

Historical importance and development of parks and public green grids

Elisabeth Lichtenberger's contribution 'Überblick, die Function von Grünflächen' in Stadtökologie offers a useful summary of the social backgrounds to the development of green areas in Western towns and cities. The description presented below follows the general outline of that summary.

Throughout the history of Western towns and cities, urban green areas have traditionally had functions relating to representation, wellbeing or urban hygiene.

The terrace-shaped gardens of the Renaissance and the landscaped gardens of the 18th and 19th centuries are examples of representation. While we have the political elite to thank for representative formal gardens, lawns between blocks of social housing estates are a by-product of democratisation [Lichtenberger, 1998]. Public parks such as New York's Central Park occur only in Western societies and socialist countries, and serve a function of leisure and recreation for the citizens. Public green areas can only be realised and maintained if supported by planning politics and planning instruments such as urban development and structure and zoning plans. In practice, despite political preferences and the available set of instruments, green areas remain a peripheral phenomenon compared with the increasing proliferation of constructed development and traffic areas. Green areas in towns and cities remain vulnerable with their limited financial yield they must maintain their position in towns and cities within a system that is geared toward economic yield. Only by defining and protecting the functions of green areas can they be preserved, yet they are continually under pressure. [Lichtenberger, 1998]



Besides green areas designed and planted by humans, in recent decades spontaneous vegetation has also found a place in towns and cities, as a result of official planning processes having adopted some of the attention originating in the environmental movement. An example of spontaneous vegetation is the Landschaftspark in Duisburg, Germany. Vegetation is also becoming more important as a bio-indicator: certain plants, such as types of moss, are being used as bio-indicators to measure the degree of

disruption or pollution in a particular area. The focus on urban ecology arose principally in university towns such as Freiburg and Tübingen in Germany and in Amsterdam, Utrecht and Wageningen in the Netherlands, and has resulted in fundamental research and produced environmental data and information systems. In Europe, those data systems are geared toward the parameters defined by Brussels [Lichtenberger, 1998]. Although the focus on towns and cities that has emerged from the environmental movement has produced environmental data systems, research and several sustainable pilots and intentions, to date it has not produced any changes to the urban planning concept which is based on the principles of division of labour, separation of functions and maximised land yields. With the exception of a few utopian models, it has so far not proven possible to develop and realise a new concept for ecological towns and cities. At present, increased sustainability in towns and cities is nothing more than a green coating on top of essential elements such as infrastructure for traffic, energy, water supplies and food production. Nothing has changed in terms of our economic and social organisation: for the most part, we are unable to move beyond microcosmetic operations such as green roofs, green facades and low-traffic zones. [Lohrberg, 2001]

Some pilots go much further, such as the Hammerby and EVA-Lanxmeer districts, described later in this book. What is striking about successful and more comprehensive pilots is that residents have more input and greater responsibility.

We are experiencing an exciting era: on the one hand, internationalisation and centralisation by economic conglomerates such as the EU and multinationals continue to grow, while on the other hand citizens are appropriating more control, as described in the chapter on urban agriculture and decentralised energy companies. It will be exciting to see how a growth-focused societal system such as that in which we live will eventually handle the multiple crises of the environment, the economy and society.

Increasing urbanisation irrevocably leads to greater demands for space for traffic, homes, industry and recreation. As a consequence, more finite resources are consumed and more waste is produced. The issue of increasing urban density and/or expansion needs to be revisited.

The green spaces in blue-green grids can perform various functions: recreation, food production, nature development, water storage and purification, biomass production, pleasant and safe routes for slow traffic, urban lungs and urban cooling.

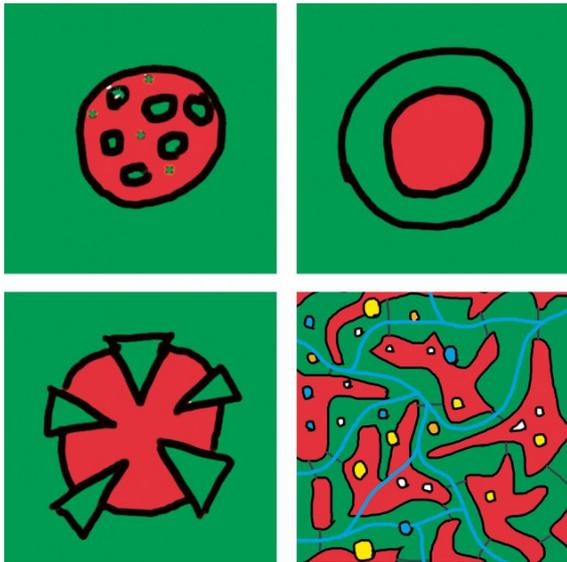
Increased urban density will lead to increased pressure on green urban areas and pose a risk to the appeal and quality of life of towns and cities. In practice, large cities will have to both expand and become denser. This will be true not only for large European cities but also for megacities. To equip our Western towns and cities for a peak oil era, supply flows will have to be organised more efficiently and use smart combinations of central and decentralised structures. This is particularly true for megacities, where most districts do not even have access to supply and it is impossible for both spatial and financial reasons to introduce central facilities. Urban expansion means that towns and cities are growing beyond the limits of what can be structured centrally. Blue-green grids encompassing multiple urban cores would therefore likely present a more efficient system and form an absolute precondition for quality of life.

Urbanised areas are expanding at the expense of land originally used for agricultural purposes or land which provided natural functions. Most of that land is exceptionally fertile, since towns and cities generally developed in locations that offered sufficient possibilities for feeding their growing populations. Today's separation of food production from residential areas is a development dating from the latter half of the previous century, and its large scale was only made possible by the use of fossil fuels in producing artificial fertilisers and pesticides and for transport. Previously, agricultural businesses had much closer ties to towns and cities. They were situated within city limits or at the edges of urban areas, since the possibilities for transporting food products and keeping them fresh were limited. At the same time, the organic waste products generated by the town or city served as fertilisers for fields.

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Unlike in most other countries, the direct sale of agricultural products in towns and cities is no longer a reality in the Netherlands. As far back as in the 19th century, much of the production was intended for export, agents worked as brokers and produce was traded at auctions. The usual system of directly selling farm products is not a tradition in the Netherlands: it is only in recent years that this practice has slowly gained a foothold in the form of farmers' markets.

The increasing urbanisation seen in recent decades has reversed urban and rural proportions. Whereas urbanised islands were previously embedded in agricultural or natural landscapes, nowadays in deltas with cities, such as in the Randstad metropolis, green zones exist only between the urbanised areas. The international urban development discussion currently assigns a structuring function to those green areas between the diffuse and expanding suburban areas. It is no longer the built-up urban area that serves as a structuring element in urban expansion, as was traditionally the case, but rather the green areas that serve various functions and which lie between that development. [Lohrberg, 2001]



These green spaces must therefore serve to give structure to heterogeneous development, to offer possibilities for orientation and to provide an identity. Naturally, as part of blue-green grids, these green areas can also fulfill the missions and functions of blue-green urban development described in this book. This is not an entirely new development but was already an element of urban development theory and practice, as described below.

Brief retrospective on the function and structure of green urban areas

Frank Lohrberg's dissertation 'Stadtnahe Landwirtschaft' provides a summary of the relationship between green urban areas and agriculture. The following paragraphs are based on an introductory summary from that dissertation. At the end of the 19th century, green planning developed as an element of urban planning, in response to the urbanisation prompted by industrialisation. At the time, this was limited to building green areas within districts and in building blocks. Construction was the design element in urban planning of that era, and green areas were a less important addition. Green areas were aimed principally at citizens who had time to stroll and enjoy the sunlight. Peripheral parks were created for recreational purposes, in the form of landscaped parks.

That period also saw the creation of park elements that recalled the Romantic ideal of agriculture as a relaxing excursion, for example dairy farms and fruit farms for city dwellers.

The concept of connected green areas emerged at the beginning of the 20th century. Initially this was in the form of green belts, like that surrounding the city of Vienna, while later, as a result of the persistent

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growth of cities and traffic, it developed more in the form of radials, such as in Berlin.

Even then, together with recreation, urban ventilation was the most important reason for creating these green belts of woodland and meadows around towns and cities. Some parts of the green belts and radials were used for agricultural purposes. Agriculture was a backdrop for middle-class recreation [Lohrberg, 2001].

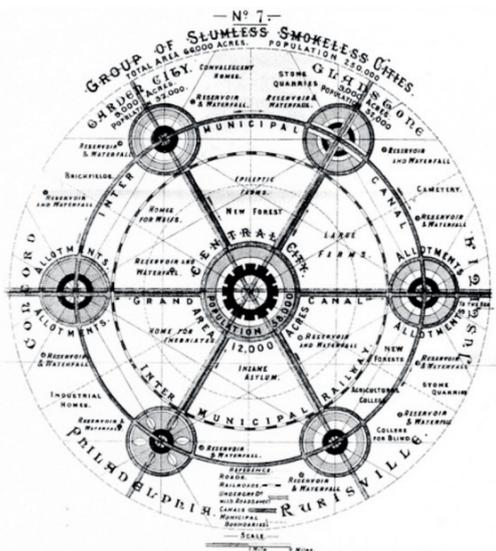
Crop farming was less desirable and did not suit the prevailing Romantic views of agriculture in the way that meadows, sheep, cows and fruit farms did. Large parts of the green belts consisted of woodland.

The idea of radials was put forward for Berlin in 1910, chiefly for the purposes of bringing green areas into the city and realising access to green peripheral areas and urban ventilation.

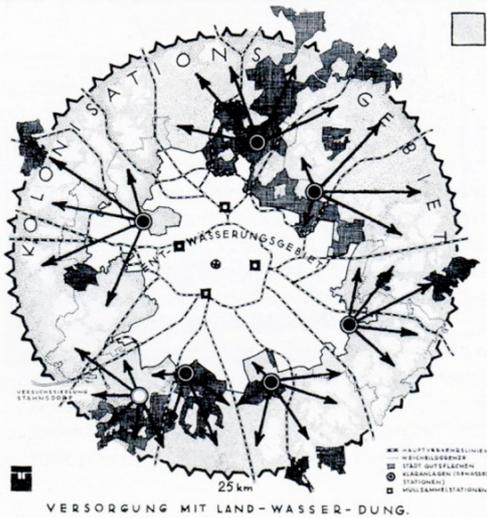
The green radials were urban woodlands and river valleys that were connected to one another and that were intended to form an infrastructure for pathways and recreation. As such, the radials became a deliberate link between urban and rural areas, whereas green belts acted more as buffers. The radial green concept also took into account the urban expansion through economic growth. Here, too, agriculture was only integrated in the form of meadows and fruit farms. Crop farms were converted into urban woodlands. [Lohrberg, 2001]

Visionary frontrunners

As far back as in 1874, Dohna Poninskas, writing under the *nom de plume* of Arminius, published a book about urban development that devoted a chapter to green urban structures. She was far ahead of her time. Her concept of green urban structures provided for farms as an attraction for townspeople. She also saw it as important that gardens be designed in which town children could work, learn and recreate, to prevent mental neglect. The more playgrounds and garden allotments there were, the fewer hospital beds and patients there would be, she argued. [Lohrberg, 2001]



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Decentralised models for urban developments were already being conceived early in the 20th century. The most famous examples are Ebenezer Howard's Garden City and Leberecht Migge's socialised 'Kolonialparken' and garden city concepts.

Howard's idea of a garden city presented an alternative to the ever-expanding cities. His model of a central city linked to a series of satellites allowed for agriculture, urban waste processing and water purification. Green areas were productive in Howard's garden city model, offering the city a high degree of self-sufficiency. He already identified the inefficiency of long transport routes. [Lohrberg, 2001]

The German garden and landscape architect Leberecht Migge developed ideas for socialising urban vegetation. He transformed representative green areas into Kolonialparken and allotment areas centred around commons. Migge worked on models for increasing the efficiency of his gardens and Kolonialparken, used organic urban waste and integrated urban water purification into the green areas. With the assistance of architects Taut, May and Wagner, Migge's concepts were carried out in Berlin, Frankfurt and other cities. These unusual districts still exist, and the large amount of vegetation makes them very popular.

Similarly, Le Corbusier's concept of 'Ville Contemporaine' still presents self-sufficiency, agriculture and allotments as self-evident elements. What he described were not private gardens but specially designated planned areas in the workers' garden cities. In Frank Lloyd Wright's Broadacre City concept, the residents have kitchen gardens or live on small farms. They produce foodstuffs there, some of which are sold in the city. [Lohrberg, 2001]

The urban development concepts of over 100 years ago were already attempts to structurally improve the inefficiency of our towns and cities. Decentralised concepts for producing food and for reusing organic urban waste were developed. Public green areas were also made productive. This was a response not only to the tremendous growth of towns and cities, but also to food shortages caused by the Depression and World War I, and represent an attempt to diminish the dependency of poorer population groups.

After the Depression of the 1930s, the development of new concepts came to a standstill. Following World War II, only a small number of urban planners worked on ways to improve food supplies.

Urban agriculture and the concept of cycles became less important to urban developers; the use of petroleum products for artificial fertilisers, pesticides, transport and cooling and other forms of preservation rendered them unnecessary.



In the densely populated and intensively used Randstad metropolis, urban agriculture exists in the form of greenhouse areas and pastures with cows and sheep. However, the producers have no contact whatsoever with consumers. The intervention of auctions and traders and the almost total absence of farmers' markets mean that townspeople are completely separated from the production process. Furthermore, cycles barely exist. Waste water purification and processing and organic waste processing are not linked to production.

The impact and importance of private gardens for towns and cities and for the themes described in this book such as water management, heat, biodiversity, etc., have barely been mapped out yet, if at all. Large private gardens have enormous value for biodiversity, for limiting heat stress and for water management. Participation processes can play an important role here: encouraging people to keep private gardens green actively involves citizens in a practical sense and further develops general awareness of the importance of urban greenery. This is explained in relation to the EVA-Lanxmeer project, see example projects.