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Beyond Urbanization: urban form and the low-carbon challenge.

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1. On density: former urbanism shaping the image of the traditional city

What we currently regard as the “traditional city” is a cultural image based on the heritage of foundational 19th century urbanism. That was a former urbanism deeply involved with the idea of urban density. It emerged in response to urban conditions created by concentrating inhabitants and buildings in cities and evolved from the conflict between two positions: on one hand, defence of rational and scientific insertion of the industrial city in the territory it was increasingly colonizing; on the other, the temptation to reject the big metropolis and to advocate an ideal urban community associated with the country and rural life. In both approaches, the desire to control the density of the city resulted in proposals that were not only geared towards introducing regularity and order into urban space but also towards sharing the common goal of decreasing the thresholds of concentration.¹

Thus, the urbanism that ended up giving material form to the 20th century metropolis first made itself heard with a fierce critique of the 19th century industrial city. That is to say, highlighting excessive urban density as the main attribute of cities, perceived both as dense and limitless.

From this perspective, the city was ideally envisaged in association with the countryside, while there was no shortage of radical proposals calling for its extinction and a return to a pastoral past, a ‘Golden Age’ prior to industrial civilization, characterised by happiness and innocence.²

It is clear that excessive urban density entailed a whole series of problems and anxieties, the high rate of urban mortality being the first of these, but 19th century city planners were also concerned with issues such as the effects of urban density in terms of confusion and ambiguity or the functional promiscuity of urban spaces. Thus, the new city proposed by early urban experts and planners was to be less dense and better ventilated physically, more visually transparent and more functionally segregated.

The image of the ‘traditional city’ emerges in this way as a highly ideological concept which in the end involves the technical vision of the city space provided by former urban planning, a discipline that emerged and was shaped to deal specifically with the density conditions of urban spaces in the industrial city.

2. From the traditional city to dispersed regional urbanization

The traditional image of the city, arising as we have seen out of the contradiction embedded in the 19th century urbanization process, is particularly ill-fitted to represent, understand and manage the contemporary metropolis.

¹ For an explanation of these statements referred to the context of the European metropolis, see Muñoz (2010).

² As Raymond Williams made clear in many of his writings, the two ideas are equally important in the cultural construction of the countryside, notably as a locus of rural innocence, from the earliest pastoral poems contrasting the life of the country with that of the city and the court, based on abstraction of the physical effort that agricultural work entails and the power relations that shape it. See R.Williams (2001).

In 1975, James G. Ballard wrote *The Ultimate City*, a short story in which he offered a shocking image of the modern view of the relationship between natural and artificial: a giant pyramid of television sets built in the middle of an abandoned avenue in an abandoned city. The interesting thing about the image is that the whole structure is invaded by vegetation—wild elders, moss and firethorn—the television circuits, modulators and other electric elements mingled with cascades of berries, inviting the author to suggest his conclusion: “rival orders of a wayward nature merging again after millions of years of separate evolution”. The relationship between city and country seems to be explained again in a similar way after 150 years of the urbanization process.

Thus, the second half of the 20th century brought a general spread of urban sprawl to all cities, especially those that had not yet been much affected by such urbanization processes, such as Mediterranean cities. Thus, the spread of residential settlements, industrial areas and commercial centres over the land produced a type of urbanization not exactly corresponding to the famous metaphor of the oil slick. In the 1990s, a whole series of oil slicks created a pattern of settlements characterised by dispersion: the *ville éparpillée* (Bauer&Roux, 1976), the *città diffusa* (Indovina, 1992), la *città diramata* (Detragiache, 2003), the low-density city and the *ex-urbia* (Galdensonas, 1996) are some of the images used by planners and experts in attempts to define the emergence of alternative urban forms that shunned concentration and largely contradicted the image of the dense compact city.³ By the end of the 20th century, the words that appeared in 1972 at the start of Ventury, Scott Brown and Izenour's *Learning from Las Vegas* had acquired new relevance: “...a new type of urban form emerging in America and Europe, radically different from what we have known; one that we have been ill-equipped to deal with and that, from ignorance, we define today as urban sprawl.”

The intensified dynamics of sprawl not only embraced residential uses but also cloned the urban land uses and activities characteristic of the concentrated city, adapted, however, to a regional scale. Thus:

- economic activities, services and logistics occupied the new business parks and industrial districts far from the city and its immediate suburbs;
- retail trade located in containers in metropolitan interstices offered ease of access by car, selling not only food and other basic commodities but catering to a broad range of specialized consumer choices, from interior design to gardening;
- the leisure activities characteristic of the city gave way to theme spaces and resorts outside the more urbanized areas.

In the late 1990s, scholars such as the geographer Giuseppe Dematteis and the urbanist Robert Fischman explained how physical expansion of built space and the dynamics of suburbanization meant that it was increasingly easy to find metropolitan characteristics in places traditionally outside the process of urbanization. Using the metaphor ‘the end of the city’, Fishman argued that the urban form (the metropolis) that had necessarily been functional to the development of Fordism in the 20th century, was no longer such an important requirement in the age of late-capitalist accumulation.⁴

³ For an explanation and revision of some of these concepts see Muñoz (2008).

⁴ This has not prevented central cities from regaining population once more after decades of accumulated losses and after inspiring such explicitly negative images as that of ‘urban decline’. Due to transnational global migration, their populations were again in many cases on the increase in the last decade of the 20th century and the first years of the new millennium. Thus, concentration of population in central cities and urban sprawl into regional spaces have coexisted in many European cities in the last few decades.

In contrast, first medium-sized cities and then less populated towns have experienced the progressive growth of urbanization based on radical reformulation of agricultural land use at local and metropolitan scale. In stark contrast to the idyllic, bucolic or romantic images inherited from the art and literature of previous centuries, an urbanized countryside has emerged as one of the main features of on-going dispersed regional urbanization.

By the end of the 20th century, it was clear that this urbanization of the countryside, presciently identified and dubbed ‘rurbanization’ by Gerard Bauer and Jean-Michel Roux in 1976, was not only a fact but also had morphological and functional characteristics significantly different from the earlier processes of urbanization of areas adjacent to major cities from the mid 19th century onwards.⁵ The former agricultural landscape was giving way to a rurban landscape characterized by a proliferation of local roads, second-rank shopping malls, car parks and emerging areas of banal housing estates and services; a landscape in which suburban elements were mixed with the existing features of agrarian iconography. A ‘sprawlscape’, according to Richard Ingersoll (1999): “(Just) as we can ‘read’ the urban landscape (cityscape), so we must classify linguistically the transformation of rural areas into urbanized territory as a ‘landscape of dispersion’ (sprawlscape).”

3. *Urbanalization*: urban form after dissolution of the traditional city

Dispersed regional urbanization induced dramatic transformation not only in urban form and urban fabric but also in the landscape. Thus the landscape of former urban centers and the whole regional space has tended to be transformed according to a number of common features that I have tried to summarize under the term *urbanalization* (Muñoz, 2008; 2009).

The landscape has been traditionally understood as the morphological translation of the physical features and social and cultural relationships that define the place and shape the so-called *genius loci*. However, cities are currently facing the appearance of landscapes which are clearly independent of 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 *urbanalization*. It has specifically characterised the recent evolution of cities and is readily observed in two different scenarios:

- The first scenario refers to the *brandification*⁶ of historical neighbourhoods. In these old urban areas, gentrification and the progressive orientation of urban space towards leisure and consumption has gone hand in hand with dramatic transformation of the local urban landscape. Urban regeneration and renewal projects have developed in a very similar way in different cities, producing a kind of *copy&paste* urban form which the visitor of the historical area has in mind and hopes to find when perceiving this specific part of the urban landscape.

⁵ The authors defined ‘rurbanization’ as the movement of population from urban to more rural peri-urban areas since the late 1960s, prompted by the spread of the private car and its potential to satisfy the desire of living closer to the countryside. However, the idea of urbanization of the countryside is considerably broader and includes other recent phenomena such as the intense development of residential migration flows from big cities to smaller towns in response to more affordable or suitable housing.

⁶ For a detailed explanation of the term ‘brandification’ when applied to the changing nature of urban spaces in the context of postindustrial metropolises see Hannigan (1998).

- The second scenario refers to renovations along urban waterfronts and rivers. In these spaces, standardised architectural and urban design programs reveal a highly restricted menu of options: the aquarium, the shopping area, the leisure sector, the IMAX cinema, the local museum or cultural centre and high-rise residential areas configuring a brand-new urban seafront, copied & pasted from one waterfront to another between different key examples since the 1980s, from the Baltimore experience to the long series of projects in Europe.

This general evolution is the result of a structural trend in the recent urban history of contemporary cities: the progressive conversion of urban historical centres and waterfronts into places of consumption, entertainment and other activities linked to global tourism.

This is to say, 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 by a similar pattern of intervention into a highly standardised type of urban experience. A very interesting paradox can be suggested here: in the last half century, leisure and consumption containers have been intensively recreating and imitating urban atmospheres, specific places and formal features of cityscapes: the street, the square, the boulevard, the park, etc. It now seems that to be successful as places to be visited and consumed, cities need to imitate urban forms found in shopping malls, festival markets or theme-parks, based on imitations of city spaces themselves. This is a process that contributes to and reinforces the standardisation of urban landscapes.

Former urban regeneration programmes used to focus on diversification of economic activities and maintenance of residential functions. They used to conceive inner cities as complex urban environments. However, most urban renovation experiences finally produced exactly the opposite results: economic and functional specialisation, morphological segregation of the urban form and thematisation of the urban landscape. These three elements characterise *urbanalization*. Even when the residential function is maintained in experiences of urban renewal, historical areas acquire a new function: they are renewed as a city not for daily living but to be intensively visited.

To summarize, the contemporary city generates a double flow in relation to urban transformation. Firstly, the creation of specialised islands, dedicated to production or consumption. Secondly, the recognisable urban form of the compact city, those areas where topological elements like streets or squares contribute to the urban fabric, are also converted into specialised containers. Although the morphology of the city is maintained, the urban functions are simplified in a thematic way. A recent example illustrating this process of urban thematisation can be observed in urban renovation affecting Jewish ghettos in Eastern Europe. These old neighbourhoods are renovated using a similar pattern in different cities and offering a final scene where the historical urban form is merely visual support for 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. Similar results can be observed in so many experiences of urban renovation in historical centres and waterfronts of Europe.⁷

⁷ Paradoxically, historical areas and waterfronts have also been the spaces culturally identified with the urban attributes of the urban form of the traditional city. The urban iconography created by the cinema, for example, has always shown key contents of urban life clearly present in these two specific landscapes: density, intensity, relationships, hazard, chance or conflict. A film with a very meaningful title, *On the waterfront*, by Elia Kazan (1954), is a good example. The relation between city and port is always present and the action is framed by the above city attributes.

However, these trends are not restricted to urban centers and waterfronts. There is a third scenario that takes urbanization dynamics to a regional scale in the new areas of urban sprawl on the outskirts of traditional compact cities. These new peripheries are highly standardised residential landscapes, easily reproduced and independent of any historical background, physical features and local culture that normally characterise places. In this way, urban sprawl has become a very efficient urban growth machine for *urbanization*.

The three scenarios reveal the main consequence of *urbanization*, i.e. progressive loss of urban diversity and complexity.

Low-carbon urban form? Urban metabolism and new challenges from a climate-proof planning perspective

The potentials and challenges arising from the new forms of urbanization are not restricted to the population life conditions and the diversity of landscape. The effects of disperse regional urbanization on the environment are extremely important, and many authors consider that energy consumption entailed by this pattern of settlement are unsustainable in the midterm⁸. Thus, the 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 revolution⁹: 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.

⁸ See, for example, Camagni; Gibelly; Rigamont (2002) or Gibelly, Cristina (2007).

⁹ For a summary and explanation of this long-term process from the architecture and landscape perspectives see Jakob (2001).

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.

In this sense, the analysis of the academic research and discussion since the 1990’s show a progressive agreement on the contribution of the compact city urban form to urban sustainability¹⁰. This is a conclusion that has also been underlined by different institutional publications at the European level devoted to the presentation of general recommendations and guidelines for the definition of new urban strategies and policies¹¹.

¹⁰ Numerous samples of contributions suggesting the lack of evidences on the sustainable performance of the compact city and mistrusting the densification or intensification urban policies can be found in the debates and academic discussions during the 1990’s. See in this regard Breheny (1995;1997) and Williams (1999) for the specific context of the UK cities for example. Evidences of more recent research offering a positive evaluation of the compact city urban form in terms of different perspectives such as general sustainability balance, *low-carbon* environmental profile and energy efficiency can be found during the 2000’s in papers by Steemers (2003), Bart (2007), Madlener and Sunak (2011) or Dempsey, Brown and Bramley (2012).

¹¹ Since the 1990’s, different documents such as the *Green Paper on the Urban Environment* (1990) or the *European Spatial Development Perspective*, ESDP (1999) have progressively addressed the relationship between energy and urban form in general terms. More recent publications by the European Environment Agency, EEA (2006) have specifically focus on the debate between the sustainability performance of the compact city and the urban sprawl.

Both academic and institutional production agree on some specific points in relation with the sustainable performing profile of the compact city urban form: the shorter intra-urban distances, which represent a minor dependence of the automobile; the optimization of land resources; or the more district-wide energy use are main features of the compact urban form complementary contributing to the more sustainable performance of the city.

In this discussion and evaluation of the energy efficiency of the compact urban form, the accent has moved from the basic idea of urban compactness –defined as a direct result of the high residential density– to a much more complex notion of urban intensity –relying on issues such as the urban configuration and coherence of the neighbourhood; the permeability of route networks providing effective frameworks for active travel and trips walked or cycled; or the availability of facilities and urban services at the local urban scale¹². This is to say, spatial strategies based on land use and transport planning can have a very significant impact at the local urban level based on positive inputs which are both environmental –as the lower CO₂ emissions or the less energy consumption per capita– and socio-economic –as the lower transport costs; the wider range of mobility options to have access to local services and facilities without needing the car; or the higher productivity due to the fact of the shorter travel times and the diversity and vitality of the urban life–¹³

Addressing these contents, the compact city strategy has become a planning policy relevant in the European context, aimed at mitigating climate change and introducing the *low-carbon* perspective in urban planning schemes. Thus, some key policies for reinforcing the compact city have been recommended such as the encouragement of dens urban development or the retrofit of the existing built areas. These are policies which can be develop trough actions such as establishing minimum density requirements for new urban developments; targeting compact urban development in greenfield areas; harmonising industrial policies with compact city visions; or improving and recycling the existing urban assets.

However, these ambitious principles are facing two main problems at the present moment: Firstly, the idea of the compact and intense city, characterised by the multiplicity of functions going hand in hand with the diversity of urban assets, hardly fits in the scenario defined by *urbanalization*. This is to say, specialisation and simplification of urban functions defined by the *urbanalization* process are specifically characterising the evolution of the traditional urban form as previously explained. A key question emerges then as a result of this diagnosis: can the compact city urban form equally be environmentally performative in terms of the *low-carbon* perspective once *urbanalised*? Secondly, these compact city strategies are clearly focusing on the existing urban form in neighbourhoods that are already compact or in areas where new developments still need to be defined but they do not consider the existing urbanised areas resulting from disperse regional urbanization patterns. Another key question can be suggested at this point: can disperse regional urbanization be managed in the same way that the compact urban form in terms of the new low-carbon rationale and the climate-proof planning?

¹² In regard with this evolution from the basic idea of urban density to the more complex approach to urban intensity see Poumanyvong & Kaneko (2010); Colombert, Diab, Salagnac & Morand (2011); and Barton, Grant & Horswell (2011).

¹³ A detailed summary of these points is presented at the comprehensive work on the compact urban form main features and the compact city policies by the OCDE (2013).

Applying the same strategies already considered for the compact city in those territories, specifically defined by opposite features to those traditionally defining the compact urban form, would hardly be successful since the absence of density changes the whole system of interactions defining urban metabolism and the attributes of urban life¹⁴.

The understanding of the relationships between energy and urban form after the dissolution of the traditional city also requires the consideration of these two questions. Proposing effective *low-carbon* guidelines for the management of both the compact urban form after *urbanization* and the sprawled low-density areas resulting from dispersed regional urbanization still remains as a challenging ambition in the current context of a *climate-proof* urban planning and design.

References

Ballard, James.Graham (2001) "The concentration city". In *Ballard, the complete short stories* (23-38) Flamingo, London (original del 1957).

Bart, Istvan Laszlo (2007) "Urban sprawl and climate change: a statistical exploration of cause and effect, with policy options for the EU. In *Land Use Policy*, num. 27 (283-292).

Bauer, Gerard; Roux, Jean-Michel (1976) *La rurbanisation ou la ville éparpillée*. Editions du Seuil, Paris.

Béguin, François (2001) "Offshore platforms: the sixth continent". In *2G International Architecture Review: Architecture and Energy*, num. 18 (122-127).

Breheny, Michael (1995) "The compact city and transport energy consumption". In *Transactions of the Institute of British Geographers*. New series, vol. 20, num. 2 (81-101).

Breheny, Michael (1997) "Urban compaction: feasible and acceptable?". In *Cities*, vol.14, num. 4 (209-217).

Burton, Hugh; Grant, Marcus; Horswell, Michael (2011) "Suburban solutions: the other side of the story". In *Town and Country Planning. The Journal of the Town and Country Planning Association*, vol. 80, num. 7/8 (339-345).

Camagni, Roberto; Gibelly, Cristina; Rigamonti, Paolo (2002) *I costi collettivi della città dispersa*. Alinea editrice.

Carroll, Brian Thomas (2001) "Seeing cyberspace: the electrical infrastructure is architecture". In *2G International Architecture Review: Architecture and Energy*, num. 18 (129-143).

Colombert, Morgane; Diab, Youssef; Salagnac, Jean-Luc; Morand, Denis (2011) "Sensitivity study of the energy balance to urban characteristics". In *Sustainable Cities and Society*, 1 (125-134).

¹⁴ For an updated vision of the different features and attributes of urban sprawl in comparison with the traditional compact city urban form see Kirby and Modarres (2010).

Dempsey, N; Brown, C; Bramley, G. (2012) "The key to sustainable urban development in UK cities? The influence of density on social sustainability". In *Progress in Planning*, 77 (89-141).

Detragiache, Angelo (2003) *Dalla città diffusa a la città diramata*. Franco Angeli, Milano.

European Environment Agency, EEA (2006) *Urban sprawl in Europe: the ignored challenge*. European Commission.

Fishman, Robert "Beyond utopia. Urbanism after the end of cities". In Subirós, Pep (ed) *Ciutat real, ciutat ideal. Significat i funció de l'espai urbà modern*. Centre de Cultura Contemporània de Barcelona, CCCB.

Galdensonas, Mario (1996) "L'arquitectura d'exúrbia". In *Present i futurs. Arquitectura a les ciutats*. XIX Congrés de la Unió Internacional d'Arquitectes, UIA (34-39). Col·legi d'Arquitectes/Centre de Cultura Contemporània de Barcelona.

Gibelli, Cristina (2007) "Forma della città e costi collettivi: l'insostenibile città dispersa". In *Archivio di Studi Urbani e Regionali*, fascicolo 83.

Indovina, Francesco (1992) "La città possibile". In Indovina, Francesco (ed) *La città di fine millennio* (11-74). Franco Angeli, Milano.

Ingersoll, Richard (1999) "Il paesaggio come redenzione". In de Rossi, Antonio; Durbiano, Giovanni; Governa, Francesca; Reinerio, Luca; Robiglio, Matteo (eds) *Linee nel paesaggio. Esplorazioni nei territori della trasformazione*. UTET, Università di Torino.

Jakob, Michael (2001) "Architecture and energy or the history of an invisible presence". In *2G International Architecture Review: Architecture and Energy*, num. 18 (8-31).

Kirby, Andrew; Modarres, Ali (2010) "The suburban question". In *Cities. The international Journal of Urban Policy and Planning*, vol. 27, issue 2, abril 2010.

Madlener, Reinhard; Sunak, Yasin (2011) "Impacts of urbanization on urban structures and energy demand: What can we learn for urban energy planning and urbanization management?". In *Sustainable Cities and Society*, 1 (45-53).

Muñoz, Francesc (2008) *Urbanización: paisajes comunes, lugares globales*. Gustau Gili, Barcelona.

Muñoz, Francesc (2009) *Urbanization: common landscapes, global places*. In *The Open Urban Studies Journal*, 2 (75-85).

OCDE (2013) *Compact City Policies: A Comparative Assessment*. OCDE Green Growth Studies.

Poumanyong, Phetkeo; Kaneko, Shinji (2010) "Does urbanization lead to less energy use and lower CO2 emissions? A cross-country analysis". In *Ecological Economics*, 70 (434-444).

Stemers, Koen (2003) "Energy and the city: density, buildings and transport". In *Energy and Buildings*, 35 (3-14).

Venturi, Robert; Izenour, Steven; Scott Brown, Denise (1972) *Learning from Las Vegas. The forgotten symbolism of architectural form*. The MIT Press, Cambridge (1a ed. en castellà *Aprendiendo de Las Vegas. El simbolismo olvidado de la forma arquitectónica*. Gustau Gili, 1978).

Williams, Katie (1999) "Urban intensification policies in England: problems and contradictions". In *Land Use Policy*, 16 (167-178).

Williams, Raymond (2001) *El campo y la ciudad*. Paidós, Buenos Aires (1ª edició anglesa, 1973).