City, Territory and Architecture

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Maps are plans: re-evaluating territorial hermeneutics through Manuel de Solà-Morales' project of description

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Abstract

During the late 1970s, Catalan architect Manuel de Solà-Morales focuses his research on understanding territory as an architectural construct. Influenced by post-war French urban geography and, especially, by the Italian debates about the *città-territorio* and Henri Lefebvre's notion of total urbanization, Solà-Morales seeks to define methods of territorial analysis and description with the purpose of understanding how architecture can contribute to articulate an urbanized territory. The crucial piece of this intellectual quest is the research 'La forma d'un país' ('The Shape of a Country'), an atlas in which the production of maps is simultaneously understood as an act of territorial description and territorial design. In Solà-Morales' terminology: maps are already 'plans'; their conception needs to move from the 'literal' to the 'literary'. The goal of this article is to interrogate this cartographic project, by asking what its value is both within Solà-Morales broader theorization of territorial production, and for a contemporary understanding of the relations between architecture and territory.

Keywords: Territory, Urbanization, Territorial hermeneutics, Territorial morphology

Introduction

Politics lies at the core of Manuel de Solà-Morales' 'La forma d'un país' ('The Shape of a Country'). This research, originally carried in 1976 by the architect and the Laboratori d'Urbanisme de Barcelona, was fully presented in a 1981 issue of the journal *Quaderns* titled *La identitat del territory català. Les comarques* (The Identity of Catalan Territory. The Counties). The work consists in an atlas of twelve geographical areas, representing the same number of Catalan counties. The 100×250 cm drawings show territory at a scale 1:10,000, revealing the city fabric, the structure of agrarian and urban plots of land, the geometries of highways and rivers, and the most significant topographic features (Fig. 1). The maps depict Catalonia through the interaction of the elements that characterize its territorial form. And yet, this emphasis on each area's physicality was an entirely political tool. The maps, produced immediately after the end of Spanish dictatorship, were to act as the support of a new democratic and territorial regime. The work was elaborated for the Congrés de Cultura Catalana (Congress of Catalan Culture) where, between 1975 and 1977, representatives of civil society explored how to recover Catalan culture in Spain's new political system. Solà-Morales contributed to this political ambition by clarifying what its spatial basis could be. As the first lines of his text state: 'To recover our national identity means, to a great extent, to make an image of Catalan territory common and public' (Solà-Morales 1981a). 'La forma d'un país' thus addressed cartographic production with a clear political agenda. The work remarked that political construction necessitated not only territorial control, but to present territory as a form.

'La forma d'un país' led to a later article: 'The Culture of Description'. Published in *Perspecta* in 1989, this text presented the cartographic research to an international

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Fig. 1 Solà-Morales. 'La forma d'un país'. Baix Ebre. Original scale: 1/10.000. Drawn in 1976. Source: Solà-Morales M (ed) (1981) Quaderns d'Arquitectura i Urbanisme Extra, n.1–2

audience, but devoid of its original political drive (Solà-Morales 1989). Instead, the article provided a disciplinary reflection upon the mechanisms and potentials of cartographic representation. Solà-Morales claimed that cartography was a crucial architectural act because descriptions contain an implicit design project. He defended producing non-literal, but 'literary', forms of cartographic depiction that acknowledged they were both description and creation. 'The Culture of Description' hence settled a conceptual agenda that emphasized the primordial importance of mapping for design (Nel·lo 2012). An agenda that, on a theoretical level, predates later studies on critical cartography, and which would be fully developed in architecture only after the cartographic turn of the late-1990s (Harley 1989; Corner 1999; Farinelli 2001).

Solà-Morales' cartographic project has thus two different facets. The original 1976 maps constitute a political project immersed within the author's broader theorization of urban and territorial processes. The maps were explicitly aimed at promoting the substitution of the division of Catalonia in provinces that had been imposed by the Spanish state in the nineteenth century for a new system based on the counties in order to trigger a new, more balanced, system of territorial relations (Congrés de Cultura Catalana 2022; Lluch and Nel·lo 1984). The 1989 formulation offers, instead, an apolitical critique of positive cartography. This article's final goal is to interrogate the importance of this duality, and to discuss its potential for contemporary urbanism.

The structure to do so will be the following. Section "The three researches supporting Solà-Morales' descriptive project in the mid-1970s", situates Solà-Morales' cartographic work within the body of research he produced during the mid-1970s. The section also explains how the architect attempted to question three intellectual traditions aiming to arrive, by different means, to a structural comprehension of territorial and architectural production. These are: French urban geography, Marxist and critical-Marxist spatial theory, and Italian typo-morphology. As Solà-Morales' declared goal was to elaborate an alternative to the latter, the Sect. "The description of territorial taxonomies in Italian typo-morphological studies" is entirely dedicated to unveiling the key characteristics of the typo-morphological project of territorial description. Solà-Morales dialogued with the theses of the key representatives of typo-morphological thinking, mainly Carlo Aymonino, Aldo Rossi, and Saverio Muratori (Font 2012). The article focuses only on the latter, for the following reasons: critical literature considers Muratori the founder of Italian typo-morphology (Moudon 1997), his work is the most antithetical to

Solà-Morales', and yet both architects decided to research and describe territorial formations, an aspect Aymonino and Rossi barely explored. In other words, rather than focusing on the connections between Solà-Morales and Italian urbanists and geographers who were closer to his thought, as Aymonino, Arnaldo Bagnasco, or Giuseppe Dematteis, this article proceeds by via negativa. It confronts the Catalan architect's research with the very epitome of the typo-morphological tradition he aimed to overcome, so that the contrast reveals the precise contours of Solà-Morales' cartographic work.

Both operations of contextualization (internal to his work, external in relation to others') seek to shed light on the relations and mismatches between the structural (or literal) and interpretative (or literary) conceptions of description in Solà-Morales' research. This article's initial debate is thus epistemological: the research is concerned with methods of cartographic hermeneutics aimed at understanding and interpreting territory. This epistemological analysis is, in any case, a step towards this text's ultimate objective: to debate the potentials and shortcomings of Solà-Morales' project of description to position architecture as an agent of formal and political territorial structuring. This is a question addressed in "Re-evaluating Solà-Morales' descriptive project", which settles the ground to considering the relevance of this descriptive work today.

The motives for revisiting Solà-Morales relate to ongoing debates in urban theory. Contemporary urban discourse is convincingly arguing that Henri Lefebvre's 1970 prediction, in *The Urban Revolution,* that society was about to become fully urbanized is today a reality of planetary extents. From this position, geographers as Neil Brenner and Christian Schmid, or urbanists as Joyce Hsiang, Bimal Mendis, or Alvaro Sevilla Buitrago, are informing a whole body of literature positing the necessity of rethinking the notion of *urban* as a system of territorial structuring, exceeding the space and scale of the city (Brenner and Schmid 2014; Hsiang and Mendis 2015; Sevilla Buitrago, 2014). At the same time, they explore cartographic production in an alternative manner to the data-oriented, digitally-enhanced, dominant uses of GIS software (Dangermond 2006; Steinitz 2012; Williams 2020). Affected by similar intellectual concerns, Solà-Morales offered a pioneering analysis of territory as an urban construct derived from global, capitalist necessities of spatial organization, and postulated the need of rescaling architecture in relation to physical geography. The critical revision of this work is a way to interrogate—in the Conclusions—which modalities of cartographic description can address contemporary territorial processes.

The article uses three major geographic concepts which pervade the author's writings: territory, city, and urban. "Territory" is a key notion in Solà-Morales' work, and also in that of his Italian contemporaries (Gregotti 1966, Muratori 1967, Rossi 1966 [1982], Solà-Morales 1978, 1981a, 1981b). Their use of the term refers primarily to the anthropic modification of the regional or national-scale landscape, and only in second place to the delimitation of that territory in areas that allow the exercise of sovereignty and administration (Elden 2013; Magnaghi 2020). For Solà-Morales territory appears "outside of the limits of the city." Territory thus exceeds the geographic notion of "city," understood as a nucleated, functionally complex, and dense settlement. Finally, while in Solà-Morales' writing "urban" occasionally appears as a synonym of "city", its association to the process of urbanization and to the idea of urban revolution points to the extension of the spatial and social fabric of the city throughout the entire territory, and to the parallel decline of the agrarian forms of territorial structure (Cerdà 1867 [2018], Adams 2019, Lefebvre 1970 [2003], Solà-Morales 1979). The impact of Solà-Morales' reflection on the interrelations between those geographical notions has been powerful, especially on the Catalan context, and as such, it has been furthered in different manners by successive generations of scholars and urbanists Barba Casanovas 1981, 1987 [2021], Crosas Armengol 2012, Font 2004; Font et al. 1981, Llop and Bosc 2012). In this sense, this article is also a contribution to the reconsideration of Solà-Morales' thought.

The three researches supporting Solà-Morales' descriptive project in the mid-1970s

Solà-Morales insisted on the importance of description throughout his whole career. For instance, in a 2000 article significantly titled 'Contra la Metrópoli Universal' ('Against the Universal Metropolis') (Solà-Morales 2000), the author criticized the late 1990s tendency to consider global urbanization a homogeneous phenomenon. He stated that such incorrect vision was the deleterious consequence of abandoning the physicalist, descriptive procedures that should characterize urban studies in favour of mere systemic analysis of urban processes. Similarly, the 1997 article 'Territoris sense model' ('Territories without a model') (Solà-Morales 1997), linked the difficulties urban designers face when intervening in urban peripheries to the lack of descriptive models that expand those elaborated by the French urban geographers between the 1930s and the 1950s to define types of cities and their constitutive parts. 'Territoris sense model' thus reclaimed the intellectual tradition derived from Georges

Chabot or Jean Tricart; that is, the very geographers who had influenced typo-morphological 'urban science' in Italy in the 1960s.

The aforementioned articles reveal the two key schools of thought from which Solà-Morales' mid-1970s work depended and departed: French urban geography and Italian typo-morphology. In particular, his interest in description had a territorial focus, which was only tangential in the local studies of French urban geographers. Solà-Morales considered that urban description had to incorporate the territorial scale in order to reflect the true dimension of urbanization. This territorial agenda had its origins in Solà-Morales' familiarity with the regional studies characteristic of Paul Vidal de la Blache's school of Human Geography, and was undoubtedly influenced by the Italian debates about the *città-territorio* that Solà-Morales had experienced first-hand during his stay at Ludovico Quaroni's office after graduating. At that time, Solà-Morales also learnt the conceptual logic of the Italian 1960s typo-morphological treatises, which mobilized the descriptive analysis of existing building and city types to support new architectural production (Lanzani 1996).

Updating both French Urban Geography and Italian typo-morphological urban science, Solà-Morales claimed that description was the fundamental means to comprehend and also to project the territory, and that territory was a crucial realm of architectural operations. This operative dimension was strongly asserted in the 1978 text 'The Architecture of Territory', whose title mirrors Vittorio Gregotti's 1966 *Il territorio dell'architettura*. There, Solà-Morales urged architects to elaborate a practice and theory of territory: 'Extending urban design outside the limits of the city, one confirms the hypothesis of the territory as an architectural object (...) the territorial dimension of architecture must today be re-conquered on the theoretical level as a design subject'.

Solà-Morales' project of description is the key piece in his attempt to create a theoretical foundation for architecture's territorial practice. Simultaneously an epistemological and a design proposition, comprehending this descriptive project requires understanding both its graphic methodologies and its exact intellectual contours. The relation between these two levels emerges when studying 'La forma d'un país' as part of a tripartite investigation, comprising also two other researches the architect developed at that time. The first of them, 'Las Formas del Crecimiento Urbano ('The Forms of Urban Growth', Solà-Morales 1973 [1997]) shows how he sought to determine and describe the key structural forms of urban expansion. The last one, '*Capital y ciutats en Catalunya: Una perspectiva de futur*' ('Capital and Cities in Catalunya: A Vision towards the Future', Solà-Morales 1979 [1997]) reveals how the architect analysed urbanization as a territorial phenomenon. Developed between those two works, 'La forma d'un país' exposes, in turn, how Solà-Morales considered cartographic description both as a support of local and regional scale analyses and as an instrument to intervene territorially with the tools of architecture. The key features of these three researches are below.

'Las formas de crecimiento urbano'

The focus of this 1973 work is the local scale of the city. 'Las formas de crecimiento urbano' is a multi-layered research project originated in the courses Solà-Morales taught at the Universitat Politécnica de Catalunya about the periphery of Barcelona (Domingo i Clota 2012), and whose final aim is revealing the types of fabric shaping urban development. The research's most salient contribution resides in the relation between description, analysis and typification the work establishes. 'Las formas de crecimiento urbano' evinces Solà-Morales's commitment to elaborate a *structural* understanding of urban processes (Caldeira 2016; Font 2012). The text proposes a 'structural' theory of urban growth, a purpose which leads Solà-Morales to investigate both the 'structural typologies of urban growth', and the 'spatial structure of growth' (Solà-Morales 1973 [1997]). The former constitutes the most influential contribution of this theory. It typifies the processes of urban growth according to the order and relevance of three interrelated, but independent factors: land division (P), infrastructural layouts (U), and buildings (E). The relative order and relevance of these factors create the fundamental elements of urban development. In this sense, Solà-Morales' 'structural typologies of urban growth' are not sensu stricto forms, but rather parts of the process of urban generation.

Description and classification appear as a second stage of this structural analysis, and they serve to present the spatial forms in which the urban structure crystallizes. City zones as industrial parks, *eixamples*, suburban formations, informal forms of urbanization, and garden suburbs, represent specific PUE combinations (Fig. 2). The aggregation of these areas shapes city growth. The city is a city of parts. By classifying these city parts, the work offers a structure and a taxonomy that parallels the descriptive intentions of French Urban Geography that Solà-Morales cherished. But this description, and the consequent capacity of modelling, is limited to the local scale of city, and does not continue to the study of territorial formations.

'La forma d'un país'

Solà-Morales and his collaborators developed 'La forma d'un país' in 1976, and in fact, the scale of this work,

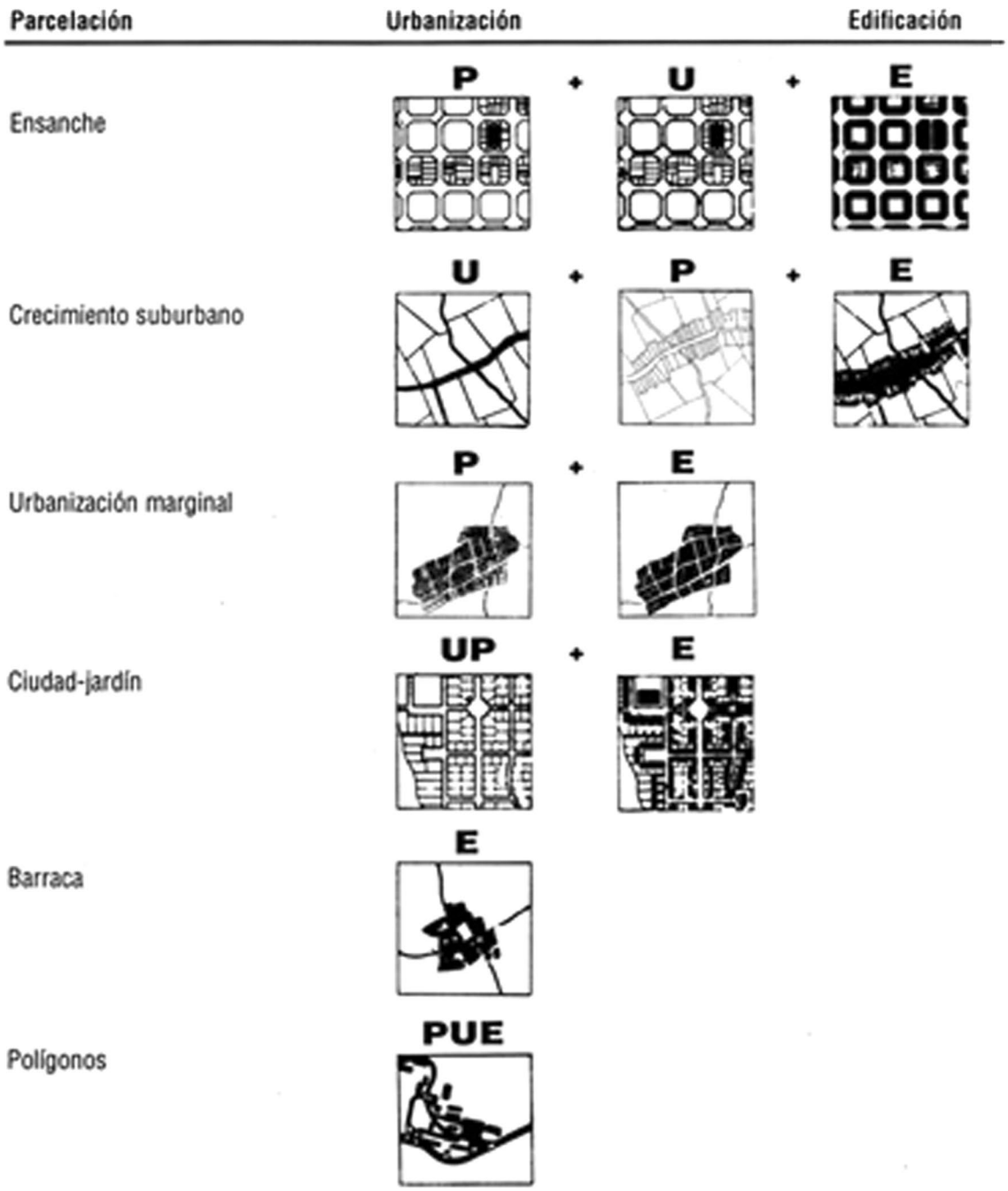


Fig. 2 Solà-Morales. 'Las formas de crecimiento urbano'. PUE combinations. 1973. Source: Solà-Morales M (1973 [1997]) Las Formas de Crecimiento Urbano. Barcelona: UPC

focused on the depiction of counties, sits between the local scope of 'Las formas de crecimiento urbano and the regional one developed in 'Capital i ciutats'. In this sense, the maps can be read as the base for possible architectural or infrastructural projects that properly integrate the Catalan counties within the broader urban process 'Capital i ciutats' will describe.

Solà-Morales' cartographic project depicts characteristic areas of Catalonia, and it shows how, in them, cities relate to the physical geography surrounding them. The

very first methodological decisions for the construction of the maps are already full of conceptual intentions. The 1:10,000 scale allows designers seeing the form of each element and also the conditions of their interaction: measures, relations, distances, become key questions in each map. The elongated, 1:2.5 proportion, of the drawings emphasizes the linear connectivity between urban nuclei rather than hierarchical or concentric organizations, while the selection of areas emphasizes the interplay between cities and landscape. In all the drawings, un-built space prevails, revealing a clear attempt to highlight how the un-built is an essential, though often neglected, part of the urban (Fig. 3). This form of delimitation, including both landscape and cities within an orientated space, is in itself an ideological declaration about the geographical interrelations that urbanism and politics should shape.

The elements included in the maps insist on physical attributes, while neglecting the functional ones. As a whole, the maps of 'La forma d'un país' show orientated, heterogeneous areas, characterized by their distinct physicality and concreteness. This insistence on the concrete physicality of the place is the essential argument of 'La forma d'un país' descriptive project, and determines the adopted techniques of cartographic rendering. Solà-Morales contrasts the position of French Enlightened cartographers, who were interested in an extremely accurate representation of the singularities of the terrain, to the tradition of English cartography—which, inversely, privileged abstract calculability. Solà-Morales adopts the French perspective. His interest is to show the cities *in* their physical geography. His own development of this French tradition consists in intensifying the value of the map as an interpretative and projective tool. With that goal, even if all the maps tend to convey the same elements, methodologically, they are characterized by a significant dose of graphic opportunism.

In 'La forma d'un país' graphic emphasis oscillates: topography, connections, forms of land division, and urban fabrics are depicted in different ways and with varying intensities. There is a deliberate abandonment of any intention of systematization that is instrumental to show the singularity of each place. The drawings reveal the disparity of the elements present in each location, the different temporalities and spatial conflicts between them, and highlight which conditions could be taken into account by a territorial project attentive to the singularities of each context.

What 'La forma d'un país' negates is thus the objectivity of the description. This is the aspect that 'The Culture

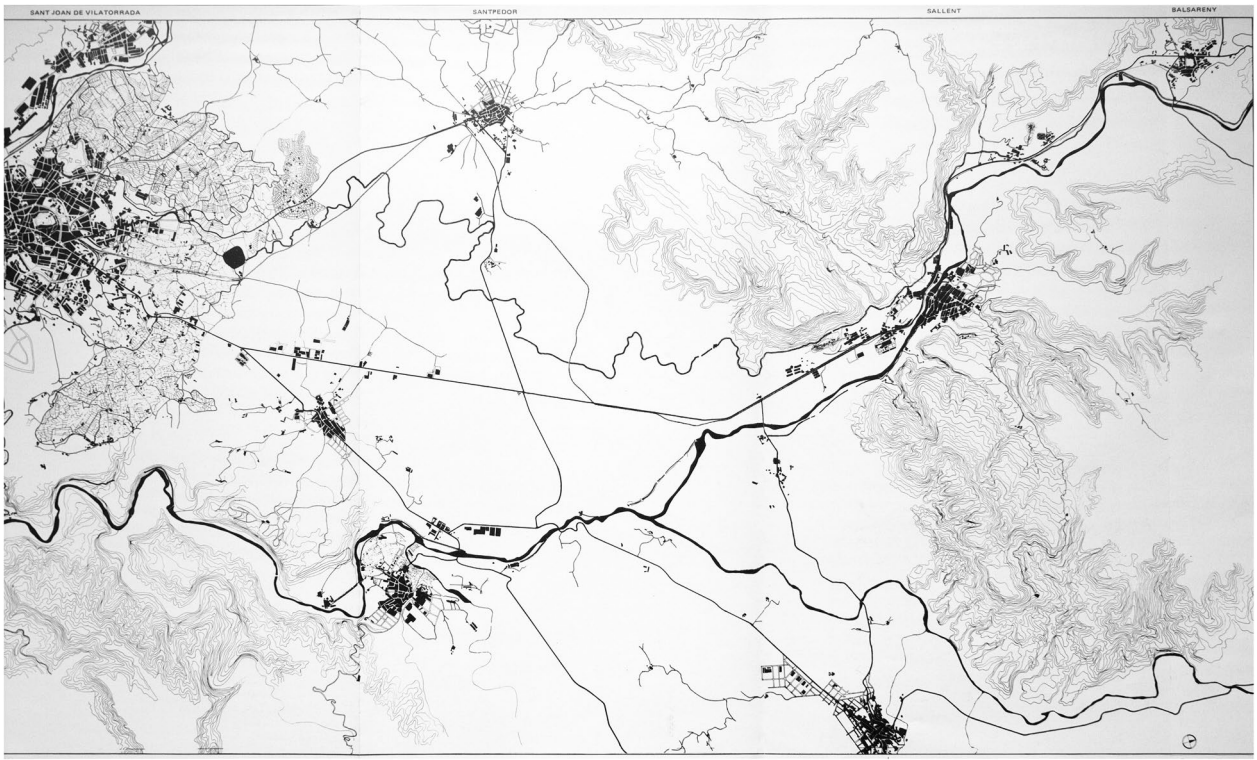


Fig. 3 Solà-Morales. 'La forma d'un país'. El Bages. Original scale: 1/10.000. Drawn in 1976. Source: Solà-Morales M (ed) (1981c) Quaderns d'Arquitectura i Urbanisme Extra, n.1–2

of Description' will fully conceptualize and isolate from any broader conceptualization of territorial articulation. According to the latter text, the maps turn the 'literal' into the 'literary' (Solà-Morales 1989). They 'interpret' a condition and, in so doing, they turn the 'map into a plan', territory into architecture. They become an 'alternative form of analysis', one in which 'analysis and projection are simultaneous'. They break the sequence analysis/project by directly conflating them. But in so doing, they leave behind the analytical and structural rigour that Solà-Morales used in 'Las formas de crecimiento urbano' and that he will recuperate in 'Capital i ciutats'.

'Capital i ciutats en Catalunya. Una perspectiva de futur'

This 1979 work analyses urbanization at the regional scale of territory. Primarily, the article is an analysis of Catalonia's urban process since industrialization aimed at understanding the elements that could convert this country into an integrated and total urban system. Solà-Morales diagnoses that Catalonia lacked 'a clear *urban revolution* linked to the growth of industrialization and of bourgeois society, in the sense of implying a substantial transformation of all the previous (agrarian) territorial structure'. This historical condition does not mean the absence of the spatial elements that could support an effective urbanization of the entire Catalonia, but rather, their presence in a latent, incomplete state, still linked to a complex and diverse hierarchy of urban and rural nuclei. The aim of the research is to reinforce this territorial complexity, and to promote its transformation into a fully integrated urban system. That is, into the conditions that Lefebvre anticipated for the immediate future in *The Urban Revolution*, which Solà-Morales' previous quote references.

With that goal, his analysis of the mechanisms of urbanization considers three factors that situate Catalonia's spatial evolution within global trends of capitalist urbanization: industrialization, forms of reorganization of land division, and construction of transport infrastructures and urban services. The last two factors dominate Solà-Morales' study. First, the research shows how the spatial reorganization of land-property facilitated the urban process by systematizing agricultural production, and by enabling the new urban areas (*eixamples*) that city growth requires. Second, the work reveals the vital importance of transport infrastructures. Not only, Solà-Morales asserted, they produce long term dynamics in the process of urbanization; they are the crucial generator of the urban system, as they disentangle cities from their immediate surroundings in order to create a novel system of territorial relations. Thanks to infrastructural construction cities 'can be understood as generators of economies of agglomeration (in their homogeneity) and of economies of scale (in their hierarchy)'.

These economic considerations are a crucial part of Solà-Morales' attempt to position architecture as an agent of regional structuring (Capel Sáez 2012). As his previous reference to the '*urban revolution*' evinces, the analysis of Catalonia partakes the Lefebvrian notion of urbanization as a structure in itself, and not as a mere super-structural reflect of other socio-economic processes (Lefebvre 1970 [2003]). Solà-Morales' argument, which also borrows from Marino Folin's Marxist analysis of the city as a specific mean of economic production within capitalism (Folin, 1972), is aimed at determining the very 'autonomy' and potential of urbanization in and by itself: 'It is necessary to see territory not only as an effect, but also as a cause of social consumption; not only as a 'localization' of production, but also as a factor of production' (Solà-Morales 1979 [1997], Solà-Morales 1981b). In this regard, Solà-Morales approaches a branch of Italian, neo-Marxist critique of the capitalist use of the territory, characteristic of the work during the 1970s of Francesco Indovina, Bernardo Secchi, or Alberto Magnaghi (Dematteis 1996).

Economic development is thus, a matter of architecture. For Solà-Morales, the recognition of the autonomy of urbanization challenges the understanding of space as fixed capital. In order to become fixed capital, the territorial fabric has to be constantly reintegrated inside the productive process. The modifications of nature, agriculture, and cities produced by urbanization can only succeed if these levels are properly interrelated in a territorial system. Yet, crucially, this integration does not require planning, as a mere economic conceptual framework would promote. It requires design.

This insistence in design can be fully appreciated, again, in Solà-Morales' treatment of infrastructures. As mentioned, in his studies, highways are the true instrument of urban transformation. Yet, their capacity to fully trigger the urban process is hindered if transport infrastructures do not take advantage of the 'capital previously produced' (Solà-Morales and Gómez Ordóñez 1977 [1997]). To warrant to territory 'the condition of fixed capital', it is necessary to design specific spatial interventions. Accesses and nodes, the precise relations with built elements and cities, have to be designed in order to strengthen the synergies between the infrastructure and the other elements of territory. The proper integration of territory is, thus, removed from the administrative considerations of infrastructural planning and translated to clear domains of architectural intervention; as Solà-Morales' 1978 design for a highway which was also a civic, and industrial facility explored (Fig. 4). 'Capital i ciutats' thus traces a path

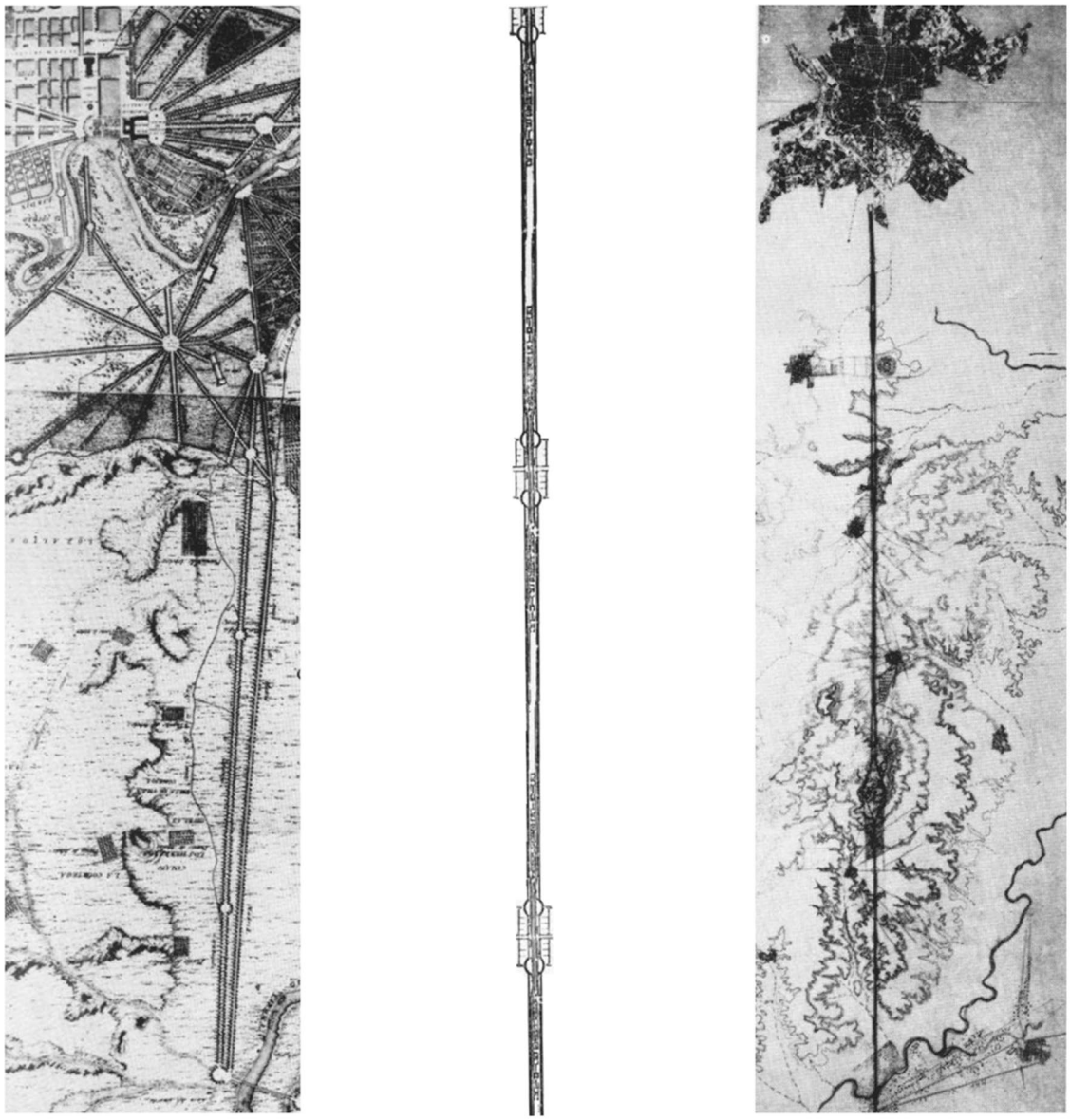


Fig. 4 Solà-Morales. Project for the Madrid-Aranjuez highway. 1978. Source: Solà-Morales M (1978) The Architecture of the Territory. In: Vidler A et al. (ed) Rational Architecture: The Reconstruction of the European City. Bruxelles: Éditions des Archives d'Architecture Moderne

towards the organization of Catalonia as a cohesive urban system that concludes at the scale of architectural design.

This return from regional analysis to the architectural scale highlights the common spirit that animates these three 1970s works. There are significant commonalities between them. Importantly, the triad of land division, infrastructures, and industrialization analysed at the regional scale in 'Capital i ciutats' is partially coincident with the three PUE elements of 'Las formas de crecimiento urbano'. This coincidence between some of the factors that shape cities, and the ones that structure the regional scale points to the constitution, in embryo, of a trans-scalar, analytical methodology of urbanization's mechanisms. The ambition, however, is not complete. The regional analysis disregards the impact of building. Inversely, industrialization is crucial in 'Capital i ciutats', but absent in the analysis of urban growth. Similarly, the representations of 'La forma d'un país' will neglect the role of industry that Solà had studied in 'Capital i ciutats', revealing a more general disregard in the cartographic studies of land-use considerations. While the three researches share conceptual goals, these mismatches also

evince Solà-Morales' difficulties to integrate the description of city and territorial processes.

Moreover, the negation of analytical objectivity in 'La forma d'un país' in favour of interpretation and of the equation between map and project evinces a clear break between Solà-Morales' cartographic project and his studies of local and regional formation. The discrepancies that the analyses at those two scales already presented are further accentuated by the friction between maps and texts. The cartographic visualizations and the two articles share the same preoccupations but they operate at different levels. As a matter of fact, the discrepancy points to two different modalities of Solà-Morales' project of description: the classificatory, or taxonomic of the French urban geographers, and the projective of 'La forma d'un país'. To interrogate the value of this mismatch and the relation between these three research projects will be this article's final object. But before addressing that question a previous step is necessary: to situate Solà-Morales' interest in description in relation to the descriptive typo-morphological tradition that his work opposes.

The description of territorial taxonomies in Italian typo-morphological studies

One of Solà-Morales' key goals was to overcome typo-morphological theory: 'to open up urban analysis to a broader field than mere typo-morphological observation' (Solà-Morales 1973 [1997]). Since Saverio Muratori's 1960 *Studi per un'operante storia di Venezia* (Study for an Operational History of Venice), and later study of Rome (Muratori 1963), Italian typo-morphological architects had sought to establish a rational procedure for the study of cities, based on the historical analysis of urban footprints, and on investigating the changing relationships between plot of land and building types. Solà-Morales targets both methods. First, he rejects the historical overdetermination of urban processes. Seconds, he challenges the typo-morphological privilege of the relations plot/building as the main determinant of urban form by highlighting, instead, the importance of infrastructural development in shaping urban form (Moudon 1997).

With the notion of 'operational history,' Muratori and his followers referred the possibility of using historical analysis to establish rules for contemporary architecture. For Solà-Morales such an approach couldn't respond to the transformations of the contemporary city. Despite Muratori's interest in change, 'operational history' privileged a static understanding of urban form that couldn't fulfil a proper analysis of urban growth.

Something similar happens with the typo-morphological emphasis on the pair building/ plot of land. Although urban morphology studies buildings, plots, and streets, it privileges an organic conception of their interaction, driven by the relation between plots and building types (Solà-Morales 1973 [1997]). Solà-Morales' consideration of infrastructure as an independent spatial element, and the PUE's system dissociation between infrastructural layout, plots, and buildings, have an entirely anti-organic drive. Together, both theses foster an understanding of the urban process in which the combination of different elements lead to diverse and changing configurations.

There is, however, an important territorial dimension in the tradition of urban morphology which Solà-Morales does not consider in his critique. Both the English school originated after the work of MRG Conzen—himself a geographer—and the Italian tradition stemming from Muratori, pay strong attention to the interrelations between settlements and physical geography. In particular, the Muratorian school developed during the late 1960s and mid-1970s a series of cartographic analysis that predate Solà-Morales' territorial descriptions. The conceptual basis of this cartographic operations was settled in Muratori's *Civiltà e Territorio* (Civilization and Territory, 1967) and in his unfinished research *Per una operante storia del territorio* (For an Operational History of Territory, 1966–73), and were later developed by Giancarlo Cataldi, Gianfranco Cannigia and Giorgio Maffei, among others (Cataldi 1977). This approach represents an alternative descriptive analysis of territory that shares some of Solà-Morales' work concerns and forms of vision, while it also addresses some questions that were not considered in it.

The most salient feature of Muratori's inquiry is the elevation of geographical space—in his terminology 'territory'—to the principal category for thinking about urbanity—in his terminology 'civilization' (Muratori 1967). As he expresses in *Civiltà e Territorio*, he seeks establishing a 'territorial technology' aimed at integrating urbanization withing its underlying geographical conditions. Territory is for Muratori a 'new problem' whose relevance is caused by the novel evidence of the planetary extent of urbanization. This global condition is for him the result of a system of economic production in which geographical thought has been converted into an 'active' geography that is not 'interested in enjoying reality, but in transforming it'.

Active Geography *(Geographie Active)* is the title of a 1964 collective volume directed by French Marxist geographer Pierre George, who was influential in the thinking of Muratori's contemporaries Aldo Rossi and Vittorio Gregotti. The book's insistence on activism aimed to encourage geographer's involvement in processes of territorial transformation and planning, initiated by the proponents of volitional geography (*geographie volontaire*) in the early 1950s (Cupers 2016). For

George and his colleagues, Geography facilitated a contact with the 'concrete' that was lacking in other disciplines shaping planning, such as economy. In a historical situation characterized by a strong social dynamism, geographical knowledge helped 'to perceive the tendencies and perspectives of evolution in the short term, to measure the intensity and spatial repercussions of the relations between the forces of development and their antagonists, to define and evaluate the efficacy of the impediments and obstacles' (Beguin 1965). In so doing, they advocated for a seismic disciplinary transformation: to relegate territorial description—geography's traditional role—in favour of territorial modification through the engagement with planning. While originated in France, this active vision of Geography was also impacting the field in Italy. Since the 1950s Bruno Nice and Umberto Toschi had promoted interrelating geography and planning, even with contributions in the journal *Urbanistica* (Nice 1950; Dematteis 1996). Later, at the beginning of the 1960s, Emilio Sereni started analysing territory as a social and historic construct determined by relations of production in his *Storia del paesaggio agrario italiano* (History of the Italian Agricultural Landscape) (Sereni 1961), while at the same time Lucio Gambi was initiating a critique of environmental determinism and proposing a geographical practice 'built in relation to problems' in his *Critica ai concetti geografici di paessagio umano* (Critique to the Geographical Concept of Human Landscape, 1961).

In contrast to those researches, Muratori's contra-activism aims to recalibrate the relation between territorial modifications and geographical knowledge. His new 'discipline of territory' has a central conceptual core: the recovery of description. Muratori founds the discipline of territory on the 'accurateness of the (territorial) reading', and considers that this discipline responds to a new stage in human development requiring a new form of architectural praxis (Muratori 1967). 'All the new program'—he states—'consists in the formula: to do as one reads and to read as one does'. This conflation between reading and production, which, as noted, was also Solà-Morales' key aim, presupposes an akin understanding of territory as architecture, and it equally conducts towards the privilege of the cartographic medium. In this system, territory cannot appear outside a specific form of cartographic elaboration. The map creates the idea of the territory. Architecture is redirected to cartographic production. To draw a map becomes the first, and more determinant, architectural act. To use Solà-Morales' vocabulary, maps become plans.

Muratori's description has, certainly, specific procedures. These are now entirely analytical, also in the psychoanalytical sense: they bring to light a repressed memory (Ravagnati 2012). As in psychoanalysis, this recuperation results from a methodology of interpretation. Description and analysis are not direct transpositions of geography. They are structural interpretations of reality; acts against the surface appearance of space aimed at discovering rules of territorial organization. Muratori elaborates a theory of the historical succession of settlements, from the occupation of mountain ridges to valleys, which shows his ambition of finding transgeographic rules that explain territorial organization as the 'stable patrimony of civilization'. The result of cartographic interpretation is a portrait of the persistent territorial structure of the depicted area, of the figures that should inform any territorial transformation to come.

Muratori's procedure aims, thus, to determine structures and figures. It depicts 'territorial individuals', areas in which the forms of agrarian division, the paths of communication and the structure of settlements coalesce and produce a certain form (Muratori 1966–1973). In this system, the subjective, interpretative, appreciation of territory as landscape is absent. By suppressing the subjective in favour of the analytical what emerges is the possibility for type and classification. Territorial individuals are, in that sense, the manifestation of more general cases. The precise, analytical description of territory reveals settlement patterns which are, in fact, the expression of a series of logical combinations. For instance, the possible mono-axial or multi-axial road structure combines with the mono-polar or multi-polar disposition of settlement to generate a group of possible figures. Such logical combinations can be expressed in four elements grids summarizing the entire, structural possibilities of territorial organization (Fig. 5). Muratori's logic is that of Greimas's semiotic square (Greimas 1966).

The classificatory ambition requires a form of vision that completely differs from the visual procedures of 'La forma d'un país'. The elements that are depicted in the two works are coincidental. Topography, waterways, infrastructural connections, settlements and land divisions, constitute the shared corpus of materials that territorial description has to consider. Yet, the variation of graphic procedures reflects disparate conceptual goals. Muratori widens the scale to 1:25,000, thus reducing the visibility of the urban fabric. Building blocks remain unrepresented. They are substituted by the perimeter of settlements, even by their symbolic schematization.

Muratori pursues a scale and a level of definition that is proper to territory and no longer to the city. His scalar amplification favours structural revelation through a representation that seeks the efficiency of the diagram. The drawings also invert the relation between figure and ground of the Catalan research. Whereas Solà-Morales shows areas without a delimiting contour, in drawings



Fig. 5 Muratori. Types of territorial fabric. 'Per una operante storia del territorio'. 1967. Original scale: 1/25.000. Source: Saverio Muratori Archive. Biblioteca Civica d'Arte Luigi Poletti

where the margins tend to remain blank and the relation between territorial elements is floating and incomplete, Muratori's representations indulge in an opposite tendency. They present delimited areas whose interior is an exhaustively depicted system of spatial relations. The idea of territorial individual implies defining boundaries. Territory is a sum of delimited bodies, each with a clear internal structure.

The notion of territorial individual, and the consequent possibility of taxonomical organization, constitutes the core of Muratori's thought and, more generally, of the territorial discourses of urban morphology. For Conzen, who established the conceptual basis of the English morphological tradition, geography has to be studied by delimiting areas of the geosphere 'which present themselves as spatial individuals' (Conzen 2004). If we were to extrapolate Solà-Morales' critique of typo-morphology to this school's geographical thought, we would find that the objections to the neglect of the infrastructural realm would fall apart—the structuring role of communications is crucial in Muratori's descriptions—but that the accusations of an organic and static conception of space would be preserved. There's nothing more organic than the individuation of territorial bodies.

Certainly, Muratori's process of delimitation implies fixation. And fixation has a restorative intention. The success of a territorial model depends on an implicit assumption of its 'assigned structural limits' (Muratori 1967). His vision of settlement organization and of the production of territory adopts a strong geographical determinism which clashes with Solà-Morales understanding of territorial structuring through disruptive transformations. Yet, Muratori's descriptive project exceeds the limitations of its ideological conservatism, by pointing towards a full geographic understanding of the urban for which Solà-Morales' work is insufficient.

Determinism concedes to territory a structuring role that allows Muratori to intensely interrogate the assemblage of urbanization and geography. 'Territory is *the* instrument' for a 'systematic enquiry' of the possible structures that civilization has adopted and can adopt. Muratori portrays the different stages of civilization/urbanization as a series of essays about the utilization of the earth. He conceives territorial construction as the unavoidable object of urbanization. His attempt to develop a visual technology that meticulously depicts territorial organization—not limited, as in Solà-Morales' case, to the relations between urban fabric and geography—and the elaboration of a taxonomy of territorial structures, not only stands for a positivist, taxonomic drive, but also for the necessity of envisaging a new form of urbanization; one that no longer emanates from the city (Tafuri 1989). His appeal to recognize limits is, thus, not only mere conservatism, but an enquiry into the geophysical questions that a global urban project should take into account.

Re-evaluating Solà-Morales' descriptive project

We face two conflicting descriptive projects, each with its associated set of graphic techniques: the conservationist one of Muratori, in which history is understood as the fundamental support and reference for an urban project, and the transformative of Solà-Morales. Their contrast is, at first glance, extreme. Solà-Morales represents the 'active' approach to geography that the Italian deplored. His work is a deliberate attempt to overcome the methodological procedures of typo-morphology. The antagonism, though, should not be overemphasized. Rather, each project serves to expose the key elements and the insufficiencies of the other from a shared interest in territory as a realm of architectural intervention, and a similar concern with the impact of globalizing processes. In particular, Muratori's systematic method reveals some of the limitations of Solà-Morales's descriptive project by highlighting how it slides towards diverging, not fully consistent, directions. From this point of view, placing Muratori and Solà-Morales together permits, more than a confrontation, a recognition of the questions that a descriptive project can still explore.

The first aspect that this contrast highlights is the absence of any structural consideration of territorial form in Solà-Morales' cartographic research. The maps of 'La forma d'un país' introduce elements of spatial disruption that the Italian work neglects. In them, urban expansion and new infrastructures are rightly visualized as catalysts of spatial change. But the positive consideration of change, and the understanding of the cartographic image as a tool to foster and shape that change, does not exempt the work from positing structural hypothesis, especially given Solà-Morales' praise of the classificatory ambitions of French geography. To solve that limitation, what Solà-Morales does is to translate this structural thinking outside of the map; to elaborate the analyses by textual means and for other scales than those represented in 'La forma d'un país'.

The second absence in Solà-Morales' work results from the previous separation between the map and the structural enquiry. His cartographic work does not provide classifications. On the contrary. It cherishes the description of individualized situations. All the tensions of Solà-Morales' thinking appear at this point. His care for the specific description of each place collides with his ambition to arrive to a general comprehension of the analysed phenomena. He claims: 'once again, a new form of Enlightened description is necessary, one that can recover the name and the shape of things and

perhaps allow for new elements of a cultural synthesis' (Solà-Morales 1989). The role of cartographic concreteness is to impede arriving at false-synthesis by rejecting abstract, generalist short-cuts: 'An approach to proposal based on simplistic causal explanations as working guidelines must give way to the need to recapture the descriptive moment'. Yet, the turn from the literal to the literary complicates generalizing the knowledge acquired through the maps. In fact, the procedure seems the reverse. The maps represent the elements explained in the analysis of the production of territory carried textually in 'Capital i ciutats', in order to understand how do these elements appear—and can eventually be transformed—in each space, but they do not lead to any general conclusion about the types of territorial form that the convergence of those elements produces. In that sense, while Solà-Morales divides 'La forma d'un país' in synthetic and analytical maps, the work lacks properly analytical maps. And without analysis, there's not the general synthesis the author pursued.

This avoidance of systematization in the maps causes a split between the diverse levels of Solà-Morales' research in the mid-1970s and reveals the tensions in his treatment of different scales. 'Capital i ciutats' is a fully analytical, textual work whose position is close to Lefebvre's understanding of urbanization or to Manfredo Tafuri's conception of modern processes of territorial structuring. The research emphasizes structuring factors such as industrialization, infrastructural construction and land division that are globally at play, and understands that they imply articulating the entirety of territory. 'La forma d'un país' operates within this territorial framework but adopts a different perspective. It initiates a descriptive project but abandons the analytical one. It segments territory into pieces and fosters the comprehension of the singularity of each of them. The third part of Solà-Morales' investigation, 'Las formas de crecimiento urbano', brings description and structural quest together. It formulates 'structural typologies of urban growth', and 'spatial structures of growth.' But this structural approach operates strictly at the city scale, without transcending to the territorial one.

We are given, thus, two contrasting types of descriptive projects: the territorial one of 'La forma d'un país', where the analytical recedes in favour of the literary, and whose focus is the formal understanding of individual situations, and the urban one of 'Las formas de crecimiento urbano', in which the city is decomposed into the elements that constitute it, which are then classified and formally described. The first is territorial, descriptive and literary. The second is urban, descriptive and analytical. We can thus summarize this phase of Solà-Morales' theoretical work in this period in the following manner:

	'Capital i ciutats'	'La forma d'un país'	'Formas de crecimiento urbano'
Cartographic	No	Yes	No
Descriptive	No	Yes	Yes
Analytic	Yes	No	Yes
Territorial	Yes	Yes	No

Muratori's work aimed a radical consistency, not only in the method employed, but also in the territorial forms that the work sought to produce, which were obtained through a complete erasure of the present. In its attempt to address contemporary conditions, Solà-Morales' work is affected by internal variations, by purposes that are fulfilled in one scale but that remain unsolved at other. But it is in these methodological discrepancies where the very fundamentals of Solà-Morales' proposition reside. They create the in-between space to deploy his project of description's political, epistemological and design intentions.

The issue of *Quaderns* including 'La forma d'un país' also featured Joan Busquests' article 'Macrocefàlia barcelonina o ciutats catalanes?' ('Barcelona's macrocephaly or Catalan cities?). The article's title points to the very question in which Solà-Morales' 'Capital i ciutats' aimed to intervene—namely, how it is possible to transition from a Catalan urban system dominated by Barcelona to a distributed system activating the totality of territory.

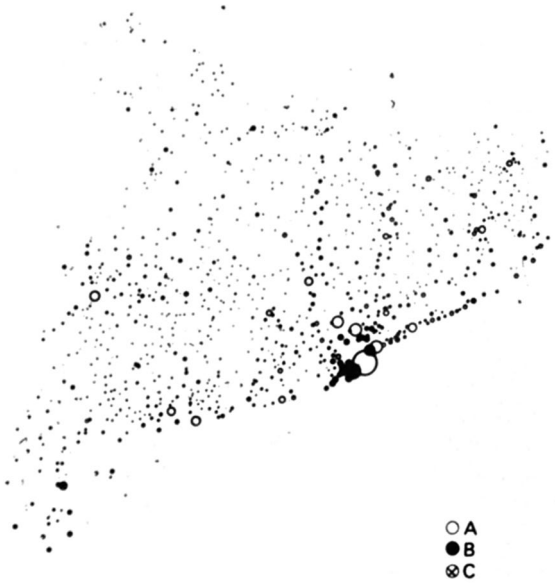


Fig. 6 Solà-Morales. 'Capital i ciutats en Catalunya. Una perspectiva de futur'. System of Urban Settlements. 1979. Source: Solà-Morales M (1979 [1997]) Las Formas de Crecimiento Urbano

Solà-Morales' article showed how the organization of Catalan territory since the mid-nineteenth century implied developing a multitude of middle-scale cities. It demonstrates that the apparent macrocephaly is a bad interpretation, and that the basis exists for a distributed urban system (Fig. 6). Cities and existing infrastructures constitute an existing fixed capital that the territorial project should mobilize and reinforce.

The political drive of 'La forma d'un país' can now be better interpreted. It can be abstracted from its original intentions of national construction towards a broader, ambitious, project of territorial reconfiguration. To represent Catalonia's different areas and settlements is the precondition to their participation in a new type of urban system. The emphasis on their geographical differentiation is itself a tool of decentralization. The rejection of systematic analysis and classification is thus a conceptual, and political, operation. The specificity of each cartographic representation adds a properly formal dimension to politics. It provides the basis for a territorial project that is responsive to each location's geographical attributes and historical singularities. The notion of 'culture of description' through which Solà-Morales later reframed his work, points to this displacement of the project's political dimension—if the nationalistic aspirations were suppressed from the later text, it was to emphasize that the project's cause is relevant for every context.

'La forma d'un país' lacks an overall plan for the Catalan territory. This absence of formal determinations at the macro-scale is replicated at the micro-scale of each location. The work shows the potentials of the existing territorial conditions, but refrains from giving any structuring consideration. Territory is affected by global factors—infrastructural connections, industrial developments—but their spatial consequences, their tendency to generate certain spatial configurations, are unexplored. The operation can be understood, again at a purely ideological level. The absence of defined territorial forms creates the space for an open understanding of the urban game. It creates the very terrain on which Solà-Morales will later pose the notion of 'urban project:' the possibility of addressing the city through the construction of specific material artefacts, instead of through an overall plan. The lack of definition of a territorial structure goes hand in hand with the limitation of the taxonomical effort to the classification of city parts. Only the latter are the true operational instruments:

> *'(. . .) We advocate for a micro-economic understanding of urban growth (. . .) one in which every globalizing factor is seen as estrange and exceptional, and where the idea of urban process is very similar to the liberal-competitive play of the diverse urban forms over a fabric that can be seen, post-facto, as an expressive image of its logic of formation' (Solà-Morales 1991 [1997]).*

The descriptive project of 'La forma d'un país' is then at the centre of a specific modus operandi. One where the territorial project should allow city parts responding to the singularity of the terrain within an open regulatory framework. Its politics promotes urban decentralization, specificity, and an open and conflictual understanding of urban processes. Its approach to urban form demands specificity and attention to geography. Its aloofness to master planning seeks the materiality that the regional plan will never have. The methodological discrepancies of Solà-Morales' work aim those goals. Also when considered as purely an epistemological proposition. The objective of the project of territorial description is to grant—and this is a notion that Solà-Morales reiterated—the 'autonomy' of the territorial map. Analyses of global processes take place textually at the scale of the region. Taxonomies appear at the scale of the city. Between them stays territory, as an open space where the previous two scales collide. The rejection of the structural and the analytical in the territorial map is the very mark of a form of knowledge aimed at constructing an indeterminate space between regional strategies and the typologies of city forms. It is a knowledge that is not concerned with where the spatial conditions are settled, but where they can be changed. The autonomy of the map is the autonomy of the design.

Conclusion

The autonomy of the map presides the many aspects in which Solà-Morales' early work is still necessary today. The concern with geographical conditions, the exploration of the notion of territory, the association between the physics of the territorial project and the forms and scales of political articulation, persist as imperative questions to address. From this point of view, we don't need a critique of Solà-Morales' project, but an updating. The objections that we can pose now to his position do not come so much from its presumed alliance to a liberal regime—Solà-Morales himself detached his spatial proposal from a liberal-competitive understanding of socioeconomic relations—but rather from the project of description's difficulty to properly address the contemporary conditions of the territorial scale (Solà-Morales 1991 [1997]). In the system that create 'La forma d'un país' and 'Las formas de crecimiento urbano', Solà-Morales materializes the urban process strictly at the level of city form, and not of territorial form, and the globalizing factors—acknowledged in 'Capital i ciutats'—are inconsequential in terms of formal analysis. There are no territorial

structures that we can understand with the same clarity than the PUE combinations he defined for the city. In a contemporary situation where urbanization has expanded until acquiring a properly geographical dimension, to think the urban as geography—and not simply, as in 'La forma d'un país' in geography—and to understand what are its structural forms becomes crucial.

In this sense, the descriptive project began by 'La forma d'un país' is unfulfilled. Solà-Morales recognized this incompletion when, in 1995, he still claimed that urbanists were missing descriptions of the urban acknowledging the disappearance of the compact city, and when he regretted the lack of territorial models that could have shaped the great expansion of urbanization. Referencing Ildefonso Cerdà's Eixample, the mid-nineteenth century expansion of Barcelona, the architect enquired: 'Where is the Eixample of Catalonia? There should have been ideas, principles. If no efforts are made to conceive a model, then responses come to depend too much on the circumstances of the moment' (Solà-Morales et al. 1995). 'La forma d'un país' aimed to provide the basis for a common comprehension of urbanization and geography, but to approach this ambition to our current necessity of conceiving territorial models, we need to have Solà-Morales with a non-conservationist Muratori, and thus to describe the structural in order to have the literary.

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