The challenge of planned urbanisation. Urbanisation and national urbanisation policy in the Netherlands in a northwest-European perspective

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3.1 Introduction

Chapter 2 mainly focused on the underlying economic, technologic, socio-cultural, demographic and policy developments producing recent dynamics in population distribution in Northwest-Europe. However, as was already shown in the conceptual scheme of figure 2.2, a second central issue in this study is the development of urban (regional) form. Obviously, these two issues are strongly interrelated. Changes in population distribution inevitably contribute to changes in the physical shape of a city or urban region, together with changes in the locational pattern of businesses and services. On the other hand, changes in urban (regional) form brought about through government policies such as national urbanisation policy might contribute to changes in population distribution as well. In Dutch physical planning policy, and most of all in national urbanisation policy, the spatial development of cities and urban regions has always taken a central position. Most initiatives within the overall framework of Dutch national urbanisation policy since the 1960s have been aimed at influencing the spatial distribution of population and the development of daily mobility in their mutual interdependence, and at the urban (regional) form these developments produced. Recently, the question of the expected future spatial development of Dutch urban regions was placed on the planning agenda once more when the national planners proposed a new urbanisation policy in which the ‘compact city’ concept was traded for the concept of ‘urban networks’. The choice to leave the compact city policy behind and choose urban networks as the new central urbanisation concept was not only made because of growing political opposition to the compact city policy, but also based on the recent development of the scientific debate on the geographic scale of urbanisation in the Netherlands, Northwest Europe and North America.

Throughout the twentieth century, social scientists have continuously debated on the question what a city physically and functionally looks like, what distinguishes a city from its surroundings, and how the interrelationships between a city and its region should be interpreted. In the first decades of that century, broadly two categories of theoretical approaches to urban form and urban extension could be discerned: one group focusing on the internal structure of the city itself, and another group focusing on urban regions. Towards the end of century, these two groups seemingly came together in a new debate on the terms ‘city’ and ‘urban region’. The crucial issue in this more recent debate is whether ‘the city’ is still a relevant term and if it is still recognisable as a separate spatial and functional entity. This debate is taking place within the broader context of more general doubts about the meaning of place and location. Put in more dramatic words: are we witnessing ‘the end of geography’?
From the 1960s on, a flood of new concepts of 'city' was proposed. These new concepts treat the city more as an area or region than a place. Examples are the polynucleated urban region (Dieleman & Faludi, 1998), the technocity (Fishman, 1987), the urban field (Friedmann & Miller, 1965) and the 100-mile city referred to in the citation above (Sudjic, 1992). In some cases, the new urban models even have no geographical component at all, stressing patterns of human interaction on any given scale. An example of these models is the non-place urban realm (Webber, 1964).

In this chapter, the development of theoretical approaches of urban form and the relationships between cities and their surroundings throughout the twentieth century will be outlined. Instead of trying to provide an exhaustive overview, some of the most influential approaches are highlighted. Moreover, in this chapter as well as in this study as a whole, the 'household perspective' is chosen as the point of departure for judging the relevance of urban regional concepts. As Kloosterman and Musterd (2001) made clear, the debate on scale enlargement of urban regions is often troubled by clashing opinions resulting from different criteria for the degree of functional coherence. For example, many of the proponents of large-scale, low-density urban regional entities emphasise mostly the increasing spatial fragmentation of economic activities, while critics of these claims of scale enlargement seem to pay most attention to the daily action space of individual households. In this chapter, the possible scale enlargement of urban regions is mainly viewed from the 'daily life' perspective of households. After all, concepts of functional urbanised entities would probably not make much sense if their geographic scale would not come reasonably close to the geographic areas within which functions relevant to daily life of households are located. These households contain the people than are supposed to live, work and recreate in the urban regions, whatever geographic scale they might have. In this context, it is particularly useful to pay attention to the interrelations between urban form and daily mobility behaviour. As Bieber et al. (1994, p. 321) stated, "... (daily mobility) is the type of transport which is influenced, determined and produced to the greatest extent by the relationships which exist between spaces themselves and the spatial forms created by economic development, in the same way that it plays a role in modifying these relationships."

This implies that changes in daily mobility behaviour can be a useful indicator for possible changes in urban form and the relevant geographic scale of urbanisation. In Chapter 8, an analysis of recent trends in daily mobility behaviour in the Netherlands will be presented which provides an empirical basis to judge whether the claims of totally new forms of urbanisation coming about in the Netherlands are justified.

3.2 The internal structure of cities

During the 1920s and 1930s, a number of theories and models explaining urban growth were produced on which much of our current understanding of urban expansion is based. One of the dominant approaches of that time was to see urban growth as an outcome of two categories of forces working in opposite directions: the so-called centripetal and centrifugal forces, introduced by Colby in 1933. Centripetal forces derive from the attractive qualities of the city. Among these forces are: 'Site attraction' (quality of original natural landscape), 'functional convenience' (mainly accessibility), 'functional magnetism' (concentration of a function that attracts other functions), and 'functional prestige' (reputation). Centrifugal forces are forces that encourage people to move away
from a city or from a part of a city. Among these forces Colby categorised ‘spatial force’ (congestion), ‘site force’ (disadvantages of intensively used space and advantages of little used periphery), ‘situational force’ (unsatisfactory location of functions within central zone, lack of space etc.), ‘force of social evolution’ (land value gradient, taxes, rules and laws on land use), and ‘status and organization of occupancy’ (obsolete forms and crystallized patterns of central city, in contrast to a modern, dynamic and congestion-free periphery). Colby added a factor that could work both centripetal and centrifugal: ‘human equation’, with which he meant human choice (Nelson, 1971).

Another major contribution to urban growth theories came from Chicago. In 1925, the book ‘The City’ appeared, which would prove to be highly influential on many urban researchers for several decades. One of the contributors to this book was Burgess. He presented a model of urban expansion known as the concentric zone theory. According to this model, a city expands radially and forms a series of concentric zones. Each of these zones contains a specific type of residents and/or economic functions. Burgess saw the city as a dynamic organism, with a constant flow of new residents moving into it. The new residents would typically start their housing career in the innermost rings of the city and move outwards in later stages of their housing career. The eventual model from centre to periphery contained: the core or central business district, the zone in transition, the zone of workingmen’s homes, the zone of better residences, and the commuter zone. The tendency of each zone to expand outwards into the next zone was seen as the main operating mechanism of further expansion (Burgess, 1925).

Hoyt (1939) came up with an alternative model for urban expansion, which focused mainly on residential development. His model became known as the residential sector theory. According to Hoyt, residential neighbourhoods of different status (categorised by rent levels) were not spread randomly across the city, but they did not form concentric circles either. Sectors of neighbourhoods with a comparable status were determined by distance from the city centre, as in Burgess’ model, but also by the direction from the city centre and certain site characteristics, like height, nearness of lakes, rivers or parks and accessibility.

Harris & Ullman (1945) formulated the multiple nuclei model as a modification of the models of Burgess and Hoyt. They recognised that cities can expand around more than one centre. Apart from the CBD, other possible nuclei mentioned by Harris and Ullman were ports, airports, industrial areas and retail centres. The urban districts in this model are: CBD, wholesale and light manufacturing, heavy industrial, residential (subdivided into several classes, inspired by Hoyt’s sector theory), suburbs and satellites.

All of the models described above were models of the ‘modern’ or ‘industrial’ city, with one clear centre for business and services: the CBD. Although Harris and Ullman mentioned several nuclei as sources of urban growth, they still singled out the CBD as the dominant centre. Trends in transportation, building techniques and societal changes made these models outdated in post-war era. Apart from that, the models of the Chicago school were not generally applicable to other cities since they were exclusively based on the specific situation of American cities, most of all on Chicago.

In the 1960s, a new debate on the evolution of urban form came up. In this debate, almost all participants seemed to agree that the traditional models of the modern, industrial city no longer applied. Several alternative models and theories on urban expansion were
presented. However, in the end most of these models still took the basic assumption of a city with one dominant centre from where further expansion was initiated. A few examples:

- Urban expansion can be seen as analogous to the dynamics of the ocean surface, taking the form of waves and ripples (Boyce, 1971). Boyce indicated three types of wave-like developments: a recession wave, a precession wave, and a tidal wave. The recession wave took place within the existing built-up area and referred to the different dynamics of parts of the city, with a decline in dynamics outwards from the city centre. The precession wave expressed the changes in land use and land value just outside the built-up area, preceding the outward move of the metropolitan edge. The tidal wave in Boyce’s analogy was the actual edge of the metropolitan area.

- Urban expansion takes place in a number of stages. Following its inception, the city grows by means of a number of processes following each other in time. The first stages, exclusion (formation of a central business district and zones with other functions surrounding it), segregation (meant here in the sense of a separation of functions within the CBD) and extension (the growth of downtown) cause an increasing internal differentiation of the city core. Later stages of urban expansion involve decentralisation of functions to regional centres. Partly or completely, the functions of the CBD are ‘replicated’ in locations at some distance from the original city centre. The resulting metropolis is one in which most residents will only use a small part of the metropolitan area for daily life (Vance, 1971).

- Urban expansion takes place based on land market mechanisms and competition for land use. One of the main representatives of this approach is Alonso (1964). He based his theory of urban growth on bid-rent curves for land for various categories of users. For companies, the bid-rent curve is primarily based on maximising profit. For residential users, the bid-rent curve depends on maximising the level of satisfaction with a given location. They will balance the costs of commuting against the advantages of cheaper land and more space for living at locations further from the centre. This also implied differences in bid-rent curves between lower and higher income groups, with the higher income groups being able to live further away from the city centre. In this theory, Alonso clearly assumes a ‘classical’ city with a CBD in the centre where most of the residents work. However, he claims that his model can be easily adapted to situations with multiple centres.

In more recent theoretical approaches, the modern industrial city is often seen as something from the past. In the 1990s, the city is frequently referred to as ‘the post-modern city’. The post-modern city concept fits in the broader scientific context of postmodernism. Post-modernism stands for a break with the ‘modernist’ trust in rationality, progress, unity and overall principles ordering society. Instead of this, as was already noted in Chapter 2, a post-modernist society is usually characterised by fragmentation, diversity and a lack of consensus and of overall principles (Pater & Van der Wusten, 1996). Following this world-view, the post-modern city can take various shapes and sizes. Still, several urban researchers claim that cities of the post-modern age develop in the same direction and therefore share some characteristics. One of the prominent characteristics of post-modern cities is that it consists of a collection of centres and sub-centres without a clearly dominant central business district. The post-modern city is very fragmented in its economy as well as in the socio-economic and ethnic structure of
its population. This fragmentation is expressed in the built environment. A typical feature of post-modern cities is a collection of large-scale residential and commercial developments, often referred to as 'flagship developments'. In this respect, Knox (1993) describes the city of the 1990s as a 'galactic metropolis', with flagship developments being the 'stars' in an extensive urbanised space.

The degree to which the post-modern city really is something new is questionable, as well as the degree to which the features of the post-modern city can be generalised. Hall (1998) rightly remarks that 'post-modern' forms of urbanisation have not replaced modern forms everywhere. Most cities consist of a mix of modern and post-modern elements. It is very striking that Soja (1989, p. 234), one of the major representatives of post-modernist geography, stresses that despite the strong tendencies of decentralisation and fragmentation, cities still have centres: "Only with a persistent centrality can there be outer cities and peripheral urbanisation. Otherwise, there is no urban at all."

Many proponents of the post-modern city hypothesis have taken a limited number of 'global cities' as their reference and assumed that the recent development of these cities would soon be followed by most other cities of the Western world. Instead, "Post-modern urbanisation, like most other facets of urbanisation, is emerging as a complex series of trajectories mediated locally rather than a single, simple, universal trajectory of development" (Hall, 1998, p.108).

3.3 Urban regions:
The central place system, the network system and the daily urban system

Parallel to the various theories and models of the internal structure of cities outlined in the preceding section, another body of theory developed in which the relationships between cities and their surrounding regions formed the central issue.

In 1933, Christaller published his famous model of a hierarchic urban system. This model is a further elaboration of the traditional geographical concepts 'site' and 'situation'. The essence of the Christaller model was that the functions of a settlement, as well as its hierarchical position in a settlement system, were determined by its situation in a region. The more central a settlement was situated in a region, the higher its level of functions. Moreover, the settlement with the highest function level would consist of a higher educated and wealthier population than its surroundings. An important precondition of the Christaller model is an 'isotropic' region, which means that population, wealth, transport facilities and resources are initially equally spread across the region. Under these circumstances, a settlement could improve its centrality by means of locational advantages like being situated on an important transport route. Improvements in transport technology or centralisation of regional government could also contribute to the development of a settlement to a central place. This model, developed by Christaller on the basis of empirical work in the German region of Bavaria, was clearly referring to a traditional agricultural society (Cortie, 1991).

In industrialised societies, the hierarchy of central places was challenged. Due to various improvements of communication and transport, urban economies were less and less dependent on their immediate surroundings. Apart from still being a central place within their own region, cities became also part of national and international networks. According to the theory of network systems, a city acquires its position in the settlement
hierarchy mainly through specialisation in one or a few economic branches, dependent on the available knowledge on site. While in a central place system the regional service function is the most important factor for urban development, in a network system the production function is the most relevant factor. In a central place system the position of a settlement in the regional or (inter) national hierarchy depends on centrality, whereas in the network system the crucial characteristic is nodality (Thissen, 1995). In a network system, population as well as economic functions are distributed over many cities that can be situated at considerable distances from each other. As a consequence, the settlement hierarchy in a network system is generally less clear than in a central place system (Cortie, 1991).

The 'systems of cities'-approach, that gained much popularity in the 1970s and early 1980s, was based on the network theory. Pred (1977, p. 13) describes a system of cities as follows: "The term 'system of cities', as used here, encompasses all those individual urban units - however defined - in a country or large region which are economically linked to one or more other individual urban units in the same country or large region. More precisely, a system of cities is defined as a national or regional set of cities which are interdependent in such a way that any significant change in the economic activities, occupational structure, total income or population of one member city will directly or indirectly bring about some modification in the economic activities, occupational structure, total income, or population of one or more set members." Added to this, Pred points at the 'openness' of the system of cities. Units that are part of a system of cities interact with the outside world and this interaction, according to the definition cited above, has immediate consequences for the entire system of cities.

In the meantime, both the central place system and the network system have lost significance as explanatory models for settlement system development. Both models assume a 'productive order', in which settlements develop in accordance with local employment opportunities. Towards the end of the twentieth century, however, population distribution has become more related to consumptive functions of settlements. The importance of an attractive living environment and nearby recreational opportunities has gained prominence over local employment opportunities. Once again, the earlier mentioned rise in real incomes and the improvements in transportation and communication, leading to a decreasing meaning of distance, played an important role in this development. This has led to the replacement of a 'productive' order by a 'consumptive' order (Thissen, 1995; Ostendorf, 1988).

The settlement configuration that resulted from the transition from a productive to a consumptive order is the daily urban system. A daily urban system can be defined as a spatial conglomerate of various companies, institutions and households, related to each other through daily mobility, which forms one housing and labour market that is spatially inseparable (Engelsdorp Gastelaars et al, 1980). Physically, a daily urban system generally contains a dominant urban centre or agglomeration surrounded by suburbs and villages. Some daily urban systems have more than one urban agglomeration within their borders, but as a general rule there is always one of these agglomerations clearly dominant, at least in terms of employment. There have been several attempts in the past to limit daily urban systems but a general standard was never reached. Most daily urban region definitions are based on a minimum share of local labour market participants working in the central agglomeration (see for example Ostendorf, 1988, Dingemanse 1993, Meulenbelt 1997).
A concept very similar to the daily urban system is the functional urban region, introduced by Hall and Hay (1980). The functional urban region was defined by Hall and Hay in a very precise and absolute way: it should contain a core urban agglomeration, existing of a centre with at least 20,000 jobs and surrounding administrative entities with at least 1235 jobs per hectare. Added to this area are all municipalities surrounding the central agglomeration from where home-to-work-traffic is more oriented on this central agglomeration than on others (Hall & Hay, 1980). Although attempts to come to geographic limits of functional urbanised entities based on clear statistical definitions are certainly valuable, this might have been a too rigid and precise attempt to distinguish functional urban regions from other, less urbanised regions. Apart from its statistical rigidity, the functional urban region in its original definition suffers from another shortcoming: it is based on a situation with one clearly dominant city or agglomeration, a situation that is found to a continuously lesser extent in Northwest Europe. The daily urban system concept seems to be better applicable to the recent trend towards polycentric urban regions in Northwest Europe, since it includes the possibility of more than one urban agglomeration within the regional borders.

### 3.4 Urban fields: the end of the city?

Gradually the theories on the internal structure of the city and those on the structure of urban regions grew closer to each other. Due to tendencies of decentralisation of people and functions in most of North America and Western Europe since World War II, the dichotomy between city and countryside was increasingly questioned. This resulted in a new collection of theories and models, treating cities and their surrounding regions as one coherent, interdependent entity. In the 1960s, a lively debate about 'the end of the city' took place. One of the alternative visions launched in this debate was the 'urban field'. Friedmann and Miller (1965, p. 313) introduced their new urbanisation concept with the words: "Looking ahead to the next generation, we foresee a new scale of urban living that will extend far beyond existing metropolitan cores and penetrate deeply into the periphery. Relations of dominance and dependency will be transcended. The older established centers, together with the intermetropolitan peripheries that envelop them, will constitute the new ecological unit of America's post-industrial society that will replace traditional concepts of the city and metropolis. This basic element of the emerging spatial order we shall call the urban field."

Just four years earlier, Gottmann (1961) published his famous 'Megalopolis', in which he interpreted the series of agglomerations along the coastline between Boston and Washington as one integrated urbanised whole. Another prominent participant in this debate was Webber (1964), who coined the term 'non-place urban realm'. He claimed that urban planners should no longer treat the city as a static spatial arrangement. Instead, planning should be primarily based on activity patterns of people. Four years later, Webber even proclaimed 'the post-city age': because social organisation no longer coincided with spatial organisation, people would no longer need the city to live an urban life. Revolutionary improvements of transport and communication made an urban lifestyle possible on as good as any location (Webber, 1968).

The debate on the scale level of urbanisation did not start in the 1960s. As early as 1915, Geddes already noticed that several cities in Europe and the United States spread out over the surrounding countryside and sometimes amalgamated with neighbouring cities. He
introduced the term 'conurbation' for a conglomerate of cities. Among Geddes' examples of conurbations were Greater London, Clyde-Forth (Glasgow, Edinburgh) and Tyne-Wear-Tees (Newcastle, Middlesbrough) in the UK, the Ruhr region, Paris and Berlin on mainland Europe, and New York-Boston in the United States. Following in Geddes' footsteps, Wright (1935) launched his 'Broadacre city' concept. This was a plea for total integration of farmland and cities. He foresaw a virtually unlimited urbanised landscape, spreading out along highways (Hall, 1988).

In the original definition of the urban field, like in the concepts of the daily urban system and the functional urban region, the most essential characteristic is the network of relationships between the locations within the area: "(...) The idea of an urban field is (...) based on the criterion of interdependency. It represents a fusion of metropolitan spaces and nonmetropolitan peripheral spaces centered upon areas (SMSA's) of at least 300,000 people and extending outwards from these core areas for a distance equivalent to two hours' driving over modern throughway systems (approximately 100 miles with present technology). This represents not only an approximate geographic limit for commuting to a job, but also the limit of intensive weekend and seasonal use (by ground transportation) of the present periphery for recreation." (Friedmann & Miller, 1965, p. 314)

As follows from the above citation, unlike daily urban systems and functional urban regions, the limits of an urban field are not primarily defined by home-to-work traffic. Locations that have no commuter relationship with each other can still be part of the urban field when people travel regularly from one place to the other for recreational purposes. As a consequence, the urban field includes an area considerably larger than the average daily urban system or functional urban region.

In a more recent publication, Friedmann clarifies his urban field concept in more detail:

"(...) The following three-dimensional definition is proposed as a basis for further discussion:

(1) as a territorial subsystem of society, the urban field is characterized by a spatially extended pattern of functional interaction and a multi-centric form of spatial organization. Its outer limits are defined by periodic recreational uses on the part of its resident population;

(2) as a density configuration, the urban field is characterized by the spatial dispersion of its population into high-density activity clusters, surrounded by low-density open spaces that are related to each other by a complex network of transport, communication, and energy flows;

(3) as a physical environment, the urban field is characterized by permanent as well as periodic uses of land-extensive environmental resources for activities such as outdoor recreation, intermixed with spatially segregated but permanent and land-intensive uses for residential, economic, cultural, and political activity."

(Friedmann, 1978, p. 42-43)

An important difference with the traditional perspectives on suburbanisation is that patterns of daily mobility in the urban field are typically 'criss-cross' relationships. Commuter traffic within the urban field, for example, can take place between two suburbs as well as (more traditionally) between suburb and city. Another crucial difference is that urban fields lack a central city or agglomeration that dominates the region. As Friedmann mentions, there are still differences in density of people and activities within the urban
field, but the clear centre-periphery contrasts that characterise daily urban systems and functional urban regions have disappeared.

Jobse and Musterd (1994) take the urban field definition of Friedmann a step further, stating "the urban field is an entity in which a dominant city is lacking, existing of a polycentric configuration, an urbanised zone, in which the fastest growth occurs on the edges" (p. 147; translation by author). In this way the authors integrate the 'edge city'-concept into the urban field. The edge city was introduced by Garreau (1991) as the successor of the traditional city centre as a concentration area of economic growth. Edge cities are also different from the traditional conception of suburbs being mainly dormitory places. In edge cities, according to Garreau, there are 'more jobs than bedrooms'. The vast majority of employment exists of commercial services and services for the edge city population. Edge cities, as Garreau sees them, are completely new cities that developed since the 1960s. His edge city concept shows similarities with the term 'technoburbs' (Fishman, 1987): peripheral zones within metropolitan areas that developed into independent socio-economic units. Fishman sees these 'technoburbs' as parts of 'technocities', with which he means metropolitan areas of which the periphery is the most dynamic part.

Urban field, edge city, technoburb and technocity are concepts based on deconcentration trends in Northern American urban regions since the 1950s. Especially on the Pacific coast, urbanisation trends have fitted into these concepts rather well. Added to this, the explosive growth of new metropolitan centres in the south of the US points at the development of yet another new form of urbanity. Cities like Phoenix, Tucson and Houston extend rapidly and seemingly unlimited into their surrounding regions. Ottens and Harts (1996) refer to this urbanisation pattern as 'carpet urbanisation', because the city seems to be rolled out like a carpet over its surroundings. Within these new cities, a centre can hardly be found. Instead, the economic functions of the 'carpet city' are spread out over several sub-centres. A comparable vision is the '100-mile city' of Sudjic (1992): an area stretching for 100 miles in each direction from an imaginary central location, containing various activity concentrations (housing areas, shopping malls, airports, office parks etc.) that have no visible connection but are still part of the same 'city'. Sudjic draws a parallel with the force field around a high-tension power line to explain what keeps this 'city' together, in which the energy powering this force field is (daily) mobility and most of all mobility by car. He draws a cynical image of the urban landscape that resulted from the increasing car mobility and the marginal place left for the traditional downtown in it:

"The old certainties of urban geography have vanished and in their place is this edgy and apparently amorphous new kind of settlement (...) in its present incarnation, the old centre is just another piece on the board, a counter that has perhaps the same weight as the airport, or the medical centre, or the museum complex. They all swim in a soup of shopping malls, hypermarkets and warehouses, drive-in restaurants and anonymous industrial sheds, beltways and motorway boxes." (Sudjic, 1992, p. 305)

So, in a physical sense, urbanisation in the United States has undoubtedly changed its appearance in recent decades. The clearly distinguishable central business districts seem to have become something of the past. However, this does not necessarily mean that the functional organisation of cities and their surrounding regions has changed radically. Maybe the shift in mobility patterns that is said to have caused the new spatial forms of urbanisation took place much earlier than most urban researchers tend to think. Webber
(1964, p. 83) in this respect remarked quite strikingly: "It is likely that the new scale of the physical forms reflects spatial linkage patterns that are as old as colonial America; in our limited view of the metropolitan system's surface, we may have failed to recognize that the patterns of intercourse have long extended far beyond the urban nodes."

3.5 Urbanisation in Northwest-Europe in the 1990s: from polynucleated urban regions to urban fields?

Any attempt to copy the concepts and definitions of urban fields, edge cities and the like to the Northwest-European context will probably not be very useful. There are several reasons against copying American concepts of urbanisation to Northwest-Europe. First of all, even in the United States itself urbanisation trends have been very diverse in the twentieth century. Clearly, a strong movement towards decentralisation can be found all over the US. However, while in most metropolitan areas of the South and Southwest decentralisation seemingly took place without any spatial limits, this was not the case in the Northeast. Here, the existing central cities have lost some of their dominance within their metropolitan regions, but they still occupy a prominent position within regional, national and international urban systems. Decentralisation certainly also took place in the Northeast of the United States, but within the limits of the pattern of urbanisation developed earlier. The decentralised form of urbanisation was added to the already existing settlement system, in contrast to the cities of the South and Southwest that developed in a highly decentralised form from the very start.

The settlement systems in Northwest-Europe have a history of urbanisation considerably longer than American cities. Here, the arguments presented above for the Northeast of the US have an even stronger validity. Generally, Northwest-Europe has a strong tradition of urban settlements in fairly high densities. Urban life has a much more positive image in Northwest-European societies. Added to this, even if people would like to deconcentrate 'American-style', it would simply be impossible in the Northwest-European context: a densely populated area where space is a scarce resource.

Bieber et al (1994) explored the possible future development of transport in conurbations in France. They presented three scenarios based on experiences in other European countries and the United States. Two of these scenarios show clear contradictions and clarify some of the major differences between the Northwest-European and the American situation: the 'Californian or post-modernist' scenario and the 'Rhenan or conservative scenario'. The Californian transport scenario is produced by a highly liberal culture, in an environment without major spatial constraints and with large amounts of land available at low costs. Under these circumstances, attitudes towards property conservation are relaxed. Most economic growth takes place on the outskirts of urban development instead of in the centres. The dominant housing type is a one-family detached house and more in general, there is a low concentration of buildings and functions. The 'Rhenan' scenario, of which Germany, Switzerland and the Netherlands are examples, is characterised by a social-democratic approach. There is a strong urban tradition based on intensive use of existing infrastructure. The presence of powerful spatial constraints prevents large-scale urban expansion into rural areas. Urbanisation policy in the Rhenan scenario shows a tendency to build new housing areas in relatively high densities and a strong preference for multifunctional spaces, which are supposed to diminish interurban traffic.
Still, it is not totally unlikely that some densely populated parts of Northwest-Europe have recently developed more in the direction of urban fields, or that this will happen in the near future. A first step on the way to urban fields could be the formation of polynucleated urban regions, as recently observed by several geographers and planners. Polynucleated urban regions are perceived as one functionally integrated whole of formerly independent urban regions, linked by extensive road and rail networks. Gradually, the interaction networks of several urban regions have started to overlap each other and a new functional unit of urbanisation, the polynucleated urban region, came into existence (Dieleman & Faludi, 1998). Examples of polynucleated urban regions can be found all over Northwest Europe. To name but a few: the Randstad (Netherlands), the Rhine-Ruhr region (Germany), the Mittelland (Switzerland), Merseyside / Greater Manchester, West- and South-Yorkshire, and the Tyne & Wear region (UK), the Öresund region (Denmark and Sweden), and the Po-delta (Northern Italy).

A theoretical concept that comes very close to the polynucleated urban region is the 'network city'. Lamboooy (1991) clarifies the network city concept by contrasting it to countries where a 'dominant agglomeration' leads the settlement systems in all respects. Examples of these dominant agglomerations are Paris, London, Copenhagen and Dublin. Lamboooy focuses on the distribution of functions on a national scale. The network cities he describes are not necessarily one functional entity, but the network as a whole contains all functions that are concentrated in dominant agglomerations in other countries like the UK and France. The most important differences between dominant agglomerations and network cities as defined by Lamboooy (1991) are:

- in dominant agglomerations, all relevant economic functions are represented, while network cities consist of several specialised cores;
- dominant agglomerations have considerably higher rent levels than network cities, especially on 'international top locations';
- it is easier to develop public transport systems in dominant agglomerations because most transport routes run radially between centre and periphery. There are large amounts of potential travellers per line because may people have to travel in the same direction. The mobility pattern of network cities is more complicated and fragmented, with relatively small amounts of potential travellers per line. Many locations in the network city are much easier accessible by car than by public transport;
- with respect to the internal spatial structure, network cities lack the dominant business centres of dominant agglomerations. While in network cities a highway location is considered central, in dominant agglomerations it would be considered peripheral. The urban region of network cities typically has a 'grid' or 'polycentric' structure.

An alternative definition of the network city is provided by Batten (1995, p. 313): "A network city evolves when two or more previously independent cities, potentially complementary in function, strive to cooperate and achieve significant scope economies aided by fast and reliable corridors of transport and communications infrastructure." The network city concept is a further elaboration of the earlier mentioned network theory. While in the network theory a city network could exist at any scale level, the network city seems to be identified mainly with settlement systems on a national or sub-national scale. Batten (1995), for example, refers to the Randstad and the Kansai region in Japan.
The interpretation of polynucleated urban regions and network cities as one functionally integrated whole is under continuous attack, at least in the Netherlands. Here, the question is the Randstad one urban region? has already been a guarantee for lively debates for many decades. In the Dutch geography and planning community, opinions on the Randstad can roughly be grouped in three categories. Some researchers claim that the Randstad can really be seen as one integrated urban region, or even one city (Dieleman & Faludi, 1998). The arguments for this view seem to be based on theoretical rather than empirical grounds, referring to trends like the continuous improvement of transport facilities and the decreasing meaning of distance. This group finds inspiration in foreign observers of the Randstad, most notably Hall (1977), who included the Randstad in his comparative study of seven world cities. Their opponents insist on sticking to the 'traditional' urban regions of the four largest cities within the Randstad (Cortie et al, 1992). Their arguments are mainly based on empirical data on migration and daily mobility. The data show that in the late 1980s, a vast majority of daily mobility still took place within the context of mono- or polycentric regions of relatively modest sizes. A third group takes an intermediary position, distinguishing between a North and a South wing of the Randstad (De Smidt, 1992; Knol & Manshanden, 1990). The division of the Randstad in a North and a South Wing is mostly connected to differences in labour market structure: the labour markets of the North and South wings seem to have developed almost independently from each other in very different directions in recent decades. The interpretation of the Randstad as a rather loosely integrated combination of at least two sub-regions, the North Wing and the South Wing, was recently reconfirmed through an analysis of the formation of clusters of economic activities. Using business start-up profiles as an indicator for regional economic specialisation, Kloosterman and Lambregts (2001) suggested that the North and South Wing of the Randstad still show considerable differences in their economic activities, although a convergence trend between the two areas could also be witnessed in the 1990s.

In the late 1990s, the urban field concept seems to have gained popularity in the Netherlands. Salet & van Engelsdorp Gastelaars (1996), for example, state that since the 1960s daily urban systems have become intertwined into urban fields all over the US and Europe. They also claim that urban fields are growing in several parts of the Netherlands, most of all in the southern and eastern part of the country, and in a less extreme form also in the Randstad. The authors provide no empirical evidence at all for their bold statement on urban fields. Nevertheless, their view on the Dutch urbanisation process seems to be recognised by the Dutch national planning agency. In an advisory study for the Fifth Report, the urban field is mentioned as "the most far-reaching spatial development confronting the planning governmental bodies in the next decades" (VROM-raad, 1998, p. 40). The lack of empirical evidence for the supposed formation of urban fields raises the important question to what extent this claim can be justified.

3.6 The urban region as a collection of action spaces

The preceding discussion on the current scale level of urbanisation eventually comes down to the question on what scale level the daily life of people takes place. The central concept in this discussion should therefore be 'action space'.

The term 'action space' was introduced in the 1960s and applied in several meanings afterwards. One group of social scientists applied the concept to explain migration behaviour within cities. Wolpert (1965), for example, explored migration from a
behavioural perspective. He launched the term ‘place utility’, expressing the degree to which an individual is satisfied or dissatisfied with a given location. The search for the location with the highest place utility, or in other words a location which better satisfies the needs of the household concerned, takes place within a certain ‘action space’. This is “(...) a subset of all locations within the urban area, this subset comprising those locations for which the intended migrant possesses sufficient information to assign place utilities.” (Brown & Moore, 1971, p.201). Among the many possible reasons to migrate Brown and Moore (1971) refer to is daily mobility, more specifically the travel time from home to work.

Another definition of action space, fitting better to the focus of this chapter, refers to daily mobility patterns of households. One of the pioneers in the development of this notion of action space was Webber (1964). He preferred to study cities and regions as interaction systems rather than physical structures. According to Webber, each individual takes part in several ‘realms’ depending on the activity undertaken by that individual. These realms have a wide range of scale levels: for some activities, the realm is on a neighbourhood level, for others the realms are nation- or even worldwide.

Webber’s approach emphasises the choices of households, hardly paying attention to the possible constraints to daily mobility. This type of research has later been characterised as the ‘choice-approach’.

Hägerstrand (1970) presented ‘time geography’ as an alternative to the behavioural approach, represented in the above by Wolpert, Brown & Moore and Webber. In Hägerstrands view, activities do not only result from preferences but also from constraints. Many activities are largely explained by a lack of choice rather than by choice itself. Therefore, his work and the work of other time geographers are also known as the ‘constraint-approach’.

Hägerstrand mentions three types of constraints to activities:

- capability constraints: physical and biological limits of human behaviour, like need of sleep and food, but also time needed to go from one location to the other and the fact that people can only be at one place at a time;
- coupling constraints: people need to be at certain places at certain times to fulfil tasks and duties that the society they are part of imposes upon them, like work, education and child care;
- authority constraints: certain areas are not freely accessible for everybody, they are controlled.

The time geography approach of Hägerstrand acknowledges that human behaviour is rule-led and strongly related to the way a society is organised. On the other hand, it seems to deny that despite the numerous constraints, individuals still have a lot of freedom of choice left (Pater & Van der Wusten, 1996).

Two other prominent researchers of human activity patterns in time and space, Chapin and Cullen, combined elements of both the choice- and the constraint-approach. Chapin (1974) claims to treat a person’s activities in the city as the result of a mix of incentives and constraints that mediate choice. In this approach, some activities are seen as direct outcomes of ‘positive choices’, while others result from ‘negative choices’ made because constraints limit the freedom of choice. Cullen (1978) stresses the relationships between ‘short-term’ and ‘long-term’ behaviour. The latter type of behaviour involves decisions that can influence daily life for a long period, like moving house, changing jobs or changes in the household situation of the person involved. According to Cullen, a large
part of our short-term behaviour takes place on the basis of routine determined by long-
term behaviour decisions. Within these daily routines, the freedom of choice is constrained considerably. Although both Chapin and Cullen clearly witness the importance of societal constraints in their approach, they still lay most emphasis on choice and individual behaviour as the most important factor explaining time-spatial patterns of human activity.

The choice-constraint debate in the 1970s and 1980s eventually seems to have resulted in a compromise, as so often happens in social science debates. One of the outcomes of this debate is the emergence of the ‘activity-based approach’ to the dynamics in human activity patterns. In this approach, attention is paid to both the constraints on human activities that result from the social and time-spatial contexts of these activities, and the possibility to change these contexts through individual choices and preferences. An example of the activity-based approach is the study of action spaces by Dijst (1995). In his view, all activities take place in spatial entities (like houses, company buildings, service buildings and public space) called ‘activity places’. Dijst defined two types of action spaces: the ‘actual action space’ and the ‘potential action space’. The actual action space is the spatial entity within which all activity places visited in a certain period by the person in question are situated. The potential action space is the spatial entity within which all activity places that could be visited in a certain period by a certain person are situated. The size and shape of these action spaces is determined for a large part by the location of fixed locations of leave and arrival, the so-called ‘bases’. These bases could be the dwelling or the workplace. Another important determinant of the size and shape of action spaces is the available speed of movement, which in its turn is largely determined by the used means of transport.

3.7 ‘The end of the city’ revisited

In recent years, due to the spectacular advancements in communication techniques, the lasting validity of constraints as explanatory factors of human behaviour is once again challenged. Especially the validity of the ‘coupling constraints’ (Hägerstrand, 1970) could be questioned. With tools like Internet and e-mail the need to leave the house for work, education, shopping etc. seems to disappear. This in turn also diminishes the capability constraints: people can spare the time they needed for travelling and they can actually fulfil several tasks from one place more or less parallel in time. Once again, the importance of the geographical concepts ‘place’ and ‘location’, and with that also the existence of the city as a geographical entity, is questioned. Terms like ‘spatial detachment’ (Salet, 1996) express a belief that reasons for people and economic activities to concentrate have disappeared. It is not surprising that a spatial concept like the urban field, already introduced in the 1960s, regains popularity under these circumstances.

Curiously, the current debate is an almost exact copy of the earlier debate on ‘the end of the city’ in the 1960s. The argument that new technologies of transport and communication would make the traditional city something of the past can even be traced back further, at least to the plea of Frank Lloyd Wright (1935) for a ‘Broadacre City’. The only things that changed in the discussion were the technologies referred to: first the automobile, telephone and radio (Wright, 1935), later intercontinental air traffic (Webber, 1968), and in the most recent debate Internet and e-mail. It is often presumed that digital contacts can replace much of the ‘physical’ movements people make to get from home to earn a living, buy consumption goods, use services or spend their free time. Although the
The impact of the recent development of Internet, e-mail and the like cannot yet be overseen completely, the opposite seems to happen. Instead of a considerably reduction in daily mobility, recent statistics indicate a further increase, as will be shown in Chapter 8.

Clearly, at the start of the twenty-first century, the so-called 'traditional' cities are still clearly present in both Northwest-Europe and North America. Although the technologies that are currently available to us make it possible to live and work at any given location theoretically, this does not happen in practice. People still show a strong tendency to cluster their activities in relatively small parts of the land available to them, maybe no longer only in cities, but still within areas not too far from these cities. Overlooking the recent theoretical debate on urban regional form, Musterd and Van Zelm (2001) express their surprise about the enthusiasm with which American concepts like the urban field are considered to be applicable in the European context as well. Especially in the case of the Netherlands, the possibility of urban field formation is hardly imaginable when the traditionally high importance of the historically grown identity of places is considered.

The same holds true when recent empirical evidence on daily mobility behaviour is taken into account, as was discussed earlier. In Chapter 8, recent data on the development of daily mobility patterns in the Netherlands will be presented, demonstrating that most daily trips of the Dutch continue to take place within relatively small regions that are a far cry from the suggested development towards urban fields. The data in Chapter 8 will make clear that daily mobility has indeed grown fast recently, but that this was rather a growth in number of trips than in the average trip distance or the share of long-distance trips.

An important and often underestimated factor blocking unlimited decentralisation of people as well as economic activities is the identification of people with the places and regions where they live, work and recreate. People generally prefer to live in neighbourhoods that have a strong specific identity. This identity is determined by many factors amongst which the built environment, the surrounding (natural and cultural) landscape, and local or regional culture. Musterd & Ostendorf (1998) summarise these characteristics as the 'historically grown identity' of a place. To a certain extent, also companies are sensitive to the local identity of the place where they settle. Of course, factors like available space, land prices and tax levels are usually more important factors in a firm's location choice. However, the image of a city or region certainly also plays a decisive role. This role seems to have gained in importance. Especially for headquarters of multinational companies, a representative location is considered essential. In this respect, Musterd and Ostendorf (1998) remarked: "Good access roads, telecommunication and the like can be developed anywhere, but location-specific and historically grown identity can not" (p. 12, translation by author). Musterd and Van Zelm (2001), focusing more on living environments than on economic location factors, take this point further and search for connections between the emergence of polycentric urban regions and the lasting and growing importance of 'spatially bounded qualities' of places. They suggest that there is a growing 'mismatch' between housing supply and housing demand in the Netherlands and that this mismatch is to a large extent due to the neglect of the demand for specific housing milieus.

The lasting importance of local identity is also an important ingredient in recent local government policies. Instead of posing a threat to the importance of locality, globalisation so far rather seems to have emphasised this importance. The more cities all over the world start to look alike, the more they will attempt to distinguish themselves from other cities. Another factor that tends to be overlooked by those proclaiming the end of the city are the
constraints posed by the already existing built environment and the existing economic structures. The built environment generally changes much slower than transport and communication technologies. For a large part this is caused by the fact that simply destroying the existing built environment to make room for new development would mean huge financial losses for the owners of the buildings. An added reason specific for Northwest-Europe is the strong tradition of preservation of historic, monumental buildings and city structures mentioned earlier. Added to this, also local and regional economic structures tend to change rather slowly. Economic specialisations of cities and regions generally do not emerge or disappear overnight, but gradually come about instead. In planning policies of many Northwest-European countries, the vitality of cities, especially historic city centres, is one of the central issues. This directly links back to the importance of people’s identification with their living environment mentioned above. Therefore, Lamboooy (1991, p. 439) is right to conclude that “judging from the experiences of the last few hundred years it can be assumed that the continuity of the urban structure is stronger than is generally being accepted on account of the present-day belief in change.”

3.8 Conclusions

The preceding overview showed that during the twentieth century, theoretical approaches on the internal structure of cities and the functional relationships within and between urban regions have gone through some major shifts. Until the 1960s, roughly two groups of theorists could be distinguished. One group was mainly concerned with modelling the division of cities in neighbourhoods and zones of economic activities, another group focused on the interrelationships between cities and their surrounding regions. Both groups of theorists shared the basic assumption of a city as the economic, political and cultural centre of its region. This assumption was increasingly attacked from the 1960s on. Concepts like the urban field, technoburb / technocity and the network city are examples of an approach that treats city, suburbs, countryside and the interlinkages between them as one integrated whole.

The latter category of concepts tends to be based mainly on assumptions and hypotheses. The new forms of urbanisation that are supposedly coming about are said to be the logical outcome of trends like globalisation, improved transport technology and the ‘communications revolution’. Meanwhile, empirical evidence for the new forms of urbanisation is very scarce. On the contrary, various empirical studies in the 1980s and 1990s demonstrated that the ‘action space’ of the majority of Dutch households still has a far more modest extent than the urban field or poly-nucleated urban region. Evidence from other European countries does not give much support to the existence of intensive functional relationships across large distances either. Nevertheless, the proponents of urban fields and the like appear to be very convinced of their interpretation of current and future urbanisation trends. Essential for the judgment of the validity of these concepts is an analysis of the actual scale level on which daily mobility takes place. The analysis of recent trends in daily mobility patterns in Chapter 8 will shed some light on this question.

The economic-technological and socio-demographic trends and the spatial implications of these trends discussed in Chapter 2 and 3 formed the context for various attempts of national, regional and local governments in Northwest-European countries to change the distribution of population and activities (and with that, urban form) through physical planning policy. The future perspective (realistic or not) of a strongly deconcentrated
amorphous 'megalopolis' in which the traditional cities and countryside would virtually disappear functioned as a 'doom scenario', probably most of all in the Netherlands (Engelsdorp Gastelaars & Ostendorf 1991; Wusten & Faludi 1992). National urbanisation policies that were formulated after World War II tried to prevent this doom scenario mainly via two types of strategies. The first of these was to limit sub-urbanisation to a select group of locations while restricting building activities outside of these locations. This approach has been used on several locations in Northwest Europe under a variety of names, of which the British 'New Town policy' and the Dutch policy of 'concentrated deconcentration' were probably the best-known examples. The second approach was to work against sub-urbanisation by concentrating new building locations within the already existing built environment or at least close to it, most of all in and around large and medium-sized cities. This approach has become internationally known as the 'compact city policy'. Each of these national urbanisation policies was based on assumptions of regional, national and sometimes also international urban systems, and functional relationships within these systems between cities as well as between the cities and their hinterland. In Chapter 4, the arguments for national governments to introduce such national urbanisation policies will be discussed as well as the way in which they are formulated, agreed on and executed.