

Henk van Dijk (ed.)

THE EUROPEAN METROPOLIS 1920-2000

*Proceedings of a Conference at
The Centre of Comparative European History
Berlin 2002*

The Randstad conurbation: a floating metropolis in the Dutch Delta

Pim Kooij
Paul van de Laar

Sponsored by the European Science Foundation



The Randstad conurbation: a floating metropolis in the Dutch Delta

Pim Kooij
Paul van de Laar

Abstract

The Randstad Holland is not a metropolis in a theoretical sense. It is a conurbation of four big cities – Amsterdam, Rotterdam, The Hague, Utrecht – and at least six smaller ones, which are linked by suburban extensions. We studied the economic, political, social, and cultural dimensions of the Randstad, and found out that in course of time the more or less complementary centres turned into competitive municipalities, especially in the fields of economics and culture. In fact, within the Randstad two wings can be discerned a north wing – the Amsterdam-Utrecht axis- and a south wing – the Rotterdam-The Hague axis. The more commerce oriented north wing seems to have the best prospects.

Introduction

The word 'metropolis' has many different meanings. Often, it is defined as an internationally oriented city with different spatial-functional complexity and international grandeur, political and economic functions, and a more sophisticated cultural infrastructure than less important cities.¹ Eric Monkkonen regards it as a concentration of superior social, cultural, political and economic qualities, which smaller cities are unable to accumulate.² Others look for arguments of a statistical and demographic nature and refer to the metropolis as a town with a radius of 30 kilometres, containing at least 10 million inhabitants.³ According to this definition the Randstad – the 'Ring City' embracing Amsterdam, Rotterdam, The Hague and Utrecht – is not a European metropolis in the sense that Paris and London are. In fact, the Randstad consists of four urban conurbations surrounding a central sparsely populated green area, which is called the Green Heart of the Netherlands. Van Rossum compares the Randstad with the loose, informal organisation of Los Angeles, a combination of suburbs without a dominant city.⁴

The Randstad has a special place in the debate on the European metropolis because its concept does not fit well into existing models of the city. Peter Hall referred to the Randstad in the 1960s as 'an open metropolis', designed to meet modern urban spatial needs such as vast green zones and infrastructural connections between the cities and their suburban surroundings.⁵ However, Hall's forecasts of substantial and lasting population growth in the urban areas were too optimistic. Whereas Paris and London indeed grew into open metropolises, the Randstad did not. Post-industrial developments, increasing sub-urbanisation in the Randstad zones, de-industrialisation and changes in economic structure radically changed the spatial needs of the Randstad.⁶ In fact, the end of the 1980s saw the introduction of the concept of the Randstad as a 'deconcentrated world city', an agglomeration of cities of an intermediate size, but as a whole substantial enough to be compared with the real European metropolises.

The Fourth Policy Document on Physical Planning-Plus (VINEX), a blueprint for spatial planning in the Randstad, aimed for the realisation of an integral public transport system, connecting the ring cities and the mainports of Amsterdam (Schiphol) and Rotterdam (Port of Rotterdam) with other Randstad cities. However, environmental groups are lobbying to protect the Green Heart and to restrict the number of houses and economic activities within it. These facts have placed doubt on the reality of the concept of the 'deconcentrated city'.⁷ De Boer rejects the concept of the Randstad as a 'deconcentrated world city' because it contradicts the basic aspect of a metropolis, i.e. occupying a central position in a global network.⁸

In recent years the discussion on the Randstad has focussed on the decentralisation of economic activities and the segregation of the economic landscape into two wings: the south wing (the Rotterdam-The Hague axis) and the north wing (the Amsterdam-Utrecht axis). From the 1960s onwards, regional spatial planning was based on this division. Since the 1990s, the economic prospects of the north wing – in particular the mainport Schiphol – have been regarded as better than those of the south wing.⁹ Is it possible that Amsterdam, once one of Europe's ten largest cities, will become the metropolis of the Randstad – on the basis of its comparative economic and cultural advantages – as it once was in the seventeenth and eighteenth centuries?

This raises two main questions:

1. Which long-term historical developments indicate the development of these four urban areas into a real metropolis, comparable with London and Paris, and which long term developments indicate otherwise?
2. What are the causes of the unequal development of different parts of the Randstad, and what are the implications in relation to the first question and the spatial development of the Randstad?

To answer these questions, we will investigate different dimensions of the Randstad in a historical perspective.

The spatial dimension of the Randstad

The term 'Randstad' (literally: 'rim city') was first used in 1938 by Albert Plesman, founder of the Dutch airline KLM.¹⁰ He used the idea of the Randstad in difficult and enduring discussions on the concentration of airport activities in the provinces of North and South Holland. Both Rotterdam and Amsterdam had their own small airports. The Hague used the airport facilities of Rotterdam (Waalhaven). In order to enhance the economic prospects of this new branch of the transport industry, and in particular those of KLM, Plesman pushed forward plans for a single central airport. This should be a central airport for the Randstad. Seen from the air, the big cities in the west of the Netherlands formed a man-made stone rim around a green area. At that time, aircraft did not fly at very high altitudes. Had they done so, it would have been clear that the distances between the individual cities were too large to be able to speak of a ring. This was not the case until after the Second World War.

Looking back over time, the green areas between the cities have become larger. In the mid-nineteenth century, the farmer Jan Freerks Zijlker referred to the large distances between the cities that would eventually form the Randstad. Zijlker came from the province of Groningen in the north of the country.¹¹ He was a Member of Parliament, and often had to spend the weekend in The Hague because it took too much time to travel back to Groningen.

On Sundays he took the train through the province of Holland to the north. He was struck by the open countryside, which reminded him of Groningen.

The train played an important role in the creation of the Randstad. The first railway, between Amsterdam and Haarlem, was opened in 1839. This line was extended to The Hague and Rotterdam in 1847. The 'second rank' cities Leiden and Delft were also connected to this line, while Dordrecht was incorporated in 1872. To the east, the connection between Amsterdam and Utrecht was completed in 1845, while the railways between Rotterdam and Utrecht, and The Hague and Utrecht, used the same railway line extended from Gouda.

These railways paved the way for sub-urbanisation. Along the Amsterdam-Utrecht line in particular, some of the villages turned into exclusive residential areas (Baarn) or towns (Hilversum) as early as the nineteenth century. Around the turn of the century, the same thing happened in the Rotterdam-The Hague area. As we will see later, many wealthy inhabitants of Rotterdam moved to The Hague but continued to work in Rotterdam. A second railway – this time an electric railway – played an important part in this, also because it terminated in Scheveningen, a coastal village that has now become a suburb of The Hague.

Yet the railway was not the first integrating form of infrastructure. The first was the barges. In the sixteenth and seventeenth centuries in the south-west and north of the Netherlands, an integrated network of canals (*trekvaarten*) was built, connecting all the main cities. Initially, a network was built around Amsterdam and Utrecht, and another one around The Hague and later on Rotterdam. In the late 1660s, these two networks were joined. Amsterdam gained the most central position.¹² However, with the arrival of the railway, the barge system disappeared almost immediately. Although the barges were superseded, they did perform an important preparatory function in that many railway lines were constructed along the old canal routes. In fact the barge network, which reflected the historic Amsterdam-centric economy, lost its importance as early as the eighteenth and the beginning of the nineteenth century. As a result of the decline of the Amsterdam staple market, many people left the city. The same happened to the industrial cities of Haarlem, Leiden and Delft, which were closely linked to Amsterdam. All these cities had to survive as central places for their hinterlands.¹³

Another integrating factor was the creation, from 1813 on, of the *Nieuwe Hollandsche Waterlinie*. This was a defence system by which lower-lying land could be flooded while higher areas were controlled by fortifications. This system defended Holland, the western part of the Netherlands and the city of Utrecht. As a result, the cities in this area no longer needed their ramparts. Therefore, while cities in other parts of the Netherlands remained within the confines of their fortifications until 1874, the cities in the west were able to expand at an earlier stage. Sub-urbanisation could also start earlier.

According to Engelsdorp Gastelaars and Wagenaar, the birth of the Randstad was primarily the result of sub-urbanisation.¹⁴ Enterprises, organisations, and households made increasing claims on space because of the more capital-intensive character of industry, the specific and growing number of tasks of organisations, and the wish of individuals to have more privacy. One could add the growing population to this list. In 1900 the population of the Netherlands was 5 million. Today it is more than 16 million, of which 6 million live in the Randstad area. Already before the Second World War, railways and tramways ceased to be the main facilitators of sub-urbanisation. Their role was largely taken over by cars and buses. This stimulated sub-urbanisation in places that, before that time, were not easily accessible.

Engelsdorp, Gastelaars and Wagenaar argue that sub-urbanisation did not contribute to the growth of the central city but to its surrounding suburbs. It is not clear what this means in the context of our questions. Could this be a positive element for the creation of an integrated metropolis, not torn by the competition of separate centres, or would this result in an anonymous sea of houses, having less identity than Los Angeles? For the moment we cannot be more specific on this point but we will return to it later, after analysing the individual large cities of the Randstad. However, we should mention that, in earlier studies, Utrecht is not mentioned as part of the Randstad. The Randstad was usually represented as a horseshoe, but nowadays it is a ring.

The economic dimension of the Randstad

Changes in the nineteenth-century urban hierarchy

Expansion is only necessary when new activities develop. This is what happened in the second half of the nineteenth century, when the Netherlands began to industrialise. Dutch industrialisation was largely an urban phenomenon. Moreover, some cities developed new functions in commerce. As a result almost all cities showed exceptional growth:

Table I: Urban growth in the Randstad

	Amsterdam	Rotterdam	The Hague	Utrecht	The 'Big Four'
1795	211,000	53,212	38,433	38,294	340,939
1850	224,235	88,812	72,467	47,927	433,441
1900	510,853	318,507	206,022	102,086	1,137,468
1950	845,266	684,658	571,853	195,121	2,296,898
2000	731,288	592,673	441,094	233,667	1,998,722

Source: Ramaer, *Geschiedkundige atlas*, 231-272, Statistical Yearbooks (1851), 5; (1951), 5; (2001), 50-55.¹⁵

Table I shows that Rotterdam and The Hague grew much faster than Amsterdam in the nineteenth century. In contrast to Paris and London, Amsterdam in fact lost its leading position in the national urban hierarchy when certain functions were taken over by Rotterdam and The Hague.

In the third quarter of the nineteenth century, Rotterdam began to benefit from its favourable geographic location and investment in an efficient port infrastructure.¹⁶ The central government started by constructing the *Nieuwe Waterweg* (1864) – an open waterway linking Rotterdam to the sea – and also by building a railway between Rotterdam and the south of the Netherlands. From 1870 onwards, the local government started its own investment programme and participated in private port development on the south bank of the river Maas, based on the example of the London docks. Today it forms part of a huge waterfront redevelopment scheme.

From the mid-1880s, three river docks, *Rijnhaven*, *Maashaven* and *Waalkhaven* (the Rhine, Meuse and Waal docks) were built. This development reshaped the river landscape south of Rotterdam. The new transit port system was a strategic response to the demands of an industrial age. However, apart from maritime industry, there was little industrialisation in the Rotterdam area. The primacy of shipping, Rhine traffic and cargo handling reduced the possibilities of more diverse large-scale industrialisation.

The Hague remained the seat of the Dutch government, as it had been in the days of the Republic, and the now restored monarchy. Transferring these functions to Amsterdam was not advocated because of The Hague's historical diplomatic and administrative status, with its parliament building, embassies and palaces. Moreover, there was already a new seat of government – Brussels – and the Amsterdam magistrates had quarrelled frequently with the House of Orange in the past.

The political functions of The Hague attracted many related occupations, such as domestic servants, purveyors of luxury goods, coachmen, etc. Many of the old provincial elite moved to The Hague to settle near the royal court, as did those who returned from the Dutch East Indies. Moreover, The Hague developed an important industrial sector, comprising metal processing, food and printing activities.¹⁷ Utrecht, by contrast, developed new commercial activities and became the railway centre of the Netherlands.

Amsterdam remained the largest city. In the first half of the nineteenth century, its industrial growth was based on the expansion of the staple market. From the 1850s onwards, the growing Dutch market stimulated Amsterdam's industrial growth. The port of Amsterdam remained crucial because many new industries relied on suitable port facilities. The profitability of shipyards, sugar refineries and the metal industry depended on the availability of cheap raw materials and semi-finished products. The relative economic importance of colonial goods diminished as industrialisation continued in the last decades of the century, but the port function of Amsterdam remained important, albeit to a lesser extent than in Rotterdam. It is therefore no surprise that improvement of railway infrastructure and construction of a new waterway connecting Amsterdam with the North Sea, the *Noordzeekanaal*, was extremely important. Without the new waterway, Amsterdam would not have been able to benefit from the development of modern large-scale industries. From the 1880s onwards, the development of Amsterdam's urban economy was heavily influenced by dominant banking, insurance and modern shipping-line enterprises, which had a strong base in the Dutch East Indies.¹⁸

According to Engelsdorp Gastelaars and Wagenaar, the three largest cities of the Netherlands became more or less complementary during the nineteenth century. However, considerable urban rivalry remained. The serious political controversies between Amsterdam and Rotterdam related to infrastructural issues (the construction of railway connections to the south, Rhine-traffic canals and the *Nieuwe Waterweg* and *Noordzeekanaal*). Urban rivalry continued into the twentieth century, especially between Amsterdam and Rotterdam, and to a lesser extent between these cities and The Hague after 1945. Urban rivalry arose from Rotterdam's plans for 'maritime industrial development areas' that involved large investments by the national government to optimise Rotterdam's accessibility from the North Sea.¹⁹ Because of Rotterdam's construction of vast complexes for the growing port-dependent petrochemical industry, the port metropolis became the maritime, transhipment and industrial centre of the Netherlands in the early 1960s. The other cities objected to the economic primacy of

Rotterdam. In particular, relations between Amsterdam and Rotterdam cooled as port development in Amsterdam lagged behind.

In 1962 Rotterdam celebrated the fact that it had become the biggest port in the world. The port metropolis had by then developed into an area covering 10,000 hectares, with an extension of approximately 40 kilometres extending from the city of Rotterdam towards the Hook of Holland. In 1969 Rotterdam presented *Rotterdam 2000+*. Today, this plan may be looked upon as mere fantasy. The southern part of the province of South Holland was still predominantly agricultural and was to be reshaped into industrial docks and infrastructure for road and rail. Two airports were planned and a new town, which would eventually accommodate 500,000 inhabitants. The plan radiated the spirit of progress and reflected a faith in the continued economic growth of Rotterdam. *Rotterdam 2000+* was rejected by the public and consequently cancelled because of its public rejection, which signalled the end of an era dominated by industrial considerations.

The publication of *Rotterdam 2000+* coincided with a report by the Club of Rome. Both reports brought about a discussion on the social costs and benefits of port expansion.²⁰ The people living in this heavily polluted and industrialised Rijnmond region had had enough of programmes that spoiled their environment. The change in the political climate and the rising influence of environmental pressure groups worked against Rotterdam. Moreover, the economic depression that followed the first oil crisis of 1973 brought an end to a period of optimistic growth expectations. As a result of the economic depression, there was a severe decline in trade and volumes of goods distributed through Rotterdam – the gateway to Europe. After the first oil crisis, Rotterdam experienced the effects of the over-saturation of the oil and petrochemical industries, which were the leading sectors in the boom of the fifties and sixties. The growth potential of the petrochemical industry, which in turn drove the urban and regional economy, slowed down in the 1970s. The most serious effects were brought about by the shakeout in the shipbuilding and metal industries, which had been largely dependent on these sectors. Economic growth and port expansion were no longer synonymous.

In retrospect, Rotterdam's port-development schemes were based on post-war models of industrial growth and on the expectations of rising throughput scenarios of the 1960s. However, the 1970s saw a drastic change in the international economic landscape, in contrast to that of the 1950s and 1960s. In a relatively short period of time, the international economy shifted from large-scale mass production and transport facilities towards more flexible production methods based on modern marketing techniques and knowledge and information networks, focussing on value-added production processes.²¹

The restructuring of the Randstad economy

Rotterdam has a strong position in bulk transhipment and maritime transport facilities. That position is only possible in this part of the Netherlands. There is no doubt that, notwithstanding international developments, Rotterdam will remain a significant port because of its share in European oil transhipment and container handling. In fact, all the scenarios for the economic growth of Rotterdam are based on Rotterdam's position as a logistic mainport. Its recent investment program is also based on these scenarios, although today it is recognised that other ports in the Hamburg-Le Havre-range are now more competitive.

The changes in the international economic climate resulted in a process of spatial deconcentration, as the assembly plants and distribution centres of international companies were relocated to other areas. The ideal location depends on many factors, of which port and transhipment costs are only two. Measured in terms of relative transport efficiency, the geographic location of Rotterdam is not unique. Other port and distribution areas are also attracting foreign investors. Schiphol airport, which is part of the north wing of the Randstad, is relevant in this respect.²² In fact, the roles have changed. Rotterdam's economic performance was ahead of the field in the 1960s and 1970s, the period during which the first generation of mainport functions – based on large-scale mass production and transhipment and to a lesser extent on high value-added production processes – were developed. From the 1980s onwards, however, the Amsterdam region held all the trump cards. Schiphol – a second-generation mainport – stands for glamorous new products, high value-added international business, information networks and the leisure economy. In addition, Amsterdam has always been the financial centre of the Netherlands, a fact that was of great importance in the 1980s and 1990s. Amsterdam was one of Western Europe's 'fast-changing leaders'.²³ The Rijnmond's contribution to GNP fell from 12% in 1970 to 9% in 1985, and has continued to fall.²⁴

The case study of the north Randstad region and Schiphol shows that, in addition to transport costs and government subsidies, tax and investment benefits, housing and living conditions, cultural facilities and abundant supply of labour have become more relevant than before. In this respect, Rotterdam has more difficulties than other cities in the Randstad. This relates to path dependency, since historical differences in economic structure are significant. Employment in Rotterdam and its adjacent areas fell sharply as the shipping industry declined. Many dockworkers also lost their jobs as a result of mechanisation and containerisation. In this respect, it is relevant to examine the structure of the total working population in the Randstad cities.

Table 2: The structure of the working population in 1985 (%)

	Amsterdam	Rotterdam	The Hague	Utrecht
Industry	11	18	10	13
Building and construction	3	7	4	6
Trade	18	19	17	15
Transport	9	14	8	8
Commercial and financial services	16	9	14	11
Social and administrative services	42	32	44	46

Source: Bargeman, *Structuur en Dynamiek*.²⁵

Table 2 shows that Amsterdam, The Hague and Utrecht have strong positions in the social and administrative sectors. Many administrative and public services are based in The Hague, which has become increasingly dependent on the number of jobs generated by central government. In Amsterdam, commercial and financial services are particularly dominant. Rotterdam has the largest share of transport services and a significant share in trade. However, what these statistics do not tell is that most of these jobs are less well paid than jobs in other service-

related industries. Utrecht benefits from its central location in the Randstad and is therefore an attractive area for firms. This became particularly evident in the early 1990s (see below).

Rotterdam has a less diversified economic structure than Amsterdam, and its relatively weak position has not improved significantly since the mid-1980s. As table 3 shows, Rotterdam has a low labour participation rate compared to the other Randstad cities.

**Table 3: Labour participation rates in the Randstad, 1987-1994
(working population aged 15-64 as a % of total population)**

	1987	1990	1997
Amsterdam	49	55	54
Rotterdam	49	49	49
The Hague	55	51	58
Utrecht	50	52	55
Netherlands	52	55	57

Source: Dercksen, *Bedrijfsleven, beroepsonderwijs*, 299.²⁶

The participation rate of Rotterdam is not only lower than the other Randstad cities, but has also remained stable, as table 3 shows. The Dutch economy showed remarkable growth figures in the 1990s, but the fact that Rotterdam's participation rate remained rather stable is a result of its less diversified economic structure. In fact, this points to the fact that the Rotterdam labour market has not adjusted to the changing economic climate. This also has serious consequences, in particular the recent selective migration processes, which will be discussed below.

Table 4 shows the differences between Amsterdam and Rotterdam in the 1990s. The table is based on distinctions in social status and the distinction between the traditional ('Fordist') industrial economy and the new ('post-Fordist') service economy.²⁷

Table 4: Social status of employed persons in Amsterdam and Rotterdam, 1992 and 1996 (%)

	Amsterdam			Rotterdam		
	1992	1996	difference	1992	1996	difference
Managers	9.0	8.7	-0.3	9.1	9.7	0.6
Office workers	21.9	20.9	-1.0	21.5	18.4	-3.1
Sales personnel	9.1	8.4	-0.7	7.6	7.5	-0.1
Skilled manual workers	8.0	6.2	-1.8	9.6	9.0	-0.6
Unskilled manual workers	5.5	4.1	-1.4	8.4	8.8	0.4
total (Fordist)	53.5	48.3	-5.2	56.2	53.4	-2.8
Professionals	18.9	21.7	2.8	14.6	15.9	1.3
Semi-professionals and technicians	15.1	16.3	1.2	16.5	17.4	0.9
Skilled service workers	5.1	5.2	0.1	4.4	6.1	1.7
Unskilled service workers	7.3	8.4	1.1	8.3	7.2	-1.1
total (post-Fordist)	46.4	51.6	5.2	43.8	46.6	-2.8
Number	333.619	349.332	15.713	251.101	252.290	1.189

Source: Burgers & Musterd, *Understanding urban inequality*, 408.

Both cities show the effects of the de-industrialisation of their economies, but the decrease in Rotterdam is less pronounced than in Amsterdam: a reduction of 2.8%, whereas the share of Fordist functions in Amsterdam was more than 5%. The reduction in Fordist employment in Rotterdam was a result of the decrease in the number of office workers in industrial enterprises. Between 1992 and 1996, the number of employed persons in Amsterdam increased by more than 15,000, while in Rotterdam, fewer than 1,200 extra jobs were created in the 'new' service economies. This difference is of course related to the stronger position of Amsterdam in consumer, producer, social and administrative service sectors, as we have seen from Table 3.

The Rotterdam labour market is less flexible than those of the other Randstad cities are, although the differences between Rotterdam and The Hague are less pronounced than the differences between Rotterdam and Amsterdam or Utrecht. The relative share of inhabitants with a lower education in Rotterdam is higher than in the other cities as well. In the period 1991-1993, more than 50% of its working population had low qualifications; 16% of them have only followed primary education.²⁸

Rotterdam has not been successful in preventing its more highly educated inhabitants from moving to other areas. The port-related industries lack the glamour of, for example, the high-ranking services and banking institutions that are concentrated in the Amsterdam region. Amsterdam attracts more professionals and members of the middle class. This fact in itself has had a strong positive effect on the creation of new jobs in service-related fields.

Van der Knaap has analysed the relatively stronger position of Amsterdam's financial, consumer and other related service industries towards Rotterdam.²⁹ His results show that commercial and other services (accounting, IT services and engineering) are concentrated in the larger cities (more than 50,000 inhabitants). Compared to the national average location quotient (NL = 100), the average location quotient for the big cities is 1.22, which means that these firms are more widely represented in cities than in other areas of the Netherlands. Within the Randstad hierarchy, Amsterdam ranks second (1.27), with Utrecht in first place (1.33). The respective location quotients of The Hague (1.17) and Rotterdam (1.04) are below the average for all cities with more than 50,000 inhabitants. Although Amsterdam and, in particular, Utrecht attract substantially more new services than The Hague and Rotterdam, Van der Knaap's results show that the concentration lies in the Randstad's suburban zones. This means that the conditions for these new services are not created in central locations such as the Randstad cities, but in the central locations together with their surrounding suburban areas. As Amsterdam and Utrecht generate more services in general, many of these promising new IT and financial enterprises are located in city networks linked to these major cities. The Rotterdam-The Hague axis is less competitive than the Amsterdam-Utrecht axis. Rotterdam and The Hague generate less high-value industrial activity. However, The Hague still has the advantage that public services are concentrated there.³⁰

Political dimensions of the Randstad

Before 1900, there was virtually no government involvement in urban and regional planning. In most cities, private-housing corporations developed and built the bulk of the urban settlements

and new housing districts. Apart from rather restricted building and safety regulations, city governments were slow to adapt and change the existing infrastructure. In particular, it took a great deal of effort before local governments modernised paving, the water supply and began constructing proper sewage systems. At the same time, the boulevards constructed in the Randstad cities were less modern than in other European cities. Even Amsterdam, once celebrated for its urban beauty as a real European metropolis, fell into discredit. Around 1850, Amsterdam became notorious for its poor infrastructure, the result of local authority lethargy and a poorly functioning department of public works.³¹

In the third quarter of the nineteenth century, the urban fabric of the Randstad cities began to be reshaped and more attention was paid to urban planning. The Housing Act of 1901 was of great importance in increasing central-government involvement in urban housing and city planning, which became the hallmark of modern cities in the industrial age.³² Private housing companies still supplied most of the housing in the fast growing Randstad cities, but the Housing Act prevented the uncontrolled and unbridled expansion of unplanned new urban zones and districts. The Act demanded that any urban development should be based on town planning commissioned by the municipality. Town planning, however, was considered a 'management tool' for preventing unlimited urban expansion, but new ideas on social-democratic planning and modernist ideas were taking hold. Amsterdam's leading architect H.P. Berlage was extremely important in this respect. His plan for Amsterdam-South (1915), in particular his modern ideas on the use of parks and green zones, set the standard for the Randstad.

In Rotterdam, W.G. Witteveen was appointed head of the town-planning department of Rotterdam in 1924. He was a leading representative of this new movement. Before World War II he put forward several plans, reflecting the ideas of Berlage and of American architects from the 1920s. Witteveen published his most elaborate plan in 1938. This regional plan visualised the growth of Rotterdam '... as a radial city, radiating urban bands following the main traffic routes'.³³ The plan proposed a scheme for industry whereby the distance from the inner city determined the type of industry to be established. Industrial activities had to be brought together in industrial zones. The city centre would function as a magnetic field, as a centre for small businesses, commercial and financial activities. The importance of the city centre had been neglected, as most historians on planning and architecture regard the Amsterdam General Plan (*Algemeen Uitbreidingsplan voor Amsterdam*) of 1935 as the first truly modern plan.

Berlage also drew up a plan for The Hague, but the local authority did not give him the opportunity to unite the industrial city built on the peat lands and the representative city built on sand. Later, the modernist W.M. Dudok was also frustrated in his plans.³⁴

The focus on regional planning was the consequence of the problems the Randstad cities faced in organising administrative units and co-operation with towns and villages. Amsterdam and Rotterdam annexed several neighbouring villages and towns. In the 1920s in particular, Amsterdam, Rotterdam and The Hague developed major annexations plans. The provincial government of North Holland endorsed Amsterdam's plan (an addition of 11,460 hectares, 2½ times its urban area), but the provincial government of South Holland rejected Rotterdam's proposal of 1927. Rotterdam had hoped to increase its economic influence in the region in order to safeguard port expansion and industrialisation programmes. Its plan for the annexation of adjacent older cities such as Schiedam and Vlaardingen, and most of the neighbouring villages, generated a great deal of local protest, and provincial authorities responded to this. While

Rotterdam's annexation plans foundered in the early 1930s, The Hague was experiencing similar problems. The city ran out of space for housing and, in the east, reached the stone boundaries of the towns of Rijswijk and Voorburg. Several other plans were put forward, ranging from regional districts to economic zones etc., but without an administrative reorganisation the Randstad cities lacked the political power to force their neighbours to co-operate.

The post-war expansion plans increased the problems of cross-border economic activity. For example, Rotterdam was unsuccessful in extending its political and administrative control over neighbouring cities and villages. Co-operation was based on mutual agreement, supervised by the provincial authority of South Holland. In the 1960s, a new administrative experiment was launched: the regional administrative authority, an economic unit consisting of a central location – one of the major cities of the Randstad – and the surrounding smaller towns and villages. This allowed the provinces to delegate some of their political and administrative powers to these regional units. Because of Rotterdam's post-war port expansion, the first experiments took place in the Rijnmond area. At first, Rotterdam was convinced that Rijnmond would support its large-scale port and industrialisation plans. In fact, the Rijnmond authority became a critical political forum and questioned the continuing development of Rotterdam's port and industry. In doing so, Rijnmond was of great importance in the protest movement against *Rotterdam 2000+* and was a catalyst of political and economic change.

Other cities in the Randstad area faced similar administrative problems. The administrative and political failure of Rijnmond greatly influenced what has happened in other parts of the Randstad since the 1980s. The 1990s saw the appearance of new models. The 'provincial town', a new administrative model whereby considerable political and administrative power was delegated from the provinces to the Randstad cities, seemed to be the answer. In the end, however, there was not enough public and political support. So the Randstad is shared by three provinces, and consists of a large number of municipalities that sometimes compete and sometimes co-operate voluntarily. There is still no clear vision of the Randstad model. Every city has to chart its own course. The Spatial Plan for Rotterdam to 2010, for example, aims to create a 'Delta metropolis': a large conurbation similar to London, the Ruhr Valley and Paris. Considering the ambitions of the other Randstad cities, for example Amsterdam and The Hague, and the central position of Utrecht, it is unlikely that the cities will develop a joint vision on the political dimensions of the Randstad. In order to understand this, it is also important to recognise the social and cultural differences within the Randstad.

The social dimension of the Randstad

In order to answer our central questions, we need to know in what respect the social structures in the four main centres in the Randstad have become complementary or identical. In the first case there could have been some form of residential segregation, with different social classes concentrated in different areas of the Randstad. Migration movements are very interesting in this context because they could accentuate this segregation. If the social structures do not show many differences, it is possible to wonder whether the social relations between the different nodes in the Randstad remained weak.

Few reconstructions have been made of the whole social structure of the individual cities comprising the Randstad during the nineteenth and twentieth centuries. In fact, they only exist in a comparable form for 1842.

Table 5. The social structure of four cities in the Randstad in 1842 (%)

	Amsterdam	Rotterdam	The Hague	Utrecht
Elite	15	12	17	12
Upper middle class	22	16	19	18
Lower middle class	33	22	24	19
Tax-paying labourers	25	18	12	10
Non-tax-paying labourers	5	37	22	41

Taxation was based on the value of houses. See Stokvis, *Wording*, 12. His calculations for Amsterdam, Rotterdam and The Hague (including Scheveningen) are based on Blok & De Meere, "Welstand".³⁵ Calculations for Utrecht are by the author, also based on "Welstand".

Table 5 shows considerable differences between the three cities. Rotterdam was the most proletarian city. The Hague had the largest elite but also a large lower-class population. In Amsterdam, the middle classes were relatively sizeable, and in Utrecht this was the case for the lower classes. Rotterdam and Utrecht had low-income groups for different reasons. In Rotterdam, a large part of the population worked in the harbours, where wages were low. In Utrecht at that time, unemployment was very high because the city's economy was very weak.³⁶

It is impossible to make this comparison for later years, the period of rapid urban development (see Table 1). Thanks to Van Dijk, Visscher, and Van de Laar we do know how the social structure of Rotterdam changed.³⁷ As a port, Rotterdam showed many of the characteristics of other fast-growing nineteenth-century European ports.³⁸ Rotterdam has always been a centre for migration, in particular for labour migrants and servants. In the first part of the nineteenth century, Rotterdam housed more servants than dockworkers. Migration accelerated in the third quarter of the nineteenth century. Port expansion and urban growth stimulated it. The port attracted many migrants from neighbouring counties, but a large number of them worked as bricklayers, carpenters etc. because many houses were being built for the increasing population. On the other hand, migration was stimulated by the agrarian crisis (1873-1896). Many landless casual labourers lost their jobs, especially in the provinces of North Brabant and Zealand, and moved to Rotterdam. It was not always easy for them to find regular employment at the docks and unemployment loomed for the majority.

As a result, many migrants had difficulty finding regular employment and were dependent on a low income. Estimates of local income per capita show that, although average income rose at the end of the nineteenth century, the people of Rotterdam perhaps benefited less from increasing GNP than those living in the other Randstad cities. Many poor migrants lived in inner-city slums or in one of the many sub-standard housing blocks in the town districts. The old city centre could not cope with the increasing traffic and population, and frequent radical changes were needed to adapt to the rapid growth. Rotterdam was sometimes regarded as a 'shock city' because of the unlimited construction of monotonous sub-standard buildings housing many poor migrant families. Some observers compared Rotterdam with booming American towns. Migrants had a low social status. Some parts of Rotterdam, in particular in the south where the Rhine-

port expansion was concentrated, were stigmatised as 'peasant towns' because many labourers from the agrarian areas of South Holland, North Brabant and Zealand came to live here. The fact that Rotterdam housed many low-status and low-income groups helps to explain why the social pyramid of the city has a broad base.³⁹

Conversely, Rotterdam had a small elite and a substantial number migrated to The Hague and Scheveningen. The construction of the first electric railway between Rotterdam and The Hague, which became operational in 1908, stimulated the migration of many harbour barons to wealthier parts of The Hague. This selective migration process also brought about the outflow of cultural capital. Members of the middle classes, who benefited from the growth opportunities of the port, moved to neighbouring areas at the turn of the century. Rotterdam annexed some of these villages in 1941.

We have pointed out, albeit in a rather impressionistic way, that the bipolar social structure of The Hague remained characteristic of the city until the beginning of the nineteenth century.⁴⁰ The elite was growing as a result of the immigration of members of the old elites from all over the country, who wanted to escape the modernisation of their hometowns and settle near the royal court where, in their opinion, the old values were upheld. The Hague therefore became a wealthier city, partly because members of the Rotterdam elite settled there, as well as rich entrepreneurs returning from the Dutch East Indies. Moreover, in the first decades of the twentieth century, the middle classes increased rapidly as political bureaucracy grew. A large lower class still remained, however, housed in the industrial quarters in the peat land area of the city.⁴¹

The middle-class population of Utrecht was also increasing. Between 1860 and 1890, the elite in the inner city declined.⁴² At that time, however, exclusive residential areas were built in the east of the city to prevent sub-urbanisation, and labourers moved to the industrial areas in the west of the city.

There is no analysis of the social structure of Amsterdam's population after 1842. We only have information about the higher social circles, namely the people who were allowed to vote in parliamentary elections.⁴³ De Vries concludes that, between 1854 and 1884, the base of the social pyramid was extended as large numbers of poor people moved into the city, forced out of the countryside by the agrarian depression. On the other hand, from the 1870s onward, social mobility was high, primarily because of the expansion of new industrial activities such as diamonds and printing.⁴⁴ At the end of the period under research, sub-urbanisation became a real threat to Amsterdam's social elite, which saw its numbers decline. In the twentieth century the exodus of Amsterdam's wealthy citizens continued. According to Wagenaar, there were three reasons for this: they wished to move away from the hectic unhealthy city, the growing opportunities for time management enabled them to work and live in separate places, and the fact that, until 1929, urban income tax rates were much higher than rural rates.⁴⁵

So far, the results of research into the social structure of individual cities in the second half of the nineteenth and the first decades of the twentieth centuries do not indicate the formation of an overall social structure in the Randstad. Only The Hague attracted members of the elites from other Randstad centres. For the most part, these elites left their cities to settle in the surrounding countryside. As we have seen, by doing so they contributed to the urbanisation of the countryside, which would eventually result in the Randstad rim.

The post-war social structure of the Randstad

Table I shows that fewer people lived in the Randstad cities in 2000 than in 1950. The decrease in population is the result of migration from the cities, which took place between approximately 1965 and 1985. Migration patterns were similar in all the Randstad cities, where emigration exceeded immigration. The emigration surplus slowed after 1975 and stabilised in the 1980s in Amsterdam, Rotterdam and Utrecht and, to a lesser extent, in The Hague. However, drastic changes in the social structure of the cities took place from the 1960s onwards. This is related to the selective migration process mentioned above in the discussion of the economic position of Rotterdam compared to the other Randstad cities.

The social structure of the cities changed because of the differences in the social and demographic status of people moving into and out of the cities. During the 1960s and 1970s, the number of households with children in the Randstad cities decreased. The emigration of families was the direct effect of the spatial development. As incomes rose, those who could afford a family home moved to the suburbs, where homes were being built in large numbers. As a result, homes for people moving out of the big cities had to be built in satellite locations, which were consequently transformed from small villages into cities, such as Zoetermeer near The Hague, Spijkenisse and Capelle aan den IJssel near Rotterdam, and Nieuwegein and Houten near Utrecht. In the case of Amsterdam, new cities were designed in the Flevoland polders, especially Almere. The social structure of the Randstad cities came to be dominated by ethnic minorities, young adults, single people, unmarried couples, elderly and one-parent households – a majority belonging to weak socio-economic groups. As referred to above, the selective migration process also had serious consequences for urban employment. This became evident in the early 1980s when the economic depression accelerated the selective migration process.⁴⁶

The first migrant workers who moved to the four major cities came from Spain and Italy, but from the 1960s onwards the number arriving from Morocco and Turkey rose significantly. In the 1970s, 35% of all Turkish and Moroccan labour migrants moved into the four big cities, while they accounted for only 13% of the Dutch population.⁴⁷ From the 1970s, international labour migration came to an end because the demand for cheap labour fell drastically due to the economic depression of the 1970s and 1980s. Few migrant workers returned to their homelands, however. While the labour migration figures fell during the 1970s, the influx of migrants from the former Dutch colony of Suriname began to rise. Many Surinamese left their country when it became independent in 1975. The economic depression in the Antilles led to further migration from the West Indies. In the early 1980s, migration from Turkey and Morocco increased again. This migration was not the result of new employment opportunities but new generations joining their families who had settled in the main Randstad cities in the 1960s.

Amsterdam, Rotterdam and The Hague have a relatively large stock of affordable rented dwellings and this supply of cheap housing encouraged families to migrate. Today, most Moroccans and Turks choose a spouse from their home countries. As a consequence, the Randstad cities have become multicultural cities and much of the recent political and social unrest is a result of the problems this creates. The pattern of the cities resembles that of the modern metropolis, where ethnic groups and families choose to settle within their own communities in city neighbourhoods. Although there is no ethnic segregation in the Randstad, certain ethnic groups tend to be concentrated in certain urban zones. For example, Rotterdam houses the largest Cape Verdean community in the Netherlands, and the second largest in

Europe after Lisbon. Almost 90% of this minority group lives in one of the former nineteenth-century migrant neighbourhoods in Rotterdam West.

Since the 1980s, the selective migration process has begun to stabilise in most of the Randstad cities.⁴⁸ This has to do with the regeneration of the old cities, a process of gentrification that has led to a re-evaluation of older, long-forgotten parts of town where migrant workers settled in the nineteenth century, and where post-war migrant workers came to live. Amsterdam, Utrecht and The Hague have been more successful than Rotterdam in this respect. Rotterdam's *Kop van Zuid* area, the former docks that are now part of a large-scale waterfront redevelopment scheme, is still under development. However, recent statistical surveys show that many interesting high-income groups between the ages of 45 and 65 leave the city because they are dissatisfied with the social climate, the lack of suitable housing and the lack of green space.⁴⁹

The selective migration process also had serious consequences for the economic prospects of the Randstad cities. During the 1990s the Dutch economy showed remarkable growth rates, but some cities benefited more than others did. As is evident from our earlier discussion on the change in the economic structure of the Randstad, there are remarkable differences between the growth opportunities of, for example, Amsterdam and Utrecht compared with Rotterdam and The Hague. Amsterdam's economy has a more pronounced post-Fordist character, which has meant that unemployment among ethnic minority groups fell more significantly than in Rotterdam during the 1990s.⁵⁰ The recent focus on selective migration processes cannot be explained without considering the cultural dimension and the enduring urban competition between the Randstad cities. Culture has been an important aspect of the recent discussions on urban renaissance, in particular since the Randstad cities have discovered the economic potential of culture and urban tourism.

The cultural dimension of the Randstad

Very little research has been carried out into the cultural dimension of the Randstad. We only have observations on individual cities and some comparisons between individual cities. Vijgen and Engelsdorp Gastelaars have made some interesting comparisons between Amsterdam and Rotterdam.⁵¹ They have found that Amsterdam is more urban than Rotterdam, because the demographic structure in Amsterdam has relatively more one-person households and couples without children. Amsterdam also has more timesaving and other leisure facilities that are a prerequisite for an urban lifestyle. Moreover, Amsterdam has many more museums and other cultural institutions than Rotterdam. One would expect smaller supply to be related to smaller demand. Rotterdam's inhabitants, for example, had fewer subscriptions for theatre and museum tickets, but they visit bars and restaurants just as frequently as the inhabitants of Amsterdam do. This, of course, has to do with the difference in social structure between the two cities, as mentioned above.

In the Netherlands it generally accepted that the cultural elite lives in Amsterdam. Amsterdam has an international reputation as one of the Europe's cultural capitals. Many observers point out that the *Grachtengordel* – the canal belt – is the most innovative area of the Randstad. The *Koninklijke Concertgebouw Orkest* is considered the best orchestra in the Netherlands, the *Rijksmuseum* the finest museum, and the best opera performances are given in Amsterdam's *Concertgebouw*. In particular, the opera and ballet performances in the Dutch

capital attract large audiences from other parts of the Netherlands. But this does not mean that the Arts in Amsterdam completely overshadow Rotterdam and The Hague. On the contrary, the *Mauritshuis* in The Hague houses some of the finest examples of seventeenth-century Dutch painting. The *Gemeentemuseum* has a splendid collection of works by Mondriaan. In Rotterdam, *Museum Boijmans van Beuningen* exhibits many Old Masters, once owned by harbour barons, and also modern design, while the *Centraal Museum* in Utrecht also has an important collection of modern art. A new concert hall was opened in Utrecht in 1979 and, a few years ago, the Dr Anton Philips Hall was built in The Hague.

Rotterdam also has a famous concert hall: *De Doelen*, which opened in 1966 and has recently been renovated. The hall was an essential step in Rotterdam's attempts to bridge the cultural gap with the other Randstad cities, in particular Amsterdam and The Hague. From the 1960s onwards, cultural expenditure per capita began to rise in Rotterdam. But when comparing Rotterdam's statistics with those of Amsterdam and The Hague, for example, it must be recognised that part of Rotterdam's budget was spent on sports infrastructure and education, etc. Nevertheless, Rotterdam showed even greater cultural ambitions in the 1980s and 1990s and its cultural image has changed a great deal since then.

Urban rivalry has always been important in this respect, in particular between Amsterdam and Rotterdam. The recent cultural revival of Rotterdam is rooted in a long history of urban rivalry between the two cities. The establishment of the German Opera (1861-1891) in Rotterdam, for example, was the result of the long-standing commercial and cultural jealousy of the Rotterdam elite towards their counterparts in Amsterdam. However, while economic growth and cultural innovation went hand in hand in Amsterdam, the Rotterdam bourgeoisie was too small and lacked the means to uphold civic pride. The Rotterdam elite became less involved in the arts. In the 1870s, the Amsterdam bourgeoisie, by contrast, funded a number of new private initiatives and invested in a sophisticated new cultural infrastructure.⁵²

Even today, urban rivalry clouds the discussions on cultural facilities in the Randstad. Rotterdam developed its Museum Park near Museum Boijmans Van Beuningen (located there since 1935) in an attempt to embellish the city and boost the cultural sector. The Museum Park houses not only the Museum Boijmans Van Beuningen but also the Art Hall, designed by the renowned architect Rem Koolhaas, and the new museum building of the National Institute of Architecture. The central government decided to build this museum in Rotterdam as a joint venture between three older Amsterdam-based institutes specialising in housing, architecture and urban planning. This decision, which aroused much protest in the Dutch capital, was made on political rather than cultural grounds. The central government simply wanted to decentralise national cultural institutions. Rotterdam, a city recognised for its modern architecture since the rebuilding following the German bombardments of 1940, naturally welcomed this initiative.⁵³ The struggle regarding the National Institute of Architecture is not unique. Recently, Amsterdam and Rotterdam were again rivals in the bid to attract the new Institute of Visual Images.

Urban rivalry is not restricted to museums or cultural institutions. In recent years, many efforts have been made in The Hague and Rotterdam to outdo Amsterdam in attracting popular festivals. Amsterdam usually managed to respond to this challenge. However, today The Hague is acknowledged to be the top city for musical performances. This is because an important producer has equipped a theatre in Scheveningen for major musicals. He has recently done the

same in Utrecht. Amsterdam has always been a very attractive city for tourists. Other cities in the Randstad are hoping to win a larger share of the fast-growing market for recreation and tourism. However, Rotterdam and Utrecht have less appeal than The Hague. Rotterdam promotes itself as the city of modern architecture, and although city marketeers have been particularly successful in attracting more day-trippers to the port metropolis, Amsterdam and The Hague have gained a large share of the growing market for international tourism. It goes without saying that much of the added value in the service sectors of Amsterdam and The Hague is generated by tourism.

On the cultural level, then, there seems to be more rivalry than complementarity. This is particularly evident in football, the most important sport in the Netherlands. All four large cities in the Randstad have their own team: Ajax (Amsterdam), Feyenoord (Rotterdam), ADO Den Haag, and FC Utrecht. As a Rotterdam inhabitant you can visit the *Concertgebouw* in Amsterdam, but you would not dare to go to an Ajax match unless the team were playing Feyenoord.

Rivalry also seems to be present in education, which could also be considered a part of culture. Amsterdam has had a university since 1876; Utrecht had a university as early as 1636, while Rotterdam did not get one until 1973. The Rotterdam School of Economics, founded in 1913, was then merged with the economics polytechnic from 1939 and the medical polytechnic from 1966. Therefore we may conclude that the base for this university existed even before the Randstad developed. The Hague has no university, but there are two universities within its service area: the University of Leiden (the oldest in the Netherlands), and the Technical University of Delft, which began as a polytechnic in the nineteenth century. The Hague houses the Royal Library, the most important library in the Netherlands, and the National Archives.

We may conclude, then, that in the cultural domain each city aims to realise its own institutions and identity. Amsterdam is at the top, but Rotterdam, The Hague, and to a lesser extent Utrecht, which no longer has an orchestra of its own, are highly successful runners-up. The second-rank cities (Haarlem, Leiden, Delft and Dordrecht) all have important museums too. They also have their own theatres, but the major performances are held in the three largest cities. Leiden and Delft still have their universities, but the polytechnics, which were originally distributed over all the cities, are now concentrated in the four largest cities. Dordrecht, for example, lost all its schools for higher education institutions to Rotterdam. Furthermore, the outstanding football players from the smaller provincial clubs also moved to the big cities.

The cultural domain is thus characterised by four competing capital cities, which all try to offer a full range of facilities for their service area. With the exception of Utrecht, they have all had at some time the ambition to become a cultural capital. This ambition is most evident in Amsterdam, which also tries to cover the widest domain.

Conclusions

We will now attempt to answer the central questions identified at the beginning of this article.

Several long-term historical developments indicate that the urban areas in the western Netherlands have developed into a real metropolis:

1. Complementary economic structures
2. Sub-urbanisation creating uninterrupted urban areas
3. Integrated infrastructures.

However, other long-term developments indicate otherwise:

4. Economic competition resulting in more or less identical economic structures (from industry to economic services)
5. Central government measures to conserve the Green Heart
6. Political disintegration
7. Cultural disintegration.

Before it will be possible to assess the consequences of these processes of convergence and divergence, it would be useful to take into account the unequal development in the Randstad. The causes of unequal development within the Randstad are:

8. The north wing, with Amsterdam and Utrecht as central locations, has a longer tradition in commerce than the south wing that centres on Rotterdam and The Hague. In the post-industrial economy, commerce is again the main growth factor.
9. The service area of the north wing includes some wealthy districts (Het Gooi, the Zeist area), which influence demand in a positive way.

The possible consequences of unequal development within the Randstad are:

10. The transformation of a poly nuclear metropolis into two bi-nuclear 'sub-metropolises'.
11. The 'surrender' of the Green Heart, resulting in the creation of a Los Angeles-like metropolis without a real centre.

In the meantime, however: The Randstad remains a very individual metropolis consisting of four big cities and at least six smaller ones, which at the moment are each emphasising their specific situation and identity.

NOTES

¹ Han Meyer, *De stad en de haven, stedebouw als culturele opgave*. Londen, Barcelona, New York, Rotterdam: veranderende relaties tussen stedelijke openbare ruimte en grootschalige infrastructuur (Utrecht, 1996).

² L. Brunt, "Metropool aan de Maas: een beschouwing over het stedelijke karakter van Rotterdam", in *Economie, economie en nog eens economie. Slotadvies van de Werkgelegenheids Adviesraad van de Gemeente Rotterdam 1995-1998* (Den Haag, 1998), 121-142.

³ SMO (Stichting Maatschappij en Onderneming), *De opkomst van de steden van Holland. De Randstad in de informatiemaatschappij* (Den Haag, 1997).

⁴ Vincent van Rossum, *Randstad Holland, variaties op het thema stad* (Amsterdam, 1995).

⁵ H. van der Cammen, "Wat kunnen we leren van de Noordvleugel" in *Economie, economie en nog eens economie. Slotadvies van de Werkgelegenheids Adviesraad van de Gemeente Rotterdam 1995-1998* (Den Haag, 1998), 65. Refers to Peter Hall, *The World Cities* (London, 1966).

⁶ G.A. van der Knaap, *Stedelijke bewegingsruimte over veranderingen in stad en land* (Den Haag, 2002).

⁷ H. van der Cammen, "Wat kunnen we leren van de Noordvleugel?", in *Economie, economie en nog eens economie. Slotadvies van de Werkgelegenheids Adviesraad van de Gemeente Rotterdam 1995-1998* (Den Haag, 1998), 53-70.

⁸ Niek de Boer, *De Randstad bestaat niet* (Amsterdam, 1996).

⁹ Ries van de Wouden & Erica de Bruijne, together with Karin Wittebrood, *De stad in de omtrek. Problemen en perspectieven van de vier grootstedelijke gebieden in de Randstad* (Den Haag, 2001).

¹⁰ A. van der Valk, *Het levenswerk van Th.K van Lohuizen* (Delft, 1990).

¹¹ J.W. Formsma, ed., "Het dagboek van Jan Freerks Zijlker" in *Groninger Volksalmanak* (1948), 83-221.

¹² Jan de Vries, "Barges and capitalism. Passenger transportation in the Dutch economy, 1632-1839", *A.A.G. Bijdragen* 21 (Wageningen, 1978), 72.

¹³ Sako Musterd & Ben de Pater, *Randstad Holland. Internationaal, regionaal, lokaal* (Assen, 1992), 3.

¹⁴ R. Engelsdorp Gastelaars & M. Wagenaar, "The rise of the "Randstad", 1815-1930", in H. Schmal, ed., *Patterns of European Urbanisation since 1500* (London, 1981), 229-247.

¹⁵ J.C. Ramaer, *Geschiedkundige Atlas van Nederland. Het Koninkrijk der Nederlanden (1815-1931)* ('s-Gravenhage, 1931); Departement van Binnenlandsche Zaken, *Statistisch Jaarboekje voor het Koninkrijk der Nederlanden* ('s-Gravenhage, 1851). Centraal Bureau voor de Statistiek, *Statistisch Zakboek 1951-1952* (Utrecht, 1952); Centraal Bureau voor de Statistiek, *Statistisch Jaarboek 2001* (Voorburg/Heerlen, 2001).

¹⁶ Paul van de Laar, *Stad van formaat. Geschiedenis van Rotterdam in de negentiende en twintigste eeuw* (Zwolle, 2000).

¹⁷ P.R.D. Stokvis, *De wording van modern Den Haag* (Zwolle, 1987).

¹⁸ J.L. van Zanden, *De industrialisatie in Amsterdam 1825-1914* (Bergen, 1987).

¹⁹ A. Vigarié, 'Maritime industrial development areas: structural evolution and implications for regional development': in B.S. Hoyle en D.A. Pinder, *Cityport industrialisation and regional development. Spatial analysis and planning strategies* (Oxford/New York, 1981), 23-36; Ton Kreukels & Egbert Wever, "Dealing with competition: the Port of Rotterdam", *Tijdschrift voor Economische en Sociale Geografie*, Vol 87 (1996), 293-309.

²⁰ Van der Cammen, "Wat kunnen we leren".

²¹ Å.E. Andersson, "Presidential address: the four logistical revolutions", *Papers of the regional science association* Vol. 59 (1986), 1-12; Å. E. Andersson, "Infrastructure and the transformation of the C-society", in R. Thord, ed., *The future of transportation and communication* (Stockholm, 1992), 17-30; A. Grübler, *The rise and fall of infrastructures. Dynamics of evolution and technological change in transport* (Heidelberg, 1996); Van der Cammen, "Wat kunnen we leren".

²² Kreukels & Wrever, "Dealing with competition".

²³ Van der Cammen, "Wat kunnen we leren".

²⁴ Musterd & de Pater, *Randstad Holland*, 90.

²⁵ C.A. Bargeman, E. Lensink, L. van der Laan, and O.A.L.C. Atzema, *De structuur en dynamiek van beroepsbevolking in de Randstad*, (Den Haag, 1991).

²⁶ W.J. Dercksen, "Bedrijfsleven, beroepsonderwijs en scholing in Rotterdam", in *Economie, economie en nog eens economie. Slotadvies van de Werkgelegenheids Adviesraad van de Gemeente Rotterdam 1995-1998* (Den Haag, 1998) 297-316.

²⁷ Jack Burgers & Sako Musterd, "Understanding urban inequality: a model based on existing theories and an empirical illustration", *International Journal of Urban and Regional Research*, Vol. 26.2, June 2002, 403-13, 408.

²⁸ Dercksen, "Bedrijfsleven, beroepsonderwijs en scholing".

²⁹ Van der Knaap, *Stedelijke bewegingsruimte*, 89-94.

³⁰ Van der Woude & de Bruijne, *De stad in de omtrek*.

³¹ Ida Jager, *Hoofdstad in gebreke. Manoeuvreren met publieke werken in Amsterdam 1851-1951* (Rotterdam, 2002).

³² L.A. Klerk, *Particuliere plannen. Denkbeelden en initiatieven van de stedelijke elite inzake de volkswoningbouw en de stedebouw in Rotterdam, 1860-1950* (Rotterdam, 1998).

³³ Cor Wagenaar, *Welvaartsstad in wording. De wederopbouw van Rotterdam, 1940-1952* (Rotterdam, 1992).

³⁴ Victor Freijser, *Het veranderend stadsbeeld van Den Haag* (Zwolle, 1991).

³⁵ L. Blok & J.M.M. de Meere, "Welstand, ongelijkheid in welstand en censuskiesrecht in Nederland omstreeks het midden van de 19e eeuw", *Economisch- en Sociaal-historisch Jaarboek* 41 (1978), 175-294.

³⁶ R. de Bruin a.o., ed., *Een paradijs vol weelde. Geschiedenis van de stad Utrecht* (Utrecht, 2000), 369.

³⁷ H. van Dijk, *Rotterdam 1810-1880. Aspecten van een stedelijke samenleving* (Schiedam, 1976); Henk Visscher, *Rotterdammers op de trappen der historie. Een onderzoek naar de sociale mobiliteit van gezinshoofden in Rotterdam rond 1880* (Rotterdam, 1997); Van de Laar, *Stad van formaat*.

³⁸ Richard Lawton and W.R. Lee (eds), *Population and Society in Western European Port Cities, c. 1650 to 1939* (Liverpool, 1998).

³⁹ Van Dijk, *Rotterdam*, 235.

⁴⁰ Stokvis, *Wording*, 215.

⁴¹ H. Schmal, *Den Haag of 's-Gravenhage. De 19e eeuwse gordel. Een zone gemodelleerd door zand en veen* (Utrecht, 1995).

⁴² C. Denig, *Utrecht van Ancien Régime tot nieuwe tijd. De bewoning van de Utrechtse binnenstad in haar ruimtelijke structuur* (Utrecht, 1995).

⁴³ B. de Vries, *Electoraat en elite. Sociale structuur en sociale mobiliteit in Amsterdam 1850-1895* (Amsterdam, 1986).

⁴⁴ De Vries, *Electoraat en elite*, 136-137.

⁴⁵ M. Wagenaar, "De trek naar buiten. Suburbanisatie vanuit Amsterdam rond de eeuwwisseling", *Geografisch Tijdschrift*, nieuwe reeks XVI (1982), 342-352.

⁴⁶ R.B. Jobse, H.M. Kruythoff, S. Musterd, *Stadsgewesten in beweging. Migratie naar en uit de vier grote steden* (Den Haag, 1990).

⁴⁷ Burgers & Musterd, "Understanding urban inequality", 409.

⁴⁸ Musterd & De Pater, *Randstad Holland*.

⁴⁹ M. Bik and A. van Zundert, *Vasthouden en aantrekken* (Rotterdam, 1999); R. van Kempen, R. Goetgeluk, H. Floor, *De Randstad uit. Achtergronden bij het verhuizen en willen verhuizen van Randstedelingen* (Utrecht, 1995).

⁵⁰ Burgers & Musterd, "Understanding urban Unequality".

⁵¹ J. Vijgen & R. van Engelsdorp Gastelaars, "Hoe stedelijk is de Maasstad? Voorzieningen, bewoners en leefpatronen in Rotterdam en Amsterdam", *Geografisch Tijdschrift*, XXIV (1990), 241-251.

⁵² Jan Bank & Maarten van Buuren (with contribution of Marianne Braun & Douwe Draaisma), *1900: Hoogtij van burgerlijke cultuur* (Den Haag, 2000).

⁵³ Irina van Aalst, *Cultuur in de stad. Over de rol van culturele voorzieningen in de ontwikkeling van stadscentra* (Utrecht, 1997).