

## THE STAIN, THE LINE AND THE DOT.

### Lisbon metropolitanization *revisited*

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### Abstract

This paper aims to provide alternative interpretations to the current model regarding the expansion of the Lisbon Metropolitan Region - the oil stain. Through critical reading of multi-temporal cartography and data from census, we will demonstrate that demographic and urban changes among country, city and periphery are better defined through a concept of urbanization, expansion and conurbation between dots (pre-existing spots) along lines (road infrastructures) than as a stain-type of expansion with the city of Lisbon as its core. We sustain that the Lisbon Metropolitan Region is not simply a result of the expansion of the city but a territory with its own local roots, which have grown and underwent conurbation and will continue to expand the urban territory, perhaps towards a megalopolis and ultimately an ecumenopolis.

**Keywords:** Metropolitanization, City, Periphery, Suburbs, oil slick, Lisbon Metropolitan Region (AML), Lisbon, Rosário, Interdigital Webbing, Metropolis, Conurbation.

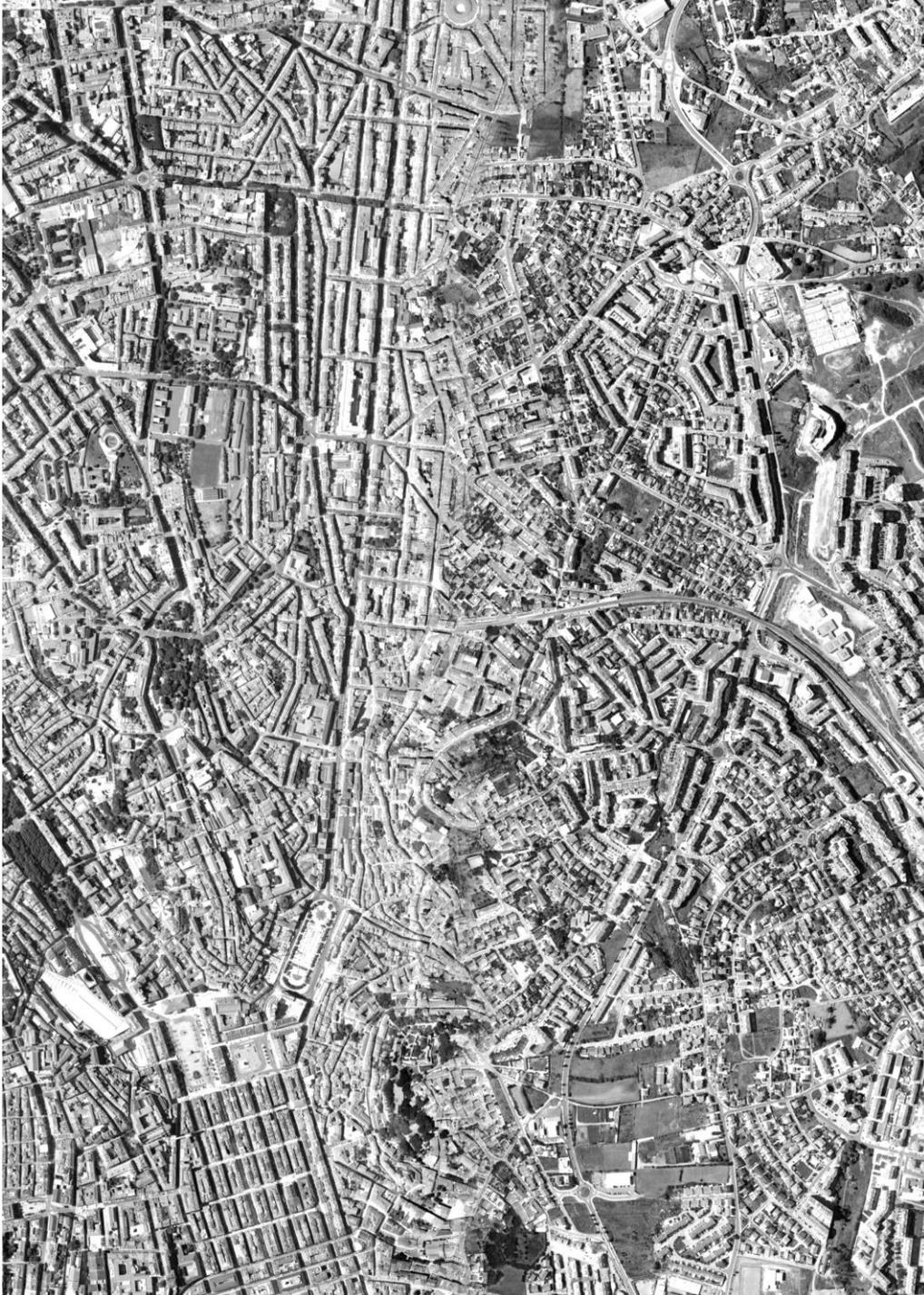
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## The city and the other: introduction



**Image 1** - Montage of orthophoto maps of Lisbon and Mem-Martins (João Caria Lopes, 2015).

We tend to assess the *other* by comparison to ourselves; the same has occurred with the City and its *other* - the Suburban Periphery<sup>1</sup> - which has led to this new urban form being described as *diffuse, disperse, fragmented, extensive, discontinuous* and, as a consequence, a model-image has been widely used to define the urban development of the city-metropolis: the *oil stain*.

Creating conceptual images is a natural process to allow for the understanding of complex concepts; the use of these images simplifies the relation between the environment and the resident and aims, or should aim, to make the territories under analysis understandable. (Lynch, 1982)

The comparison between the city and the periphery, which have different territory dimensions and time dynamics, has led to a rather detached and unclear assessment of the new urban form still not consolidated: the Lisbon-metropolis, currently designed Lisbon Metropolitan Region<sup>2</sup> (LMR).



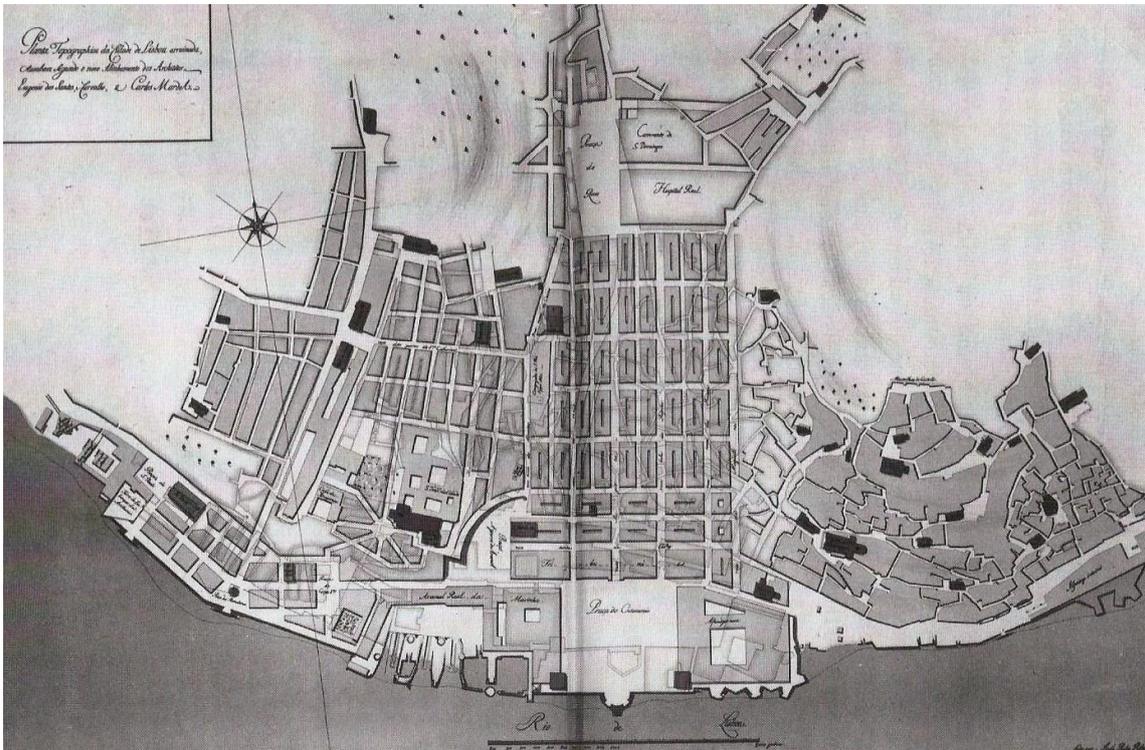
**Image 2** - Aerial photography taken above Air Base Nº 1, Pero Pinheiro- Sintra (João Caria Lopes, 2015).

If we analyze the demographic development of Lisbon and its peripheries, we realize that Lisbon has not assimilated residents from the country in a centripetal movement, then loosing residents to adjacent territories in a centrifugal movement, as described in the model accepted by most agents and researchers involved in this territory.

Lisbon-city never had more than 808 thousand residents (1981, INE 1960-2011), which evidences that the remaining 2 million residents of the LMR moved directly to the periphery and are part of the morphological development of peripheral population even before being part of the metropolis.

If we consider the expansion of the metropolis as a series of expansions and conurbations of peripheral populations, distributed among the main road infrastructures rather than a centrifugal expansion of the Lisbon-city, we realize the origin of the current urban territory and are able to create new - understandable and readable - concept-images. This change in understanding the territory has the potential to alter the whole scientific and political discourse and becomes relevant to inform future territory planning or projects of any kind.

- What can we understand through studying the morphogenesis of the Lisbon Metropolitan Region?
- The model-image of the Oil Stain may be used to interpret the metropolitanization of Lisbon?
- What concept-images best describe its development?
- What opportunities are uncovered through this new interpretation of these territories?



**Image 3** – Map of Baixa (downtown) Lisbon, architect Eugénio dos Santos (France 2005).

## The core of the stain: the city

When José-Augusto França, in 1980, published “Lisboa: Urbanismo e Arquitectura”, initially written for the collection “Biblioteca Breve” by Instituto da Cultura e Língua Portuguesa, he could not rely on general histories on the city of Lisbon because there were none (França 2005). We may state, therefore, that this is the first historical summary of the general history of Lisbon, which focuses on urban planning and architecture, and is at the basis of many other books on the same topic.

José-Augusto França’s book established eight important eras in the history of the city of Lisbon:

- *The Medieval City*– since its location by the river Tagus up to the moment the city was named Lisbon in 1401, including the Roman occupation, the invasion by the Barbarians, the building of Cerca Velha (old castle wall), the occupation by the Moors and the conquering of the city by king D. Afonso Henriques and the building of Cerca Fernandina (the castle wall built by king D. Fernando).
- *The City in the reigns of kings D. Manuel and D. Filipe* – defined by the importance that the square Terreiro do Paço acquires in view of the Discoveries, the construction of the neighbourhood of Bairro Alto, the widening of some roads in downtown Lisbon (Baixa), the construction of several palaces outside city walls and the construction of a new wall that circles the city from Santa Apolónia to Alcântara, including Campolide.
- *The city in the reign of king D. João* – important events include the expansion of buildings outside city walls from Xabregas to Belém, the construction of the aqueduct - Aqueduto das Águas Livres - and the system of fountains inside the city.
- *The city at the time of the Marques of Pombal* – defined by the 1755 earthquake, the political and urban policies of Marquês de Pombal and the reconstruction plan for downtown Lisbon (known as Baixa Pombalina).
- *The Romantic city* – characterized by a decrease in urban expansion, the construction of public gardens such as Príncipe Real and Jardim da Estrela, the construction of the railway to Porto and Sintra and the establishing of new limits to the city through a bypass road, from Cruz de Pedra through Arroios and up to Alcântara.
- *The Capitalist city* – from the opening of Avenida da Liberdade, the building of workers’ villages and the increase in height in several buildings, placing of street lights in Lisboa, the plan of the neighborhood Avenidas Novas, the expansion of the city from Olivais through Paço do Lumiar up to Algés.

- *The Modern city* – known for the construction of buildings by architects, such as Cristino da Silva, Pardal Monteiro, Continelli Telmo, Carlos Ramos and Cassiano Branco.
- *The city at the time of Estado Novo and II República* – highly influenced by the works of Duarte Pacheco and established in the so-called “De Groer plan”, as, for example, roads such as Estrada Marginal, the beginning of the construction of the motorway A5 through a recently planted forest park - Parque de Monsanto - , the bridge over the Tagus, the construction of the neighborhood Bairro de Alvalade and of a series of new neighborhoods of “inexpensive houses” as well as illegal house construction along the roads leaving the city; the concept of Greater Lisbon, which included all the neighborhoods within a 10 km radius - the councils of Loures, Oeiras, Almada, Barreiro and Seixal - and later those within a 25 km radius - Alverca, Loures, Sintra, Oeiras, Cascais, Montijo and Moita.

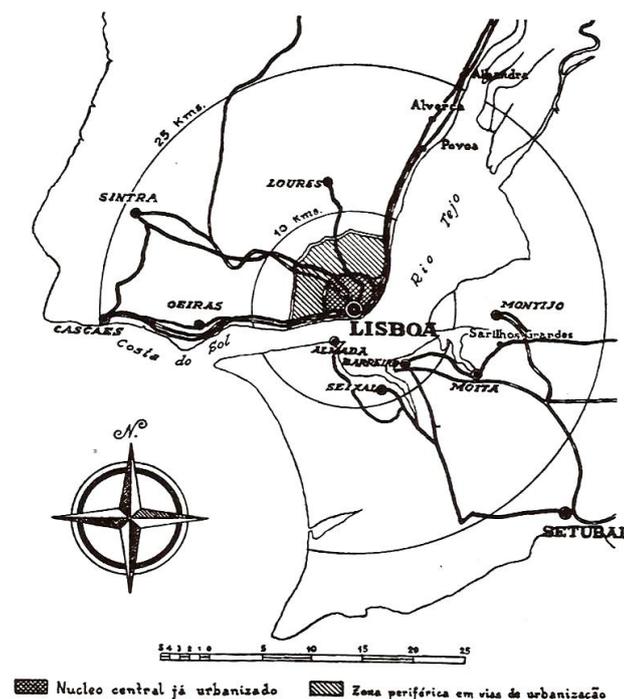


Image 4 – Geographical scheme of Greater Lisbon, 1952 (França, 2005).

Analyzing the development of the city of Lisbon evidences its expansion from a central area (the castle and its walls) in a concentric and continuous urban development. The several walls around the city, Cerca Vellha (old wall) in the 5th century Cerca Fernandina (the wall built in the reign of king D. Fernando (Cerca Fernandina) in the 17th century, the different city limits and later the bypass roads and the motorways

CRIL and CREL makes it evident that the city has continuously expanded from an urban centre.

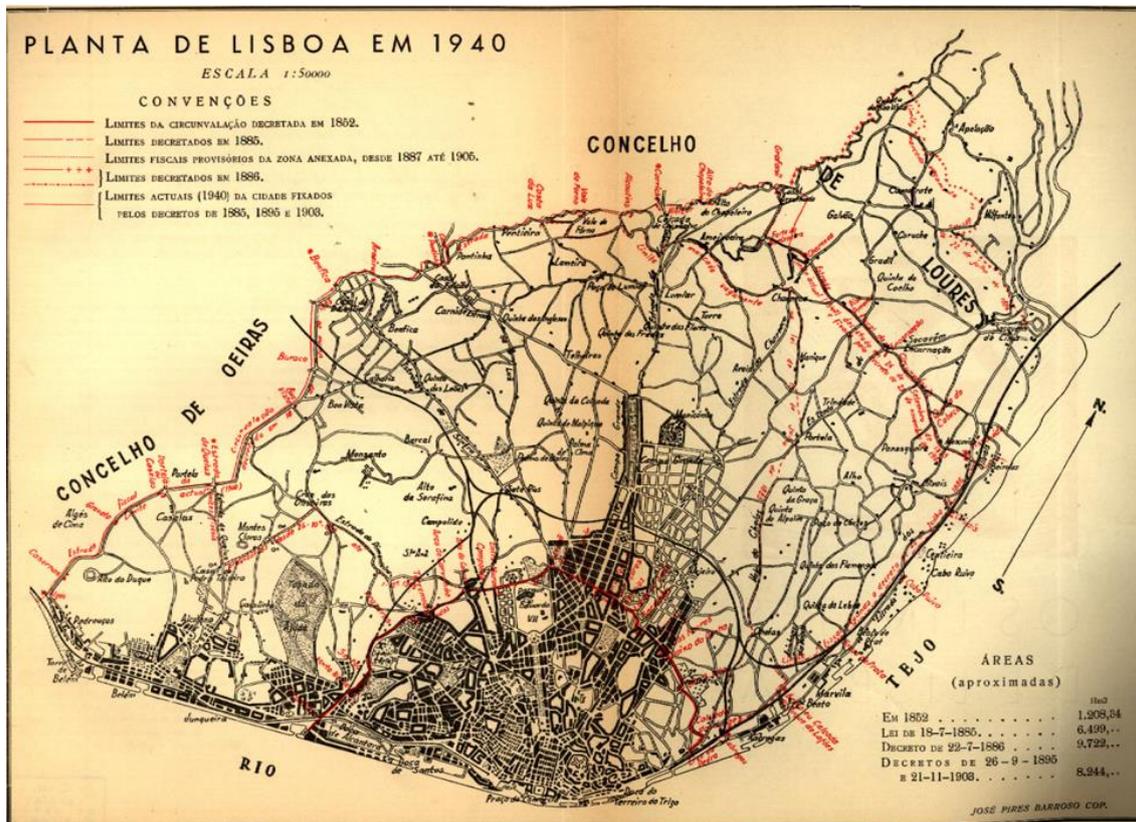
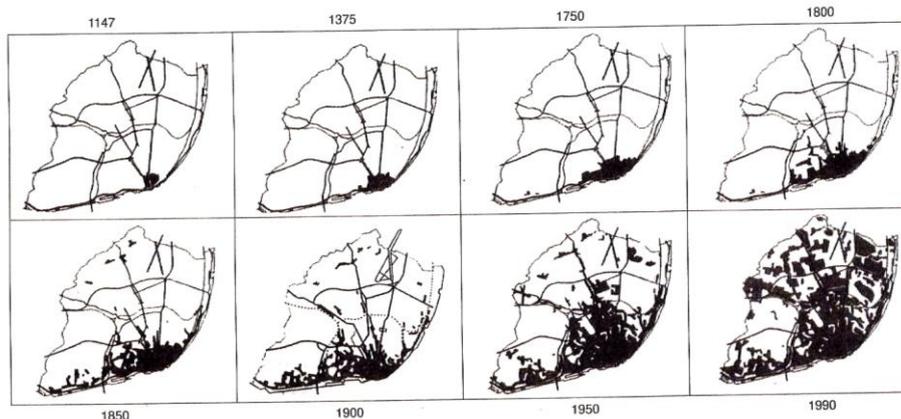


Image 5 - Lisbon Map in 1940, coord. José Pires Barroso in Revista Municipal nº 5 and 6, 1941.

The maps that show the development of the city of Lisbon by other authors also describe it as expanding from the top of the hill towards the river (Salgueiro, 2001) and later from Terreiro do Paço towards Algés, Telheiras and Olivais. This is similar to how other cities' expansion has been described, though those cities are different in terms of topography and timeline or even in terms of expansion: concentric, star-shaped, line-shaped or network-shaped (Beaujeu-Garnier 1997).



**Image 6** - *The expansion of the city.* (Salgueiro, 2001).

### **The stain: the periphery of concrete forests<sup>3</sup>**

After the end of World War II (1945) and throughout the Decolonization process by several European countries, there was a boost in the expansion of European cities. In many countries, such as France or Great Britain, urban expansion policies were implemented with this demographic growth, leading to new urban territories or to new typologies, such as New Town or Grand Ensembles (Nunes, 2011). In Lisbon, the demographic growth was not met with this type of policies and, in view of the lack of housing, several privately built neighbourhoods were founded, from Reboleira (Amadora) to Santo António dos Cavaleiros (Loures), and illegal houses were built in empty areas near the city, such as Casal de Cambra.

Suburban expansion from the 1950s onwards acquires a negative connotation (in parallel, real estate discourse is markedly optimistic) and words such as Suburbia, Fragmented, Diffuse, Expansive and Oil Stain are commonly used, even in scientific text, to describe the morphogenesis and today's type of suburban morphology. The history of the metropolis is described and illustrated by maps that evidence a cohesive city centre that expands towards neighboring territories, in a process similar to that of an oil stain. The image of the oil stain is used to describe the several types of constructions that spread to former rural territories, in an expansive movement towards the outside, from the center to the periphery (Salgueiro, 2001).

“A periferia de quase todas as grandes cidades obedece a este ritmo alternado de desenvolvimento que já foi qualificado de *mancha de óleo*.” (Beaujeu-Garnier 1997).

## **The Lisbon Metropolitan Region: from fragmented suburb to metropolitan neighborhood**

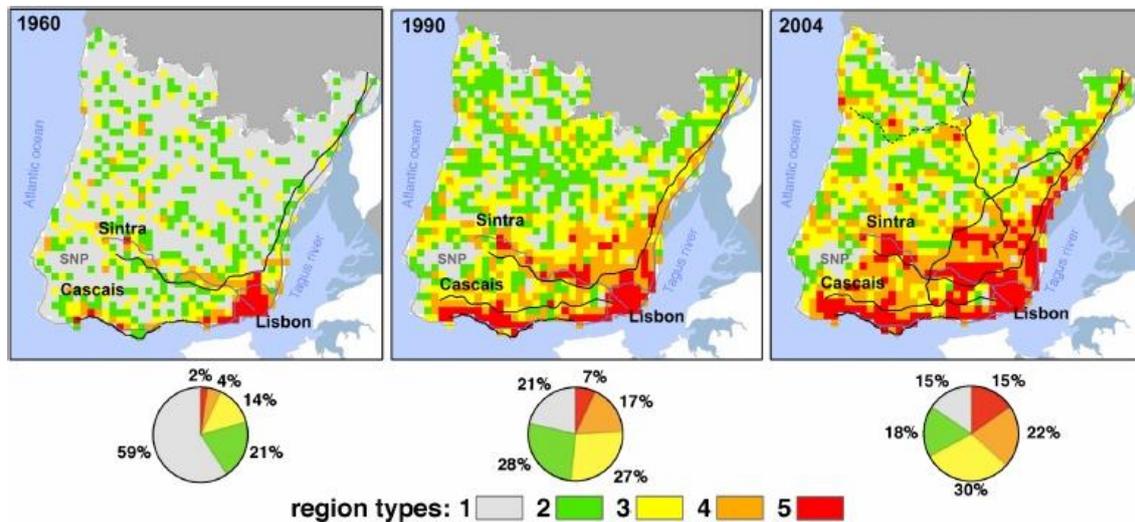
Since the 1960s, words such as *Exurbia* (Vernon 1962), *Metropolis* (Vance 1964), *Outer City* (Herrington 1984), *Edge City* (Garreau 1992), *Ville Archipel* (Viard 1994), *Troisième Ville* (Mongin 1995), *Métapolis* (Archer 1995), 100 Mile City (Sudjic, 1992), *Ippercittá* (Corboz 1994) and *Pulp Urbanscape* (Gaspar 1999) have been used to describe the expansion of different territories around major European and American cities.

In the case of Lisbon, recent studies on changes in mobility and demography at Freguesia level - “Da cidade pedestre à metrópole do automóvel” and “Dos subúrbios citadinos aos subúrbios metropolitanos”, (Nunes 2009) - on the types of suburbs adjacent to Lisbon - “Formas de habitat suburbano”, (Cavaco 2011) – on road infrastructure as guideline to modied territories – “A rua da estrada”, (Domingues 2012) – have raised the issue of peripheral diffuse territories, a wealth of new data that allows for an understanding of those territories not as a stain around a city but as places with specificities, history and urban development and, above all, with features that we can relate to and that can be linked to the city. They have become understandable territories.

Moreover, in the LMR studies and urban analysis methodologies have been conducted using new technological systems that show Lisbon-metropolis from a macro and multi-temporal perspective and even from a metropolitan development scenario - examples are the Cellular automaton model SLEUTH (Silva 2002) and the spatio-temporal fractal reading of the LMR (Encarnação, S., Gaudiano, M., Santos, F.C., Tenedório, J.A. & Pacheco, 2012) - these studies aim to analyze the built territory by crossing data from the census and multi-temporal maps.

State-of-the-art literature on the metropolitanization of Lisbon will make it evident that only recently was there the time distance needed to revisit the urban territories in the second half of the 20thc and to decode the apparent complexity of the rapid population movement and building construction that have made the Lisbon metropolis.

Ongoing research projects such as *Optimistic Suburbia*<sup>4</sup> – that shows the construction of suburbs adjacent to Lisbon as operations planned and projected by architects and urban planners – or *Periurban*<sup>5</sup> – which, in identifying different types of periurban territories and different future scenarios, seeks to evidence the interest and the need to research those territories today and that there is still much to understand to uncover the preconceived ideas and myths surrounding these territories so as to work on the metropolitan region on scientific grounds.



**Image 7-** Spatial-temporal types of regions in MAL (Encarnação, Gaudiano, Santos, Tenedório, 2012).

These new approaches become evident when territories in the urban periphery, as they are still described today, are places of delinquency, of social segregation and of lack of citizenship, “lugar de exclusão, da marginalidade e da segregação social, da anomia, da ausência de uma noção de pertença a um lugar, do défice de cidadania” (Domingues 1994), which have become urban, or rather metropolitan, areas that do not conform to that negative description. An example of this is the consolidation of suburban areas such as the city of Odivelas, as described by Vítor Durão in the paper *Odivelas e a CRIL – Territórios, Arquitectura e Populações*, in which the author emphasizes the development of this suburb, now a city.

“Em apenas sessenta anos passámos no local de Odivelas por uma transformação que em grande medida nos transportou de uma vila/freguesia de vida local, em contexto agrícola, com uma cultura relacionada com o sítio, a uma vila de subúrbio absolutamente dependente de Lisboa nas atividades económicas, sociais e culturais, com grande expressão de trabalhadores na indústria com uma cultura muito relacionada com os meios sócio-profissionais, para uma cidade que já é uma centralidade com vida própria sendo cada vez menos subúrbio de Lisboa, em plena afirmação no sistema metropolitano [...]” (Vieira de Almeida; Costa; Durão 2012).

### **Voluntary suspension of disbelief<sup>6</sup>: oil stain or rosary?**

“O crescente tamanho da nossa área metropolitana e a velocidade a que a atravessamos criam muitos problemas novos à nossa perceção. A região da metrópole constitui, agora, a unidade funcional do nosso meio ambiente e é desejável que esta unidade funcional seja identificada e estruturada pelos que a habitam” (Lynch, 1982).

There seems to be no open link between these two perspectives on the city of Lisbon - that of the history of the city of Lisbon and of the history of the periphery of Lisbon. They are separate and rather incomplete so as to comply with the image of the stain as representing the city's expansion and development. In fact, each location has its history, as occurs with the city of Lisbon: each has its centre, which has gradually expanded in terms of construction and main roads, leading to new centres, which expanded beyond their borders through the construction of new schemes and, above all, as a result of the increase in population after the 1950s and the need to meet that demographic demand. In the case of Lisbon, there is and never was a so-called Generic City, built on a *tabula rasa* (Koolhaas, 2007) - the whole territory has been, from an early age, occupied and filled with history and human settlement as a *Tabula Rugosa*<sup>7</sup>.

On the other hand, if we analyze the census data from the past 60 years, from 1950 to 2011, we realize that the data regarding the population of Lisbon and that of the Lisbon Metropolitan Region (excluding the city) does not comply with the idea of expansion from the centre towards the periphery, but evidences at least two different movements. In the 1970s, the city of Lisbon has its highest number of residents - 807,937 - and has been losing residents ever since until 2010/11; the LMR (excl. Lisbon) has seen an ongoing increase in residents until 2009, when it has its highest number of residents - 2,350,983. Analyzing the same data, we may also realize that the variation in births and deaths in both territories in the same time frame shows similar variation - there are about 7,500 deaths and 6,500 births per year in Lisbon; in the LMR in the same time frame, there are 18,000 deaths and 24,000 births per year. Thus, the city has lost 71,000 inhabitants and the LMR (excl. The city) has gained 426,000 people.

As we may see in Table 1, the city of Lisbon has lost a total of 262,722 inhabitants in the last 60 years, the LMR (excl. The city) has gained 596,267 inhabitants; this shows that only about 180,000 inhabitants moved from the city to the periphery and the remaining inhabitants were already born in the periphery. These numbers are also made evident in the research project *Trajectórias*<sup>8</sup>, which states that the majority of residents in the periphery moved directly to the periphery and only 30% began their "metropolitan experience" in the city of Lisbon. (Pereira; Ferreira, Coto 2013).

We may thus conclude that to describe the rapid urban expansion of the LMR we must at least resort to two demographic movements - that of city decrease and that of periphery emergence.



**Image 8 - Carta chorografica dos terrenos em volta de lisboa (chorographical maps of the lands around Lisbon) - Bibliotecanacional-cc-1814-a\_0001\_1\_p24-C-R0150.**

Noteworthy is the fact that the idea of urban sprawl starting from the centre of Lisbon must be revised as more than 260,000 people left the city and, at the same time, there was an increase of over 590,000 people in the Lisbon Metropolitan Region.

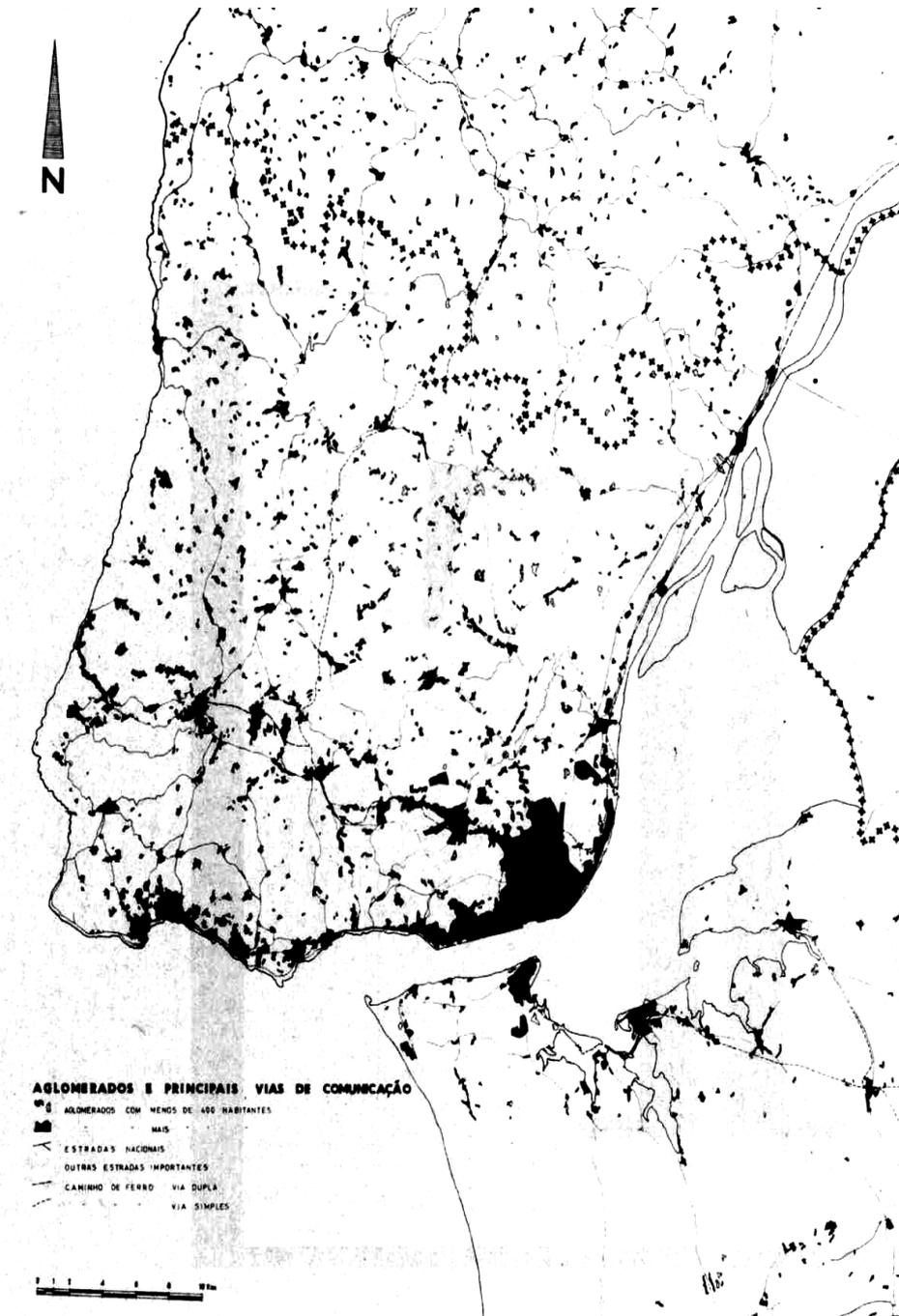
	1950	1960	1970	1981	1991	2001	2009	2011
<b>Lisbon</b>	783,236	802,230	760,150	<b>807,937</b>	669,290	564,657	479,884	545,245
variation		+ 19,004	- 42,080	+ 47,787	- 138,647	- 104,633	- 84,773	+ 65,361
loss								<b>- 262,722</b>
<b>LMR (s/lx)</b>	509,974	703,752	1,055,140	1,674,339	1,904,975	2,097,193	<b>2,350,983</b>	2,270,606
variation		+ 193,778	+ 351,388	+ 619,199	+ 230,636	+ 192,218	+ 253,790	- 80,377
gain								<b>+ 596,267</b>

**Table 1** - Population loss and gain in the LMR, based on the Census (1950 to 2011).

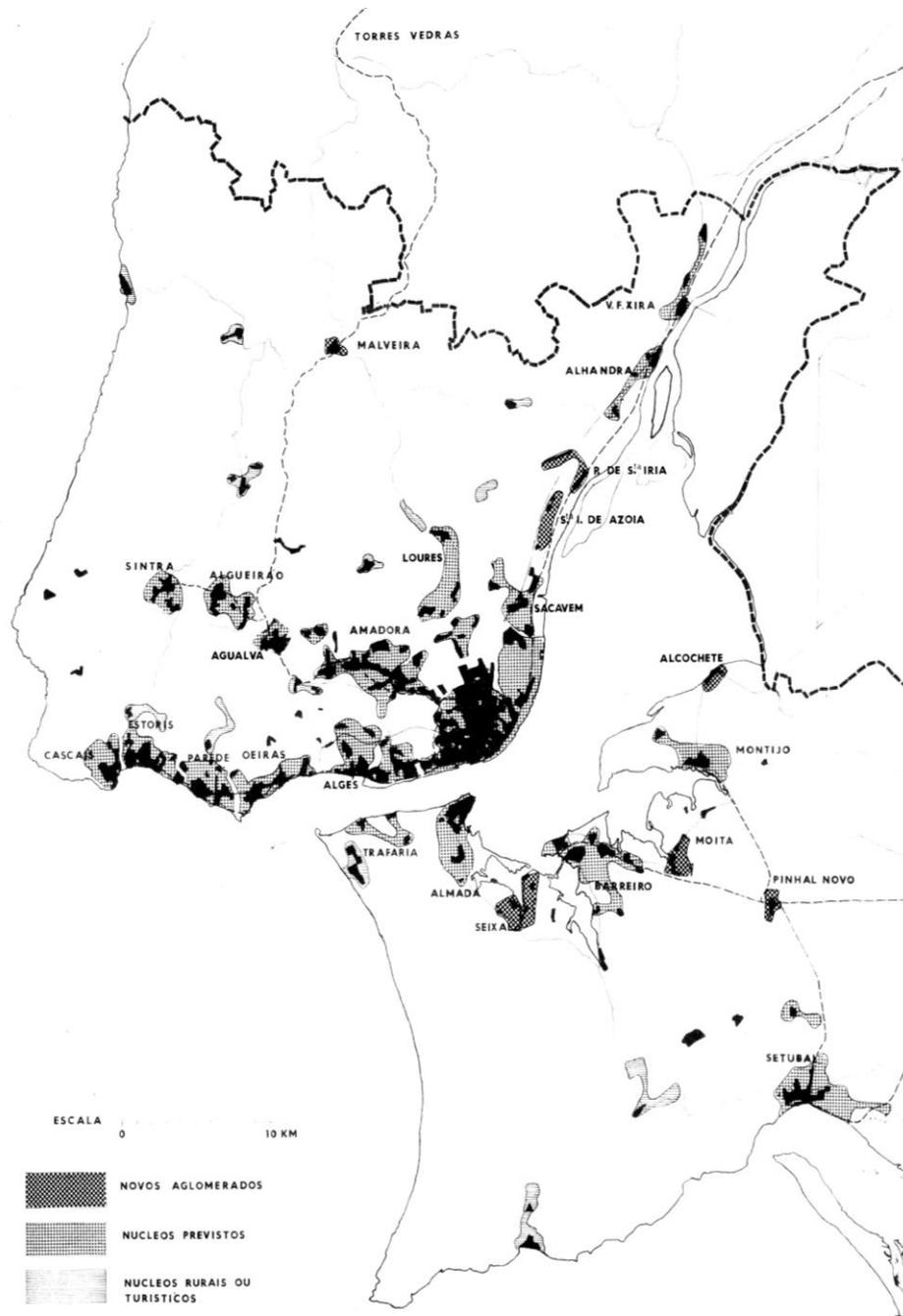
So far we have already discussed two concepts that evidence the formation of Lisbon-metropolis: *Tabula Rugosa* - regarding human settlements and roads or paths on a territory with its own name, topography and rituals - and *Periphery Emergence* - which draws our attention to two different movements, from the city to the periphery and from the country to the periphery. The latter, whose figures are higher than the former, demonstrates that images such as Oil Stain are not adequate to describe the metropolitan process.

The survey conducted for the Reference Plan for the Lisbon Region in the 1960s by the Ministry of Public Works - Urban Planning Directorate-General - Office for the Reference Plan for the Lisbon Region, is the key to a possible new understanding of the complex contemporary territory:

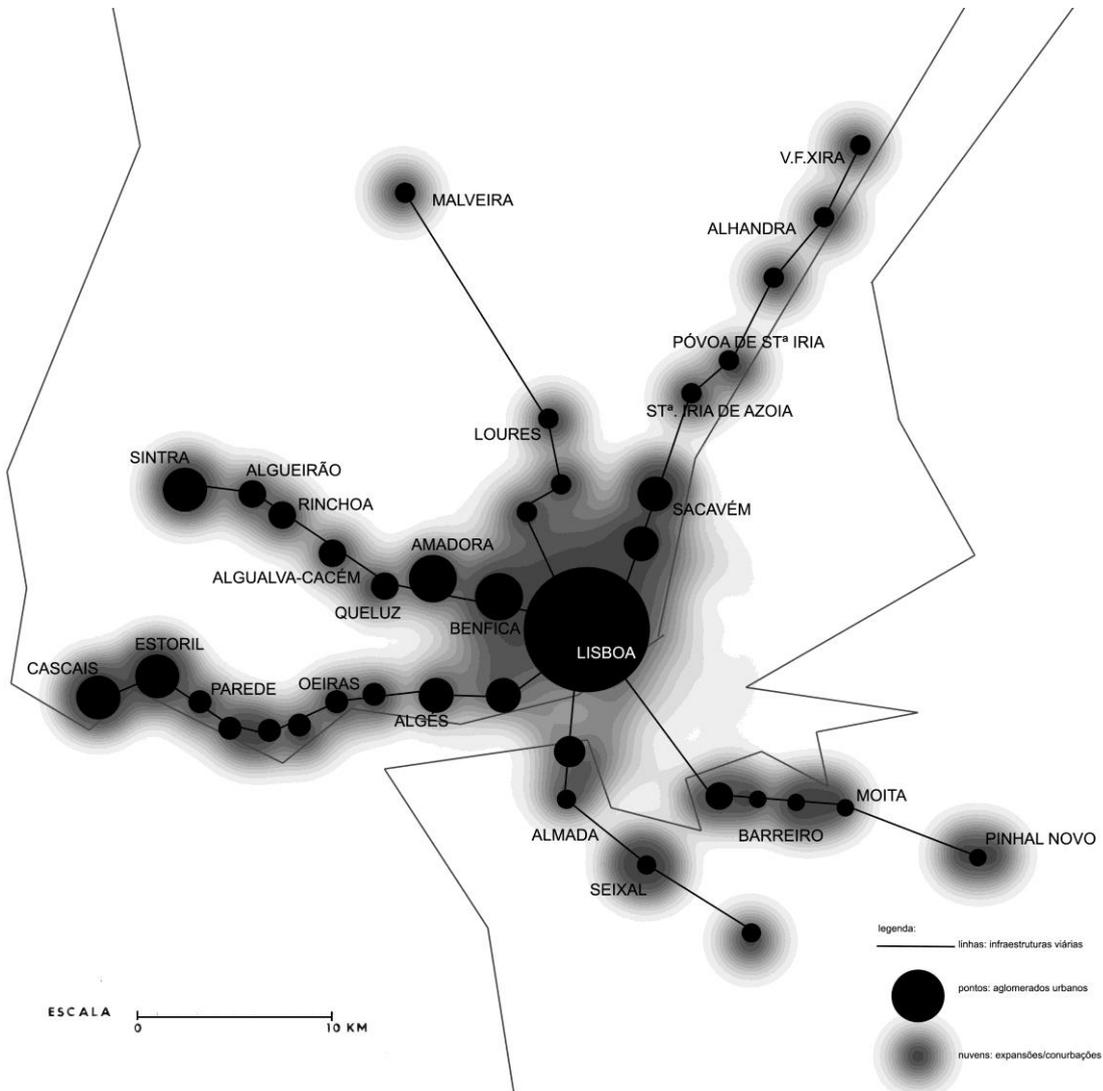
“Se como atrás se viu, Lisboa se apresentava na época como uma cidade na forma de dedos de luva, crescendo ao longo das linhas de transporte coletivo e na sua proximidade, os seus povoados suburbanos dispostos ao longo da Linha de Sintra aproximavam-se mais da figura de um *rosário* de núcleos residenciais e industriais sobre um fundo de campos agrícolas – na expressão sagaz dos autores da memória descritiva do Plano Director da região de Lisboa” (Nunes, 2007)



**Image 9** - Reference Plan for the Area of Lisbon, Pre-plan, 1964: *Map n°14 – Survey and Analysis – Settlements and Roads (Map section)*



**Image 10** - Reference Plan for the Area of Lisbon, Pre-plan, 1964: *Urban Regional Structure – Population Distribution according to the Proposed Regional Structure (Map Section) – consolidated urban settlements shown in black.*

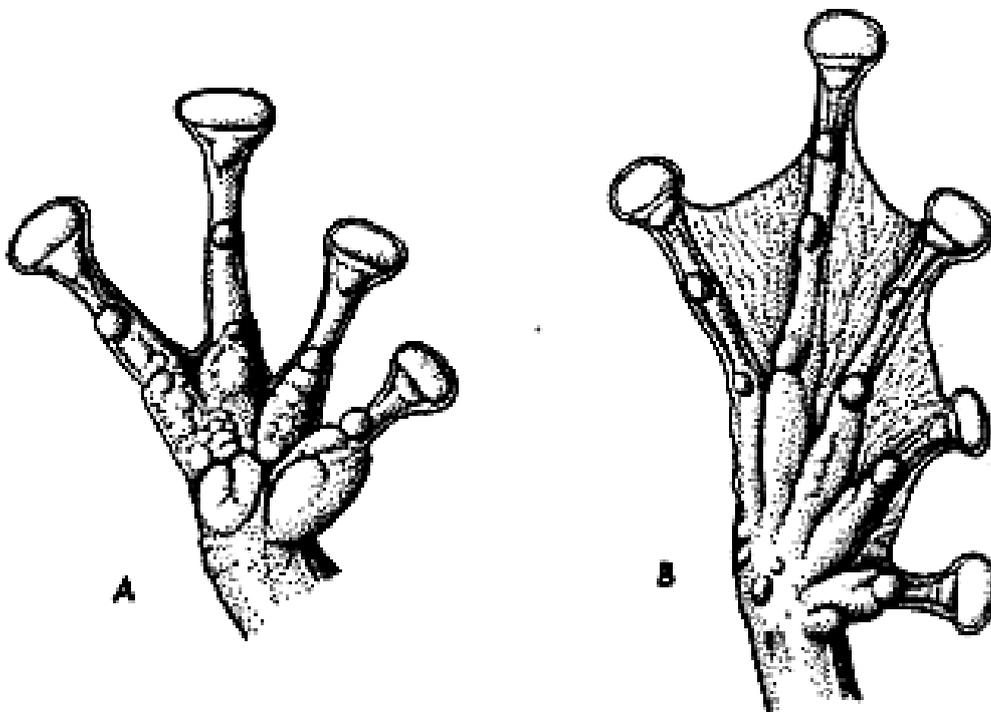


**Image 11** - Schematic diagram – representation of the metropolitan expansion as a consequence of the expansion and development of several urban settlements distributed among the main roads, as in a Rosary (João Caria Lopes, 2017).

Rosary is one of the most commonly used words by the team led by architects Meyer-Heiner and Miguel Resende – the team that designed the General Plan for the City of Lisbon (Plano Geral da Cidade de Lisboa-PGUL) published in 1967 – to define the type of organization of existing urban settlements and explains the moment when peripheral rural settlements and the current urban settlement started this movement of expansion along the railway lines (Cascais, Northern and Sintra) leading to new urban centres that have also expanded, thus the shape of the Rosary.

This assessment of the territory, defined through a model-image based on analysis of actual territory, raises the need for revising cartography produced so as to illustrate the idea of diffuse and stain-formed peripheries and and thus provides a new and clearer perspective.

The work *Rua da Estrada* (Domingues, 2009), on new urban, modified realities that are at the limit between what the city is and what the country once was, is also relevant for understanding these territories. If we find the place of these territories in the map of the LMR, we may state that they are located between the infrastructure lines of the expansion of the metropolis of Lisbon, i.e., they are part of the peripheral territories between the Rosary lines. One of the concepts proposed by Domingues may be used - the Membrane - something in-between, that connects and structures the relation among different elements - and expanded to create the concept of *Interdigital Webbing*, a new model-image, able to describe the formation of the metropolis. Interdigital Webbing applied to the understanding of Lisbon-metropolis allows us to link elements such as infrastructural lines (fingers), urban centres along them (finger knuckles) and the several roads (transparent webbing between the fingers). In the case of Lisbon, the territories that represent that webbing are still being urbanized and, therefore, the image of the web is one of change, we are witnessing the change from a very thin and clear skin to an opaque mass - in our case, towards a consolidation of the metropolis.



**Image 12** - A and B.—Hand and foot of *Hyla boulengeri* (KU 102173), x 3. C and D.—Hand and foot of *Hyla s. staufferix* (KU 57790), Project Gutenberg (LEON, 1969).

## **The Rosary, the *Interdigital Webbing* and the *Metropolis*: Conclusion**

“O estudo histórico dos fenómenos urbanos ensinou-nos que desde cedo a urbanização estabelece laços de interdependência entre cidade e região: a primeira, gerindo e defendendo os recursos da segunda. Bem cedo, estas primeiras urbes começam a construir relações comerciais, culturais, políticas e diplomáticas com povoações afins, a distâncias mais ou menos remotas. O que vale por dizer que quando o fenómeno urbano emerge, o faz bem cedo “em rede”, na qual depende da economia de mercado num contexto territorial, cada vez mais vasto, de cidades interligadas entre si, por via marítimo-fluvial e por via terrestre (e mais tarde, por via aérea).” (Possolo 2012).

As demonstrated, the formation of Lisbon-metropolis cannot be defined as an Oil Stain or a Diffuse expansion, which may not be understood in terms of its origin, morphology and current complexity.

Unlike Lisbon-city, which has always been viewed as a centre sprawling through its several walls - Moura, Fernandina, Circunvalações, Termos, Circulares Interna and Externa - the Suburban Periphery has, from an early age, been considered an illegal, minor, unregulated, fragmented, diffuse and disconnected urban expansion. Throughout its short expansion period, it has acquired a negative character at all levels: social, economic, urban and architectural. However, more recent studies evidence a deep change in these territories. What was once Suburban is progressing to Metropolitan - the new cities and *superfreguesias*<sup>9</sup> (large administrative territory divisions) are being consolidated and improving the living conditions of its residents, and are now urban centres with employment opportunities, a place for citizens and experience residential stability - in close link with Lisbon-city, not as a dependent suburb but as a new centre in a polinuclear territory.

We therefore propose that the existing maps should be reanalyzed and the terms used to define the metropolitan expansion be revised. This requires considering that:

- The LMR was not formed by territories with no inhabitants or meanings;
- The concept of urban developments as an Oil Stain or in a Diffuse manner is not applicable to Lisbon;
- At least two types of demographic and urban movements took place: city decrease and periphery emergence. The latter of these movements indicates that most residents of the LMR moved directly to the periphery.
- The metropolis is the result of increase, expansion and conurbation among different urban centres, distributed along the major roads - Cascais, Sintra, Northern, towards Torres Vedras and across the river Tagus towards the south - similarly to what the authors of the 1964 Pre-plan defined as *Rosary*.

- The territories undergoing consolidation are those structuring the lines of the Rosary and are ultimately defined by the concept *Rua da Estrada* (Domingues 2009) - forming the model-image of *Interdigital webbing*.

Analytical models change how a territory is interpreted and, if inadequate to the new realities, they may cause misreading or confusion and lead to inoperability - hence the need for interpreting models that allow for understanding and intervening in complex territories.

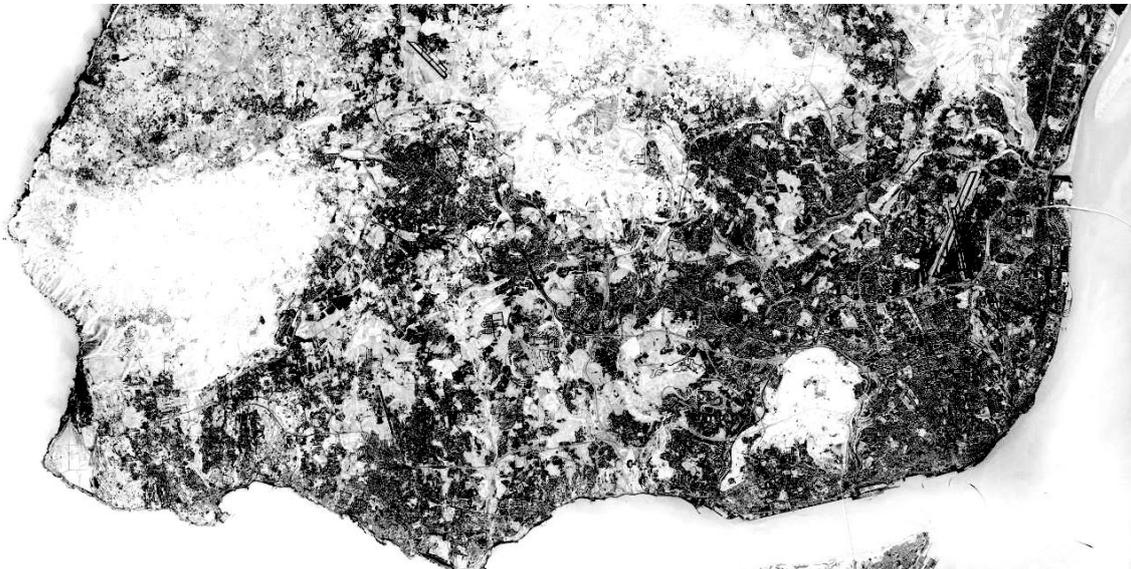
The Suburban Periphery may and should be understood as a set of unique places that have their own development in the gravitational pull of Lisbon and other urban centres; if understood as cities developing towards the metropolis, they may be understood as having the potential they indeed have.

If the diffuse is understood as a metropolitanization process, this causes a shift in the analysis and, consequently, in intervention methodology - the abandoned rural space becomes an expecting empty area, the empty area between two urban settlements becomes the expansion front or the conurbation front or even metropolitan natural reserve, the suburbs become metropolitan centres.

We sustain that the Lisbon Metropolitan Region is not simply a result of the expansion of the city but a territory with its own local roots, which have grown and underwent conurbation and will continue to expand the urban territory, perhaps towards a megalopolis<sup>10</sup> and ultimately an ecumenopolis<sup>11</sup>.

“Unlike you” - I stated - “I only recognize cities and not what is outside them. In uninhabited areas all rocks and plants are the same in my eyes. Since then many years have gone by; I have seen many cities and have travelled through continents. One day I was walking and found myself lost in the middle of many identical houses. I asked a passer-by: “May the immortal protect us, can you tell me where we are?”

“In Cecily, of course!” He replied. “We, me and the goats, have been walking along its streets for so long and cannot find our way out ... [...] It is impossible! I cried. “A long time ago, I too entered a city and, since then, I have found myself deeper and deeper into its streets. But how how could I have reached the place you mention if I was in another city, very far from Cecily, and never left it?” (Calvin, 1999) (translated from the Portuguese version).



**Image 13** - Ortophotomap of the northern banks of the LMR – in black: the constructed territory (João Caria Lopes (2015)).

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## Biographical note

### João Caria Lopes. architect

Graduated in Architecture in 2005 by Universidade Autónoma de Lisboa.

From 2003 to 2008, worked in the office of Manuel Aires Mateus - Aires Mateus e Associados - and occasionally worked in the office of Manuel Graça Dias and Egas Vieira - Contemporânea.

Set up his office in 2008 - BASE - in collaboration with architect Carlos Lemos Sequeira; continued to collaborate in contests and projects with several offices, among which CVDB (Cristina Veríssimo and Diogo Burnay). Since 2008, he has been invited to participate in several conferences on the work developed at BASE and in several workshops, both as coordinator and as a tutor.

From 2009 to 2011, was assistant professor at Universidade Autónoma de Lisboa, lecturing Project I and Project II with architects Manuel Graça Dias, Pedro Reis and Ricardo Silva Carvalho.

Since 2011, is invited researcher and co-director of ESTUDOPRÉVIO, the journal published by the research centre Centro de Estudos de Arquitetura, Cidade e Território of Universidade Autónoma de Lisboa, with Professor Filipa Ramalhete.

Between 2013 and 2014, collaborated as coordinating architect in the office Domusconcept, the same year he organizes a cycle of conferences on Lusophone architecture outside Portugal – Domustalks.

In 2014, is a PhD student on Architecture of Contemporary Metropolitan Territories and is awarded a grant for 3rd cycle students to lecture Architecture III and Architecture IV to 2nd year Bachelor students at ISCTE-IUL and thus completes Advanced Studies course.

In 2015, is invited to participate in a research project that includes three institutions - UAL, FCSH and CCDRLVT ASSIM – Activating Service-Sharing at Intermunicipal scale.

In 2016, reopens his office, BASE, with a new partner, architect André Vieira de Castro. He has coordinated the office which has increasingly more projects, clients and workers.

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1 Suburban Periphery is a phrase joining two terms used to define urban regions not adjacent but connected to the city (periphery) and in urban development or which are moving towards urbanization (suburb). The suburb is a term also used to separate the periphery that is already at a high urban level, different from the other types of periphery, either rural or industrial.

2 Lisbon Metropolitan Region or Lisbon-metropolis includes the councils of Lisbon, Oeiras, Cascais, Sintra, Vila Franca de Xira, Mafra, Almada, Seixal, Barreiro, Moita, Montijo, Alcochete, Palmela, Setúbal and Sesimbra.

3 We are using the title of the book by João Pedro Nunes da Silva - “*Florestas de cimento armado. Os grandes conjuntos residenciais e a constituição da metrópole (Lisboa 1955-1981)*”

4 Optimistic Suburbia – included in the research project Habitação para os grandes números: Lisbon, Luanda and Macao by DINAMIA-CET, ISCTE-IUL, funded by FCT 2013-2015



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5 Periurban – research project conducted by ISCTE, ISA and IST funded by FCT 2012-2015

6 “*Suspension of disbelief* or *willing suspension of disbelief* is a term coined in 1817 by the poet and aesthetic philosopher Samuel Taylor Coleridge, who suggested that if a writer could infuse a "human interest and a semblance of truth" into a fantastic tale, the reader would suspend judgment concerning the implausibility of the narrative. [...]The phrase "suspension of disbelief" came to be used more loosely in the later 20th century, often used to imply that the burden was on the reader, rather than the writer, to achieve it. This might be used to refer to the willingness of the audience to overlook the limitations of a medium, so that these do not interfere with the acceptance of those premises. These fictional premises may also lend to the engagement of the mind and perhaps proposition of thoughts, ideas, art and theories. [...]”  
[http://en.wikipedia.org/wiki/Suspension\\_of\\_disbelief](http://en.wikipedia.org/wiki/Suspension_of_disbelief), 2015

<sup>7</sup> *Tabula Rugosa* should be understood as the opposite of *Tabula Rasa* and linked to the concept of pleats or creases by Gilles Deleuze (1989)

8 Trajectórias residenciais e metropolização: continuidades e mudanças na AML – research project by DINAMIA-CET, ISCTE-IUL, 2010-2013

<sup>9</sup> The term *Superfreguesias* arose during a discussion on the merging of Lisbon *freguesias* and helps to understand the huge territory or population dimension that some *freguesias* now have, as is the case, for example, of Algueirão-Mem Martins, which is 16km<sup>2</sup> wide and has 4047 inhab/km<sup>2</sup>.

<sup>10</sup> The term Megalopolis defines a conurbation of several metropolis (based on the concept used by Patrick Geddes)

<sup>11</sup> Ecumenopolis as a global city that covers a contry or, ultimately, the world (based on the term created by Constantínos Apóstolos Doxiádis)