is related to its process of industrialization and its private-led model of urbanization. The historical development of the city is closely associated with the promotion of regional scale mobility infrastructure, conceived to support production and distribution of industrialized goods. Until de 1930 the city grew densely following the rail line initially created for the coffee transportation. Afterwards, once the industrialization of the metropolitan area increased, the state and national roads were the guidance of development, transforming the previous structure of the city, inducing the development of an inner city road system, with the national park as a northern edge and the two water reservoirs as a southern edge of the city's expansion, with no east-west limit so far. (BARBOSA, 2009)

As a consequence of the planning policies and economic trends of the post-colonial transition, Jakarta encountered over the 1960's and 1970's a real estate boom with the development of new towns in the suburban areas, as well as new Central Business Districts around the central area. Historically, even before independence, the city grew from the northern port to the south, a direction emphasized by the implemented road system. Over time, a linear growth was perceived along the main transport axes and the east-west urbanization was induced through the creation of suburban neighbourhoods in the west and the establishment of industrial activities and working class neighbourhoods towards east (SURYONO, 2012).

¹ The paper proposed is a summary of a research conducted with the support of GDN and IDB as a part of the GDN working paper series “Urbanization and Development: Delving Deeper into the Nexus”, carried out between 2011 and 2012. The research report can be found at: <http://www.gdn.int/html/workingpapers.php>

The *Kampung*s - as the favelas in Sao Paulo over the 1950's and 1960's - played an important role in the city, providing affordable housing for newcomers among the formal developments. The construction boom slowed down with the Asian economic crisis in the late nineties, when the country became extremely dependent of private foreign investments and its economy mainly based on the rising service sector. This growth increases the development and densification of new central business districts, commercial areas, luxury apartments and town-house compounds, collaborating to a new phenomenon, called the Mall Clustering (SURYONO, 2012) in which the new developments follow the location of existing Malls, causing sometimes the decadence of the older one. The housing market is highly dependent of the private sector, with the government playing a very small role in providing housing for the poor. The growth of *Kampung*s is therefore still significant in the fabric of the city and most of the times their privileged location is the reason why they are constant threatened of eviction, as targets of land speculation and spontaneous processes of gentrification.

Belo Horizonte, although being the first planned city of Brazil inaugurated in 1897, faced since its inauguration and most intensively in the last five decades a fast and disordered expansion process. The north and west part of the city suffered from the lack of public control of the land use, allowing – or inducing – the combination of industrial development with extreme demographic growth, configuring a poverty pole of attraction. On another hand, the south-edge neighbourhoods suffered intensive promotion of high-class residential blocks, starting from 1996 on with an amendment of the legislation inducing development – having as a consequence the real estate boom of the 2000's. The northern part, historically occupied by working class neighbourhood received recently a series of investments in infrastructure inducing its development, such as the new administrative city complex; nevertheless real estate market did not aim at the area so far. The city, however, still shows strong connections with its natural features, reinforced by the steep topography; and its public spaces – mainly represented by its several squares and Pampulha Park – are still important gathering places for its inhabitants.

The model so far presented for Hanoi is mainly concerned with the expansion of urban infrastructure and services, necessary to assure growth, but not so focused on the environmental and cultural aspects of the city's landscape. As São Paulo in its economic growth period, an official road-based urbanism and an unofficial – or spontaneous – instant urbanism are imposing themselves against the natural landmarks. Urban development is strictly controlled by the state through the planning of new suburban neighbourhoods, allied to private investment. However, despite the decade long period of intense spatial development, the city still shows strong cultural identity, natural features and agricultural landscapes.

1.1 Comparative urban morphology - a methodological approach

To enable the reading of such different cities, urban morphology was the methodological instrument chosen to grasp these spatial outcomes and the understanding of the spatial experience. Defined the territories, it is time to grasp how the set of urban morphology elements were used to approach these cities.

As Lamas (1993: 26) states, physical form of space is a reality for which a number of non-spatial factors contribute, emphasizing the importance of socio-economic conditions, reflecting directly on urban form, resulting of voluntary space production, the creation of a humanly valid landscape, with diverse aesthetics, ideologies, culture, behaviour and sociability. To grasp these elements, a set of scales and elements were defined and analysed in each city:

CITY SCALE: Defined by the urbanized area, a man-made space which counterpoints natural and built elements, the different fragments and their connections, or structure as the elements of analysis.

FRAGMENT SCALE: Defined by the different fragments of the city, considering the mesh, the empty spaces (public and green spaces) and the landmarks and urban references as the main elements of analysis.

SAMPLE SCALE: A sample of the fragments scale, delimited by a 400 by 400m window, which is defined mainly by Solids and Voids which embraces minor elements, activities and flows.

The solid space can be identified by the typologies, a key for interpretation of the city, as a type of spatial structure, which, even though being the minimal elements of urban form, is one of the most important, since it composes the other elements (the block and, as a consequence, the neighbourhood or fragments), providing character for the whole city composition. The voids – streets and open spaces – hold a wider variety of types, functions and elements – fixed or not – which alters significantly the experience of space, therefore its perceived form. The urban activities, not fixed elements, are responsible for a complete transformation in the experience of space, altering urban form. Thus, the variety of shape, use and flows of the voids consist of another aspect of the territory’s character.

The study contemplated first the extensive reading of spatial scales and planning, demographic and economic trajectories of each city, by means of literature review. In this phase of the research, the demographic and economic trends were compared, as much as the evolution of the urbanized area and the planning proposals for it, in each city. The complete overview of the four cities can be seen at BARBOSA, FERNANDES, TU (2013) and a summary of this process can be seeing in the schemes below:

São Paulo x Jakarta

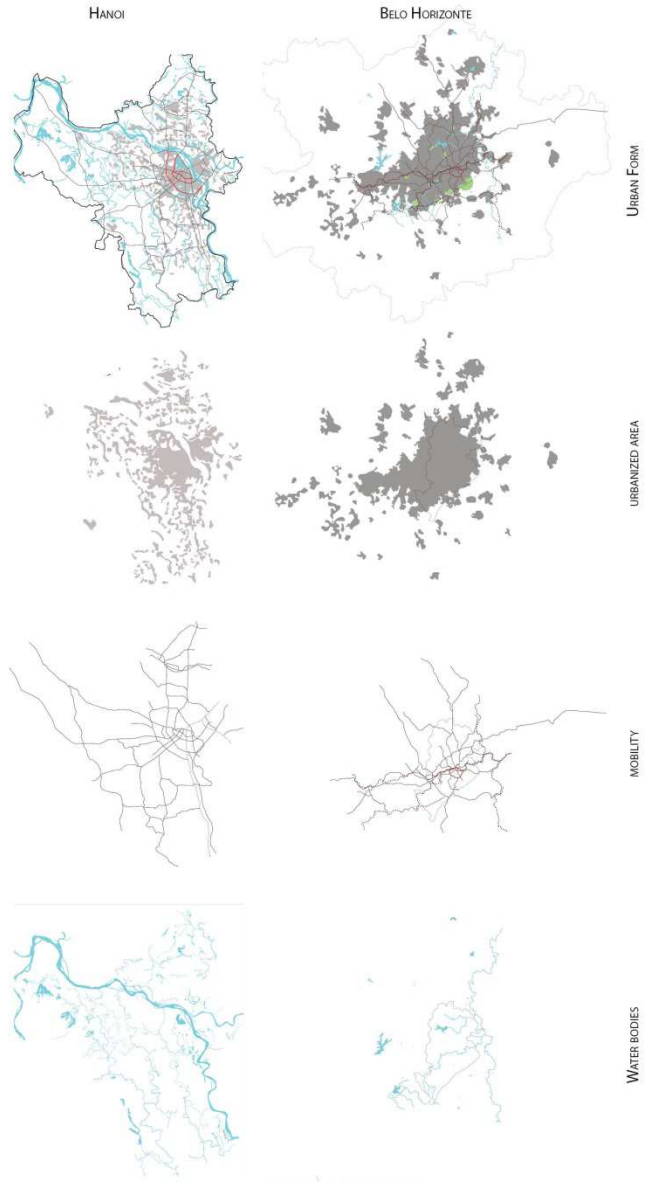
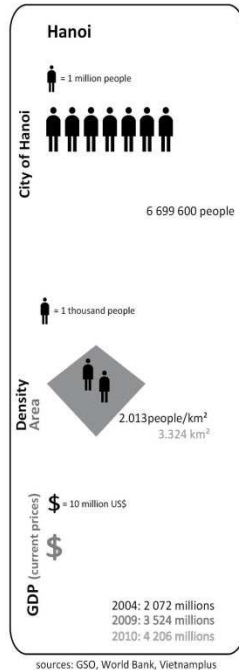
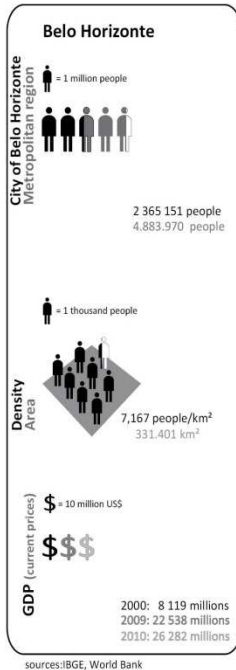
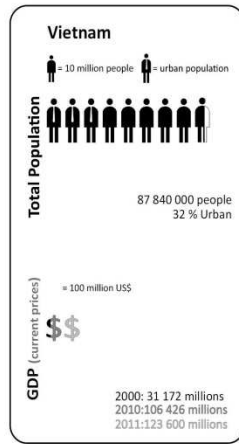
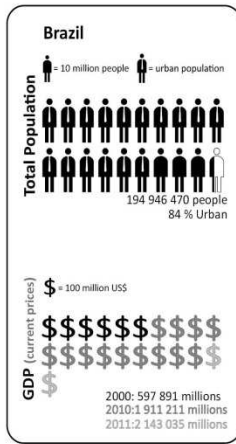


São Paulo and Jakarta comparison on demography, economy and city scale urban form
Made by the authors. BARBOSA, FERNANDES & TU (2013)

Hanoi x Belo Horizonte

City scale Urban Form

Demography and economy



Hanoi and Belo Horizonte comparison on demography, economy and city scale urban form
Made by the authors. BARBOSA, FERNANDES & TU (2013)

The literature review and collection of secondary data was followed by a process of mapping, field work and primary data collection, leading finally to the compilation of material. The fieldwork was done between August 2012 and February 2013, involving the contribution of the three researchers exchanging impressions on each of their foreign context.

Finally a diagonal comparison through the assessment of the spatial scales mentioned above was done, using the primary data, as photographic survey and interviews, individual narratives and impressions, allied with the different scales of maps; enabling understanding of how do the cities and its fragments relate to each other and possibly with different southern cities.

2 CITY SCALE – A COLLAGE OF FRAGMENTS

Literature review showed similar questions regarding the urbanization processes of the four cities. The construction of large scale infrastructure had bypassed urban planning on guiding the development of the cities, which ended up marked by internal migrations and informality. The city scale comparison, presented above, shows how different the four analysed cities are in their size, scale and current economic and demographic trends.

A series of never fully implemented plans could not cope with the pace of urbanization and migration, causing severe impacts, creating a collage of different urban fragments (BARBOSA; FERNANDES; TU, 2013). To better grasp the spatial outcomes of these urbanization processes, fragments were chosen to clarify characteristics of urban fabric, common typologies and the use and appropriation of open and public spaces.

To assist the dialogue between different cities and researchers the terms formal and informal were initially proposed to determine and classify the urban fragments and samples of the chosen cities.

Ground experience proved that these terms can be considered out-dated and not related to current dynamics of such contemporary cities. The terms Formal/ Informal, Legal/ Illegal, Planned/ Unplanned involve notions and prejudices that are not necessarily relevant when dealing with urban morphology. A formal territory, as Jardim Canadá in Belo Horizonte, can be considered of less spatial qualities than the “informal” Kebon Kacang in Jakarta.

The terms Formal/ Informal, Legal/ Illegal, Planned/ Unplanned are related commonly to property rights and urban regulations, which do not qualify space and do not define its shaping process in the South. Even among the researchers involved in this paper, there was not an agreement among what exactly the terms meant considering the reality of each studied territory.

Is the Formal necessarily planned?

Is the Unplanned necessarily Informal?

Is there such a thing as a post-informal?

Is the vernacular necessarily informal?

The shared fieldwork was decisive to show that the traditional formal/ informal classification was not adequate to deal with the spatial conditions we were facing, neither the processes we intended to tackle.

Therefore, for the purpose of the research, in the lack of more suitable terminology, *Spontaneous Fragments* and *Induced Fragments* were the terms defined to specify and distinguish the types of urban fragments we are dealing with, opening the possibility for further discussions. We believe that these terms, *Spontaneous* and *Induced*, are related better to processes of occupation and transformation of the territories, rather than their tenure, dialoguing adequately with cultural dynamics and landscape character.

3 CITY FRAGMENTS AND CITY SAMPLES

The fragments of the four analysed cities represent the variety of urban conditions found in the global south. Each chosen fragment was depicted through its spatial structural elements, visited and analysed revealing characteristics of also non-spatial layers, through the experience of space.

Similar fragments were chosen in Sao Paulo and in Jakarta, to reveal the possible differences in each city's production and use of space. All the fragments were developed in periods of urban and economic expansion in the respective cities, and represent adequately different central fragments observed in both contexts.

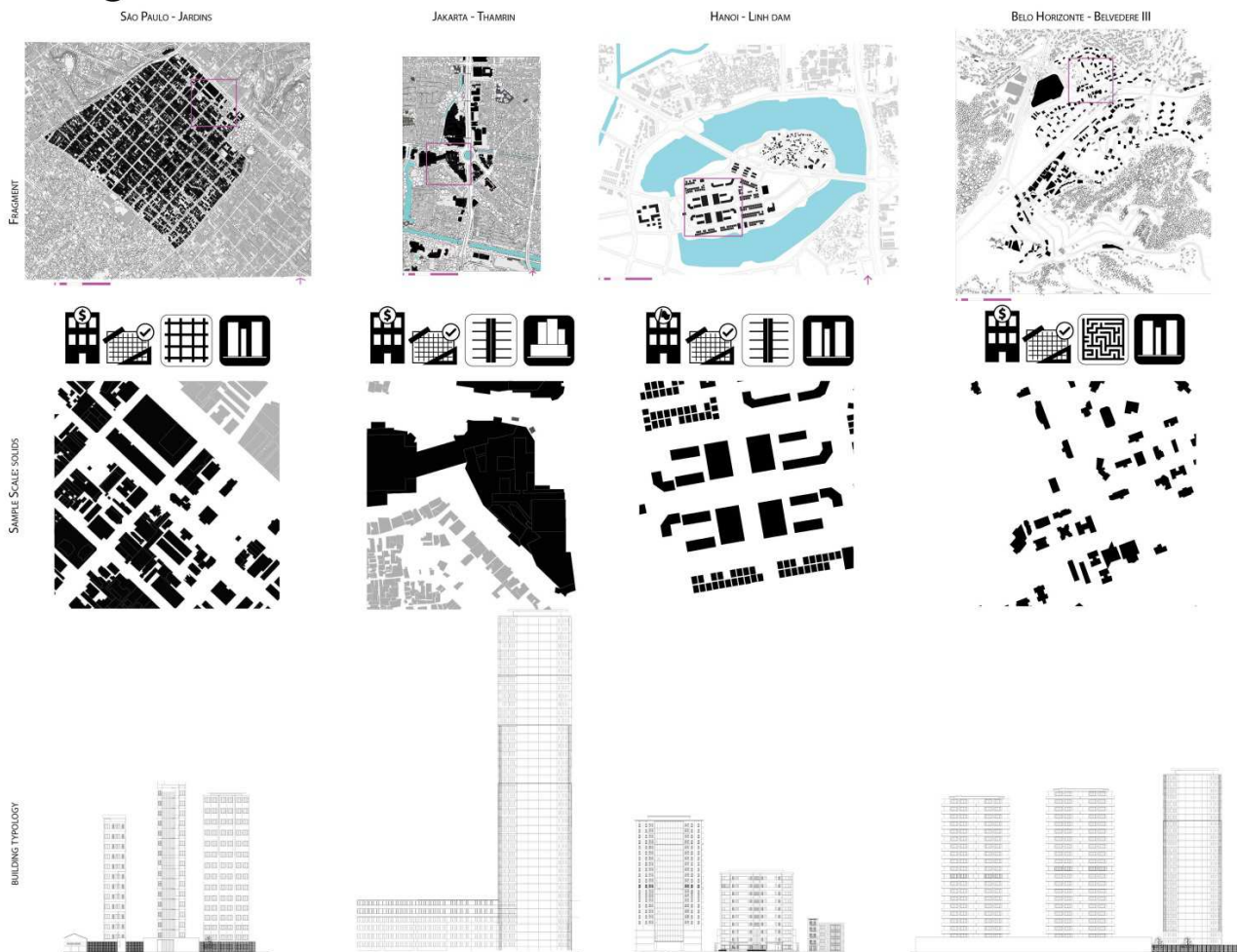
In Hanoi and Belo Horizonte, different fragments were chosen, with common characteristics: being developed or redeveloped recently - in the past fifteen years – and having a peripheral location regarding the city centre, so they exemplify the recent growth and development of the two cities, located in the edges of the urbanized area, part of a process of recent urbanization, mostly due to recent economic expansion.

3.1 Induced fragments and samples

Jardins is an upper middle class neighbourhood, constructed along the twentieth century, which went through a series of typological modifications and can exemplify the traditional formal development of São Paulo, both in its process of occupation and most common typologies. Thamrin Boulevard and Hotel Indonesia area exemplify Jakarta’s linear development, the recent process of Mall clustering and the important synergy between different types of fragment in the city. The fragments chosen represent the urban fabric formed in the 1960’s and 1970’s, evolving until today in both cities. Both areas exemplify how the economic trends and legislation shaped such areas in each city’s context.

Linh Dam, in Hanoi, is a middle class area built based on a detailed neighbourhood plan, a successful example, since it is fully occupied, of controlled urban expansion of the city, whereas Belvedere III is an upper middle class neighbourhood constructed entirely through private initiative, enabled by a law amendment which allowed its development, disregarding the overall plan for the city, exemplifying a common occurrence, especially in South America, the “tailor made” urban regulations and the influence of real estate capital.

Fragment scale - Induced



Fragment scale analysis – matrix of induced fragments.
Made by the authors. BARBOSA, FERNANDES & TU (2013).



Induced Fragments Sao Paulo|Jakarta|Hanoi|Belo Horizonte -Photographic survey of typologies

Made by the authors. BARBOSA, FERNANDES & TU (2013)



Induced Fragments Sao Paulo|Jakarta|Hanoi|Belo Horizonte -Photographic survey of street appropriation

Made by the authors. BARBOSA, FERNANDES & TU (2013)

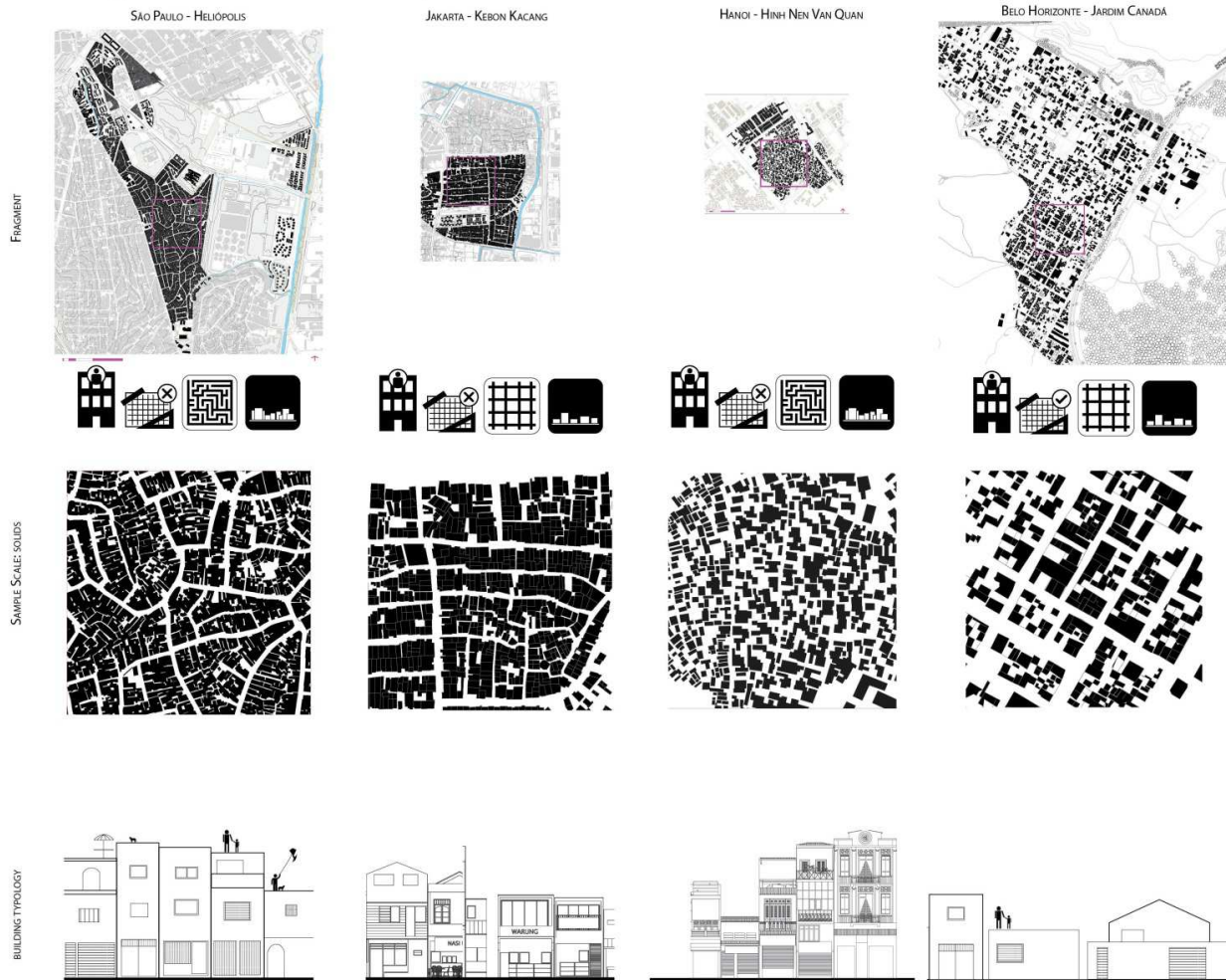
Despite their different sizes, form and density, all the analysed induced fragments share in common the high-rise building as the most common typology. In the cases of Jardins and Linh Dam, the skyscraper also coexists with two-story high houses, in the first as the result of the slow typological transformation of the neighbourhood and in the second as determined its masterplan design. Regarding street life, the more centrally located fragments – Jardins and Thamrin – shows more spontaneous appropriation of open and collective spaces. The peripheral areas of Belvedere III and Linh Dam have less street life, yet they also show some small scale appropriation as seeing in the pictures above.

3.2 Spontaneous fragments and samples

Both Heliopolis in São Paulo and Kebon Kacang in Jakarta can be considered one of the most important Favela and Kampung, respectively, of each city, representing the spontaneous occupation and indigenous urbanization, with similar processes, yet distinct results.

While Van Quan is an ancient village of Hanoi in a process of constructive densification, redevelopment and currently under demographic changes with the loss of its original population, Jardim Canada is a recent peripheral allotment in the metropolitan region of Belo Horizonte, which original shape, character and inhabitants are rapidly changing due to a spontaneous process of densifications with the re-division of its existing plots.

Fragment scale - Spontaneous



Fragment scale analysis – matrix of induced spontaneous
 Made by the authors. BARBOSA, FERNANDES & TU (2013)



Spontaneous Fragments Sao Paulo|Jakarta|Hanoi|Belo Horizonte -Photographic survey of typologies
 Made by the authors. BARBOSA, FERNANDES & TU (2013)



Spontaneous Fragments Sao Paulo|Jakarta|Hanoi|Belo Horizonte -Photographic survey of street appropriation. Made by the authors. BARBOSA, FERNANDES & TU (2013).

The spontaneous fragments observed, despite having similarities on the most common typology- the low-rise house – present differences in size, shape, density and urban fabric. The densest examples, Heliópolis and Kebon Kacang, present a more intense street occupation by commercial activities and leisure. Despite less intense, Jardim Canadá and Van Quan present street life in some focal points, as the public square and the edges of the neighbourhood, respectively. In Van Quan, the points of contact of the fragment with other areas and mobility axis are the ones where a more intensive occupation of open space occurs, demonstrated by the food market and a series of small street restaurants, as the one seen in the picture above.

4 FINAL REMARKS: INDUCTION AND SPONTANEITY

The main research question that the present paper intended to answer was: which are the spatial consequences of urbanization processes and which are the similarities between the chosen cities' development?

The urbanization and economic processes investigated had impact on form, creating similar outcomes in the cities, fragments and samples observed. The particularities found in each case study presented helpful lessons for the others, important also to frame the materialization of the southern city in general.

Regarding the overall city scale, there has been historical similarities regarding urbanization processes in São Paulo, Jakarta, Hanoi and Belo Horizonte, perceived through the dynamics of the three countries' politics, economy, external relations and social indicators, as well as in each city's urban expansion process, planning approaches, politics, urban regulations, demography, local economic and real estate dynamics.

In the three cases there was a project for the country and its image, which altered, in specific periods in each country, the spatial configuration of its main cities. In the three countries these plans created never entirely finished projects and the consequences of urbanization dynamics were rapid urban growth, due to rural migration; and a physical sprawl, due to private land parcelling - legal or illegal.

What was observed in the fragment scale exemplifies these overall relations and dynamics, whereas their urban tissues and typologies show how macroeconomic dynamics allied to urban regulations are able to shape differently parts of the city.

Nevertheless, the urban fragments analysis results, classified as induced and spontaneous in each city, calls for a conceptualization of a more balanced urban development, maybe, calling the attention to the necessity of creating a hybrid fragment, not too loose as the ones we are classifying as spontaneous, not too rigid as the planned ones, but something in between the two typologies of urban fragment, acknowledging the best features of both. As Provoost states, there is a necessity to redefine the antagonisms between what has been called planned and unplanned territories, highlighting that the terms suggest an antithesis that in reality doesn't exist. The difference lies in the identity of the planner, an individual versus a collective stakeholder, a trained versus an untrained, a top down versus a bottom up process, nevertheless in both cases there is planning. The author suggests for 21st century cities an emerging process is the "retrenchment of urban informality as a way of life, at this moment of globalization and liberation" (PROVOOST, 2010).

Finally, despite the various contradictions common to the four cities, and one might say to all southern cities in a certain extent, what one city could learn from the experience observed in the other?

The fragments chosen were quite heterogeneous, but some remarks can be made: the less labyrinthine meshes studied are also the more integrated with other areas of the city, improving the synergy between different fragments, as in Kebon Kacang and Jardim Canadá.

Real estate regulations and the historical plot sizes were determinant to the final forms of the induced areas of Jardins, Thamrin, and Belvedere III. In Hanoi, as the formal urban development is still very controlled by the municipality, the resulting urban form can be considered neither induced nor spontaneous. It is, as matter

of fact, determined, the pure result of urban design. The lesson here could be regarding how to create vibrant planned neighbourhoods, since the contrast between these areas and the buzzing centralities is huge. Density might be the key issue, but this is a subject that needs to be investigated deeper.

The result of the urban sampling process shows that the most common typology found in the induced areas are the sparse multi-familiar high-rise apartment buildings and corporate towers, even in Lihn Dam, a planned neighbourhood, showing the possible association of the typology with the higher living standards and modern life. Whereas in the spontaneous areas analysed, the most common typology is the “densified” single family low rise house, reaching up to 4 floors high.

In the sample scale analysis, even though the typologies of the induced areas are quite similar - high-rise apartment buildings and corporate towers -, their size, proportion and insertion are rather distinct.

In Sao Paulo and Belo Horizonte, both induced neighbourhoods were first allotted, offering single-family house plots. The main difference was the process of occupation, which in Jardins went through gradually, first as the original planned typology, afterwards with its substitution, having as a result a wider variety of typologies composing the urban landscape, whereas in Belvedere III, due to the complicated process of urban regulation changes, when finally occupied, it was done with a more contemporary typology, the vertical gated communities.

The urban regulations restricting densification in Brazil in general does not allow the densification and verticalization observed in the Asian cities, mostly Jakarta. The real estate market and financial capital, however, has limited resources, therefore these developments stay concentrated, clustered, while in Sao Paulo they are done in smaller scale but sprawled in the entire territory of the expanded centre, creating quite different urban forms, despite the similar processes, which highlights the importance of regulation shaping the final form of the cities.

To conclude, from what has been discussed and suggested in these final remarks, the answer to the main research question, regarding the similarities of global processes’ spatial outcomes in the context of southern cities, can be explained through one concept: spontaneity.

Spontaneity was perceived, as a key characteristic of the cities analysed, and is present in most of the conditions, processes, spaces and shapes analysed. Even in the so called induced fragments, spontaneous processes of market-led re-development, design and construction of entire neighbourhoods, public space appropriation and highly synergic relations were observed.

As a conclusion, one may say that imposed and planned axes of development do not always work as the plan intended. Market axes of the development are, most of the times, strong enough to overcome it, even to push the change of urban regulations, whereas spontaneous urban appropriations also tend to happen despite planning. The lesson learnt from all cities is to understand how to use the market logic for sustainable development, where supply follows demand, in order to dialogue with capital, to co-create with the population, not imposing processes, but to manage the spontaneity diversity and transformation in urban development.

It is precisely the lack of planning tools - order, control, zoning, structuring – that forms the most interesting spatial assets of tissues such as Kebon Kacang, Heliópolis, Van Quan and Jardim Canadá: serendipity, informality, spontaneity, and most of all, mixity. But it was also the public interventions (planned or unplanned) and the law apparatus, that made them more liveable and sustainable, especially in the cases of Jakarta and São Paulo, where the efforts of urbanizing the fragments and connecting them to the city enhanced their qualities and consolidated them as fundamental pieces of the urban fabric.

Excess of planning means predictability, which, after the modernists exploitations of the past, have proven to be not only often uninteresting but, in the aim of suiting for all, sometimes it suits none, for its generic inflexibility. Linh Dam, if compared to other areas of Hanoi, seems to be asleep. In the reality of Brazil, the combination of free-market of city-making, patronage politics and fast transformation adds an extra ingredient to the 'formal' city, which is what makes it more exciting. The social activities of the business Avenida Paulista, in Jardins after dark and the sports complex in which the residential neighbourhood of Belvedere III is transformed on weekends are clear evidences. In the Thamrin area of Jakarta, is the proximity to the Kampung with its street vendors that brings and extra layer of excitement to the entrances of the great shopping Mall. It is the un-wanted young occupancy of the roundabout of the Thamrin Boulevard, designed for being 'pedestrian-free' that brings life for the avenue at evenings.

From these conclusions, a question remains: how to induce spontaneity?

One hypothetical solution to this dead-lock would be subverting the logics of power, a populist approach in its good sense, empowering the people as a matter of avoiding the complete abstract administration machine, which is most of the times not connected locally.

In the history of urbanism, north and south, there is an alarming bureaucratic detachment of planning and the reality, especially in fast urbanizing cities. Even though there is today the spread out tendency of participative and integrated planning, the scales of planning only grow further, with the expansion of borders (Jakarta and Hanoi) and the creation of administrative metropolitan regions (São Paulo and Belo Horizonte). Therefore, there is a problem in the 'scale of planning', connected to the administrative layers and planning tools. Another process, perceived globally, is that often the process of planning is exhaustively time consuming, so when it is finally enacted it is already 'outdated', once the city has already changed on its own, one could say spontaneously, with newer and more intensive problematic to be tackled.

These cities were produced out of all its stakeholders, despite planning. Being so, why not embody it and propose that, instead of purely top down or bottom up initiatives creating urban form, urbanism and planning mediate this different actions and stakeholders shaping the city.

What is the right dose of planning? In which stage and in which scale of spontaneity should planning intervene, adding infrastructure, services, connections and expansions? Why not a "meet half way" urbanism?

More than a set of answers, the conclusions here raise some new and exciting questions.

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