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Politiche e progetti della sostenibilità in Catalunya
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Le Tre Carte della Sostenibilità: nuove definizioni del rapporto fra architettura e sostenibilità urbana

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The uprising of the on-going global economic crisis has dramatically affected some of the key words currently used for the understanding and planning of cities. Many concepts proposed along with the development of the so-called post-industrial societies have changed their meaning in no more than one decade. This is the case of the sustainability concept. Being sustainable today embraces different contents than the primary approaches to sustainability defined by the well-known definition primarily proposed by the Bruntland rapport.

What does specifically means a sustainable city and urban form today? Which is the real role played by architecture in this definition?

The following pages will explore this double question taking into consideration recent experiences and visions from Catalonia.

Main statements are devoted to suggest three main dimensions of the relationship between sustainability and architecture:

- Urban sustainability: covers main principles and strategies for guaranteeing an efficient environmental performance of the urban form orientating the city and the urbanised areas towards a climate-proof profile.
- Territorial sustainability: includes the 'area vasta' scale for grasping the real impact of new phenomena such as the Mediterranean version of the urban sprawl and the recent intensive transformation of territories and landscapes both in the urban and the ex-urban areas.
- Cultural sustainability: integrates environmental and cultural heritage assets into planning schemes and urban projects orientating architecture and urbanism towards the recycling of ordinary landscapes also denying the copy&paste of urban forms and architectural programs.

Urban sustainability: the low-carbon challenge and the climate-proof dimension of cities and architecture

Urban available data clearly show the environmental crisis affecting cities at the present moment. The so-called low-carbon challenge reflects new urban requirements which have also been emphasized by the

uprising *climate-proof* vision of urban planning and design. In this sense, the sustainable performing profile of the urban form relays on issues such as the optimization of resources or the energy efficiency of the city.

Thus the historical process of dissolution of the traditional urban city form is not only dealing with the evolution of the morphological basis of urban settlements at the present moment but with the typology of urban functions and the kind of urban metabolism characterising the city environmental performance both in the local and the regional scale.

The nodal question which relays on this discussion has to do with the clarification of which kind of urban form can be more sustainable considering the urban metabolic behaviour in terms of energy consumption and balance from a *low-carbon* perspective.

Two main issues can be considered in regard with this debate:

Firstly, the recognition of how energy has been a key issue for the formation of urban and metropolitan regions during the last century. In this sense, a real system of physical infrastructures has been progressively implemented for the production, storage, transformation, management and transport of energy. This is a spatially discontinuous system of infrastructures which has been territorialised going hand in hand with the process of urban growth and extension of the city on space. The existence of this chain of energy infrastructures in cities and metropolitan spaces clearly contributes to the explanation of the regional urbanization phenomena as we understand it at the present moment.

Secondly, the metabolic analysis of city behaviour in terms of energy consumption and balance clearly introduces the discussion on the urbanization model and the environmental performance characterising two main scenarios: the compact city and the urban sprawl.

Regarding the first issue, it is clear that different landscapes of energy can be identified when analyzing the formation of the urban spaces and metropolitan regions since the industrial revolution¹: the former coal landscapes, with their mines and other extractive infrastructures or the transportation canals; the electric power plants; or the dams for the electric production are only some highlights of this global discontinuous *energyscape* evolving since the 19th century.

This is a global *energyscape* which includes a very wide range of artefacts and built infrastructures constituting what François Béguin (2001) has metaphorically named as the 6th continent: high-tension transmission lines; sewage digesters; wind farms; electrical substations; thermal plants; solar cell plants; geothermal power stations; heat transfer stations; different type of power stations from the hydroelectric to the multi-fuel; or the offshore platforms just to list some examples.

From the morphological and architectural perspective, we agree with Bryan Thomas Carroll (2001) when he states how electricity plays a main role today –in the same way that water did it in regard with past civilizations– conforming a whole architectural and visual order which shapes and explains the built urban and metropolitan environment.

That is why the so-called *low-carbon* challenge can be particularly relevant in terms of the redefinition of this system of electric infrastructures territorialised in space in terms of architecture. In this sense, new requirements and opportunities can be discussed: requirements such as the necessity for more environment-friendly electric infrastructures or for more areas devoted to the expansion of the renewable energy production; and opportunities such as the possibilities for recycling and reusing the old *energyscapes* from the recent past in terms of new uses and programs in the context of a new 'decarbonised' urban environment.

Thus, updating and recycling the territorialised system of infrastructures dealing with energy in urban and metropolitan spaces represents a real challenge from the new *low-carbon* perspective and introduces new inputs in terms of comprehensive urban planning when facing the process of dissolution of the traditional city.

Regarding the second issue, the discussion on the urbanization model and the environmental performance of the compact city and the urban sprawl, the *low-carbon* challenge reflects new urban requirements which have also been emphasized by the uprising *climate-proof* vision of urban planning and urban design. They also underline the definition of sustainability from the territorial perspective.

¹ For a summary and explanation of this long-term process from the architecture and landscape perspectives see Jakob (2001).

Territorial sustainability: cities and landscapes facing the dispersed regional urbanization

What we currently consider as 'the city' is a cultural image based on the heritage of the foundational 19th century urbanism. That was a former urbanism deeply involved with the idea of urban density. Going hand in hand with the reinforcement of this compact city structure, the second half of the 20th Century brought a general spread of urban sprawl trends in all cities worldwide.

Thus, the dispersion through the territory of residential settlements and economic activities began to give rise to an urbanization not particularly adapted to the famous metaphor of the oil slick. In the 1990s, a whole series of oil slicks presented a pattern of settlements characterised by the urban dispersion: the low-density city or the *ex-urbia* are among the images with which urban planners had been trying to define the emergence of alternative urban forms that shunned concentration and largely contradicted the image of the dense compact city.

The intensification of the dynamics of urban sprawl embraced not just residential uses but a widespread cloning of the characteristic urban uses of the land and activities of the concentrated city, adapted, however, to the regional scale. Thus, economic activities and commercial or leisure services occupied new areas far from the city and its immediate suburbs.

This is a standard pattern of urban dispersion that have characterised not only the urban growth of big main cities in relation with their metropolitan regions but also the more recent evolution of medium-sized towns. Even those less populated municipalities have experienced with a progressive growth of urbanization on the basis of a huge reformulation of the agricultural uses of the land. In stark contrast to the idyllic, bucolic or romantic images inherited from the art and literature of previous centuries, a kind of urbanized countryside has emerged as one of the main features of the on-going 'dispersed regional urbanization' (Muñoz, 2011).

This is to say, a dispersed urbanization which is not taking place anymore in the suburban areas located near the traditional extension corridors of main cities in more mature metropolitan regions but in a multiplicity of places, formerly named as 'rural' in-between cities and towns. In other words, when urban sprawl acquires a real regional scale, the results of the dispersion of the urban on territory also acquire a different dimension which is difficult to be captured using the traditional concepts created to explain sprawl in relation with the well-known suburban extension of the metropolis.

This is particularly true for those areas in which the former agricultural landscape has given rise to a 'rurban' landscape characterized by the proliferation of local roads, second-rank shopping malls, car parks and emerging areas of banal housing states and services; a landscape in which suburban elements have been dramatically mixed in with the existing features traditionally defining the archetypical agrarian iconography.

This dispersed regional urbanization shows how the urbanization of the countryside, presciently identified and dubbed ***rurbanisation*** by Gerard Bauer and Jean-Michel Roux in 1976, is not only a fact but also presents morphological and functional features that are significantly different from the earlier processes of urbanization of the areas closest to the major cities from the mid 19th century on.

In this new territorial framework, the attributes and roles of public space have dramatically changed when facing the mutation from the traditional compact city arena to the new spaces that are containing public collective urban life in the context of dispersed regional urbanization.

The traditional notion of public space has been then multiplied and given rise to a whole diversity of scenarios which are not specifically corresponding morphologically to the canon of the urban but they definitely content the meanings and temporality defining collective uses of the space. A wide range of formerly peripheral or suburban spaces have changed from being nothing more than the waste of the urbanization process to assume those traditional roles characterising urban public spaces but in the context of the dispersed regional urbanization: riversides in-between different municipalities; semi-abandoned old industrial and productive spaces; remaining areas besides infrastructures; suburban agriculture areas; They constitute today a real territorial patchwork of new public spaces in the regional scale. A discontinuous network of new 'agora' show at the present moment the capabilities of landscape when considered in terms of metropolitan sociability and cohesion.

Furthermore, those ex-urban public spaces clearly constitute a new category of urban places urgently demanding new approaches from the perspective of design and planning since they are posing the challenge of how hybridating urban design formulas and landscape architecture methods. A new tool-box for the proper design of this new genre of public spaces.

Cultural sustainability: ordinary heritage and ordinary landscapes 'at work'

The landscape has been traditionally understood as the morphological translation of the physical features and the social and cultural relationships that define the place and shape the so-called *genius loci*. However, cities and territories are currently facing the appearance of landscapes which are clearly independent from the place in the sense that they can be replicated in any other city. In this context, landscape no longer translates the features of the place as could be expected and neither does it contain cultural or symbolic attributes related to social identification and cohesion.

This process of disconnection between place and landscape can be summarized with the idea of *urbanization* (Muñoz, 2008; 2009) and has specifically characterised the recent evolution of urban regions since the last third of the 20th century.

Regarding the urban landscape, the traditional places of the city –the architectural setting, the topological elements like streets and squares, which have historically characterised the compact city as vibrant public urban spaces– are transformed following a very similar pattern of intervention which deals with a highly standardised type of urban experience. Regarding the suburban landscape, the new extensions of the city equally show the repetition and clonation of a highly standardised built environment in which residential and commercial uses represent a complementary dimension of the same urbanization also affecting urban cores and central urban areas.

Some key examples of landscape transformation show very well the results of these processes of urban equalization:

Firstly, the *brandification* of historical neighbourhoods, where gentrification processes and the progressive orientation of urban space towards leisure and consumption has gone hand in hand with the very dramatic transformation of the local urban landscape. The more recent example of this process corresponds to the urban regeneration of Jewish ghettos in Eastern Europe. These old neighbourhoods have been renovated following a very similar pattern in different cities and offering a final scene where the historical urban form is merely the visual support for a highly specialised use of the space orientated towards leisure, entertainment and consumption (Murzyn, 2006). The results of these renovation experiences reveal a city which has been simplified in terms of its attributes and contents.

Secondly, the renovation areas located in urban waterfronts and riverside areas where standardised architectural and urban design programs have been implemented revealing a highly restricted menu of options: the aquarium, the shopping area, the leisure sector, the IMAX cinema, the local museum or cultural centre and the high-rise residential areas configuring a brand-new urban seafront which also appear as copied & pasted from one waterfront to another when comparing different key examples since the 1980s – from the Baltimore experience to the long series of projects in Europe–.

Finally, the new urban sprawl areas in the outskirts of traditional compact cities. These new peripheries reveal the appearance of a highly standardised residential landscape, easily reproducible and independent from the historical background, the physical features and local culture that normally characterise places. In this way, urban sprawl has become a very efficient urban growth machine dealing with *urbanization* processes.

These are only some examples of transformed urban landscapes resulting from regeneration, renewal or new extension projects clearly constituting a *copy&pasted* urban form. They reveal, in different ways, the main consequence of *urbanization*: the progressive loss of urban diversity and complexity when facing the recent evolution of the urban form.

This is the real global context in which main strategies and projects transforming different genres of urban landscape can be framed at the present moment. At the same time, landscapes equalization also represents new values and opportunities for the management of specificities and peculiarities defining local contexts. Taking into consideration this framework, the management of urban local heritage has become not merely a sectorial urban policy but a key strategic element defining a new agenda for the cultural sustainability of landscapes and places.

From this new perspective, cultural urban sustainability can be defined in terms of the recovering of collective values contained on a network of urban landscape elements historically configured and understood as heritage by local communities. In other words, the management of cultural sustainability in cities at the present moment relays not only on the protection and conservation of some key structures such as important monuments or the more significant fragments remaining from the past urban fabric but on the management

and valorisation of a wide range of urban elements which have never been included into the domains of the heritage concept.

New trends such as the renovated interest on suburban landscapes and environments or the unexpected success of some concepts such as 'cultural landscape' or 'ordinary landscape' can be explained taking into account this general framework.

A completely new dimension of urban heritage has thus emerged strongly associated to the recognition of ordinary landscapes historically created by the urbanization process. That is why urban peripheries and cultural landscapes associated to past agricultural or those first generation industrial activities have definitely acquired a new status: they are now highly meaningful landscapes contributing to the construction of common local imaginary and culture in the same way that natural landscapes or urban historical landscapes had contributed to the same process in the past.

The innovative management of those new dimensions of urban heritage both covering environmental and cultural elements constitute a highly creative and exciting approach towards an operative definition of cultural urban sustainability.

The three dimensions of the sustainability concept synthetically presented in here –urban, territorial and cultural– are explored in different ways by the following contributions.

This three alternative definitions of sustainability aspire to complement the more canonical and restricted idea of environmental sustainability. In this way, they open the theoretical framework and offer architecture new ways to recognise, on the basis of new approaches and strategies, the changing relations between society and (urban) environment.

Architecture has effectively leaded the discourse on the process of extension of cities and the urban on space during the past 20th century. Imagining a new leading role to be played by Architecture in this new 21st century probably means giving rise to a much more productive understanding of the real boundaries of the sustainability concept, far away from the conceptual limits represented by the mere environmental definition of the idea.

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