

DEVELOPING METROPOLITAN LISBON. UNOCCUPIED SPACE AS A POTENTIAL PLANNING INSTRUMENT

A METHODOLOGICAL APPROACH

Given metropolitan Lisbon's current urbanistic scenario, a concept for the urban project whose main instrument in characterising identity and structuring growth is the unoccupied space is seen as relevant. This also acts as the agent that articulates the territorial and urban scales. As part of an ongoing research (ETSAB-UPC, Barcelona/ FA-UTL, Lisbon), important premises have been defined: a. the potential of unoccupied spaces as instruments for urban control; b. a case study which revealed a certain degree of future impact or an emerging transformation. Specifically, natural and urban areas that are still unoccupied but which will house major infrastructures in the near future were selected: the New International Airport of Lisbon, the high speed train, and a new local skeleton network formed by a metropolitan tramway.

The present research stemmed from the need to systematise and further examine a vast number of overarching questions about the morphogenesis of metropolitan Lisbon, and about the forms of territorial intervention which have conditioned and determined its present state of development. The partial results of the research are succinctly presented in this paper.

To fully understand the extent of the question, which will enable us to draw sound conclusions about the future of its metropolitan planning, it was also observed that any interpretation of the urban formation of metropolitan Lisbon should be underpinned by an understanding of its open or unoccupied space, which is more adaptable and better positioned to be the subject of planning (Secchi, Viganó). This is due to the diverse and uncontrolled forms of urban occupation, which have not always been preceded by appropriate planning, but whose origins are certainly rooted in the stage of territorial development in which they occurred, as well as in their morphological characteristics.

The first part of the research focused entirely on the morphogenic interpretation of metropolitan Lisbon (Morgado, 2005). It was organised in five consecutive periods (1860, 1940, 1965, 1992 and 2001), through the morphological identification of non-occupied spaces in accordance with the same matrix – water, land and artificial creation – and with a thematic cartographic production (scales 1:100000 and 1:25000). Research is being conducted on specific areas, namely the Valley of Chelas, in the heart of Lisbon, presently in progress, which will be further examined so that its potential as an urban project can be evaluated¹.

URBANISATION TRENDS IN THE LISBON METROPOLITAN AREA 1965-2001

In the context of southern Europe, Lisbon displays a variety of urban features which do not result from actual planning, but from relatively wide ranging situations which have determined its metropolitan occupation:

- various degrees of density – in terms of occupation of built areas, population, urban and rural usage;
- distinct degrees of urban structuring and very rich, yet disparate in origin, morphological typologies – from rural and marginal types of occupation to examples of superior urban and architectonic erudition.

Besides its own transformations, Lisbon tends to be part of an urban phenomenon which is wider than the metropolis itself, and which includes the whole Atlantic coast of the

Iberian Peninsula. This supra-metropolitan occurrence encompasses all the Atlantic-facing Iberian cities, particularly Lisbon, Oporto and Aveiro. This means that metropolisation extends to territories which are much wider than the actual metropolis, forming metropolitan conurbations comparable, on a European scale, to Edward Soja's *metropoles*, which are the territorial systems of various American metropolises (Soja, 2000). These are extremely competitive systems of international importance, and which establish lines of polarization in Lisbon, Oporto and Aveiro, with clear dynamics and well-defined results in the forms of metropolitan spatial transformation – urban, rural and those undergoing a process of transition. Identical phenomena, albeit of distinct configuration, occur in Europe, particularly in the southern European metropolises, such as Barcelona and Veneto (Font, Portas, Indovina, 2007); in Basle, a city which is simultaneously Swiss, French and German, and has experience of management and urban planning centred on international organisations; and in the Dutch *Randstadt*.

One of the aims of this study is to put into perspective the process of urbanisation of the Lisbon Metropolitan Area in order to understand ongoing trends. As a result, the methodology followed is a consequence of previous research, based on time scales and systematic cartographyⁱⁱ.

Starting with previously produced cartography (1965, 1992, and 2001) it is possible to identify several types of urbanisation processes reflecting the urban morphology, the development of infrastructure systems and the dominant land uses.

From the late 19th century to the mid-20th century, the spatial configuration created by the infrastructures – railways, national roads, docklands and harbours – induced significant dynamics in the still incipient metropolitan area of Lisbon. The opportunities created by the development of a system of infrastructures promoted an intensive use of the territory and originated a pre-metropolitan configuration. As a result a productivist land use model and a new urban conceptualization, with metropolitan value, started to be developed.

The cartography of 1965 shows a radial structure converging into Lisbon and the Tagus Estuary, reinforcing its current status as metropolitan centre, national centre and European centrality. Regarding land use, large specialised areas emerged, namely industrial, dependent from a direct link to Lisbon and, especially, on the Port of Lisbon infrastructural ring around the Tagus Estuary.

In the 1990s, a consistent metropolitan structure gains shape combined with the renewing of land use opportunities. Democracy in 1975 and the entering of Portugal in the European Union in 1986 opened new political and economic perspectives. Changes in the productive system promoted the obsolescence of industrial and dock areas in central places, the emergence of new forms of centrality, correlated with a knowledge-based economy, integrated in a highway network.

In the Lisbon Metropolitan Area – a metropolitan association of municipalities institutionalised in 1991 – a polycentric system of alternative urban centre begins to develop, supported and integrated by an increasingly dense transport and road network system.

Thus, the radial structure developed into a network system of motorways, creating opportunities for new growth areas along the main axis built by the train in previous periods. As a result, functional complementarities start to develop, between urban centres and the metropolitan centre – Lisbon and Tagus Estuary.

As a consequence, new land uses and functions, previously located in the traditional centres, emerged in high connectivity areas and external rings, together with new dense and specialised uses, such as shopping centres and malls. Under high mobility patterns, dimmer

urban tissues gained central functions, competing with Lisbon, and shaping a polycentric metropolitan network.

As the 20th century ends, European metropolises reach an advanced development stage, both in terms of achieving high levels of spatial and functional articulation between centres and promoting innovative uses in their territories.

Thus, in 2001-06, Lisbon metropolis gains and consolidates its shape, influence and role in the conurbation of Lisbon – Galiza, along the Atlantic coast. This new reality points towards even more complex transformations, to include several concatenated metropolitan formations.

This increasing and extensive urban growth, together with the integration in higher network systems, determines a drastic decrease of continually unoccupied space. At the same time, a landscape homogenisation gains shape contributing to undifferentiated territories with poor urban references.

THE POTENTIAL OF THE UNOCCUPIED SPACE

The most significant forms of intervention in the metropolis, between the end of the 20th century and the beginning of the 21st, occur in consolidated urban tissues or in spaces already determined by pre-existent matrixes. The following main types and strategies of urban intervention – resultant of the obsolescence and functional voids with degradation of urban tissues, and on rustic occupation – may be identified:

- Re-qualification and intervention in the historical centres;
- Regeneration of obsolete areas of specific and intense land uses: such as industrial and rustic;
- New limits and densities – for instance the green urban parks as instrument of public space qualification and containment;

Specifically in Lisbon, the need of urban re-conversion of the port margins and industrial areas, led to important urban projects, such as the Lisbon Waterfront Master Plan, proposed by the Port of Lisbon Authorities, and the Expo'98 Master Plan in a special condition in what urban legislation is concerned.

Simultaneously, previous environmental acknowledgment of the marsh and wetland areas, and its classification as protected landscapes as a result, determined that the Tagus Estuary would transform itself into the fulcrum point of the metropolis, continuing definitely, to be its centre.

This has also been considered in the Strategic Plan for the Region of Lisbon and the Tagus Valley, as well as a fundamental issue in the territorial model proposed by the only ratified Metropolitan Plan for Lisbon (PROT-AML, 2003). A lack of subsequent articulation with municipal planning has prevented further positive results, now considered with the revision of municipal plans and also new planning instruments, such as the rehabilitation ones.

Especially after the construction of the Vasco da Gama Bridge, which connects Expo'98 and Alcochete, a specific metropolitan ring has been defined allowing not only the regeneration of the waterfront of Lisbon, but also the development of the urban continuity on the southern margin between Montijo and Almada and a more coherent development between the two banks of the Estuary.

The qualification of the urban space through new proposals of public space has improved and shaped the Tagus Estuary, which has become an area, both functional and

highly qualified from the landscape perspective, which additionally has symbolic and strong identifying features that can characterize it as the metropolitan *plaza*.

Essentially, the Tagus Estuary is a metropolitan central open space that is a catalyst for essential situations that impact on creating the city: morphologically, economically, culturally, and socially. Therefore, in addition to the interpretative model for creating the urban structure, this work proposes the study of specific situations arguing that the unoccupied space should be the basis for the articulation between metropolitan planning and the urban project, establishing the following main objectives:

- To deepen a theoretical model for interpretation;
- To help define intervention guidelines that will establish the unoccupied space as a key factor in the urban project. This proposes a dynamic characterization and structuring of urban spaces that emphasizes the places' strongest identifiers;
- To help define future paths for research and action within the context of the growing need to develop specific techniques and instruments for structuring the metropolitan area and the urban project.

ANALYSIS OF SPECIFIC AREAS STRUCTURED FROM THE BASIS OF THE TAGUS ESTUARY

Given metropolitan Lisbon's current urban panorama, a concept for the urban project which main instrument is characterising identity and structured growth in the unoccupied space is seen as relevant. This also acts as the agent that articulates the territorial and urban scales. The basis for selecting the case studies is a territorial interpretation based on the unoccupied space that has become established.

To accomplish the proposed research, a simple approach has been defined, taking into consideration to methodically document distinct types of urbanistic information in order to explain the configuration of the unoccupied space. These case studies have been motivated by different incidences in the context of the metropolitan Lisbon.

The areas that articulate with the Tagus Estuary, previously considered a *metropolitan plaza*, are of particular relevance.



Figure 1. Lisbon: 1940 (scale 1:25000) Source: Sofia Morgado, 2005, *Protagonismo de la ausencia. Interpretación urbanística de la formación metropolitana de Lisboa desde lo desocupado/ Protagonism of Absence. Interpretation of the metropolitan formation of Lisbon from the unoccupied*



Figure 2. Lisbon: 1965 (scale 1:25000) Source: Sofia Morgado, 2005, *Protagonismo de la ausencia. Interpretación urbanística de la formación metropolitana de Lisboa desde lo desocupado/ Protagonism of Absence. Interpretation of the metropolitan formation of Lisbon from the unoccupied*

INFRASTRUCTURED LINES ON THE NORTH BANK

This is the main area for urbanisation and also where the richest models of unoccupied spaces can be identified. Moreover, this is where the most significant projects are concentrated, including the only metropolitan project to adopt the proposed form – the Costa do Sol Plan – and more recent projects such as the Port of Lisbon Master Plan and Expo'98. Two relevant situations can be identified on this territorial structure, which includes the city of Lisbon, mainly characterized by its infrastructural and industrial origins as well as by a large urban diversity

- The potential Vale de Chelas-Barreiro axis.

This is a border of the city of Lisbon, inserted into a peripheral ring characterized by the urban development of the first half of the 20th century, and where the most relevant modern experiences can be observed. The aim is to focus the research on how the urban plans have conditioned and originated the unoccupied space, mainly confronting the several City Master Plans (Ressano Garcia, 1903; De Gröer, 1948; GEU, 1954-59; Mayer-Heine 1967-76; CML 1994 and current revision) - with the Chelas and Olivais local master urban plans.

It is an oriental area characterized by important social conflicts, by the blend of different land uses and by diverse urban typologies and planning approaches. It is a splintering edge of the city, which has mostly been originated by the contrasts between an industrial waterfront (Marvila), discontinuous and residual unoccupied spaces between modernist zoned occupations (Chelas) and the new forms of intervening in the city (Expo Park, SRU Oriental-Rehabilitation Municipal Company). Vale de Chelas has always been considered an infrastructure reserved area, due to the future location of the high speed railway and a new Tagus Bridge, towards Barreiro.

- The Loures Basin, the centre of a municipality that mostly cannot be urbanized;

This is a strongly irrigated basin, which constitutes a vestige of the Tagus penetration. Although adjacent to Lisbon and polarized by old urban settlements, such as Loures, the occupation is restricted by the topographic characteristics, accentuated slopes, and by the wetlands that, in the mid fifties, accommodated hydraulic engineering to improve intensive farming.

Nowadays, this area has highly improved its accessibility indicator, due to two metropolitan rings (CRIL and CREL motorways), yet bordering and constraining this basin. In parallel, it has been connected to Lisbon by radial motorways and by the expansion of the underground (Odivelas), which led to an important metropolitan centrality. Thus, a major contrast between farming areas and perfectly delimited urban extensions, characterized by high urban and population densities still very dependent of Lisbon, is often observed.



Figure 3. Lisbon: 1992 (scale 1:25000) Source: Sofia Morgado, 2005, Protagonismo de la ausencia. Interpretación urbanística de la formación metropolitana de Lisboa desde lo desocupado/ Protagonism of Absence. Interpretation of the metropolitan formation of Lisbon from the unoccupied



Figure 4. Lisbon: 2001 (scale 1:25000) Source: Sofia Morgado, 2005, Protagonismo de la ausencia. Interpretación urbanística de la formación metropolitana de Lisboa desde lo desocupado/ Protagonism of Absence. Interpretation of the metropolitan formation of Lisbon from the unoccupied

NATURAL BORDERS THAT ARE BEING URBANISED ON THE SOUTH BANK: ALCOCHETE-MOITA-MONTIJO TRIANGLE

This area is enclosed by axes for opportunity where the ongoing division of the land, influenced by major infrastructure projects, has created a type of landscape characterised by dispersion and the obsolescence of rural practices.

It is a sensitive area of Metropolitan Lisbon, specially, since the construction of the Vasco da Gama Bridge in 1998. Mostly as a consequence of the motorway network development, a change in the rustic forms of occupation was verified. This transformation has been determined by various factors – very specific occupations as shopping centres and outlets that complemented rustic occupations or new residential areas, dissemination of low density housing (1st and 2nd residence), through fragmentation of the previous rustic structure.

An increase in the built area has also been observed between 1991 and 2001, essentially in agricultural and ecological reservation areas, which emphasises a clear lack of planning efficiency before the impact of major infrastructures in peripheral areas of the metropolitan configuration.

PROTECTED SPACES: LEZÍRIA GRANDE-RIO FRIO

This is an area of intensive farming where technological progress and new uses linked to an ecological vision are introducing alterations that must be examined in terms of the demand for space and its usage. It also includes the potential Ota-Carregado/Lezíria Grande axis, bringing Alenquer into the territorial interpretation. This is a potential axis in which the location of the new Lisbon International airport has already been considered, (since the PDRL - Regional Plan of Lisbon in 1964, and also in current Regional Plan) which has recently become rather controversial.

Besides the fundamental issue of the airport location in Ota (PROT – AML, 2003), this area is situated in a territorial structure that has acquired a functional and strategic cohesion and that constitutes a surrounding region to the actual Metropolitan Area of Lisbon (PROT-Regional Plan Tagus Valley and West). This is an area polarized by medium-size cities, such as Torres Vedras, which also acts in the edges of the Metropolitan Area of Lisbon. This recently acknowledged new territorial formation is characterized by an important and diverse farming and by special concerns towards environmental and tourism issues that have already modified the pre-existent rustic structures through technological improvement and important investment in the 'accessibilities' infrastructures.

In conclusion, the unoccupied space is finally beginning to be understood as essential in structuring the metropolitan area, not only in terms of environmental protection but mainly through innovative action on urbanistic tools as themselves, which should establish the open space as a high quality place that is accessible to people. Thus, territorial definition of the urban project - scale of the integration and spatial structuring projects with urban architectural content - can be particularly relevant as the main instrument for strategies and tendencies. In this process, it is fundamental to regenerate forms of occupation and uses within the context of a metropolitan structure. In the meantime, some recent phenomena associated to unoccupied spaces have been identified, and are already considered as of potential value in this formulation.

REFERENCE LIST

- AAVV (coord. José António Tenedório), 2003, *Atlas da Área Metropolitana de Lisboa*, Área Metropolitana de Lisboa, Lisbon
- AAVV (dir. João Ferrão), 2002, *As Regiões Metropolitanas Portuguesas no Contexto Ibérico*, general coordination by João Ferrão (Instituto de Ciências Sociais – Universidade de

- Lisboa), (Estudos/5) DGOTDU – Direcção Geral do Ordenamento do Território e Desenvolvimento Urbano, Lisbon.
- AAVV (Álvaro Domingues coord) *Cidade e Democracia, 30 Anos de Transformação Urbana em Portugal Ciudad y Democracia. 30 Años de Transformación Urbana en Portugal*, Fundação da Juventude / Secção Regional Norte da Ordem dos Arquitectos Portugueses/DGOT-DU, Argumentum Edições, Lisbon.
- AAVV (ed. Ángel Martín Ramos), 2004, *Lo urbano en 20 autores contemporáneos*, Escuela Técnica Superior de Arquitectura de Barcelona, Edicions UPC, Barcelona
- AAVV (ed. Antonio Font, coord Antonio Font, Francesco Indovina, Nuno Portas), 2007, *La explosión de la ciudad. Transformaciones territoriales en las regiones urbanas de la Europa Meridional/The Explosion of the city. Territorial Transformations in the South Europe Urban Regiones*, Ministerio de Vivienda, Madrid.
- DEMATTEIS, Giuseppe, 1995, *Progetto implicito. Il contributo della geografia umana alle scienze del territorio*, Franco Angeli, Milan.
- DINER, Roger, HERZOG, Jacques; DE MEURON, Pierre; SCHMID, Christian, 2006, *Switzerland: an urban portrait*, ETH Zurich, Birkhäuser, Basle.
- GASPAR, Jorge, 1993, *As Regiões Portuguesas*, Direcção-Geral do Desenvolvimento Regional, Ministério do Planeamento e da Administração do Território, Secretaria de Estado do Planeamento e Desenvolvimento Regional, Lisbon.
- GEORGE, Pedro; MORGADO, Sofia, 2005, «Dinâmicas do Uso e Ocupação do Solo da Área Metropolitana de Lisboa 1940-2001», Pós - Revista do Programa de Pós-graduação em Arquitetura e Urbanismo da FAUUSP, Faculdade de Arquitetura e Urbanismo da Universidade de São Paulo, Nº 18, Dezembro 2005.
- GRAHAM, Stephen.; MARVIN, Simon, 2001, *Splintering Urbanism. Networked infrastructures, technological mobilities and the urban condition*, Routledge, London/New York
- GUST, The Ghent Urban Studies Team (dir Dirk de Meyer, Kristiaan Versluys), 1999, *The Urban Condition: Space, Community and Self in the Contemporary Metropolis*, 010 Publishers, Rotterdam
- HALL, Peter, 2002, *Urban and Regional Planning*, Routledge, London and New York.
- LANG, Robert E., 2003, *Edgeless Cities. Exploring the elusive metropolis*, Brookings Institution Press, Washington D.C.
- MATIAS FERREIRA, Vítor, 1986, *A Cidade de Lisboa, De Capital do Império a Centro de Metrópole*, doctoral thesis in sociology Universidade Técnica de Lisboa, multiple photocopies, Lisbon.
- MCHARG, Ian L., 1992, *Design with Nature*, John Wiley & Sons, Inc, New York.
- MORGADO, Sofia, 2005, *Protagonismo de la ausencia. Interpretación urbanística de la formación metropolitana de Lisboa desde lo desocupado*, doctoral thesis in urbanism, Departament d'Urbanisme i Ordenació del Territori-Universidade Politècnica da Catalunya, Barcelona.
- OSWALD, Franz, BACCINI, Peter, 2003, *Netzstadt, Designing the Urban*, Birkhäuser, Basle.
- PAVIA, Rosario, 2002, *Babele. La città della dispersione*, (Babele/7), Meltemi editore, Rome.
- PORTAS, Nuno; DOMINGUES, Álvaro; CABRAL, João, 2004, *Políticas Urbanas*, Fundação Calouste Gulbenkian, Lisbon.
- SECCHI, Bernardo, 2005, *La città nel ventesimo secolo*, Editori Laterza, Roma-Bari.
- SIEVERTS, Thomas, 1997, *Cities without cities. An interpretation of the Zwischenstadt*, Spon Press/ Routledge, 2003, London/ New York
- SOJA, Edward W, 2000, *Postmetropolis. Critical Studies of Cities and Regions*, Blackwell Publishing, Oxford.
- VIGANÓ, Paola, 1999, *La città elementare* (Biblioteca di Architettura Skira/7), Skira Editore, Milan.

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ⁱ *Designing Absence. The unoccupied space as morphological and urban project fundament at the metropolitan formation of Lisbon*, post-doctoral research (fellowship FCT), Department of Urbanism, Faculty of Architecture TU Lisbon, Portugal/Department of Urbanism, School of Architecture of Barcelona, TU Catalonia, Spain.

ⁱⁱ George, Pedro; Morgado, Sofia, 2004, *Dinâmicas de Uso e Ocupação do Solo da Área Metropolitana de Lisboa 1940-2001*, Protocolo CCDR-LVT, Comissão de Coordenação e Desenvolvimento Regional de Lisboa e Vale do Tejo / FA-UTL, Faculdade de Arquitectura, Universidade Técnica de Lisboa, policopiado, Lisboa, Julho 2004., included in *La Explosión de la Ciudad*, Barcelona, 2004.

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