

Metropolitan landscapes: Contours of an emerging concept

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Introduction

Several chapters in this book discuss aspects of planning metropolitan landscapes and related questions from either a research or planning perspective. The authors themselves are landscape researchers and planners with a broad variety of academic and practical backgrounds. The underlying assumption of this final chapter is that landscape research and planning have different ways of understanding the concept “metropolitan landscapes”. Therefore, problems may arise when using “metropolitan landscapes” as both a research concept and a planning concept. Whereas the first asks what constitutes a metropolitan landscape and how does it function, the latter postulates a need to react to existing problems within metropolitan landscapes.

This chapter reflects on the different meanings and usages of the term “metropolitan landscape” in the context of research and planning. It is based on the contributions to this volume, as well as on current literature and impressions from participation in the scientific meetings in Bellingham and Dar-

win that gave the kick-off to this book. If planning is to benefit from research and vice versa, such reflection is imperative. It is crucial to know what role landscape research can play in planning metropolitan landscapes and how concepts from the planning of metropolitan landscapes can be used in landscape research.

The introductory chapter to this book raised the questions of whether *metropolitan landscapes exist* and whether *we can plan them*. Both questions characterize the difficulty of planning metropolitan landscapes because the underlying assumption is that metropolitan landscapes do physically exist and that they can be defined and planned. Many researchers and planners would agree that metropolitan landscapes exist. However, when asked for criteria to define and delimit them, answers are sparse. In a planning context, the existence of metropolitan landscapes is not the question of concern; rather, the focus lies on discussing and solving problems that occur within an area called the “metropolitan landscape”. Therefore, the statement that we can “plan” metropolitan landscapes may find broad agreement too. For planners, however, disagreement might arise concerning the best way to organize a metropolitan landscape. From the perspective of landscape research, the need to plan something requires clarification of exactly what is to be planned and for what purpose, in order to define the possible alternatives.

Approaches to metropolitan landscapes

For a purposeful application of landscape research, the notion of metropolitan landscapes has to be discussed in relation to other concepts, such as urban landscapes and rural landscapes but also urban areas and metropolitan areas. This discussion shows the degree to which the metropolitan landscape concept adds a new quality to the existing terminology and illustrates the concept’s potential advantages and disadvantages.

The term ‘metropolitan landscape’ is seldom found in current landscape research. A full-text search of several landscape-related journals brought up

almost no hits for the term. One of the few recent references to metropolitan landscapes is found in Flores et al. (1998) and Zhang et al. (in press) who, however, use the term as synonymous with “urban landscapes”. Metropolitan landscapes in both papers refers to the administrative boundaries of a metropolitan area, in these particular cases, the New York City metropolitan area and the Shanghai metropolitan area. Definitions of the term “metropolitan landscape” are not given.

Similarly, the authors in this book provide few definitions of the metropolitan landscape that fully explain the phenomenon. However, based on the ways the concept is used in the chapters four categories of definition can be constructed. Metropolitan landscape is used (1) as a synonym for urban landscape, (2) as an agglomeration or administrative area of a city or city region, (3) as a large supra-regional area and (4) as a term for all space that is under the influence of urbanites and urban spheres. These categories do not reflect the precise meaning of metropolitan landscape as it is used in the contributions. Rather, they summarize general differences that also come to the fore in current landscape research literature.

Metropolitan landscape as a synonym for urban landscape

One way of using the metropolitan landscape concept is as a synonym for “urban landscape”. “Metropolitan” then means the same as “urban”. Hartz & Kestermann (2004), for instance, in this volume use “metropolitan” as synonym for “urban”. Schot et al. (2004) also introduce metropolitan landscape in this way, in opposition to rural landscapes. We may ask then whether the terms “metropolitan” and “urban” derive from two different academic traditions. Or is the term “urban” rooted in research whereas “metropolitan” is used more in spatial planning? In fact, in landscape research literature the term “urban landscape” is used and defined far more often than the term “metropolitan landscape”. Breuste (in press), for instance, defines urban landscapes as the existing landscape of urban settlements and their surroundings

especially that marked by urban land-use forms and not limited by administrative boundaries.

Studies of urban landscapes have generated increasing interest in landscape research. This relates to the growing importance of urban areas and the migration of populations into urban locales (Tjallingii, 2000). Urbanization can be expressed as the proportion of people living in urban areas (Antrop, 2000, in press). It is a complex process including changes in housing, lifestyle, transportation and employment patterns. So far, the process of metropolitanization has not been described; the extent to which it would differ from urbanization is left open. If “metropolitan” has meaning other than “urban” then this difference should be made explicit and the process of “metropolization” described accordingly.

Metropolitan landscape as an agglomeration or administrative area of a city or city region

A second way of using “metropolitan landscape” is in the sense of “metropolitan areas”. Here, “landscape” serves as a synonym for “area”. In fact, the literature on landscape research, as well as that from urban and planning research, deals with the attribute “metropolitan” far more often in the context of a metropolitan “area” than a metropolitan “landscape” (see studies from Brabanente et al., 2002; Bunnell et al., 2002; Gibson & Abbott, 2002; Kam Ng & Hills, 2003). Also Antrop (2004) defines in his contribution to this volume the qualities of a metropolitan area, not a metropolitan landscape. He refers to a metropolitan area as an agglomeration associated with a large city.

A second aspect of this understanding of metropolitan landscape is its relation to the administrative boundaries of a city region. Williams (1999), for instance, examined the challenges that major city regions face in coping with the dynamic progress of societal change. In this study of metropolitan governance and spatial planning, Williams (1999) referred to the metropolitan area of cities such as Manchester, Melbourne and Toronto and not to the con-

cept of the metropolitan landscape. Flores et al. (1998) define metropolitan areas as high-density central cities that have been losing their regional share of population and economic activity, surrounded by expanding rings of suburbs of considerably lower housing density and high per capita rates of resource consumption. In this volume, Hartz & Kestermann (2004), Kumar (2004), Senes & Toccolini (2004), Sherren (2004), Sommers (2004) and Tonmanee & Kuneepong (2004) also refer to the metropolitan area in the context of large cities—such as Vancouver, Seattle, New Delhi, Bangkok, New Orleans and London—and their administrative or surrounding area. So, where reference is made to the metropolitan area of a specific city, in some cases the actual administrative boundaries of the city are meant while in other cases the related urbanized area exceeding the administrative boundaries is being referred to.

Metropolitan landscape as a large supra-regional area

A third way of looking at metropolitan landscapes is as large supra-regional areas comprised of several urban centres that share common socio-economic or physical conditions and problems. Jacobs (2004), Roos-Klein Lankhorst et al. (2004), Smeets et al. (2004), Van den Brink & Baveco (2004) and Woud et al. (2004) refer in this way to areas where global competition takes place and classify them, for instance, due to their location along major rivers as metropolitan “deltas”. An example from this book is the Northwest European Delta Metropolis, a construction that Van der Valk (2002) describes as an urban field and that comes close to what Antrop (2000) defines as urban networks.

The definition of metropolitan landscapes as supra-regional areas is clearly on a different spatial scale than the first two categories of definition mentioned above. It would be helpful to derive criteria that clearly define the common denominator of such an umbrella concept to make it more useful for research.

Metropolitan landscapes as a continuum of urban-influenced space

The fourth definitional category for the concept of metropolitan landscape is based on the perceived dissolution of the split between urban and rural. In this understanding spatial development has blurred the boundaries between rural areas and urban areas, thus the clear-cut division between them no longer exists. Landscape research has broadly discussed the urban-rural divide. “Urbanity” was introduced to contrast with its opposite, namely rurality. Yet the characteristic “urban” can only be attributed meaningfully as long as there is something that is “not urban”. Urban means town or city and refers to both the built-up agglomerations and to the way of life (Antrop, 2000). Urbanization then describes the process of transformation from one characteristic to the other, from rural to urban. It means the migration of populations from rural to urban areas.

However, studies have also shown the opposite trend: migration from urban to rural areas (Paquette & Domon, 2003; Ryan & Hansel Walker, in press). Then the question arises of whether the urban area is spreading into the countryside by the migration of urban dwellers or whether the rural area is consolidating by attracting new residents. Both processes are part of urbanization. For more details on the debate on the functional change of rural areas see Murdoch & Pratt (1993), Halfacree & Boyle (1998), Ilbery & Bowler (1998), Marsden (1998) and Antrop (2000).

The process of migration from rural to urban and urban to rural is thus diminishing the classical urban-rural divide. More and more formerly rural areas are under the influence of urbanity, and more and more rural elements can be identified within urban settings. In this interpretation, the term metropolitan landscapes proposes a new way of illustrating land-use changes in both urban and rural locales. All space that is under the influence of urbanites and urban spheres is considered to be a “metropolitan landscape” that, for instance, would stretch over areas the size of large parts of Europe or the

United States. Fushtey & Quayle (2004) describe in their chapter the metropolitan landscape as everything that is out there and can be seen, felt, heard and smelt, as part of our public realm that is defined by politicians, business people and advocates. Beunen et al. (2004) describe the metropolitan landscape as an urban field encompassing built-up and open areas within urban centres. However, these authors specify neither the scale of the metropolitan landscape nor criteria by which to define it. The concept thus seems well suited for debate in spatial planning and policy, because it describes a state of development that is beyond the former urban-rural divide and includes a time-related aspect of urban area development. The problem with this usage might be that it could become a buzzword that in fact has little meaning for research, since it is impossible to distinguish it clearly from other landscapes.

Metropolitan landscapes: A new focus for landscape research?

So why bother at all? Could the metropolitan landscape concept provide a new focus for landscape research? Has landscape research paid too little attention to urban and metropolitan areas in recent years? Is it a neglected research field?

In fact, urban and metropolitan areas are on the research agenda of several disciplines, among them landscape ecology, urban ecology and geography as well as policy and planning sciences. Antrop (2000) observed that most studies on urban areas have been done by urban planners, designers, economists and social scientists. This has proved an obstacle to the study of urban areas from a landscape ecology perspective. For landscape ecology the study of urban areas constitutes new territory. Rivalry between different academic domains, along with limited knowledge of other disciplinary perspectives, might have prevented joint research efforts in the past, but obviously this has started to change.

Currently, landscape research is broadly engaged in research on urban ar-

reas. Recent studies address urban planning questions and analyse, for instance, ecological networks and ecosystems in urban areas (Hostetler, 1999; Savard et al., 2000; Cook, 2002) and urban land cover and land-use changes (López et al., 2001). Others present a framework for ecological thinking in regional planning of urban landscapes (Flores et al., 1998) and identify landscape-ecological zones to support urban planning (Löfvenhaft et al., in press). Studies discuss the benefits of conserving greenery for the purpose of urban architecture and planning (Ong, 2003), investigate the degree to which knowledge about climate is used in urban planning (Eliasson, 2000) and develop new planning concepts for mega-cities (Yokohari et al., 2000; Jim & Chen, 2003).

The challenge in applying the concept of the metropolitan landscape in landscape research may lie in understanding what constitutes a “landscape”. This is an ongoing debate. Are cities part of a landscape? Do landscapes start on the fringe of urban areas? Does a landscape constitute urban and rural areas together? Can landscapes be divided into rural, urban or metropolitan? Some authors, such as Kühn (2003), discuss the concept of landscapes in opposition to cities or as connectors between cities. For them cities are not necessarily parts of the landscape. Yet others regard urban areas as an aspect of a landscape (Antrop, 2000).

Nonetheless, it is widely accepted that landscapes emanate from different realms, such as the material, the social and the mental (Naveh, 1995; Hobbs, 1997; Tress & Tress, 2001). Agreement also exists that the integrating power of such a conception of “landscape” benefits both landscape research and planning activities (Makhzoumi & Pungetti, 1999). All landscapes—covering metropolitan, urban and rural areas—are shaped by humans and nature, which create a specific environment for living, housing and other natural and cultural demands. In the words of Rodiek (2003), even in a metropolitan and highly impacted area, the landscape persists.

In consequence, the discussion of a supposedly new concept, such as the

“metropolitan landscape”, needs to be embedded in existing debates in landscape research as well as in other fields. It would be constructive if such debate could clarify the metropolitan landscape concept so that it eventually adds a new quality to the existing research concepts of “landscape”. Further research is needed to determine what this quality could be.

Conclusion

This chapter presented four different ways of using the concept of metropolitan landscape: as a synonym for “urban landscape”, as equivalent to an agglomeration or administrative area of a city or city region, as a large supra-regional area, and as a term meaning all space that is under the influence of urbanites and urban spheres. These meanings vary enormously. All four leave questions open, mostly because their differences with existing concepts are not yet clear. Some are more suitable for research, others for planning. Bringing them together is difficult, if possible at all. But relating them to existing concepts and making their meaning more explicit will foster the debate on and application of the concepts.

Clear-cut answers to our introductory questions of whether *metropolitan landscapes exist* and whether *we can plan them* proved elusive. An attempt to answer the first question is to admit that ‘we are not sure what metropolitan landscapes are’ and to the second question ‘but we feel a strong need to plan these areas’. Hopefully, this chapter has contributed to the ongoing discussion, which should be continued in landscape research and related fields. Although research focuses on various aspects of urban environments, the term “metropolitan landscape” is hardly applied as yet. As the contributions to this book show, many different concepts exist side by side without detracting from one another. If the emerging notion of the “metropolitan landscape” is to develop into a unifying concept for both research and planning, more effort must be made to clarify the term and criteria are needed to distinguish it from other types of landscapes.

References

- Antrop, M.** Landscape change and the urbanization process in Europe. *Landscape and Urban Planning* (in press).
- Antrop, M., 2004.** Uncertainty in planning metropolitan landscapes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Antrop, M., 2000.** Changing patterns in the urbanized countryside of Western Europe. *Landscape Ecology* 15, 257-270.
- Barbanente, A., Khakee, A., Puglisi, M., 2002.** Scenario building for metropolitan Tunis. *Futures* 34, 583-596.
- Beunen, R., Van Ark, R., Van der Valk, A., Jaarsma, R., 2004.** Planning nature conservation in Dutch metropolitan landscapes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Breuste, J.** Decision making, planning and design for the conservation of indigenous vegetation within urban development. *Landscape and Urban Planning* (in press).
- Bunnell, T., Barter, P.A., Morshidi, S., 2002.** Kuala Lumpur metropolitan area. *Cities* 19 (5), 357-370.
- Cook, E.A., 2002.** Landscape structure indices for assessing urban ecological networks. *Landscape and Urban Planning* 58, 269-280.
- Eliasson, I., 2000.** The use of climate knowledge in urban planning. *Landscape and Urban Planning* 48, 31-44.
- Flores, A., Pickett, S.T.A., Zipperer, W.C., Pouyat, R.V., Pirani, R., 1998.** Adopting a modern ecological view of the metropolitan landscape: the case of a greenspace system for the New York City region. *Landscape and Urban Planning* 39, 295-308.
- Fushtey, D.S., Quayle, M., 2004.** Leadership literacy: Public interest in land-use governance. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Gibson, K., Abbot, C., 2002.** City profile Portland, Oregon. *Cities* 19 (6), 425-436.
- Halfacree, K., Boyle, P., 1998.** Migration, rurality and the post-productivist countryside. In: Boyle, P., Halfacree, K. (Eds.). *Migration into rural areas: Theories and issues*. Wiley, Chichester, 215-235.
- Hartz, A., Kestermann, R., 2004.** New planning concepts and regional cooperation: Responding to the challenges of new urban landscapes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Hobbs, R., 1997.** Future landscapes and the future of landscape ecology. *Landscape and Urban Planning* 37, 1-9.
- Hostetler, M., 1999.** Scale, birds, and human decisions: a potential for integrative research in urban ecosystems. *Landscape and Urban Planning* 45, 15-19.
- Ilbery, B., Bowler, I., 1998.** From agricultural productivism to post-productivism. In: Ilbery, B. (Ed.). *The geography of rural change*. Prentice Hall, 57-84.
- Jacobs, M., 2004.** Metropolitan matterscape, powerscape and mindscape. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Jim, C.Y., Chen, S.S., 2003.** Comprehensive greenspace planning based on landscape ecology principles in compact Nanjing city, China. *Landscape and Urban Planning* 65, 95-116.
- Kam Ng, M., Hills, P., 2003.** World cities or great cities? A comparative study of five Asian metropolises. *Cities* 20 (3), 151-165.
- Kühn, M., 2003.** Greenbelt and Green Heart: separating and integrating landscapes in European city regions. *Landscape and Urban Planning* 64, 19-27.
- Kumar, A., 2004.** The inverted compact city of Delhi. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Löfvenhaft, K., Runborg, S., Sjögren-Gulve, P.**

- biotope patterns and amphibian distribution as assessment tools in urban landscape planning. *Landscape and Urban Planning* (in press).
- López, E., Bocco, G., Mendoza, M., Duhau, E., 2001.** Predicting land-cover and land-use change in the urban fringe: A case in Morelia city, Mexico. *Landscape and Urban Planning* 55, 271-285.
- Makhzoumi, J., Pungetti, G., 1999.** Ecological landscape design and planning. Spon Press, London.
- Marsden, T., 1998.** New rural territories: regulating the differentiated rural space. *Journal of Rural Studies* 14, 107-117.
- Murdoch, J., Pratt, C.A., 1993.** Rural studies: modernism, postmodernism and the 'post-rural'. *Journal of Rural Studies* 9, 411-427.
- Naveh, Z., 1995.** Interactions of landscapes and cultures. *Landscape and Urban Planning* 32, 43-54.
- Ong, B.L., 2003.** Green plot ratio: an ecological measure for architecture and urban planning. *Landscape and Urban Planning* 63, 197-211.
- Paquette, S., Doman, G., 2003.** Changing ruralities, changing landscapes: exploring social recomposition using a multi-scale approach. *Journal of Rural Studies* 19, 425-444.
- Rodiek, J., 2003.** Editorial: Visionary landscapes. *Landscape and Urban Planning* 66,1-3.
- Roos-Klein Lankhorst, J., Van Bakel, J., Ligtenberg, A., 2004.** Hydropolitan: An interactive tool for hydrology management in metropolitan deltas. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Ryan, R.L., Hansel Walker, J.T.** protecting and managing private farmland and public greenways in the urban fringe. *Landscape and Urban Planning* (in press).
- Savard, J.-P.L., Clergeau, P., Mennechez, G., 2000.** Biodiversity concepts and urban ecosystems. *Landscape and Urban Planning* 48, 131-142.
- Schot, P., Baarendregt, A., Wassen, M.J., 2004.** Modelling approaches for metropolitan landscapes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Senes, G., Toccolini, A., 2004.** Sustainable land use planning and valorisation of the natural and cultural resources in the metropolitan area of Milan, Italy. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Sherren, K., 2004.** Overconsultation breeds contempt: Lessons in participatory watershed planning from the Lake Pontchartrain Basin of Louisiana, USA. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Smeets, P.J.A.M., Harms, W.B., Van Mansfeld, M.J.M., Van Susteren, A.W.C., Van Steekeburg, M.G.N., 2004.** Metropolitan delta landscapes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Sommers, P., 2004.** Between two cities: The ecological footprint of Vancouver and Seattle in Northwest Washington. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Tjallingii, S.P., 2000.** Ecology on the edge: Landscape and ecology between town and country. *Landscape and Urban Planning* 48, 103-119.
- Tonmanee, N., Kuneepong, P., 2004.** Impact of land use change in Bangkok Metropolitan and Suburban Area. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Tress, B., Tress, G., 2001.** Capitalising on multiplicity: a transdisciplinary systems approach to landscape research. *Landscape and Urban Planning* 57, 143-157.
- Van den Brink, N., Baveco, H., 2004.** Spatially explicit risk analysis: A new solution to contamination problems in the metropolitan delta. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Van der Valk, A., 2002.** The Dutch planning experience. *Landscape and Urban Planning* 58, 201-210.
- Williams, G., 1999.** Metropolitan governance and strategic planning: a review of experience in Manchester, Melbourne and Toronto. *Progress in Planning* 52, 1-100.
- Woud, M., Reinhard, S., Gaaff, A., 2004.** Cost-benefit analysis in interactive planning processes. In: Tress, G., Tress, B., Harms, B., Smeets, P., Van der Valk, A. (Eds.). *Planning metropolitan landscapes – concepts, demands, approaches*. DELTA Series 4, Wageningen (in this volume).
- Yokohari, M., Takeuchi, K., Watanabe, T., Yokota, S., 2000.** Beyond greenbelts and zoning: A new planning concept for the environment of Asian mega-cities. *Landscape and Urban Planning* 47, 159-171.
- Zhang, L., Wu, J., Zhen, Y., Shu, J.** A GIS-based gradient analysis of urban landscape pattern of Shanghai metropolitan area, China. *Landscape and Urban Planning* (in press).

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