

## Introduction

*OverHolland* addresses the relationship and interaction between the building and the city in the context of the Dutch urban landscape. To this end, the city is understood in its material manifestation, as an artifact constructed of tangible elements such as buildings and infrastructure. In this approach it is especially the architectural conception of the city as it emerges in various designs for the city, whether implemented or not, that is the empirical object of study and analysis. Therefore, the research that we present here analyses the city primarily as an 'architectonic construction'.

The previous cahier of *OverHolland* focused on the link between the larger scale of the Randstad and the smaller scale of its component parts: the individual Dutch cities. As a sequel to the previous article on the genesis of the city in the Netherlands during the Middle Ages, in the present cahier of *OverHolland*, Reinout Rutte discusses urban development during the period from the fourteenth to the nineteenth centuries. In his article, he relates the economic and demographic phenomena of growth and shrinkage of the Dutch city to the spatial development of urban landscapes and city plans during this period.

Regarding the individual cities, the present and following cahier will focus on the city of Amsterdam. In their contribution Henk Engel and Esther Gramsbergen analyse the realization of the first Amsterdam Stock Exchange in relationship to the formation of the city centre around the Dam. They correlate two sets of facts that are usually studied separately: the development of public buildings and the morphological development of the city. The development of public buildings for municipal administration and trade resulted in a new perspective concerning the genesis of the city and the further steps in the process of urbanization. Moreover, with their reconstruction of the history of the development of the city centre of Amsterdam, a number of special characteristics of the Dutch city have been brought to light.

In their article, Roberto Cavallo and Dirk Zuiderveld investigate the remarkable series of transformations that were undergone by the present-day Paradiso building on the Weteringschans. Built in 1879 as the headquarters for the Vrije Gemeente (a non-traditional religious community), today the building is an internationally-renowned pop venue. This is a typifying example of the permanence and durability of urban facts in a continuously-changing city.

In a contribution from Master Thesis Studio for Hybrid Buildings of the Faculty of Architecture of Delft University of Technology, several architectonic studies are presented that tested various possibilities for transforming the railway zone on the east side of Amsterdam from a barrier to an element of transition. A series of studies of building forms along, underneath and above the railway were developed into architectonic designs.

This cahier of *OverHolland* ends with the Polemen section, in which François Claessens discusses the book *The Metope and the Triglyph* of Antonio Monestiroli regarding its architectural theory and educational content, and Guus Borger critically analyses the book by Wouter Reh, Clemens Steenbergen and Diederik Aten on land reclamation and the Dutch polder landscape.

3	<b>Introduction</b>
3	<b>Expansion and contraction of Dutch towns. Urbanisation, urban planning and de-urbanisation in Holland, 14<sup>th</sup>-19<sup>th</sup> centuries</b>
Reinout Rutte	
9	<b>The first Amsterdam Exchange and the formation of the city centre of Amsterdam</b>
Henk Engel and Esther Gramsbergen	
18	<b>From Vrije Gemeente to Paradiso. 125 years as a venue for culture, society and music in Amsterdam</b>
Roberto Cavallo and Dirk Zuiderveld	



	<b>Expansion and contraction of Dutch towns. Urbanisation, urban planning and de-urbanisation in Holland from the fourteenth to nineteenth centuries*</b>
Reinout Rutte	

If we compare research into Dutch towns from the fifteenth century onwards with the literature about the period before that, we will see that much greater efforts have been made to gain an overall picture of the more recent period. Research into medieval Dutch towns from the eleventh to fifteenth centuries is primarily focused on individual towns or on one particular aspect of town formation, such as the granting of charters.<sup>1</sup> In contrast, research on the following period is dominated by studies of urban systems which attempt to provide a more general classification of the development of towns and cities in Holland (the western part of the Netherlands).<sup>2</sup> The main focus in these studies is on economic and demographic developments. I will summarise these briefly in the first section of this article, with reference to a selection of maps. The rest of the article is devoted to spatial patterns – urban landscapes and street plans – and to urban planning.

The development of socioeconomic urban systems can be usefully compared with the development of the street plans and the urban landscapes I have described previously, on the basis of the way in which they formed.<sup>3</sup> Following on from my previous arti-

22	<b>The Oostelijk Havengebied (eastern harbour area) of Amsterdam and the railway line: architectonic interventions with an eye to urban continuity</b>
Roberto Cavallo	
24	<b>Book review</b>
François Claessens	
25	<b>Book review</b>
Guus Borger	
26	<b>About the authors</b>

cle about the formation of Dutch towns in the eleventh to fifteenth centuries, I would like first of all to examine the expansion and contraction of urban landscapes from the fifteenth to nineteenth centuries, and then consider what implications this had for street plans and town planning. Comparison with developments in other parts of the Netherlands (Brabant, Utrecht, Gelderland, Friesland, Groningen) is also required in order to gain a clearer picture of developments in Holland.

Moreover, it should be noted that in the period from the fifteenth to nineteenth centuries almost no new towns were formed in Holland.<sup>4</sup> Nearly all the towns and cities we know today originated in the period from the eleventh to fifteenth centuries. Thereafter very little changed in the distribution pattern of towns. From the fifteenth to nineteenth centuries the only developments were the expansion and contraction of particular groups of towns that had already formed in the Middle Ages, the growing significance of some urban landscapes and the waning importance of others.

In order to gain a better understanding of the phenomenon of urban expansion and to link up with the previous article, I will begin my overview in the fourteenth century. There is another reason for this, namely that the distinction often made between 'the Middle Ages' and 'the Renaissance' is a forced one. In reality there are continuous lines in the evolution of towns and cities, running from the twelfth, thirteenth and fourteenth centuries right through to the fifteenth, sixteenth and seventeenth centuries. This will become clear below.

**Demographic and economic developments** If we look at the adjoining map, the cities of Holland immediately stand out (Fig. 002).<sup>5</sup> Towards the end of the seventeenth century this was where most of the populous cities were located: Amsterdam, Haarlem, Leiden, The Hague, Delft, Rotterdam and Dordrecht. How had this come about? Let us first compare demographic developments in the previous two centuries with those that followed.

Around 1500 the situation appears to have been rather different. Most towns with more than 10,000 inhabitants were still in Holland, but were not yet so distinct from the rest of the Netherlands, since at that time 's-Hertogenbosch, Nijmegen and Groningen had approximately as many inhabitants, and Utrecht even more.

By 1650 that picture had altered radically. Amsterdam stands out as the largest city and, apart from the towns just mentioned, Enkhuizen, Hoorn and Alkmaar are conspicuous by their size. Also striking is Middelburg, in the southern province of Zeeland. Utrecht, 's-Hertogenbosch, Nijmegen and Groningen have about the same number of inhabitants as in 1500. The change is thus due to a considerable increase in the population of cities in Holland.

On the map showing the situation in 1850, the populations of cities in Holland seem to have changed little in comparison with 1650, suggesting stagnation. If we look a little more closely, we will discover that the populations of various cities (such as Leiden and Delft) have actually fallen considerably. Hoorn and Enkhuizen have shrunk so much that they are no longer shown on the map. The populations of towns along the river IJssel have increased somewhat in the space of two centuries.

Geographers and historians believe this happened as follows. In the high Middle Ages (the twelfth and thirteenth centuries) Europe had an urbanised core in northern Italy, including such major cities as Milan, Genoa, Bologna and Venice (Fig. 001). There was another core in Flanders, with cities including Bruges, Ghent and Ypres. In addition there were the powerful Hanseatic cities, mainly along the Baltic coast, with Lübeck at their centre. From the time of the voyages of discovery, towards the end of the fifteenth century, the core in northern Italy began to shift westwards and northwards. Spain, Portugal and Holland emerged as major powers during the sixteenth century because of their overseas trading posts and colonies (the Dutch East India Company (VOC) was founded in 1602 and the Dutch West India Company [WIC] in 1621).

At first Flanders was more important, but soon there was a shift further north, via Brabant to Holland. The capture of Antwerp by the Spaniards in 1585 (which cut off its access to the sea via the river Scheldt) was the death blow for Flanders. Many Flemish merchants and craftspeople moved north, and most of the harbour towns in Zeeland also suffered as a result. Within the United Provinces (as the Netherlands became known in the late sixteenth century) there was also a shift from south to north and from east to west.

In the meantime the Hanseatic League had disintegrated, which led to the decline of towns in the east of the Netherlands (especially the IJssel towns, which had

been members of the League). These former centres for international trade became mere regional marketplaces. At the same time Amsterdam was becoming the new centre of world trade. Thanks in particular to the astuteness and energy of its merchants, Amsterdam became the world's leading staple market. Together with other cities in Holland, it formed Europe's new core. This resulted in large-scale migration to these cities, both from the countryside and from cities in other regions such as Flanders.

The other cities of Holland – primarily those just behind the coastal dunes (Alkmaar, Haarlem, Leiden, The Hague and Delft), but also a number of newer harbour towns such as Rotterdam and Gouda – had been developing into major industrial centres since the late Middle Ages. Although there seems to have been an economic decline in the late fifteenth and early sixteenth centuries, the cities of Holland still prospered. In my view the foundations for this were essentially laid in the fourteenth century, when Europe went through a period of serious economic decline, its population decimated by the Black Death and urbanisation stagnating – except in Holland. I strongly believe that Holland's primacy in the seventeenth century is not merely due to the international developments just mentioned, but above all to its distinctive and economically advantageous urban development since the fourteenth century, and even as early as the thirteenth.<sup>5</sup>

Leiden became famed for its cloth, Haarlem for its linen and breweries, Gouda also for its beer, and Enkhuizen and Hoorn for their herring. This trend, and the specialisation of each city or group of cities, had commenced well before Amsterdam became an international staple market, but the two developments reinforced one another in the sixteenth and seventeenth centuries, with the cities surrounding Amsterdam performing important services for the Dutch capital.

Not only were industrial products traded via Amsterdam, but the other cities of Holland ensured storage and transhipment of goods, satisfied demand for packaging materials (barrels, bottles and jugs), and supplied all manner of products that were essential to overseas trade (such as ships, herring and beer). Refinement of raw materials and semi-manufactured goods was a common activity in Amsterdam and the surrounding region. In this way a close-knit system of cities sprang up in Holland. The countryside also played an essential role in this, for part of the necessary production took place in what had once been agricultural settlements. For instance, there were numerous shipyards in Zaandam and on the island of Marken. In addition, peat – an essential fuel for many industries and for heating – was obtained from the peatlands of Holland.

After 1700, however, this wonderful system collapsed. During the final decades of the seventeenth century London had

emerged as the new centre of the world economy and the burgeoning British Empire. This undermined Amsterdam's position as an international trading centre. Moreover, Holland's system of cities and its economy were threatened by the protectionist policies of the major nations Britain and France. These policies seriously damaged the trading links built up by the cities of Holland. The ones to suffer most were those with one-sided industries that catered to world markets. Among the most vulnerable were Enkhuizen and Hoorn, which depended entirely on herring.

In the course of the eighteenth century many of these cities saw their populations fall. Another reason for this was the transfer of certain industries (such as textiles) to rural areas where labour costs were considerably lower. For example, cloth-making companies in Haarlem and Leiden moved their factories to Brabant. Another popular region was Twente. The entire economy shrank during the eighteenth century, and Holland's system of cities disintegrated. It was not until the nineteenth century that the economy started to pick up and the population increased once more.

#### Urban landscapes

So how are these economic and demographic developments related to spatial developments: urban landscapes and street plans? In order to gain an insight into developments in the pattern of towns and cities I will use the same map as I did in my previous article: the map from *Atlas van Nederland* showing how towns in the Netherlands developed up to 1795.<sup>7</sup> (Fig. 003a)

The picture of urban expansion largely tallies with the results of demographic and economic research. At first sight, two of the urban landscapes previously identified on the basis of the factors and motives that determined how they were formed would appear to be predominant: (1) the places just behind the line of coastal dunes which gradually evolved into towns shortly before and during the thirteenth century (Alkmaar, Haarlem, Leiden, The Hague and Delft) and (2) the ports which developed into towns between approximately 1270 and 1400 on the initiative of wealthy citizens and rulers and as a result of economic innovation.<sup>8</sup>

All the towns along the line of coastal dunes expanded rapidly from the fourteenth century onwards, as did some of the newer ports, such as Enkhuizen, Hoorn, Amsterdam, Gouda and Rotterdam. Expansion continued into the seventeenth century. Compared with urban landscapes in the rest of the country, there was a massive increase in the area occupied by towns in Holland. Only a few towns outside Holland – Groningen, Harlingen, Middelburg and Flushing (now known as Vlissingen) – expanded to any major extent after the fifteenth century. These towns were able to profit from Holland's overseas trade. This picture is largely in keeping with the

economic and demographic trends we have already seen.

However, let us look more closely at the spatial developments within each type of urban landscape from the fourteenth century onwards. If we look at urban development in the fourteenth century, we are in for an even greater surprise than in the previous article. Not only did many new towns emerge in the fourteenth century (including the new towns along the major rivers to the south of Utrecht and the ports on the islands of Zeeland, along Holland's inland waterways and around the Zuiderzee), but there was a good deal of urban expansion, not only in Holland. Almost everywhere else in western Europe few new towns were emerging, the urban population was declining and the economy was shrinking.

Most towns in the oldest urban landscape (which had arisen in the eleventh and twelfth centuries) and the ports of Flanders-Zeeland (twelfth to thirteenth centuries) had already expanded vigorously during the thirteenth century, examples being Aardenburg, Middelburg, Utrecht and Groningen. Maastricht and Nijmegen grew fastest in the late thirteenth and early fourteenth centuries. In the course of the fourteenth century, however, there was a veritable whirlwind of urban expansion. The older towns (formed in the twelfth century) along the major rivers – Arnhem, Zutphen, Zwolle and Kampen – were among those that grew. Dordrecht had already expanded in the thirteenth century. Most of the towns in the urban landscape created by urbanisation policies and town planning of dukes, counts and other rulers (Bergen op Zoom, Breda, Geertruidenberg, Heusden, 's-Hertogenbosch, Roermond, Wageningen, Doesburg, Harderwijk and Amersfoort) also did well.

Fourteenth-century urban expansion in Holland is thus in line with the development experienced by many of the older urban landscapes at the time. I would almost go so far as to say that every town of any significance expanded in the fourteenth century, except for the older towns that were already fairly large (such as Utrecht, Deventer and Groningen). The expansion of Gouda, Rotterdam, Delft, Leiden, Haarlem and Edam was among the most substantial in the country.

Almost all the urban expansion in Holland dates from the second half (mainly the end) of the fourteenth century. Besides the somewhat older towns behind the coastal dunes, a number of ports which had become towns barely a century earlier (Brielle, Schiedam, Rotterdam, Gouda, Amsterdam and Edam) underwent further expansion. If we look at developments in the centuries that followed, we have to conclude that something unusual was happening in Holland – something that began in the fourteenth century.

Outside Holland, the towns in the older urban landscapes expanded only sporadically after the fourteenth-century boom. Of the new towns of the late Middle Ages, Culem-

borg was the only one to add on a new district, at the start of the fifteenth century. There was also fairly modest expansion in 's-Hertogenbosch, Nijmegen, Kampen and Groningen in the fifteenth century. The Frisian towns of Leeuwarden and Sneek grew as a result of new fortifications and canals, the expansion largely consisting of harbours and quayside districts. A good deal of sixteenth-century expansion was also mainly due to new fortifications, for example in Brouwershaven, Breda and Heusden. Only in Harlingen and Middelburg were major new quayside districts built in the sixteenth century.

In comparison with the fourteenth century, urban expansion in the fifteenth and sixteenth centuries was limited. It can be seen in a few places scattered across the country: along the major rivers and above all their estuaries (including the Zeeland delta), in Friesland and in Holland, especially its northern section.

Towards the end of the sixteenth century, Enkhuizen added on a large new district and new harbours. Other new harbour towns in Holland that expanded at this time were Hoorn, Amsterdam and Rotterdam. In Hoorn and Amsterdam this had already begun in the fifteenth century. In the seventeenth century Holland's ascendancy was reconfirmed. Amsterdam, Haarlem, Leiden and The Hague built substantial new districts, and rather more modest ones were built in Monnickendam, Weesp, Schiedam, Rotterdam and Dordrecht. Groningen, Zwolle and Flushing were the only towns outside Holland to experience any growth in the seventeenth century and only in Groningen was a sizeable new district actually built. In Flushing quayside districts, harbours and a dock were dug inside new fortifications constructed in the decades around 1600. In Zwolle expansion was minimal.

On the map showing the development of towns there are no changes to be seen after the seventeenth century. However, in certain cities changes did occur. Populations were decreasing and buildings disappearing. This was the opposite of urbanisation: de-urbanisation, in other words contraction. The final section will examine this development, which began around 1700. We will start by looking at urban expansion and urban planning from the fourteenth to seventeenth centuries.

### Urban expansion

It is possible to identify several categories of urban expansion in the fourteenth to seventeenth centuries (Fig. 003b).<sup>9</sup> A good deal of late fourteenth-century expansion (in some cases not completed until the fifteenth century) involved substantial new residential and manufacturing districts on one or more sides of an older core. This is primarily true of towns just behind Holland's coastal dunes (Alkmaar, Haarlem, Leiden, The Hague and Delft). A number of newer harbour towns,

such as Gouda and Rotterdam, can also be included in this category. A substantial proportion of urban expansion outside Holland, again mainly dating from the late fourteenth century, involved similar new districts. These were usually somewhat smaller than in Holland but most were still fairly large. Zwolle, Zutphen, Arnhem, Nijmegen and Heusden essentially grew in one direction, whereas Harderwijk, Doesburg and Roermond expanded on several sides of the old core. Smaller new districts were built in such places as Dokkum, Kampen, Wageningen and Geertruidenberg. Bergen op Zoom expanded in several directions from its core. This process had begun back in the thirteenth century. In Amersfoort large new ramparts were built round the town (which already had a moat), enclosing a great deal undeveloped land.

Amersfoort brings us to a second category: expansion in area when new canals and fortifications were built some distance from the actual town. In some cases the land required for such expansion seems to have been calculated far too generously. In others the layout of the fortifications seems to have been based on military considerations (for example more or less circular ramparts that were easy to defend) rather than any actual need for expansion (which often seemed a mere corollary). In such cases a good deal of undeveloped land was enclosed, and much of it usually remained undeveloped. Good examples of towns whose area increased markedly as a result of this – and which therefore have plenty of green space – are Edam, Brielle and 's-Hertogenbosch.

The first category of expanding towns mentioned earlier were also often fortified during the fourteenth century, but the newly enclosed area was usually built on, sometimes at the same time as the fortifications were erected. On the edges of towns, just inside the town walls, there was occasionally less building, but in these towns one does not find the great empty spaces – sometimes even without streets – that one does in places such as Edam. By the end of the fourteenth century many towns had more or less completed their expansion with the construction of an imposing, solid stone wall right round the town. It is generally this late medieval situation that is depicted on the maps drawn by Jacob van Deventer, showing the fourteenth-century walls with their towers and gateways.

A third category of expansion was in the form of relatively thin layers of construction on one or more sides of the existing town. A good example is Amsterdam. Elsewhere we rarely come across this form of expansion in the fourteenth century, but it was a good deal common in the fifteenth and especially sixteenth centuries, for example in Leeuwarden, Groningen, Kampen, Heusden, Breda, Middelburg and, again, Amsterdam. This is

because the expansion projects in the fifteenth and sixteenth centuries were relatively limited, in both quantity and area. The layers that were added here and there, usually during the construction of new fortifications, were generally only small ones. Sometimes buildings that had sprung up outside the walls in the course of time were enclosed within the new fortifications. The only towns where large-scale expansion took place were Middelburg, where a new layer of building was erected right round the town, and Amsterdam, where something similar happened.

Besides the towns mentioned, only a few others expanded during the fifteenth and sixteenth centuries. A district called Nieuwstad ('New Town') was added on to Culemborg. Massive new harbour basins were dug in Hoorn. Goes and Brouwershaven are typical examples of places where expansion was mainly due to the construction of very spacious ramparts. During this period only Enkhuizen and Harlingen underwent large-scale expansion, with new harbours and residential and industrial areas. These can be seen as precursors of seventeenth-century expansion.

As we have seen, almost all the expansion that took place in the seventeenth century was in Holland. The Hague, Leiden, Haarlem and Amsterdam belong to the first category, with substantial new districts. Thin layers were added on in Medemblik, Monnickendam, Weesp, Schiedam, Rotterdam and Dordrecht. In Medemblik, Rotterdam and Dordrecht these were mainly harbours, while in the case of Monnickendam, Weesp and Schiedam they were residential, industrial and commercial districts. Zwolle also gained an extra layer. The only two other towns outside Holland where changes occurred in the seventeenth century were Groningen and Flushing. In Flushing this involved new harbours and quayside districts, and in Groningen a large new district somewhat similar to those in the major cities of Holland.

In conclusion, we can see that there were various kinds of expansion, which can be roughly divided into the three above-mentioned categories. Strikingly, all these categories were found in all four centuries. One of them (large new districts) was more common in the fourteenth and seventeenth and the other (layers) in the fifteenth and sixteenth centuries, but throughout the period they were found alongside each other. This suggests that there may be certain constants in patterns of urban expansion, but it also raises the question of whether there were any changes between the fourteenth and seventeenth centuries, both within the various categories and between them. It is time to take a closer look at the urban planning of some urban expansion projects.

### Urban planning

Exactly what form did urban expansion take? Let us examine a number of examples from

the various categories.<sup>10</sup> If we look at large new urban districts (the first category) built in the fourteenth century in towns outside Holland (for example Bergen op Zoom and Doesburg), we will see that their street plans were largely determined by and in keeping with structures that were already present, not only within the existing towns but above all outside them (Fig. 004). On Jacob van Deventer's maps of Bergen op Zoom and Doesburg it is fairly easy to see that older country roads served as the basis for the main streets in the new districts. Something similar occurred in such places as Zwolle, Arnhem and Nijmegen. In Zwolle the course of the river Aa also played an important part. Besides roads and major waterways, old land reclamation structures such as plots of agricultural land and ditches were important factors.

In major fourteenth-century urban expansion projects in Holland street plans were also largely determined by the former landscape and settlement structures. In Haarlem most of the streets in the new area to the south followed both the north-south orientation of the coastal ridges and the routes of the older town streets (Fig. 005a). In many other towns in Holland former land reclamation structures are even more visible in the street plan. This was because they were mainly built on marshy peatlands, which could only be used after they were drained. This land had usually been brought under cultivation a long time (sometimes centuries) before the expansion by creating a system of ditches and long rectangular plots, in regular patterns which were subsequently reflected in the street plan. The best example of this is Delft, where the original pattern of parallel ditches with long, rectangular plots in between them is still visible to this day (Fig. 005b). The ditches were turned into small urban canals with embankments, and the plots were divided up and rows of houses built on them. A number of old watercourses can also be identified.

Another striking feature is that when the plots were divided up into, say, two urban blocks (two parallel canals with a street in between), standardised dimensions were often used. The expansion of Leiden and Gouda is very interesting in this respect (Fig. 006). In Gouda the new districts were laid out in a ring round the existing core. Large sections of the ring were bisected by a central canal with an embankment on each side and with streets and building plots along them. This principle of a waterway with a street and houses on both banks was nothing new in itself. It is hard to determine exactly when it originated, but it was probably in the wet, low-lying parts of Holland – the peatlands – where drainage channels were needed and natural watercourses were used for this purpose. The formation of towns in the peatlands together with the use of waterways as harbours must have led to the

emergence of this typically Dutch form of canal. When towns in the peatland areas expanded, it made sense to convert the old protective moats round the town into canals of this type. In Gouda, however, some new canals were deliberately dug inside the ring of new buildings. The ring was still divided up on the basis of the existing structures and the type of canal was not new, but the main layout, with a canal as the central element, seems instead to have been based on a new organising principle which had much less to do with former land reclamation or existing watercourses.

For the westward expansion of Leiden in the fourteenth century, known as Rapenburg, the same organising principle appears to have been adopted as in Gouda: a central canal with embankments and streets on each side and building plots of roughly equal depth along them. However, the plots on the periphery were cut off at an angle by the fortifications. Furthermore, the central canal followed the course of a former ditch. In the new district to the south a similar 'dual' approach was adopted: a simple grid pattern of streets and canals can be identified as an organising principle, but at the same time it was adapted to and incorporated into existing urban and rural structures. A number of the canals followed existing watercourses and the grid was slightly skewed to follow the course of the old and new town moat, thus taking account of both existing and new features.

The same method was also occasionally used outside Holland. In Heusden, for example (a town which expanded a long way to the north in the fourteenth century), a monumental, central main axis was created to link up with the old core and lead towards the river Maas (Fig. 007a). In the previous article we have already seen a similar predilection for regularity and capacity for design in the layout of many towns in the urban landscape of late medieval new towns such as Vianen and Buren (Fig. 008). Buren was built towards the end of the fourteenth century in accordance with a grid-like plan. We also come across this layout in other new towns, in a more or less strictly executed form. Elburg, built at around the same time as Buren, has a highly rectilinear, orthogonal plan. A somewhat less rigid variant, though indisputably a grid, can be seen in the new district to the north of Zutphen, known as Nieuwstad ('New Town'), which was constructed shortly before 1300 (Fig. 007b). In addition, street plans were often well thought-out, as is shown by the use of standardised widths when laying out main streets and side streets in Elburg: the main street is 3 rods and side streets 1.5 rods wide (1 rod = 3.80 metres). This principle of wide main streets (usually about 3 rods) and narrower side streets (usually half the width = 1.5 rods) was also adopted in other new towns, for example in Naarden's grid-like plan (Fig. 009).

Studies of the structure of a number of these new towns and of fourteenth-century expansion in Schoonhoven, Leiden and elsewhere have shown that during the late Middle Ages, and in all likelihood from the twelfth century onwards, there was rational urban planning for both the construction of new towns and the expansion of existing ones. Widely acknowledged general principles were applied wherever possible. Plot sizes, building plots, street and canal widths, proportions and measurements were all standardised. When determining the dimensions of various components, simple, practical ratios such as 1:2, 1:3, 1:4, 2:1 or 2:3 were used.<sup>11</sup>

Very little is known about the precise sequence of events when new towns and districts were created, since practically nothing of this was recorded in the Middle Ages. Occasionally something can be deduced indirectly from written sources such as leasing registers for building plots. The principal – a ruler or a town council – probably used surveyors to measure up building plots and lay out streets and canals. The surveyors took account of the local situation and the client's wishes. Street and canal layouts were generally designed to be as practical and cheap as possible, obviating the need for all kinds of complex designs. The layout took account of existing ditches and plots of land, main streets were extended from the existing town to link up with country roads, and old waterways were incorporated into the design.

Where possible, however, the width of building plots (which often depended on the kind of house to be built there) was standardised, as was their depth. The same applied to the width of streets and canals. Existing roads and waterways were often altered – for example widened or straightened – and incorporated into this new system. The regularity and rectilinearity of new districts also depended on the state of technology, the surveyors' skill and the client's ambitions. Fourteenth-century surveying techniques do not seem to have been accurate enough to allow faultless plotting of grids of totally perpendicular streets. Perhaps surveyors were simply not skilled enough. Then again, they may not have considered it necessary. At the time, most surveyors and principals do not seem to have been overly worried by a slightly crooked street or a gently curving alignment. Elburg's street plan suggests that it employed highly capable surveyors, but most new districts were plotted less rigidly than in Elburg. However, from the twelfth to fourteenth centuries, a trend towards increasingly rectilinear, more conscientious and accurate street plans can be detected.

Once the new district had been plotted, the principal leased or sold the building plots, which were developed by the future user in accordance with certain conditions. These often included a stipulation that the house

must be built within a foreseeable time (say one year), or that the alignment of the street must be taken into account when building it. The client ensured that a neat row of façades was built.

When towns expanded in the fourteenth century there was no segregation between residential and working areas. The same building was often used for housing, work and storage. Only in the case of highly polluting industries (such as bleaching) was there deliberate segregation. These were concentrated together wherever possible, preferably on the edge of town.

In places with large harbours, directly associated activities were concentrated in the districts around them. As the towns grew larger each district would often specialise in particular trades or particular parts of the production process. When towns expanded, however, there seldom seems to have been any deliberate segregation between home and work, or between expensive and cheaper neighbourhoods. However, the location of the new district or certain streets, for example in relation to harbours or markets, was sometimes a factor, as was the size of building plots. A new district with small plots on the edge of the town in the vicinity of a bleachery was more likely to be lived in by ordinary industrial workers than by the wealthy.

Depending on local geographical factors and economic, social and legal conditions (including land ownership), not forgetting surveyors and principals, the aforementioned organising principles were applied more strictly and on a larger scale for some cases than in others. The most practical and appropriate solution in the prevailing circumstances was usually chosen. Where the use of the building plots permitted and a pattern of roads could serve as urban infrastructure, existing structures were often followed. At the same time, when designing new districts, planners liked to apply generally acknowledged organising principles and standardised measurements. Sometimes these structures and principles dovetailed neatly, for example in the expansion of Gouda and Leiden, resulting in coherent plans, with an organising principle that determined the whole of the main structure (the street plan, canals and sizes of plots).

The other two categories of fourteenth-century urban expansion can be dealt with briefly. In these cases it was almost always pre-existing structures that dictated the form, although here again it was not unusual for standard measurements to be used as a basis, only to a more limited extent (for example just for the width of building plots). Land enclosed within extremely spacious fortifications typically remained undeveloped, with few streets. Those that did exist had often already been there before the fortifications were built. In most cases the layers were simply too small in area and too strongly influenced by the existing town for any

truly independent organising principle to be identified. This remained largely true of these two categories during the centuries that followed.

### Large-scale late-sixteenth- and seventeenth-century expansion

In the first category nothing really new happened during the fifteenth century – almost no large new districts were built –, but there were a couple of fascinating examples of urban expansion towards the end of the sixteenth century. First there was Harlingen on the Zuiderzee in Friesland. In 1565 the town council received permission to expand the town on the north side 'for the welfare and improvement of said town, also for the convenience of members of the merchant fleet, in order to increase and improve shipping'.<sup>12</sup> Work soon began on converting the northern moat into a harbour, and a new district was built to the north of it. The town also expanded eastwards and southwards. By about 1580 the whole town was surrounded by new fortifications, which also brought the parish church within the town walls. In the 1590s another large harbour was built on the south side (Fig. 010).

In the new district on the south-eastern side the old street pattern around the church remained intact, but the Noorder Nieuwestad ('Northern New Town'), as the new district on the northern side was known, had an extremely rectilinear grid of streets with a canal. The ground plan was made up of four elongated strips with blocks of buildings or plots. The new northern harbour and the new canal served as main axes, and the street in between as a side street. The latter was therefore narrower, following the same principle as we have already seen in Elburg and Naarden. At the same time, the siting of the cross streets and the cross canal was determined by the pre-existing streets: the new town fitted in neatly with the old. Here we can see that the approach was just as pragmatic as in the fourteenth century, with planners using standardised measurements and generally acknowledged organisational principles, and with account being taken of existing structures which incorporated as effectively as possible into the new layout of streets and canals.

In the Noorder Nieuwestad in Harlingen these standards and organising principles played a more prominent role than in most fourteenth-century expansion projects, whereas pre-existing structures played a lesser role. However, this may be an impression created by the extremely stark, rectilinear appearance of the new districts, which was probably due to improvement in surveying techniques during the fifteenth and sixteenth centuries and to technical innovations<sup>13</sup> which were mainly connected with the construction of fortifications. New fortification and urban planning techniques were introduced into the Low Countries from

Italy between about 1540 and 1610. New weapons, especially firearms, necessitated the construction of a new kind of defensive structure,<sup>14</sup> with bastions and so forth. The fortifications that Harlingen constructed around 1580 were also built according to these new Italian techniques – or at least Adriaen Anthonisz, who designed the fortifications, was inspired by Italian ideas. However, there is nothing to indicate that urban expansion was influenced by Italian ideas about the 'ideal city' or urban planning.

Yet there is something unusual about the northward expansion of Harlingen: the depth of the plots gradually decreases from the northern harbour northwards (in other words, they become smaller). It seems likely that, when laying out the plots, deliberate account was taken of different population groups: the wealthy and the less wealthy, merchants, craftspeople and industrial workers. Better-off citizens could acquire plots overlooking the northern harbour, while ordinary workers could purchase smaller ones to the north of the new canal. Such deliberate segregation, which sometimes also led to division of functions, was unknown in the Netherlands prior to this date (the late sixteenth century), but became more common thereafter. In the case of Friedrichstadt, which was built in Schleswig by remonstrant congregations from the Low Countries from 1621 onwards, the process has been thoroughly documented, with details of how plot sizes were determined and space was organised.<sup>15</sup> It is also a very evident feature of seventeenth-century expansion in Amsterdam. However, let us first look at Enkhuizen, where Adriaen Anthonisz. (already referred to in connection with Harlingen) designed new fortifications shortly before 1600 and where major expansion took place.<sup>16</sup>

Like Harlingen, Enkhuizen was fortified with bastions and a wide moat (Fig. 011). The fortifications, presumably for reasons of defence, were roughly semi-circular; the rest was protected by the waters of the Zuiderzee. Within this perimeter the town grew to twice its previous size. Large new harbours were dug on the south side and a new district was built to the west, with a grid-like ground plan. On closer inspection, using a map by Joan Blaeu dating from 1649, the main structure of the new district can be seen to have consisted of two intersecting main streets which were wider than the rest. The main street that runs east-west, the Westerstraat, follows the ancient roads and the land-reclamation axis linking Enkhuizen and a series of villages including Westwoud, Hoogkarspel and Lutjebroek. This east-west axis is intersected at right angles at a point probably based on an older road which can be seen on Jacob van Deventer's map from around 1560.

Once this crossroads was established, the rest of the area could be divided up at will, although a number of canals were need-

ed to help drain the peatlands in which the new district was built. The canals and the remaining streets were laid out in a grid-like structure that was aligned with the two main streets. The approach remained pragmatic, and the grid was not applied consistently throughout. On the edges, near the old and new town walls, it was truncated or skewed. On the west side there is even an entire street that was skewed to follow the course of a former ditch. The course of the new canals was to a large extent determined by that of the old moat, with which they were connected. This also explains why several canals were skewed with respect to the street grid, as is visible on the field map.

The grid-like layout in Enkhuizen may seem to suggest the influence of 'ideal plans' from 'Renaissance' Italy, but it can be quite easily explained with reference to urban planning traditions and practices in the Low Countries: a pragmatic combination of standardised measurements, general organising principles and integration with existing structures and factors. Moreover, as we have seen in Zutphen and Elburg, the grid was already a familiar feature in the thirteenth and fourteenth centuries. By the end of the sixteenth century, with considerable advances in surveying techniques, an assertive client such as Enkhuizen's town council could well have produced such a result. As in Harlingen, Enkhuizen's expansion does appear to have been accompanied by division of functions. The harbours were located on the south side, together with the warehouses and harbour-related industries. The east-west axis was a rather distinguished main street, and to the north of it there were many market gardens, parks and summerhouses belonging to well-heeled citizens.

The early-seventeenth-century expansion of Groningen is also highly instructive (Fig. 012). A considerable area on the north side of the town was enclosed within new fortifications. The new street plan was grid-like. The three north-south main streets were pre-existing roads which had been there for centuries, following an old structure which can be identified both inside and outside the town and which had been built on before the expansion (as can be seen on Jacob van Deventer's map). This explains why the three main streets do not run parallel, but are set at different angles to the grid and at irregular distances from each other. The grid was created simply by straightening the three old country roads slightly and superimposing a number of new parallel streets on them at approximately equal distances from each other.

The major seventeenth-century expansion of Amsterdam and Leiden fitted into the urban planning tradition outlined here. Research into Amsterdam's semicircle of parallel canals, which were dug in two stages starting in 1610, has shown that its layout had little to do with Italian 'ideal plans' or the

'ideal city' recently conceived by the Dutch theorist Simon Stevin. It is quite clear from Amsterdam's city archives that the approach was pragmatic rather than theoretical.<sup>17</sup> Though pre-existing land-reclamation structures were taken into account to a much lesser degree than in Groningen and many fourteenth-century urban expansion projects, factors such as the state of the soil, soil hydrology, land ownership, early division of land and existing infrastructure are evident in the morphology of Amsterdam's semicircle of canals. Furthermore, as in Harlingen and Enkhuizen, Amsterdam's expansion was part of a wider plan to improve the city's defences, ensure smooth handling of traffic and provide sufficient building land for both rich and poor, as well as for harbour-related activities.

To achieve an optimum result under these conditions, the authorities decided to reproduce on a larger scale the existing system of circular canals, to which new layers had gradually been added since the fourteenth century. Many of the canals were intended for housing for the wealthy. To the west, the Jordaan district was built for the less well-off to live and work in; here the former agricultural division of land was strictly followed, much as in the fourteenth-century expansion of Delft. New harbours and islands for trade activities were constructed along the banks of the IJ. Just as in the fourteenth century, the buyers and users of the plots were personally responsible for their development: handsome town houses sprang up along the Herengracht and Keizersgracht canals, simple houses were built by workers in the Jordaan, and the harbour islands were densely built up with workshops, shipyards and warehouses. Here we can see extensive segregation of the population and division of functions.

When digging the semicircle of canals, following what had been standard practice for centuries, standardised measurements were used for the widths of roads, canals, main and side streets, building plots, etcetera and were further rationalised. However, this should not be taken to imply that this seventeenth-century expansion was much more coherent than those in earlier centuries. The semicircle of canals was built in two separate sections. In the first section, between Haarlemmerstraat and Leidsegracht, less effort was made to ensure good connections between the existing city, the new district and the area outside the new fortifications than in the later section between Leidsegracht and Nieuwe Vaart. This was partly due to the niggardly, short-sighted and selfish attitudes of the city council and certain future residents.<sup>18</sup> Today, I fear, this would be termed 'market forces'.

When Leiden expanded there was again a good deal of dithering by the town council about the designs. In 1611 an initial design by surveyor Jan Pietersz. Dou for a new district to the north of the town still took consider-

able account of the original division of land (Fig. 014).<sup>19</sup> In a second design the central element was a canal. This may seem novel, but in fact it was totally in keeping with the central canal dug for Leiden's new Rapenburg district some 120 years earlier. After the northward expansion in the first half of the seventeenth century, the same tradition was continued in about 1660 on the eastern side of the town, where a central canal was also dug. Furthermore, the same principle was applied here as in Harlingen, with plots becoming shorter and narrower towards the edge of the town, just as the 1611 plans.

Haarlem expanded relatively late, in the closing decades of the seventeenth century. The city authorities took ages to reach a final decision. Haarlem's municipal architect and painter, Salomon de Bray, who played an important role in planning the expansion, was influenced by Stevin's ideas about the 'ideal city' and attempted to implement them here in well thought-out, coherent plans.<sup>20</sup> However, it was to be a largely theoretical exercise, for the expansion had come too late. When it was eventually carried out, it was a rather stripped-down version of De Bray's fine plan, of which only a small part was actually built. Economic decline had already set in, and the process of de-urbanisation commenced.

Until now the situation before the seventeenth century has largely been ignored in the literature, and a disproportionate amount of attention has been paid to theoretical writings and their possible influence on seventeenth-century urban expansion, especially Simon Stevin's treatise on the ideal city. As will be clear I believe that seventeenth-century expansion should instead be seen as an extension of the earlier tradition of urban expansion and urban planning. A great deal of experience had already been gained: from the twelfth to fourteenth centuries, dozens of towns were formed and expanded. Urban expansion in the late sixteenth and seventeenth centuries was organised on largely the same principles as in the fourteenth century. Rectilinearity became even more popular and surveying techniques more advanced, so that organising principles came to predominate over pre-existing structures. This was also made possible – perhaps even inevitable – by the large area and scale of the few major seventeenth-century expansion projects that were carried out, especially the semicircle of canals in Amsterdam. The influence of theoretical writings was in my view minimal.

There is something else that is striking about the role of theory and practice in urban planning. In the Middle Ages, from the eleventh to fifteenth centuries, a great many towns and cities were built, but hardly anything was written about them and no sketches survived. In the period since then a lot has been written about town planning, but only a few new towns have been built.<sup>21</sup> And, as I

said, the urban expansion projects in the sixteenth and seventeenth centuries – at least in Holland – were not or only scarcely influenced by theoretical writings. Instead, planners were continuing in a tradition that had existed for centuries; urban expansion in the fifteenth, sixteenth and seventeenth centuries followed on from what had been done in the twelfth, thirteenth and fourteenth centuries. Practical principles were preferred to theoretical ones.<sup>22</sup> However, as I have indicated, some new fortifications built in the sixteenth century were influenced by treatises, primarily from Italy.<sup>23</sup> These were polygonal fortifications with 'textbook' bastions. Especially towards the end of the sixteenth century, completely new fortifications were very occasionally constructed, with impressive star-like shapes: Willemstad, Bourtange, Coevorden and Stevensweert (Fig. 015). Yet these were not new towns: Willemstad was an existing village (Ruigenhil) that was later surrounded by ingenious fortifications, Coevorden was an existing town that was radically altered, Bourtange was a garrison rather than a town and so was Stevensweert (and a Spanish one at that).

#### De-urbanisation

From the time of Haarlem's expansion (shortly before 1700) until well into the nineteenth century, no more towns or cities in the Netherlands expanded. The fortifications that were built from the fourteenth to seventeenth centuries proved more than adequate for over 150 years. Most towns in the urban landscapes outside Holland remained much the same size for more than 450 years, having last expanded since the fourteenth century. In the eighteenth century a great many cities and towns actually contracted. In some cases (such as Edam, Kampen, Zutphen and Nijmegen) this process had already begun with the construction of spacious fortifications or new districts back in the fourteenth or fifteenth century. Much of the land added on then was not built on, but continued to be used for agricultural purposes for centuries. Some towns were already declining by the start of the seventeenth century, including some of the smaller towns in Holland which could not compete with their larger neighbours.

In the eighteenth century things became even worse. As indicated in the first section, the economy and population levels came to a standstill more or less everywhere. Some towns shrank dramatically in size, the most extreme example being Enkhuizen. In 1622 it had had more than 20,000 inhabitants, but in 1840 there were fewer than 5,000 left. Many of the buildings erected shortly before 1600 were empty. In 1630 there had been 3,615 houses within the town, but in 1840 only 1,026 remained.<sup>24</sup> This dramatic decline was due to the one-sidedness of Enkhuizen's economy during the seventeenth century: it was wholly dependent on herring. Although

the greater part of the town's buildings disappeared in the course of this decline, its street plan, surprisingly, remained almost intact.

Other towns and cities in Holland experienced similar changes, though not on such a dramatic scale.<sup>25</sup> In the eighteenth century places such as Haarlem and Leiden were also faced with a declining population and an increasing amount of vacant property. Here again it were the newest districts – those built in the seventeenth century – that suffered most. This may have been because they were often built only after a great deal of dithering and delay on the part of the authorities, by which time the main wave of growth and over-population had already passed. A good example, mentioned earlier, was Haarlem. What is more, urban expansion projects, both in the seventeenth century and before, often appear to have been larger than necessary. For example, not many houses were built in the large new district that was added on to Groningen in seventeenth century. A map drawn in 1649 shows plenty of market gardens but few houses (Fig. 012).

The eighteenth century dealt the *coup de grâce*. In Haarlem, Leiden, Delft and so on houses fell into disrepair and were demolished. Yet the street plans usually remained intact. This was true of street patterns in general and ground plans of towns and cities in particular, a phenomenon sometimes referred to as 'inertia': the strong tendency of a structure to remain once it has been created.

Once towns had formed and expanded in the twelfth to fifteenth centuries, not a great deal changed in their layouts. The same is true of the new districts built up to the seventeenth century. Their architecture, on the other hand, was repeatedly updated and superseded, disappearing and returning in new guises.

The ground plans of today's historic city centres in the Netherlands thus often give a clear picture of the situation in the late Middle Ages, whereas most of the architecture dates from later periods (to some extent the seventeenth but mainly the eighteenth and nineteenth centuries). This is particularly true of housing, which accounted for most of the buildings. Although most Dutch towns cities were stagnating in the eighteenth and nineteenth centuries, construction did continue and older houses were given a eighteenth- or nineteenth-century facelift. This was often necessary because the properties had been empty or poorly maintained for decades and were starting to fall apart. In any case, many of the buildings that define the appearance of Dutch town and city centres date from that era (the parts we cannot see from the outside are often older). Only the façades of monumental buildings such as churches and town halls frequently date from the fourteenth to seventeenth centuries.

Things picked up again in the nineteenth century. Many towns and cities had already more than made up for their decline by about

1850, but it was not until the second half of the nineteenth century that major urban expansion began once more. In two mid-nineteenth century designs for the expansion of Utrecht and Rotterdam, from shortly before and shortly after 1850, planners took their cue from seventeenth-century urban planning.<sup>26</sup> Oddly enough these designs were largely inspired by Simon Stevin's treatise on the ideal city and less, I suspect, by seventeenth-century urban planning. It is therefore hardly surprising to learn that the two designs were not carried out. Even an 1877 plan for the expansion of Amsterdam, drafted by the director of the city's Department of Public Works, J. Kalf, harks back to the seventeenth century and before.<sup>27</sup> It was based on the semicircle of canals and hence, in essence, on Amsterdam's fourteenth-century expansion. This plan was carried out, for it was practical rather than theoretical.

#### Notes

- \* I would like to thank Ko Visser and Jan Wegner for inspiring discussions about the history of urban planning in the Netherlands.
1. See R. Rutte, 'A landscape of towns: on the genesis of Dutch towns and their street plans in the eleventh to fifteenth centuries', in: *OverHolland*, 2 (2005), pp. 10-14 and 72-90.
  2. See, for example, C. Lesger, 'Stedelijke groei en stedensystemen', in: E. Taverne and I. Visser (eds.), *Stedebouw. De geschiedenis van de stad in de Nederlanden van 1500 tot heden*. Nijmegen 1993, pp. 30-38; C. Lesger, 'De dynamiek van het Europese stedensysteem', in: Taverne and Visser, *Stedebouw*, pp. 104-111; C. Lesger, 'Regions, urban systems and historical central place analysis: Holland 1550-1800', in: P. Ainsworth and T. Scott (ed.), *Regions and landscapes. Reality and imagination in late medieval and early modern Europe*. Oxford 2000, pp. 205-232; B. de Pater, 'Van land met steden tot stedenland. Een kleine historische geografie van Nederland', in: *Historisch Geografisch Tijdschrift*, 7 (1989), pp. 41-56; H. Schmal, 'Een landschap vol steden', in: S. Barends et al. (eds.), *Het Nederlandse landschap. Een historisch-geografische benadering*. Utrecht 2000, pp. 142-161; J. de Vries, *European urbanization 1500-1800*. London 1984; A.M. van der Woude, 'Demografische ontwikkeling van de Noordelijke Nederlanden', in: *Algemene Geschiedenis der Nederlanden. Deel 5*. Haarlem 1980, pp. 102-168.
  3. See Rutte, 'A landscape of towns', which also provides more information about the meaning of the terms 'town', 'city' and 'urban landscape'. In the sixteenth and seventeenth centuries some towns in the Netherlands, especially in Holland, grew into cities. In 1650 Enkhuizen, Hoorn, Amsterdam, Haarlem, Leiden and Rotterdam were the leading urban centres in Europe.
  4. Map 16: A. Thurkow et al., *Atlas van Nederland. Deel 2, Bewoningsgeschiedenis*. The Hague 1984, shows Hindeloopen, Coevorden,

Purmerend, Heenvliet, Sint Maartensdijk and Zevenbergen as dating from the fifteenth century, but in my view these six settlements in fact date back to the second half of the fourteenth century (see Rutte, 'A landscape of towns'). Moreover, it is questionable whether Heenvliet actually became a town, and the same is true of Blokzijl. That leaves just Sloten in Friesland and Weert in Central Limburg. For Willemstad, see the end of the *Urban planning* section.

5. This section is mainly based on the studies mentioned in note 2.
6. Cf. P. Hoppenbrouwers, 'Town and country in Holland, 1300-1550', in: S.R. Epstein (ed.), *Town and country in Europe, 1300-1800*. Cambridge 2001, pp. 54-79; P. Hoppenbrouwers, 'Van waterland tot stedenland. De Hollandse economie ca. 975-1570', in: T. de Nijs and E. Beukers (eds.), *Geschiedenis van Holland. Deel 1, Tot 1572*. Hilversum 2002, pp. 103-148; B.J.P. van Bavel and J.L. van Zanden, 'The jump-start of the Holland economy during the late-medieval crisis, c.1350-c.1500', in: *Economic History Review*, 57 (2004), pp. 503-532.
7. Thurkow, *Atlas van Nederland*. Besides Map 16 from this book I have made grateful use of the data collected by Ko Visser and Jan Wegner, which can be found in, *inter alia*, J.G. Wegner, *Stedelijke nederzettingen in Nederland tot de Franse Tijd*. Delft 1971 (lecture notes); and J.C. Visser and J.G. Wegner, *Europese stedebouwgeschiedenis voor 1800*. Delft 1985 (lecture notes).
8. See Rutte, 'A landscape of towns'.
9. For this section I have again chiefly made use of Wegner, *Stedelijke nederzettingen* and Visser and Wegner, *Europese stedebouwgeschiedenis*; as well as parts of the series *Beschermde stads- en dorpsgezichten*, A. Steegh, *Monumentenatlas van Nederland. 1100 Historische Nederzettingen in kaart*. Zutphen 1985; the maps (c. 1560) and annotations in C. Koeman and J. Visser (eds.), *De stadsplattegronden van Jacob van Deventer*. Alphen aan den Rijn 1992; and the town plans by Joannes Blaeu from around 1650, many of which are reprinted in, for example, L. Noordgraaf, *Nederlandse marktsteden*. Utrecht/Antwerp 1985. Occasional reference is also made to city monographs already cited in the previous article (Rutte, 'A landscape of towns'). Other publications I have made use of are A. Lambert, *The Making of the Dutch Landscape. An Historical Geography of the Netherlands*. London 1985; and E. Taverne, *In 't land van belofte: in de nieuwe stad. Ideaal en werkelijkheid van de stadsuitleg in de Republiek 1580-1680*. Maarssen 1978.
10. For this and the following section, the same literature was used as for the two preceding sections (see notes 7 and 9), as well as a few other sources which will be referred to at the appropriate point.
11. H.A. van Oerle, *Leiden binnen en buiten de stadsvesten. Deel beschrijving*. Leiden

1975, pp. 192-193; R. Rutte with J.C. Visser and W. Boerefijn, 'Stadsaanleg in de late middeleeuwen. Over bouwpercelen, straten en standaardmaten in Elburg en enige andere steden', in: *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (themanummer Stedenbouw), 102 (2003), pp. 122-137; J.C. Visser, *Schoonhoven. De ruimtelijke ontwikkeling van een kleine stad in het riviergebied gedurende de middeleeuwen*. Assen 1964.

12. P. Karstkarel, *De Friese elf steden*. Leeuwarden 1997, p. 54.

13. See E. Muller and K. Zandvliet, *Admissies als landmeter in Nederland voor 1811. Bronnen voor de geschiedenis van de landmeetkunde en haar toepassing in administratie, architectuur, kartografie en vesting- en waterbouwkunde*. Alphen aan den Rijn 1987.

14. See C.M.J.M. van den Heuvel, 'Papiere Bolwercken'. *De introductie van de Italiaanse stede- en vestingbouw in de Nederlanden (1540-1609) en het gebruik van tekeningen*. Alphen aan den Rijn 1991.

15. P. Burm and G.J. Borger, 'De stichting van Friedrichstadt in 1621. Sociale segregatie in een geplande nederzetting', in: *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (themanummer stedenbouw), 102 (2003), pp. 170-185.

16. R. de Vries, 'Enkhuizen: opkomst enerval van een Zuiderzeestad', in: *Historisch Geografisch Tijdschrift*, 1 (1983), pp. 26-32.

17. Taverne, *In 't land*, pp. 112-176; E.R.M. Taverne, 'Mercator Sapiens: de Amsterdamse stadsuitleg (1613) in het licht van de humanistische opvattingen over stad en koopman', in: *De zeventiende eeuw* 6 (1990), pp. 1-6; J.E. Abrahamse, 'Stad op papier. Visies op de zeventiende-eeuwse stadsontwikkeling van Amsterdam', in: *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (themanummer stedenbouw), 102 (2003), pp. 148-162; J.E. Abrahamse and H. Battjes, 'De optimale stad: grondgebruik, structuur en stedenbouwkundige theorie in de zeventiende-eeuwse stadsuitbreidingen van Amsterdam', in: *Jaarboek Amstelodamum*, 92 (2000), pp. 95-108.

18. J.E. Abrahamse, 'Stadsontwerp en verkeer in Amsterdam. Gebruik en inrichting van de buitenruimte in de zeventiende eeuw', in: *Historisch Geografisch Tijdschrift*, 22 (2004), pp. 86-97. This article provides some nice examples of disputes between the city council and future residents. Residents of the Keizersgracht asked for an extra cross street from the Westerkerk via their canal to the Herengracht, but their request was turned down, since the city council would then have had to buy back building plots they had sold for a high price and shopkeepers who had paid dearly for plots along the other cross streets would have sued for damages if traffic (and hence the number of potential customers passing through their street) had been reduced.

19. Taverne, *In 't land*, pp. 177-237.

20. *Ibid.*, pp. 279-402.

21. A fair number of new towns were built in Dutch overseas territories and colonies, but these are beyond the scope of this article. I am, moreover, of the opinion that here again Simon Stevin and his 'ideal city' did not have as much influence as is sometimes suggested (in any case less than is claimed in R. van Oers, *Dutch Town Planning Overseas during VOC and WIC Rule (1600-1800)*. Zutphen/Delft 2000), and that the influence of urban planning practices was greater.

22. Cf. also W. Boerefijn, 'Over de ideale uitleg van de stadsstraat circa 12<sup>de</sup>-16<sup>de</sup> eeuw: Misvattingen omtrent de "Renaissance" in de stedenbouw', in: *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (themanummer stedenbouw), 102 (2003), pp. 138-147.

23. See Van den Heuvel, 'Papiere Bolwercken'. In practice, the shape of fortifications was equally dependent on terrain, existing infrastructure and the need to keep down costs. See also E. Koster, 'De zeventiende-eeuwse stadsuitleg van Groningen: over de keuze van de vorm en de gedachtegang van de ingenieur', in: *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (themanummer stedenbouw), 102 (2003), pp. 163-169.

24. De Vries, 'Enkhuizen'.

25. H. Schmal, 'Patterns of de-urbanization in the Netherlands between 1650 and 1850', in: H. van der Wee (ed.), *The Rise and Decline of Urban Industries in Italy and the Low Countries (Late Middle Ages-Early Modern Times)*. Leuven 1988, pp. 287-306.

26. M. Martin and C. Wagenaar, 'Stadsverfraaiing en stadsuitbreiding', in: Taverne and Visser, *Stedebouw*, pp. 124-129.

27. H. van der Cammen and L. de Klerk, *Ruimtelijke ordening. Van grachtengordel tot Vinex-wijk*. Utrecht 2003, pp. 41-79.



### The first Amsterdam Exchange and the formation of the city centre of Amsterdam

Henk Engel and Esther Gramsbergen

In an article about the Royal Exchange in London, Arthur Stratton wrote in 1917: 'A city without an Exchange lacks a centre: it is like

a wheel without a hub. In times not remote the Exchange was the recognized place of assembly for all merchants, where day by day they met to transact their business. It thus played a large part in the communal life of a city, and the extent and architectural character of the Exchange were in some measure an indication of the commercial enterprise and prosperity of the citizens.'<sup>1</sup> In 1611, the first exchange hall of Amsterdam appeared on the Rokin. It was the largest public building – in Dutch Renaissance style – that had been commissioned by the municipality, a lively building that unfortunately no longer exists, being demolished in 1836 due to its poor condition.<sup>2</sup> As a result, one of the most interesting urban buildings in Dutch history was lost. In his book *Hollands Gouden Glorie*, Marius van Nieuwkerk even calls it the 'nerve centre' of the entire international economy.<sup>3</sup>

The city council of Amsterdam was extraordinarily proud of the new building, and as early as 1608 and 1612 prints were made of the Exchange.<sup>4</sup> On these prints, one can see what Van Nieuwkerk meant by 'nerve centre': a building like a beehive where traders conducted their business in front, next to, even on top of, the building. Amsterdam was very late with the construction of an exchange. A number of cities in the northern part of Europe had preceded Amsterdam: Antwerp in 1531, London in 1565, Hamburg in 1583 and even Rotterdam in 1597.<sup>5</sup> The Exchange in Rotterdam was a modest building of the same type that would later be used for the Korenbeurs in Amsterdam, next to the Oude Brug. The first Amsterdam Exchange was built in the manner of the large 'open courtyard exchanges' in Antwerp and London. Stratton remarks: 'It would be difficult to cite more direct instances of influence of one civic building upon another than are afforded by these three Exchanges, none of which has survived'.<sup>6</sup>

Before the realization of their own building, Amsterdam traders met in the north-western district of the city. This took place initially in the northern part of the Warmoesstraat and beginning in the mid-sixteenth century on the Nieuwe Brug, the most northern bridge over the Damrak, near the IJ. In 1586, the merchants were allowed to use the Sint-Olofkapel during inclement weather. Sometimes the traders also met in the Oude Kerk. The construction of the Exchange coincided with the establishment of a number of institutions at the beginning of the seventeenth century with the aim of facilitating the explosive growth in international trade. In this way the *Kamer van assurantie en averij* (Chambre of Assurance and Maritime Damage) in 1598, the *Vereenigde Oost Indische Compagnie* (VOC – Dutch East Indies Company) in 1602, the *Wisselbank* (Transfer Bank) in 1609, the *Bank van Lening* (Lending Bank) in 1614 and the *Korenbeurs* (Corn Exchange) in 1616.<sup>7</sup>

The rectangular Exchange had three

floors with a large courtyard and was built over the water of the Rokin, the portion of the Amstel south of the Dam. The exchange floor was built several metres above the neighbouring wharves, so that small ships could sail under the building if their masts were taken down. The open exchange floor was surrounded by galleries built of stone. The upper story was built of brick, without windows, and was decorated with pilasters of stone and blind niches. The façade terminated in a saddle roof with dormers, and the ridge of the roof was built parallel to the street. Unlike the richly-ornamented inner façades, the side façades along the narrow streets were very plain. The closed brick façades were only broken by a number of chimneys. Shop spaces were located in the basement on both sides of the building. The basement was separated from the rest of the façade by a stone drip.

The Exchange was larger than the Oude Stadhuis (city hall) on the Dam, and it was modern. Separated from the Dam by a row of houses, the building could only be reached from the North through the *Beurspoortje* (Exchange Gate). However, on the south side the exchange hall formed the new face of the Dam. There, from the Rokin, the building appeared as a bridge on top of which were built two structures; in between was the second entrance to the exchange floor, flanked by a tower. This was the proud front façade, which was reflected in the water. Due to its free-standing location, the building was essentially different than the older Exchanges in Antwerp (1531) and London (1565), which were cited by Stratton and many others as examples for the design of the Amsterdam Exchange.

The design of the first Amsterdam Exchange is usually attributed to Hendrick de Keyser, who, together with Lieven de Key, are viewed as the most important master builders of the Dutch Renaissance. However, it is remarkable that neither the analyses of De Keyser's work nor the studies on the Dutch Renaissance assign much importance to the building.<sup>8</sup> This trend began as far back as the *Architectura Moderna ofte Bouwinghe onses Tijds* (Modern Architecture, or Present Day Buildings) of Salomon de Bray, a publication from 1631, which was almost entirely devoted to De Keyser's designs and was very important for the reputation of his work. This book did not contain any drawings of the Exchange. It is conceivable that De Bray had difficulty with the way in which the Exchange design used classical architecture.

De Bray considered the ornamental use of the classical design principles as an important innovation, but thought it was undesirable to copy classical building types. He believed that the form of the building itself, the building type, should be adapted to the climate and to the social conditions: 'We can use the Classical Designs to our benefit for ornamental purposes, quite justifiably, but

to use all the types of classical buildings, as stated previously, is impossible and unorthodox. We expect to see a contemporary building in accordance with our national use and customs.<sup>9</sup> With its open galleries in the courtyard, De Bray would have viewed the Exchange as being too southern for the Netherlands. He wrote 'Though some would like open galleries on airy buildings, like the ancient Greeks and also the Italians, this is only suitable for climates with warm, dry weather: we would feel betrayed in such a building because our cold, heavy wind, rain and snow forbids such structures and makes them unuseable.'<sup>10</sup>

The same argument returns in the only monograph about De Keyser's work, written by Elisabeth Neurdenburg. She cited various reasons why the Amsterdam Exchange, although a 'rare, lively and attractive centre of the old Amsterdam', was only of subsidiary importance in De Keyser's work. 'Due to the relatively pure Renaissance design of the inner courtyard façades,' she wrote, 'it has an almost excessively southern character for our northern climate.'<sup>11</sup> Moreover, she thought the design was not 'original', thereby referring to its great similarity to the London Exchange. The latter argument is also customary in building typological studies, such as Pevsner's *A history of building types*.<sup>12</sup> In typological research, the Amsterdam building was classified as an 'open courtyard exchange' and in this category was certainly not the first. However, these types of studies do not pay any attention to the unusual expression that was given to this building type in the Amsterdam design due to its location over the water of the Rokin.

Finally, Neurdenburg stated that the Exchange was 'not entirely his own work', which threw doubt on the attribution of the exchange design to De Keyser.<sup>13</sup> This could have also been a consideration for De Bray that led to his exclusion of the Exchange from his book. De Keyser, who was born in Utrecht, spent most of his working life (between 1595 and 1621) working for the municipality of Amsterdam as a municipal stonemason. Together with his colleagues from the *Amsterdamse Fabriekambt* or *stad-fabriek* (the architectural service of the city), he was responsible for many civil projects that were completed during this period. In addition, he was frequently consulted by other municipalities. In 1620, for example, he completed the city hall in Delft, one of his most well-known buildings.

The division of tasks within the *stad-fabriek* has puzzled many art historians. However, Meischke came to the simple conclusion that three municipal master builders were responsible for the design and construction of the Exchange: Cornelis Dankertsz, municipal mason, Hendrick Jacobsz Staets, municipal carpenter, and Hendrick de Keyser, municipal stonemason. From old municipal accounts it is known that, in preparation for

the building of the Exchange, De Keyser and Dankertsz went on a study trip to London in 1607 to visit the Exchange there. It is probable that the listed item of 150 guilders for 'certain drawings' caused De Keyser to go into history as the architect of the Exchange.<sup>14</sup>

The first Amsterdam Exchange was important for reasons besides the art historical considerations involving style development, originality and authorship. This is shown from an analysis that made this building the topic of a typological and morphological urban study. According to Aldo Rossi, an analysis of the residential (and working) districts is not sufficient to explain the genesis and development of the city. These factors must be supplemented with an analysis of other, precisely-defined elements that constitute the nuclei of development. In this context, Rossi makes a fundamental distinction in *The Architecture of the City*, between *primary elements* (of monumental or topographical nature) and *residential districts*. Consequently, he provides a new direction to the customary distinction made in classical tracts and handbooks between *public buildings* and *private houses*.

In this approach, special importance is attributed to public buildings as generators of urbanization and further urban development. The formation of the city is not only seen in the first settlement and its subsequent expansion, but especially in the establishment and differentiation of urban institutions that have been given shape by public buildings. A special question in urban research is: when can we refer to a 'real city'? For many years, the provision of a city charter was used as the standard. In the meantime it has become clear that this is not at all a reliable indicator. City charters have been provided for very divergent reasons, and many settlements which have been given a city charter have never reached the stage of being a real city.

The study of public buildings can throw new light on the transformation of 'pre-urban settlements' to cities in the broad sense of the word. In other words, 'places with concentrated populations characterized by non-agricultural specialization and an implementation of centralized economic and political-administrative functions'.<sup>15</sup> In this context, we can specifically consider the public buildings for municipal administration and trade as indicators of urbanization.

According to Rossi, however, the interplay of topography, monuments and residential districts is not only characteristic of the first phase of city formation, but also for the further development of cities: 'Certain works which participate as original events in the formation of the city endure and become characteristic over time, transforming or denying their original function, and finally constituting a fragment of the city – so much so that we tend to consider them more from

a purely urban viewpoint than from an architectural one. Other works signify the constitution of something new and are a sign of new epoch in urban history; these are mostly bound up with revolutionary periods, with decisive events in the historical course of the city.'<sup>16</sup>

From this viewpoint, the Oude Stadhuis of Amsterdam can be seen as a building of the former category, and the first Exchange can be placed in the latter. The origin of the Oude Stadhuis can provide more understanding of the particular characteristics of the city-formation process of Amsterdam, while the first Exchange can be seen as a symbol of a new phase in the process of continuing urbanization. Moreover, if we combine this typological approach with several insights of the urban geographer M.R.G. Conzen, then we have an instrument to determine how the city centre around the Dam and the Amstel has been given shape in an unusual fashion, and the importance that must be attributed to the public buildings as a result. Indeed, the formation of the centre of Amsterdam after 1265, when the Dam was built in the Amstel, shows a remarkable similarity with the morphological pattern described by Conzen for the English town of Alnwick. For this phenomenon, where the large open market field in the middle of the settlement was taken up by buildings for trade and municipal administration, he uses the term 'market colonization'.<sup>17</sup>

Another excellent example of this form of inner-oriented urban development is the *Der Ring* market district in the former German city of Breslau, which was described by J.F. Geist.<sup>18</sup> Market colonization is a clear indication of the transformation process from a non-urban settlement to a true city, but it also plays an important role in further development. The inhabited bridges can be classified as a specific form of market colonization, such as in Paris, where, at the beginning of the fifteenth century, the first construction on the Pont Notre Dame over the Seine appeared.<sup>19</sup> The centre of Amsterdam came about in a comparable fashion, but in a certain sense displayed more radical characteristics. The commercial centre of Amsterdam was reclaimed from the open space of the estuary, a process that continued into the twentieth century.<sup>20</sup>

Based on these insights, two lines of development will be explored in the following section. First, the typological development of public buildings for municipal administration and trade will be discussed in general terms. Then this development will be discussed in specific terms in relation to a morphological development of the Amsterdam central district. A combination of both lines of development will show that the first Amsterdam Exchange, precisely due to the particular form of market colonization in the centre of Amsterdam, has given shape in a unique fashion to the modern exchange building type. Moreover, it will become clear that the

Amsterdam Exchange bears witness to a new conception of the Amstel as space in the city.

### Public buildings for municipal administration and trade

Besides the city churches and city walls with their gate buildings, it is especially the public buildings for municipal administration and trade that express urban autonomy. The first city halls showed the extensive degree with which municipal administration was interwoven with maintenance of law and order, the organization of the market and the collection of taxes. In this context, Gerhard Nagel refers, among other things, to the Palazzo della Ragione in Padua.<sup>21</sup> Is it a coincidence that Aldo Rossi at the beginning of *Architecture and the City* puts forward this building as a paradigm of his search for the 'riddle' of the architecture of the city?<sup>22</sup> Many of the early city halls in North Italy had an open ground floor with an arcade that served as a market space, and a meeting room for the court and city administration on the story above. As the oldest example of this type of building, Pevsner refers to the Palazzo del Broletta in Como from 1215.<sup>23</sup>

Around 1200, the first public buildings appeared in the Flemish cities in which the documents concerning privileges bestowed by the sovereign were kept: the *belfort* (bell tower). The privileges concerned trade – the toll concession, scale rights and staple rights – and the administration of justice. Originally, these fortified bell towers were completely freestanding, as is still the case with the *belfort* in Doornik (1187). The *belfort* was the symbol of the freedom of the city; if the *belfort* was conquered, the city fell to the invader. These towers were used as a lookout post and they contained various rooms stacked upon one another, such as a treasury, an armoury and a jail. At the very top of the tower hung the city bell, which was rung if danger threatened.

Today, we know the *belfort* primarily as part of the gothic merchant halls. These were preferably built next to or around the *belfort*. Portions of the merchant hall were intended for city festivities and meetings of the municipal administration, such as in the *belfort* halls of Brugge (1240-1304) where the rooms on the first story served this purpose. In addition to several large merchant halls, the imposing clothmaker's hall of Leper, built between 1200 and 1304, contained a separate wing for the municipal administration which housed a courtroom, an arsenal, a prison, a council chamber and city offices.

At a more modest scale there was also a customary link between municipal administration and trade in the city halls of the Northern Netherlands. For example, the first city hall of Dordrecht, which was built at the end of the thirteenth century, was a *vleeshal* (butcher's hall) above which was located a chamber for the municipal administration.<sup>24</sup>



The first city hall of Amsterdam appears to be of the same type as that of Dordrecht. It was probably built shortly after 1395 on a parcel of land that previously belonged to the Sint Elisabeths hospital. Nothing is known about the use of the ground floor of the first Amsterdam city hall, but on the first story there was a chamber 9 metres wide and 12 metres deep. The city hall was built with the narrow dimension of the building on the west side of the Nieuwendijk, close to the Dam. From the various names for this chamber, W.F.H. Oldewelt determined that 'this room was used not only for administration meetings and courtroom sessions, but also for grading cloth. This combination of functions is characteristic of urban buildings from the middle ages. Gradually there was a need for specialization, and separate buildings were constructed for the separate functions'.<sup>25</sup>

The specialization of urban buildings referred to by Oldewelt is also seen emerging elsewhere in Europe during the fourteenth century. As cities became larger, a differentiation began to occur in urban institutions and the buildings acquired for them. In Florence (1314) and Siena (1348), city halls were built which no longer included market spaces. In the cities of the Southern Netherlands, such as Brugge and Leuven, separate city halls were built beginning at the end of the fourteenth century. Closely related to these late gothic buildings are the city halls of Gouda (1484) and Middelburg (1518). In these smaller cities of the Northern Netherlands, however, the city halls were still combined with a *veeshal* on the ground floor.<sup>26</sup>

Buildings that were especially for trade contained, in varying combinations, storage spaces, market spaces and hotel facilities. The Flemish clothmaker's halls combined market spaces with storage space. The buildings usually contained a large market hall on the ground floor and storage space on the first story and the attic. Besides the large market hall, rows of shops were sometimes added to the building, such as in the Belforthallen and the Waterhallen in Brugge. In Italian cities the *loggia*, half-open, stone-built halls, became the most common trade buildings. An example of this type of building is the Loggia dei Mercati in Bologna from 1384. In the most important trading cities, special trading houses were also established for foreign traders – *Fondaci* – comprising a combination of residential space and storage space. The Fondaco dei Tedeschi, built around 1505 in Venice, and the Oosterlingen Huis in Antwerp from 1564, are well known examples of such buildings. The Fondaco dei Tedeschi was a trading house for Dutch and German traders and comprised a large square building with a central courtyard surrounded by galleries. On the outer side, shop spaces were included on the ground floor, which were rented to local traders.

The first public building specifically for trade purposes in the Northern Netherlands

was probably the Vlaamse Hal in Dordrecht. It was built in 1383 by cloth traders who had left Flanders; the building did not have any immediate successors. It is the only example of a gothic merchant hall in the Northern Netherlands. In 1544 it was converted into a city hall.<sup>27</sup> A good example of a single-purpose merchant hall did not appear until 150 years later: the *Vleeshal* in Haarlem (1603) designed by Lieven de Key.<sup>28</sup> In the Northern Netherlands, single-purpose *waaggebouwen* (weigh-houses) typically began to appear beginning in the fourteenth century.<sup>29</sup> In the Southern Netherlands, the *stadswaag* (municipal scales) was usually housed in the merchant hall or the council house.

Public scales were intended for the mandatory weighing of goods destined for sale. These institutions were important for traders because they prevented fraud with weights. For the cities, public scales were a source of income because excise tax was collected on the goods based on their weight or volume. There was also a charge for the actual weighing. The gothic building housing the public scales on the *Brink* in Deventer (1528) is one of the first such buildings with a monumental position in the city.<sup>30</sup> During the sixteenth century, a type of weigh-house developed that had a square floor plan and that was freestanding on one corner or on all four sides. These were tall buildings, with a meeting room on the first storey and a space with the actual scales on the ground floor; they were typologically related to the medieval Italian city hall. The new weigh house on the Plaets in Amsterdam (1565) was the first of this type.<sup>31</sup> The design was attributed to the architect Bilhamer. The weigh house in Haarlem (1589), Leiden (1659) and Gouda (1668) are of the same type. The weigh house in Hoorn (1608), designed by Hendrick de Keyser, is also a good example of this type of building.

Separate exchange buildings began to appear at the end of the fourteenth century. Initially they did not distinguish themselves architecturally from the merchant halls and *loggias* from which they were derived. Regarding the exchange business itself, at this time there was no clear distinction between stock exchanges and goods exchanges. Karl Schreyll includes the Loggia dei Mercati in Bologna, the Lonja in Barcelona and the Loge in Perpignan, together with the previously cited Vlaamse Hal in Dordrecht, as the first exchange buildings.<sup>32</sup> The Vlaamse Hal, with a length of 40 metres and a width of 12 metres, is indeed comparable with Flemish market halls, but due to its location over the water of the Voorstraathaven is nevertheless a remarkable phenomenon. The large trading floor is located on the first story in order to provide sufficient overhead space for the ships in the Voorstraathaven to pass through. It is this specifically Dutch solution that would later be copied by the Amsterdam Exchange.

In most cities, however, separate exchange buildings had not yet been established. The merchants gathered at fixed locations in the city to discuss and complete transactions. Squares, *loggias* and especially bridges were the favourite gathering places. Examples include the Ponte di Rialto in Venice, the Nieuwe Brug in Amsterdam and the Pont du Change in Paris, where the money changers also became established. Later on, the money changers of Paris moved to the Place Dauphine, located on the Pont Neuf.<sup>33</sup> An important characteristic of goods trade at the stock exchange was that the goods were traded on paper and not in kind. The sale was made based on samples. The most important function of a *periodic* exchange was to bring the traders together and to regulate the trade by means of fixed opening hours. The fact that few architectural facilities were necessary for such an exchange is shown from the example of the Hamburg Exchange from 1558, which comprised simply a wooden fence with benches that enclosed part of a square. It was only thirty years later that the actual Exchange building was added, an elongated structure with an open ground floor, which replaced the fence on a single side. This Exchange is typologically related to the medieval Italian city hall.

The Antwerp Exchange (1531), designed by Domenico van Waghemakere, is generally viewed as the first modern exchange.<sup>34</sup> The expansive development of trade with far-off destinations in Antwerp during the sixteenth century led to a range of innovations in exchange practices and their legal regulation. Both in an architectural sense and with respect to the organizational structure, the Antwerp Exchange set the example for the exchanges that would be established during the course of the sixteenth and seventeenth centuries in many European cities.<sup>35</sup> The Antwerp Exchange was an 'undivided' exchange, where the trade in stocks, the trade in goods and banking all took place simultaneously. In addition, many kinds of services were offered at the Exchange, such as insurances, money changing and credit provision.

With his design for the Antwerp Exchange, Domenico van Waghemakere launched the very successful type of 'open courtyard' exchange. This type was soon copied in London (1565), Seville (1593) and Amsterdam (1611), and continued to set the tone until the second half of the eighteenth century. Afterwards as well, this type remained popular, but then with a glass roof over the courtyard: the 'basilica type'. It is remarkable that an exchange building appeared in Antwerp that was so different in typological terms from the Flemish merchant halls. Both Schreyll and Meseure referred to the Fondaco dei Tedeschi as a possible predecessor of the 'open courtyard exchange'.<sup>36</sup> Like this trade building, the Antwerp

Exchange was planned around a courtyard. This courtyard, which served as the exchange floor, was surrounded with open galleries on which an upper story was placed. The building was located on a piece of land between the Meir and the Lange Nieuwstraat and had two entrances; it therefore formed a link between these streets. As a result, the Exchange had an outspoken public character and appeared to be more of a square than a building. This impression was strengthened by the fact that the building was completely enclosed by the houses on the Meir and the Lange Nieuwstraat, so it did not actually have any outer façades.

The London Exchange was built in 1565 at the initiative of the businessman Thomas Gresham. Designed by the Flemish architect Hendryk van Peaschen, the building generally followed the plan of the Antwerp Exchange. For the construction of the London Exchange, the city provided a piece of land between Cornhill Street and Threatneedle Street, not far from Lombard Street, where the traders traditionally gathered. Before construction began, approximately 80 houses were demolished that were located between two alleys in an existing block of houses. Exactly like the situation in Antwerp, the Exchange was given two entrances and thus formed a link between Cornhill Street and Threatneedle Street. A bell tower was located next to the entrance on Cornhill.

The form and the use of the upper story of the exchange buildings are typologically very interesting. Meseure surmises that the upper story, lighted by dormers, was initially intended as a storage attic in the Antwerp Exchange. In 1581, following a fire, the story was raised and windows were added. On both sides of a middle aisle, 'shops' were established for the trade in luxury goods. This concerned articles with a high value, such as spices, coffee, tea, precious metals, precious stones and art objects.<sup>37</sup> With this building, Antwerp followed the example of London, where, during the initial construction in 1565, the first story was built as a gallery with open stalls. In the façade of the London Exchange, the first story had no windows. The shop gallery was probably lit only by rows of dormers.

If this conjecture is correct, then the first story of the London Exchange might indeed have been the predecessor of the later *Passages* (malls). Both the spatial form, an elongated space lit from above with shops on both sides, and the function, the sale of luxury articles, make this plausible.<sup>38</sup> From the beginning, the Amsterdam Exchange also had a shop gallery on the first story that was lit only from above by dormers. Here there was space for about 123 shops or *cassen*. The shop gallery, the so-called *Beurspand*, could be reached separately from the exchange floor from the bridge on the Rokin side, via the stairway in the Exchange tower.<sup>39</sup> The rental of the *cassen* was initially a success.

However, as time went on the proliferation of shops in the surrounding streets made the shops on the first story of the Exchange increasingly less attractive. Simultaneously with the expansion of the Exchange on the south side in 1669, the number of *cassen* had already been reduced to 43 and by the middle of the eighteenth century, only 25 were still being rented.<sup>40</sup>

Emerging from the council house, the market hall, the guild house and the *loggia*, the Exchange was a new phenomenon in commerce. Together with banking and insurance, it signalled the beginning of a new type of trade: global trade. Credit and stock were its means.<sup>41</sup> In this way, Geist makes a brief and to-the-point summary of the development and differentiation of public buildings for municipal administration and trade. The council house stood at the beginning of the series and was the first expression of urban self-administration. The exchanges were the last in the series and offered shelter to the most advanced forms of trade, including the trade in luxury articles. With the construction of the first city hall of Amsterdam, the transition of a pre-urban settlement to an actual city had, in a certain sense, been completed. With the construction of its first Exchange, Amsterdam entered a new era. From that time, Amsterdam began to emerge as the metropolis of the seventeenth century. In the following two sections, the physical qualities of these two metamorphoses will be reconstructed.

#### Becoming a city: the city centre around 1400

Maps are an important source of information about the form of cities. The map painted by Cornelis Antonisz. in 1538 is the oldest known map of Amsterdam. A printed version of the map was published six years later. If we compare this image of Amsterdam at the end of the middle ages with later maps – the map of Pieter Bast from 1597, the map of Balthazar Florisz van Berckenrode from 1625 and a modification of the latter map dating from 1657 – then we see that Amsterdam not only grew enormously during this century, but also that the city centre surrounding the Dam changed drastically.<sup>42</sup> This transformation of the city, of which the construction of the Exchange is a part, can be tracked step by step with the aid of the above maps. However, it is much more difficult to acquire a picture of the genesis of the city in the middle ages. This can only be obtained from written archive sources and the results of archaeological research. Significant advances have been made in the latter area, especially by the *stadskernonderzoek* (city centre research) of recent decades.

From the combination of written sources and recent archaeological research, the following picture emerges of the development of Amsterdam as a city.<sup>43</sup> Around 1200, the first people settled around the estuary of the

Amstel. On both banks of the river, they built their houses on man-made mounds, called *terps*, which were joined to form ribbon-like raised areas about 25 metres wide. The ribbon-like *terps* lay on the land side of broad paths, the predecessors of the Warmoesstraat on the east side (or Oudezijde), and the Nieuwendijk and Kalverstraat on the west side (or Nieuwe Zijde). The settlement first appears in records in 1275 under the name Amestelledamme. At that point, the Dam in the Amstel had already been built, presumably between 1265 and 1275.<sup>44</sup> As a result of the subsidence of the reclaimed peat lands in the hinterland, there were increasing problems with the drainage of the area, and the danger of flooding increased. To deal with these problems, a sea dike was built along the south side of the IJ: this dike stretched from the dunes on the coast near Haarlem to the Gooi. The Dam was the final piece of the sea dike. The Dam included two drainage sluices which allowed water from the Amstel to be drained into the IJ during low tide.

Due to the construction of the Dam, the *lintdorpen* (the villages built along the joined *terpen*) on both banks of the Amstel were linked together to form a single settlement. The portion of the Amstel north of the Dam, the Damrak, formed a suitable harbour for sea-going vessels. Following the great storm surges during the last half of the twelfth century, this body of water had a navigable connection with the North Sea via the IJ and the Zuiderzee. The portion of the Amstel south of the Dam became an inner harbour, which was later called the Rokin. The Dam was the trans-shipment point where goods from the sea-going vessels were transferred to smaller, inland shipping vessels. This resulted in economic activity and provided a source of employment. To make continuous ship traffic for smaller vessels possible, in 1308 the eastern drainage sluice was replaced by a lock.

Nevertheless, Amestelledamme around 1300 was not yet a city in the larger sense of the word. It was a big village. The urban archaeologist Jan Baart estimates the total length of the ribbon-like construction in 1300 at about 1200 metres. At that point there would have been about 250 houses. If the households comprised four to five individuals each, the total number of residents was about 1,100.<sup>45</sup> The only larger building was the Oude Kerk that was built on the cemetery behind the *terpenlint* (the 'ribbon' of joined *terps*) on the east bank. However, in 1275 Floris V had granted the burghers of Amsterdam exemption from tolls in the Graafschap Holland (County of Holland) and since then they had acquired more and more city concessions from their lord, Gijsbrecht van Amstel. In 1300 these concessions were set down as a whole for the first time in a city charter. In 1342, this charter was renewed and expanded in consultation with the Count of Holland, Willem IV.<sup>46</sup> The resulting charter was kept in the Sint Nicolaas

Church, commonly known as the *Oude Kerk*.<sup>47</sup> Apparently at that time there was not yet an independent municipal administration centre in Amsterdam.

With respect to the church, Amsterdam around 1300 was anything but independent. The cemetery probably lay on land owned by the Lords of Amstel, and the parish of the chapel that was located on the cemetery broke away from the parish in Ouderkerk on the Amstel only in 1334. Bas de Melker refers to the parish church as a pre-urban element. Beginning in 1300, the Oude Kerk began to grow with the city of Amsterdam. The Onze-Lieve-Vrouwekapel, which was finished in 1555, was one of the last expansions.<sup>48</sup> The towers of the Oude Kerk fulfilled, in a certain sense, the roll of the *belfort* in the Flemish cities. Over the years the towers were raised a number of times; this took place for the last time in 1566, when the architect Bilhamer constructed a new tower. Until the mid-sixteenth century, the tower was about 40 metres tall. Provided with a broader base, the new tower was nearly twice as high, and remained the characteristic symbol of the city until the completion of the Westertoren in 1638.<sup>49</sup>

In 1300, Dordrecht was the largest city in the Graafschap Holland, with an estimated 5,000 residents. According to the same estimate, Leiden had 3,000 residents, Haarlem and Delft both had 2,000, and Gouda, like Amsterdam, about 1,000. With 5,500 residents, Utrecht was still the largest city in what is now called the Randstad.<sup>50</sup> The youngest cities, Gouda and Amsterdam, emerged in an area with reclaimed peat lands that was claimed by both the Graafschap Holland and the Bishopric of Utrecht. Both cities-in-formation grew to become true polder cities and probably played an important role in the territorial politics of the Graafschap. This initially involved their desire to expand their territory to the east, but it was also important to establish a shipping route within the area to link Dordrecht and the waters of Zeeland with the Zuiderzee: this was known as the *binnendunen route*.<sup>51</sup> As a result, the city of Utrecht and the towns on the IJssel would eventually lose the merchant shipping business between the Hanseatic towns in the Baltic region and the Flemish cities.

Beginning in 1317, Amsterdam became a definitive part of the Graafschap Holland. This is why the city charter was renewed by the Graafschap in 1342. Only then did Amsterdam begin to grow and become a true city. During the fourteenth century, there were a number of enlargements of the city. Recent archaeological research has shown that the first city enlargement did not take place on the outer side of the city, but on the inner side in the riverbed of the Amstel. The map of Cornelis Anthonisz. from 1544 clearly shows that between the Warmoesstraat and the water of the Damrak, a strip of land was

built up with houses and outbuildings. The outbuildings were located on the water and were used as warehouses. The same occurred between the Nieuwendijk and the Damrak, between the Kalverstraat and the Rokin, and between the Nes and the Rokin. On the latter strip of land, no houses were built, but several monasteries and the Sint Pieters Hospital were constructed.

The strips of land were obtained by filling in along the banks of the Amstel. The exact sequence in which this took place is still unclear. An excavation at the Warmoesstraat showed that this process took place in various steps, which allowed the buildings to expand in depth. The first fills were from the first half of the fourteenth century. According to Baart, an organized approach was used for the fills along the Warmoesstraat and the Nieuwendijk, where a strip of land was reclaimed in a continuous process along the full length; the individual parcels were then developed separately. This approach contrasts with the earlier *terps*. This is why Baart calls this the first *stadstuitleg* (city expansion). This was thought to have taken place in 1333.<sup>52</sup> For that matter, it must be noted that the wharves that can be seen on the map of Cornelis Anthonisz. were built only in the course of the fifteenth and sixteenth centuries. Of the three bridges over the Damrak, the middle bridge – the Oude Brug – was built at the beginning of the fourteenth century, the most northern bridge near the IJ – the Nieuwe Brug – was built around 1365, and the last bridge – the Papenbrug – was built in 1475.

Following an excavation on the Nieuwendijk, Baart concluded that at this location around the middle of the fourteenth century, a strip of land was raised in a single effort behind the *terps*. The same thing then happened in 1367 on the east side and in 1380 again on the west side, thereby making building land available all the way to the Oudezijds Achterburgwal and the Nieuwezijds Achterburgwal. Both of the canals were needed at that time to compensate for the increasingly narrow bed of the Amstel. This probably was unsuccessful, so that shortly thereafter two more canals were dug to improve the drainage from the Amstel: the Oudezijds Voorburgwal and the Nieuwezijds Voorburgwal.<sup>53</sup> All these activities bear witness to a significant organizational capacity of the municipal administration. Nevertheless, a separate building for the municipal administration did not appear until the end of the fourteenth century.

There has been a great deal of controversy among historians regarding the precise dating of the various components of the Oude Stadhuis (old city hall). We are primarily interested in the physical constellation in which the city hall came into existence; for this purpose, the data collected by Breen and Oldewelt still offer the best points of departure.<sup>54</sup> As previously stated, the first

part of the city hall was built soon after 1395 on a plot of land on the Windmolenstraat, the present day Nieuwendijk: a plot of land in the zone of the first *terps*. This piece of land was purchased by the municipal administration from the neighbouring Oude Gasthuis (Sint Elisabeths hospital). This 'Holy Ghost' hospital was built around the middle of the fourteenth century, in any case before 1361. Medieval hospitals offered not only care to the sick, but also provided shelter to travellers. This is probably why the Sint Elisabeths hospital had a prominent location directly opposite the open space of the Dam: the Middendam, where the market was held. The hospital would then have been the germ for the later development of the municipal administration and trade centre on the west side of the Dam.

The initial section of the city hall lay on the north side of the hospital. According to Oldewelt, at this time houses were still located on the opposite side, at the corner of the Windmolenstraat and the Middendam. These houses had been built on the strip of reclaimed land on the west bank of the Damrak. At the end of the fourteenth century, this strip of land was therefore entirely built up all the way to the Dam, and the Dam itself was probably also built over with houses to a large extent. Breen hypothesizes that the Dam was later broadened with additional fill to allow more construction. If we follow this hypothesis and combine it with the results of *stadskernonderzoek* concerning the fills along the banks of the Damrak and the Rokin, then the Dam must have been initially narrower and also much longer; certainly twice as long as is shown on the first historical maps: about 125 metres.

Around 1400, all the filled strips of land had been entirely built up with houses, except for part of the north side of the Dam; this was where the fish market was located on top of the arched roof of the lock; the fish market was open to the Damrak. If an observer stood in front of the city hall or the hospital, they could not have seen anything of the Damrak. The water side was probably accessible only by several alleyways. This situation began to change after the municipality of Amsterdam purchased a public scales concession from the Graafschap Holland in 1409 and shortly thereafter completed the first building to house the public scales.<sup>55</sup> For this purpose, the buildings opposite the city hall, up to the Middendam, were purchased and demolished by the municipal administration. In this way the western portion of the Middendam was broadened to become a market square: the Plaets. At the northeast corner of the square there was an opening to the Damrak. There, diagonally opposite the city hall, was where the first building housing the public scales was built, as can be seen on the map of Cornelis Anthonisz.

In 1418, the municipal administration then purchased a small plot of land between the

city hall and the hospital, on which the bell tower was built. The complex of the Oude Stadhuis was probably completed after the city fire of 1421 with the most representative component, the Vierschaar (the public courtroom). The *loggia* with a closed upper floor was placed in front of the hospital, opposite the Middendam, and projected more than three metres in front of the building line. Although Bas de Melker, as far as we can see, did not correctly describe the course of affairs concerning the creation of the Plaets and the Oude Stadhuis, we are compelled to agree with his conclusion that the municipal administration 'for the first time in the history of Amstelstad', was involved around 1400 with 'the implementation of a municipal architectural programme'. He also attributes the establishment of a second church to this programme: 'The Amsterdam aristocracy of the late fourteenth century created its own new centre of power, both economic and political. It very much wanted to add a new ecclesiastical centre to this centre of power.'<sup>56</sup>

The Onze-Lieve-Vrouwekerk, more commonly known as the Nieuwe Kerk, rose about 50 metres north of the city hall and the Plaets, at the corner of the Windmolenstraat and the Gierigssteeg. The position of the Nieuwe Kerk on the land side of the dike street is comparable with the position of the Oude Kerk east of the Warmoesstraat. Previously, two religious centres had been established on the Nieuwe Zijde: the 'Kapel van de Heilige Stede', between the Rokin and the Kalverstraat, and the Onze-Lieve-Vrouwekapel between the Damrak and the Nieuwendijk. At the beginning of the fourteenth century, both had been built on reclaimed land. The construction of the Nieuwe Kerk began around 1400. However, official permission for the establishment of a second parish was only granted in 1409. An indication of the state of building craft and architecture in Amsterdam around this time is the fact that the master builder Rutger van Kampen was commissioned to build this ambitious project.<sup>57</sup>

Oldewelt believes that the remarkable construction method of the Vierschaar, built entirely of sculpted stone, could be related to the construction of the Nieuwe Kerk, 'where certain skilled workers, especially stonemasons, were active'.<sup>58</sup> This was cause for severe criticism from C.G. 't Hooft. The latter made a critical style analysis of the Vierschaar and came to the conclusion that the structure must be dated nearly a century earlier, in any case to before 1345; as a result, he concluded that the other components of the Oude Stadhuis had been built even earlier.<sup>59</sup> The debate brought about by 't Hooft involved more than the specific expertise of art history design research compared to the study of written sources by regular historians; the discussion primarily concerned the origin of the city of Amsterdam. Appar-

ently, 't Hooft, and with him many others, was not pleased with the fact that Amsterdam was a latecomer among the cities of the Northern Netherlands. He also did not understand that urban institutions could not suddenly appear as if provided by God, but that they required the work of people and a great deal of time to develop and to be given shape in the form of buildings. His interpretation of the age of the Oude Stadhuis cannot be brought into accord in any way with other historical data, let alone that the archaic combination of round with pointed arches and other details of the Vierschaar have not yet been clarified.

However, it is clear that the administrative apparatus of the city, once it had become established, underwent such a turbulent development during the course of the fifteenth century that the city hall had to be expanded into the neighbouring buildings at the end of the century. In 1492, the neighbouring Sint-Elisabeths hospital was joined with the Sint Pieters hospital, and the resulting spaces were taken up by the city hall. This was followed by the purchase of neighbouring buildings in private ownership. A floor plan of the Oude Stadhuis from 1639 provides an impression of the division of space and the use of the ground floor of the complex. This drawing was made in preparation for the design of the new city hall. Besides spaces for the burgomasters, the administration and the sheriffs, there was a residence for the warder, a residence for the porter and a punishment chamber. Finally, the exchange bank, established in 1609 by the municipal administration, was also included in the complex on the ground floor of the first completed portion of the Oude Stadhuis.

### Transformation: the city centre around 1600

By the middle of the fifteenth century, Amsterdam therefore had an administrative and economic centre. The Oude Stadhuis, as shown on the map of Cornelis Anthonisz., was present in its completed form. There was a public scales building and, at some distance from the Vismarkt, a second market square was established: the Plaets. Since 1300, the area of the city had also enlarged greatly. The last city enlargements had taken place in 1425 on the east side and in 1454 on the west side. At that time, the city was bordered on the east side by the present day Kloveniersburgwal and the Gelderse Kade and on the west side by the Singel. In the meantime, the number of residents had grown to be at least four times larger than that in 1300. The estimates for 1400 range from 3,000 to 4,400. The latter figure is the most probable in view of the magnitude of the expansion of the city area during the fourteenth century and the fact that in 1425 and 1454 additional city expansions were thought to be essential.

Despite the remarkable development the city had undergone, in the middle of the fif-

teenth century, Amsterdam still did not have a city wall of masonry. Earthen walls with wooden palisades had previously been built, so-called *sciltraminge*. In addition, masonry gates had been built, as the gates were the most vulnerable locations in the defensive line of the city. These included the Sint Olofspoor at the head of the Zeedijk, which was built in 1387 in line with the Achterburgwallen. A masonry wall with corner towers, such as the one that had been completed in Utrecht in 1365, was built in Amsterdam only after years of pressure from the rulers. Since 1433, the rulers had been the Dukes of Burgundy. In 1481, the construction of the first masonry wall around Amsterdam began. During this process, the city was not enlarged any further. The wall was built along the limits of the city that had been determined previously, in 1454. It took another twenty years to complete the construction of the city wall.<sup>60</sup>

This is how Amsterdam was pictured on the map of Cornelis Anthonisz. from 1544, with masonry fortifications from the end of the fifteenth century and a city size of which had been determined fifty years before the wall was built. The city maintained the same size until the expansions of 1578 and 1592-1594. Until this time the entire growth of the population was absorbed within the city limits established in 1454, and this increase was not a small one. The number of residents in 1560 had increased to 30,000; seven times the number from 1400. The construction in the city shown on the map of Cornelis Anthonisz. must therefore have been much denser in comparison with the situation of a century earlier, when the city limits had been established.<sup>61</sup> In the meantime, the nature of building had changed in many ways. One aspect that had certainly changed was the appearance of the houses. After the second city fire in 1452, the municipal administration had immediately enacted a regulation that compelled house owners to cover their wooden houses on the sides with masonry and which also forbade thatched roofs.<sup>62</sup> From that moment, the city began the transition to masonry construction.

In 1560, Amsterdam passed Utrecht in terms of population, and from that moment was the largest city of the Northern Netherlands. In the century thereafter, the number of residents would increase another seven times and would rise to 219,000 in 1670. The city enlargements of 1578 and 1592-1594 led to this great increase in population. The area of the city doubled, as can be seen on the map of Pieter Bast from 1597. According to C.P. Burger, this map indicates the situation around 1585 for that part of the old city. On this map the first changes around the Dam can be seen, which, following the completion of the Nieuwe Stadhuis of Jacob van Campen in 1655, would give the centre of Amsterdam an entirely new status. The first steps in this direction can already be seen on the map of Cornelis Anthonisz., which portrays

the situation around 1540. An opening was made in the row of houses on the south side of the Dam at the location of the lock, opposite the Vismarkt. In 1494, the municipal administration had agreed with the water boards to build a new lock and to maintain that lock themselves. The houses that stood on the southern part of the lock were expropriated and demolished. After the work was completed, the houses were not rebuilt. In fact, several more neighbouring buildings also were purchased and demolished.

Around 1510, the Stadspardenstal (municipal stable) was built there. After this, horses and carriages could no longer be stabled on the Plaets. Lack of space on the market square was a constantly recurring problem during the entire sixteenth century.<sup>63</sup>

On the map of Cornelis Anthonisz., the wharf along the west side of the Damrak can also be seen, as well as the first stages of wharves on both sides of the Rokin. The first part of the wharf along the Damrak, the Vijgendam between the Dam and the Zoutsteeg, was built in 1526. Several years later, this wharf was extended to the IJ. After the construction of the wharf, the municipal administration established a building line and the orientation of the buildings changed. Front façades would thereafter be placed along the west side of the Damrak. The plan for the construction of a wharf on the west side of the Rokin dated from 1527. To reach this wharf, an opening had to be made in the south wall of the Middendam. To this end, the first building was purchased in 1525 and demolished. In 1540, the opening was widened.<sup>64</sup> The wharf on the east side of the Rokin could be reached via the Stadspardenstal. On the map of Pieter Bast it can be seen that at the end of the sixteenth century the wharves along the Rokin had also been completed. Due to the construction of the wharves, the relationship of the city to the natural situation of the Amstel estuary had changed. The city no longer stood with its back to the river and no longer turned away from it. Due to the wharves, the space of the river became part of the urban space: a space of public representation.

During the reconstruction of the Dam, the name of the mysterious Joost Jansz. Bilhamer (1590) first appeared. All manner of things are attributed to him, but it appears that nothing can be confirmed with certainty.<sup>65</sup> As noted previously, the new tower of the Oude Kerk would be attributed to him, in any case the spire (1564-1566). The charnel house next to this church (about 1565) was also attributed to him. According to W. Kuyper, these two works alone would have been enough to place Bilhamer among the most important mannerist architects of his time. Besides being an architect, Bilhamer was also thought to have been involved as a surveyor and fortress builder during the city expansions of 1585 and 1593. Meischke refers to him as an example of a 'fortress

construction architect' whose activities demonstrated 'how closely related the activities of surveying and fortress construction are'. Finally, Boudewijn Bakker refers to Bilhamer in connection with the city expansions of 1585 and 1593 as 'the famed master builder, surveyor and city planner'.<sup>66</sup>

Kuyper surmises that Bilhamer was linked to the *Fabriekamt* and held the same position in this municipal architectural service as did Hendrick de Keyser at a later point. The first civil project assigned to Bilhamer is the Paalhuis, built around 1560 near the Nieuwe Brug. It was a tall building rising from the water, constructed from wood with a façade of brick. It was a kind of guard tower of the IJ. The shipmasters had to pay harbour tax, or *paalgeld*, at the Paalhuis and could also pick up their mail there. More important in relation to the reconstruction of the *Dam* is the second civil project that was attributed to Bilhamer: the Nieuwe Waaggebouw (public scales) on the Plaets. In 1561 the municipal administration decided to construct a new public scales building. The building rose next to the old public scales and was completed in 1565. It came into use one year later.<sup>67</sup>

On the map of Pieter Bast, the Nieuwe Waag can be seen as a free-standing building on the market square. Compared with the situation on the map of Cornelis Anthonisz., the Plaets had become much larger. The expansion towards the east, on the northern part of the Dam, had taken place during the 1540s. As part of the repair activities on the western sluice gate, houses were demolished and were not rebuilt. In 1550, only two or three houses remained next to the Vismarkt.<sup>68</sup> At the end of the 1540s, houses were also bought up and demolished on the north side of the Plaets, between the Waag and the Rysersteegje.<sup>69</sup> At that point, the public scales building became free standing, but not for long. Twelve years later the open land became the construction site for the new public scales building. This cannot be seen very precisely on the map of Pieter Bast, and Breen does not draw any conclusions about this, but the map of Balthazar Florisz van Berckenrode from 1625 does not leave any doubt about the location. While this construction was taking place, houses were bought up in order to acquire sufficient space on the north side of the new public scales building; these houses were located in the block between the Rysersteegje and the Watersteegje to the north, in the extension of the Nieuwe Zijds Wijde Kerksteeg which ended at the Nieuwe Kerk. In 1567, everything was demolished, and the northern edge of the Plaets came to lie at the location of the present Dam square.<sup>70</sup>

The large market square of the city came to lie with a diagonal opening to the water of the Damrak. A century later, Jacob van Ruysdael made a beautiful painting of the location: on the foreground there is the floor of the square with the Nieuwe Waaggebouw on

the left and on the right the disappearing perspective of the Damrak with several white sails. The fact that artists did not immediately appreciate the newly-created urban space is shown from the earliest city portrait of the Dam. On this anonymous print from the end of the sixteenth century, the Plaets is pictured as a closed 'urban stage', with the Nieuwe Waaggebouw in the middle surrounded by the busy commerce of the weekly market. On the right a glimpse of the Damrak can be seen, indicated by the ships that are moored there.<sup>71</sup>

After 1568 (the beginning of the 80 Years War) no work took place on the area around the Dam or elsewhere in the city for a decade. It was only after the city joined the rebellion in 1578 that the construction activities began again. Due to the confiscation of the 22 monasteries, space became available in the old city for new urban developments. For example, the Burgerweeshuis (orphanage), the Binnengasthuis (hospital) and the head office of the Dutch East Indies Company were housed in former monasteries. In addition, the grounds of the monasteries were divided into lots for residences and workshops.<sup>72</sup> The confiscation of the monasteries provided temporary relief from the lack of space in the city, but was totally insufficient for the long term. Therefore, the previous plans for new fortifications and city expansion were also implemented at this time. In this context, the name of Bilhamer was cited. Regarding architectural work, his name only appears in connection with the construction activities of the Weeshuis in 1581.<sup>73</sup>

If Bilhamer had actually worked for the *Fabriekamt*, then following his death he would have been succeeded by Cornelis Bloemaert, the teacher of De Keyser from Utrecht.<sup>74</sup> Bloemaert left again in 1594. In that year and the following year, the *Fabriekamt* acquired an entirely new leadership. Frans Hendricksz Oetgens was appointed as *Fabriekmeester* (the leader of the architectural department). To improve the business leadership, a treasurer, Pieter Jacobsz Nachtglas, was also appointed, and there must have also been an *onderfabriekmeester* (assistant). The practical work was in the hands of the three municipal master builders. As stated in the introduction, appointed to these functions were Cornelis Dankertsz, municipal mason, Hendrick Jacobsz Staets, municipal carpenter, and Hendrick de Keyser, municipal stonemason.<sup>75</sup> This was the team that during the following 25 years would be responsible for additional interventions in the area of the Dam, which can be seen on the map of Balthazar Florisz van Berckenrode from 1625. In addition they provided leadership for many other activities in the city, such as the expansion of 1610-1615, which can also be seen on this map.

Following a break of thirty years, the work on the Dam was resumed in 1596 due to problems with the lock. In 1594, a study into

these problems was initiated, and at the end of 1596, the repair activities began. Immediately thereafter, the area of the Vismarkt underwent a radical change. At the end of the 1550s, a number of outbuildings along the Warmoesstraat had been demolished to provide more room for the Vismarkt.<sup>76</sup> In 1594, the remains of the wooden fish market on the lock were demolished as well as the buildings to the west of the lock. They were replaced by a hook-shaped building that separated the Vismarkt from the Middendam and the Plaets. The first part of the building, between the Vismarkt and the Plaets, was completed in 1599 and comprised seven shop premises under a single roof. It became known as the 'house under canvas' due to the awning that provided protection from rain and sun to the visitors to the public houses on the Plaets. The second part of the building, along the Middendam, was completed in 1600. This building included two arched gates to the Vismarkt. Six residences were rented.<sup>77</sup> According to the accurate drawing on the map of Balthazar Florisz van Berckenrode, which shows the building beginning at the Vismarkt, there was a half-open fish hall on the ground floor. Unfortunately, no other information is known about this.

Immediately following this construction, a row of three houses was built on the opposite side of the Middendam, in the same architectural style. This was at the former location of the municipal stables opposite the Vismarkt, as can be seen on the map of Cornelis Anthonisz. The stables have disappeared from the map of Pieter Bast, which means they were gone before 1585. Houses were built where the stables had stood, and a passage was left on the east side that led to the wharf along the east side of the Rokin. These houses were probably demolished again due to the repair of the lock in 1596.<sup>78</sup> The new row of houses was completed in 1603. It included a single vaulted gate, which led to the wharf along the east side of the Rokin. Later on this passage became known as the *Beurspoortje* (Exchange gate).<sup>79</sup>

The map of Balthazar Florisz van Berckenrode clearly shows how the 'house under canvas' and the other two rows of houses – in the middle of the expanded market squares – redefined the various spaces on the Dam. Two squares and a street space, separated from each other only by the shallow bodies of buildings. The buildings broke with the tradition of the gothic city hall and were typified by their rooflines being parallel to the street, which was unusual for private houses at that time. They manifested themselves with neutral walls along the squares and streets, which did not give any indication of the separate residences. They were designed and built by the *stadsfabriek*; both Staets and De Keyser were probably responsible for their construction.<sup>80</sup> Finally, on the same map the first Amsterdam Exchange can be seen, with which the present study began.

### Location and design of the Exchange

On 28 April 1607, the municipal administration decided to build an Exchange. Breen, and later Meischke, indicated that an older design was already available: a 'pattern which was first designed for an exchange at the Rokin'.<sup>81</sup> Apparently this design was not of recent date because a committee was appointed to re-evaluate the proposal. When was this design made and by whom was it made? These are questions that will probably remain unanswered. However, it is remarkable that from the beginning, the location for the Exchange was apparently sought in the immediate vicinity of the Dam and the city hall. This now appears to be self-evident, but at the time it was certainly not the case.

As noted previously, the Venice Exchange was located on and around the Rialto bridge and not near Doge palace on the San Marco square. In Antwerp, the new Exchange was planned in 1531 as part of the new city expansion; it would be located far from the central square with the city hall.<sup>82</sup> Finally, the London Exchange, designed by Gresham – which is always referred to as the direct example the Amsterdam Exchange – was built near Lombard Street where the traders traditionally gathered. A previous attempt to build the Exchange elsewhere met with great resistance from the traders and therefore failed.<sup>83</sup>

The Amsterdam exchange business was not located in the area of the Dam. As in London, the most obvious location for an exchange was in the north-western part of the city, where the trading had already been taking place for a century; first in the northern part of the Warmoesstraat and later on the east side of the Nieuwe Brug, on the IJ. The most important inns were also located on the Warmoesstraat.<sup>84</sup> Moreover, it could have been possible to situate the Exchange in the new city expansion on the east side of the city, as had taken place in Antwerp. It is not inconceivable that the Exchange, like other important institutions, would have been located in one of the former monasteries in the south-eastern corner of the city. The location near the Dam must therefore have been a deliberate choice. It seems plausible that the construction of the Exchange was part of a broader programme of the municipal administration. Due to the arrival of merchants from Antwerp following the blockage of this city in 1585, it is known that the economy of Amsterdam was given a major impulse. The municipal administration felt they were compelled to regulate this economic development. The first municipal decrees concerning the exchange business were implemented in 1592. Among other things, they prescribed fixed opening hours for the traders. However, this was only the first step.

The exchange business functioned by the grace of many different intermediaries, such as middlemen, money changers and cashiers,

who also played an important role in banking. Regarding the latter, there was a chaotic situation around 1600. There were far too many types of coins in circulation, and the majority of them were of poor quality. Under these conditions, a range of innovations in the trade only amplified the anxiety of the municipal administration. For example, in 1601 the municipal administration requested information from a number of merchants about how bills of exchange were actually used. The merchants who were invited to make this explanation were all from the South.<sup>86</sup> To counteract this 'monetary confusion', in 1606 the first proposal was made to establish an exchange bank and to eliminate the private money changers and cashiers. Following the example of the Venetian Banco di Rialto, established in 1587, such a bank would also be able to function immediately as a transfer bank. The Wisselbank (transfer bank) was established in 1609 and, as previously noted, was housed in the oldest part of the city hall on the Plaets.<sup>87</sup>

One year after the first proposal for establishing a transfer bank, in 1607 a plan was presented for an Exchange. The preference of the municipal administration for locating the Exchange in the area of the Dam, in the immediate vicinity of the city hall, can be understood in the framework of its attempts to bring order to the financial market. However, achieving a spatial concentration of the stock exchange, transfer bank and cashiers in the area of the Dam, under the supervisory eye of the municipal administration, was not a simple task. As we have seen, the market on the Dam was continually faced with the problem of insufficient space during the entire sixteenth century. The steadily increasing need for market space was repeatedly solved by buying houses and tearing them down. But for the construction of an exchange, this approach was no longer adequate. To this end, a large area of land had to be available all at once. As during the first period of city centre formation in Amsterdam, the only solution was to convert a piece of the Amstel into city land.

The only location that could be found for this was along the south side of the Dam, because on the north side the Plaets and the Vismarkt had been expanded to become large marketplaces that had to be accessible from the water. However, during the purchases of houses by the municipal administration on the Dam, the southern row of houses had been left intact. And in 1603, the opening that had been created during the repair of the lock in 1596 was once again filled in. The houses on this side of the Dam still stood with their backs to the water. The proposal was once again to leave this row of houses intact and to place the Exchange behind them. When the report was published several months after appointing the research committee, the decision was that 'no better situated, less costly and more practical location

for the entire complex in this city' could be found.<sup>88</sup>

It would be interesting to know what the initial doubt was that necessitated a study of the proposal lasting nearly three months. In view of the wording of the decision, it probably concerned two questions: would the costs be excessive and would the building satisfy the expectations? Regarding the costs, building in the water was naturally the first issue. Filling in a piece of ground was of course no longer a problem in Amsterdam, but here it was different. The location near the Dam entailed unusual hydrological problems: the accessibility of the lock had to be maintained and the drainage had to be assured. Therefore provisions had to be made to allow sufficient water to pass through. So simply filling in along the banks would be impossible.

Drawings of the foundations of the building show five masonry water courses: a large one in the middle to allow ships to travel through and two smaller ones on both sides. The two small water courses on the west side were linked to the drainage sluice, the large one in the middle and the two smaller ones on the east side emptied into the lock. The water courses alongside of the main course had to be divided into two on both sides in order to bear the weight of the building above. This was where the multifaceted experience of the *Fabriekamt* was shown; it was not only charged with designing and building public buildings on behalf of the municipal administration, but also with the city expansion, the construction of fortifications, and especially important in this context, the construction and maintenance of all waterworks: the wharves, bridges and sluices.

The work under the Exchange was an entire construction project in itself. Clearly, it was expensive. The fact that the committee still concluded that no 'less costly' location for the building could be found, must therefore be related to some other aspect. Probably the reason for this statement was that the realization of the Exchange would not require purchasing and demolishing a great number of houses on the south side of the Dam. But this would never have provided sufficient space for the Exchange in any case. The costly structure underneath the Exchange was therefore essential. The consequence of the choice to allow the houses to stand was, however, that the Exchange could not be located on the Middendam with an imposing monumental entrance. This would probably have called up the second question: would this important public building then still meet the expectations that play a role with such a building?

After only three months, the master builders of the *Fabriekamt* had apparently succeeded in persuading the committee that it was technically feasible to build the Exchange at that location and that the orientation of the building, with the main façade

on the Rokin, would lead to a dignified result. The study trip of De Keyser and Dankertsz to Londen, discussed previously, to study the Exchange there, took place in the final weeks of the committee's research.<sup>89</sup> They were probably already familiar with the Antwerp Exchange. However, the Royal Exchange was more contemporary in architectural terms.

On 14 July 1607, the municipal administration agreed to the location on the Rokin, and the same committee was charged with the task of 'finding and drafting a design for an Exchange'. On 1 September of that year, two models were then shown to the municipal administration, and the smallest was selected. Although cost considerations certainly played a role in this decision, the administration generously added: 'That the ornamentation of the work would not be seen as a small task or that ten, twelve, or twenty units would be added to a foot in the length, to increase the scale of the work.'<sup>90</sup> No more is known about the course of affairs concerning the design. Only after 22 April 1608, when the first piles were driven and several collapses had occurred in neighbouring buildings, was another study assigned to several gentlemen from the council and the master builders of the *Fabriekamt*. They proposed to demolish these buildings and change the design of the Exchange in such a way that the courtyard would be one arch wider and one arch shorter in length, 'so that the Exchange would have a more pleasing proportion'.<sup>91</sup>

After the necessary research and discussion had taken place, this proposal was definitively rejected on 17 May 1608, but the proposal could indicate that the master builders involved in the project saw a possibility of modifying the composition of the building to be more classical. The version of the courtyard that was actually completed has a width-length ratio of 1:2, which means 6 arches in width and 12 arches in length. If the proposed changes had been implemented, the width-length ratio would have come close to 2:3. However, it was probably more important that both sides were given an uneven number of arches: 7 arches in width and 11 in length. The middle of the sides of the colonnades would then have been taken up by an open bay instead of by a column, as was the case in the completed version.

The proposed change would have led to a totally different result, especially for the two entrances to the Exchange, and there would have probably been less reason to dispute the originality of the Amsterdam Exchange. For that matter, even without the proposed change being implemented, there is no reason whatsoever to consider the design 'as a copy of the London Royal Exchange, which was itself a copy of Dominicus de Waghemakere's 1515 [the date should have been 1531] Antwerp Exchange', as Kuyper was compelled to state in 1980.<sup>92</sup> Such a remark would also have revealed inadequate expert-

ise if it had been applied to a sequence of gothic cathedrals or the series of Palladian villas.

All of the Exchanges in Antwerp, London and Amsterdam discussed here have disappeared, and the original drawings have also been lost. However, drawings are available of the Amsterdam Exchange from a later time, when remodelling and repair were required. There are also the reconstructions of the architect A.N. Godefroy from the second half of the nineteenth century, when architects were diligently searching for a 'national style' and focused special attention on the period that preceded Dutch Classicism.<sup>93</sup> Art history studies have primarily made use of etchings that were made shortly after the completion of these buildings.

Comparisons of the three exchanges always emphasize their similar courtyards, although the etchings show remarkable differences in the architectural implementation. For the Royal Exchange it is also important that – in contrast to the Antwerp Exchange – it had two façades on the street. One of these can be seen on an etching, which shows that the overall design of this façade certainly served as a model for the façade on the Rokin of the Amsterdam Exchange. However, when making the comparison, the observer is struck immediately by the fact that the proportions are totally different and that the design of the Amsterdam Exchange tower is much more refined, as Neurdenburg has noted.

The most striking aspect of the Amsterdam design, however, is the addition of a totally different motif that binds the entire composition together: the bridge that links the recently completed wharves along the Rokin. Neurdenburg also noted this motif, but did not attribute much importance to it.<sup>94</sup> But if we view the first Amsterdam Exchange as a 'urban fact', then it is a building that gave shape for the first time in architectural terms to the transformation of the natural situation of the Amstel into an urban space. A crucial aspect in this process was the change of the orientation in the buildings along the water and the shift from private to public land use along the banks of the Amstel.

To evaluate this change in conception, the interventions on and surrounding the dam during the years around 1600 must be compared with similar interventions in Venice and Paris. In Venice, the closed wooden Rialto bridge was replaced about the same time by a monumental stone construction that provided a view of the Canal Grande (1588-1591).<sup>95</sup> During this time as well, the Ponte Neuf was built in Paris; a bridge over the Seine without shops or additional structures, that linked up with the first architecturally conceived wharf along the Seine (1578-1604).<sup>96</sup> These structures can still be admired today in Venice and Paris. The first Amsterdam Stock Exchange disappeared from the face of the earth at the beginning of the

most recent period of urban transformation. The historical reconstruction presented here hopefully provides an impression of this special moment in the development of the urban space of Amsterdam.

#### Notes

1. Arthur Stratton, 'The Royal Exchange, London – I. The first building', in: *Architectural Review*, no. 249, Aug. 1917, p. 27.
2. In 1845, the new exchange of J.D. Zocher was built on the north side of the Dam. To this end, part of the Damrak was filled in. Fifty years later, still further to the north and following the filling in of yet another part of the Damrak, the third Amsterdam Exchange was built according to the design of H.P. Berlage, which opened in 1903. For the developments concerning the building of the second and third exchanges in Amsterdam, see: Max van Rooij, *Amsterdam en het Beurzenspektakel*. Aarlanderveen (Van Lindonk) 1982.
3. Marius van Nieuwkerk, *Hollands Gouden Glorie. De financiële kracht van Nederland door de eeuwen heen*. Haarlem (Becht) 2005, p. 108. See also: Clé Lesger, 'De wereld als horizon. De economie tussen 1578 en 1650', in: Willem Frijhof and Maarten Prak (eds.), *Geschiedenis van Amsterdam*. Deel II-1: *Centrum van de wereld, 1578-1650*. Amsterdam (SUN) 2004.
4. R. Meischke, 'Het Amsterdamse fabriek-ambt van 1595-1625', in: *Bulletin KNOB*, 93 (1994), no. 3, pp. 102-104.
5. K.H. Schreyll, *Zur Geschichte der Baugattung Börse*. Diss. FU-Berlin, Berlin 1963, pp. 16-18.
6. Stratton, 'The Royal Exchange' (note 1), p. 27.
7. Van Nieuwkerk, *Hollands Gouden Glorie* (note 3), p. 107.
8. E. Neurdenburg, *Hendrick de Keyser, beeldhouwer en bouwmeester van Amsterdam*. Amsterdam, about 1930, p. 40.
9. Salomon de Bray, *Architectura Moderna ofte Bouwinge onses Tijt* (1631). With an introduction by E. Taverne, Soest (Davaco Publishers) 1971, p. 11.
10. Ibid.
11. Neurdenburg, *Hendrick de Keyser* (note 8), pp. 39-40.
12. Nikolaus Pevsner, *A history of building types*. Princeton, N.J. (Princeton University Press) 1976, p. 199.
13. Neurdenburg, *Hendrick de Keyser* (note 8), p. 69.
14. Meischke, 'Het Amsterdamse Fabriek-ambt' (note 4), pp. 100-122. Regarding the very divergent tasks of the *Fabriekambt* and the activities after 1625, see: Boudewijn Bakker, 'De zichtbare stad 1578-1813', in: Frijhof and Prak (eds.), *Geschiedenis van Amsterdam 1578-1650* (note 3), especially pp. 75-77. See also: C.P. Krabbe, *Ambacht, Kunst, Wetenschap. Bevordering van de bouwkunst in Nederland (1775-1880)*. Zwolle (Waanders) 1998, pp. 37-39.
15. P.C.M. Hoppenbrouwer, 'Van waterland tot

16. Aldo Rossi, *The Architecture of the City*. Nijmegen (SUN) 2002, p. 132. From this viewpoint, Henk Engel has remarked that for the Dutch city, the Stadhuis of Amsterdam, the current Palace on the Dam, designed by Jacob van Campen (1648), and perhaps even more the work of the Amsterdam municipal architect Hendrick de Keyser, are worth further study. See: Henk Engel, 'Architectonisch ontwerp en stadsanalyse', in: *OverHolland 1*. Amsterdam (SUN) 2004, p. 26.
17. M.R.G. Conzen, *Alnwick, Northumberland. A study in town-plan analyses*. Londen (George Philip & Son) 1960, pp. 34-38.
18. J.F. Geist, *Passagen ein Bautyp des 19. Jahrhunderts*. München (Prestel) 1969<sup>1</sup>, 1978<sup>2</sup>, pp. 73-75. Breslau is located in present day Poland and is now called Wrocław. See also: Gerhard Nagel, *Das mittelalterliche Kaufhaus und seine Stellung in der Stadt*, Berlin (Gebr. Mann Verlag) 1971, p. 70 and figures 204-210.
19. Miron Mislin, *Die überbaute Brücke: Pont Notre Dame, Baugestalt und Sozialstruktur*. Frankfurt a.M. (Haag und Herschen) 1982.
20. See: Van Rooij, *Amsterdam en het Beurzenspektakel* (note 2).
21. Nagel, *Das mittelalterliche Kaufhaus* (note 18), p. 31 and figures 72-76.
22. Rossi, *De architectuur van de stad* (note 16), p. 23 and 56.
23. Pevsner, *A history of building types* (note 12), p. 27.
24. C.J.P. Lips, *Wandelingen door Oud-Dordrecht*. Zaltbommel (Europese Bibliotheek) 1974, pp. 74-76.
25. W.F.H. Oldewelt, 'Amsterdam's oudste raadhuys', in: *Jaarboek van het genootschap Amstelodanum 28*. Amsterdam 1931, p. 19.
26. F. Schröder, *Die gotische Handelshallen in Belgien und Holland*. München and Leipzig (Duncker and Humblot) 1914, pp. 55-62.
27. M.E. Stades-Vischer, *Het stadhuis te Dordrecht*. Gemeentelijke Archiefdienst, Dordrecht 1985. According to the archaeological research of the Scharlaken House in Dordrecht, the first clothmaker's hall in the city would have been located on the ground floor of this brick house from 1225. Regarding the use of the upper floors, however, nothing is known and therefore we do not know whether or not this building was intended entirely for trade purposes. Herbert Sarfatij, 'Het huis Scharlaken te Dordrecht: de oudste Lakenhal van de stad, vervolgens woonhuis en Waag (13<sup>de</sup> – 16<sup>de</sup> eeuw). Archeologie van een bijzonder huis', in: *Bulletin KNOB*, 93 (1994), no. 2, pp. 41-52.
28. Esther Gramsbergen, 'Lieven de Key, Vleseshal Haarlem, 1603', in: Aimée de Back and Willemijn Wilms Floet (eds.), *Plandocumentatie Kleine Openbare Gebouwen*. Delft (Publicatiebureau Bouwkunde) 2005, pp. 76-79.
29. C.H. Slechte and N. Herweijer (eds.), *Het*

30. *Waagstuk. De geschiedenis van waagge-bouwen en wegen in Nederland*. Amsterdam (De Bataafse Leeuw) 1990, p. 43.
31. From its monumental location on the square, Karl Kiem concludes that the public scales building in Deventer was in fact the most important commercial building in the city; the building also included a clothmakers hall. Karl Kiem, 'Die Waage von Deventer als Handelshalle', in: *Bulletin KNOB*, 93 (1994), no. 2, pp. 53-61.
32. W. Kuyper, *The Triumphant Entry of Renaissance Architecture into the Netherlands*. Alphen aan den Rijn (Canaletto) 1994, pp. 214-215.
33. Schreyll, *Zur Geschichte der Baugattung Börse* (note 5), pp. 13-14.
34. Ed Taverne, 'Van Pont-neuf tot Champs-Élisés, het straatbeeld van Parijs 1600-1914', in: *De straat. Vorm van Samenleven*. Catalogus Van Abbemuseum, Eindhoven 1972, p. 97, with reference to: J.P. Babelon, *Demeures parisiennes sous Henri IV et Louis XIII*. Parijs 1965. Jean Castex, *De architectuur van renaissance, barok en classicisme. Een overzicht 1420-1720*. Nijmegen (SUN) 1993, p. 350 (originally published in Paris 1990).
35. In fact this concerns the second Antwerp Exchange. The stock exchange business began in Antwerp around the middle of the fifteenth century. In 1485, the municipal administration purchased a house in the current Hofstraat which had an irregularly formed courtyard and made this available to the exchange traders. As a result, Antwerp was the first city with an 'exchange' in the modern sense of the word, i.e. where goods were traded only on paper. In 1515, the courtyard was surrounded on three sides with an arcade, designed by Domenicus van Waghemakere. Sonja Anna Meeseure, *Die Architektur der Antwerpener Börse und der europäische Börsenbau im 19. Jahrhundert*. München (Sca-neg) 1987, pp. 21-22.
36. Van Nieuwkerk, *Hollands Gouden Glorie* (note 3), pp. 106-107.
37. Schreyll, *Zur Geschichte der Baugattung Börse* (note 5), p. 17. Meeseure, *Die Architektur der Antwerpener Börse* (note 34), p. 25.
38. Meeseure, *ibid.*, p. 18 and 24.
39. Geist, *Passagen* (note 18), pp. 75-76. Geist refers to the London Exchanges with open stalls for luxury trade goods on the upper floor as one of the possible examples for the later passages. He did not remark upon the astonishing similarity of spatial characteristics. For another reason as well – the affinity for the trade in luxury articles with the stock exchange location – of the many references that Geist makes, the shop galleries above the exchanges in London, Antwerp and Amsterdam are the most likely immediate predecessors of the passages. Since the *Passagen-Werk* of Walter Benjamin, Paris has been known as the cradle of the Passages. The Paris Exchange was located at the Palais Royale around 1800. In the immediate vicinity of the Exchange, the first cov-

ered and lit-from-above passage for the sale of luxury articles was built in the courtyard of this palace in 1786-1789 (although constructed provisionally in wood): the 'Galeries de Bois' (pp. 257-260). The first permanent passage that followed was the Passage des Panoramas (1800), which ends at the Boulevard Montmartre to the north of the Palais Royale (pp. 262-267). In the area between the palace and the boulevard, more passages were built in the years to follow. In the middle of this area, the new Exchange was built between 1808 and 1815 following the design of A.Th. Bronghiart (1807). The courtyard of this 'open gallery exchange' was provided with a glass roof in 1823-1827. According to Walter Benjamin, the heyday of the trade in luxury goods in the passages of Paris was in the 1830s. Walter Benjamin, 'Parijs de hoofdstad van de XIX<sup>e</sup> eeuw' (Exposé 1936), in: idem, *Kleine filosofie van het flaneren. Passages, Parijs, Baudelaire*. Amsterdam (SUA) 1992, pp. 13-26.

39. 'Outside along both side walls, there were twenty "arches" also rented to shops and offices (°) Along the south entrance to the exchange, the city rented six residences and on the north side two residences.' J.C. Breen, 'Topografische geschiedenis van den Dam te Amsterdam', in: *Jaarboek van het genootschap Amstelodanum 7*. Amsterdam 1909, p. 148. This study is still the most important analysis of the written sources concerning the history of the Dam and the buildings upon it. All later studies refer to Breen's study, with or without citing the source, including D.H. Couvée, *De Dam*. Utrecht (Oosthoek) 1968.

40. During the expansion in 1669, the tower was demolished and the bridge on the Rokin side was built over. The southern public entrance to the Exchange and to the shop gallery on the upper floor disappeared at that point. Only the stairway in the side building on the north side was still accessible to the public. Breen reports that as far back as 1660 the eastern gallery had become a *lakenventhal* (cloth merchant's hall). In 1686, the *stadsscherschool* (fencing school) was housed in the western gallery. See: Breen, 'Topografische geschiedenis van den Dam' (note 39), pp. 150-151.

41. Geist, *Passagen* (note 18), p.75.

42. The population growth and the city expansions of Amsterdam in the sixteenth and seventeenth centuries are extensively described in: Ed Taverne, *In 't land van belofte: in de nieuwe stad. Ideaal en werkelijkheid van de staduitleg in de Republiek 1580-1680*. Maarssen (Gary Schwartz) 1978, pp. 112-175.

43. Here the authors primarily used the following sources: Jan Baart, 'De ontstaansgeschiedenis van de stad Amsterdam', in: Michiel Jonker, Leo Noordegraaf, Michiel Wagenaar, *Van stadskern tot stadsgewest. Stedebouwkundige geschiedenis van Amsterdam*. Amsterdam (Verloren) 1984, pp. 15-34. The contributions of H.H. van Regteren Alte-

na and B.M.J. Speet in: W.F. Heinemeijer, M.F. Wagenaar and others, *Amsterdam in kaarten. Verandering van de stad in vier eeuwen cartografie*. Ede/Antwerpen (Zomer & Keunig) 1987. J.M. Baart, 'Amsterdam, gewestelijke stad in de middeleeuwen, wereldstad in de Gouden eeuw', in: H. Sarfatij (ed.), *Verborgene steden. Stadsarcheologie in Nederland*. Amsterdam (Meulenhof) 1990, pp. 152-162. The contributions of Ben Speet in: Marijke Carasso-Kok (ed.), *Geschiedenis van Amsterdam*. Deel I. *Een stad uit het niets, tot 1578*. Amsterdam (SUN) 2004. The reconstruction maps of Amsterdam drawn by Casper van der Hoeve and Jos Louwe in the middle ages could have been much more detailed based on the information in the studies listed above concerning the city formation process of Amsterdam, and also the explanatory text requires correction on many points. Casper van der Hoeve & Jos Louwe, *Amsterdam als stedelijk bouwwerk. Een morfologische analyse*. Nijmegen (SUN) 1985; 2003<sup>2</sup>. For that matter, the studies cited here do not attempt to make drawn reconstructions, and in this respect the study of Van der Hoeve and Louwe remains the only one on which further analyses can be based. By also addressing in detail the later transformations of the city centre around the Dam, with the present study we hope in any case to partly answer the criticism expressed by Maurits de Hoog and Rudy Stroink in their review, 'Recensie Amsterdam als stedelijk bouwwerk. Analyse van een methode', in: *Oase*, no. 11 [1986], pp. 5-13.

44. Ben Speet, 'Een kleine nederzetting in het veen', in: Carasso-Kok (ed.), *Geschiedenis van Amsterdam, tot 1578* (note 43), p. 60. Jan Baart has reasons to assume that the Dam was constructed sooner. Baart, 'De ontstaansgeschiedenis van de stad Amsterdam' (note 43), p. 22.

45. Jan Baart, 'De ontstaansgeschiedenis van de stad Amsterdam' (note 43), p. 26.

46. Eef Dijkhof, 'Op weg naar autonomie', in: Carasso-Kok (ed.), *Geschiedenis van Amsterdam tot 1578* (note 43), pp. 63-73.

47. Paul Knevel, 'Vijfde stad in Holland', in: idem, pp. 365-366.

48. Bas de Melker, 'Burgers en devotie 1340-1520', in: idem, pp. 254-263.

49. Jan de Heer, *The towers of Hendrick de Keyser and the horizon of Amsterdam m*. Amsterdam (Duisend en één) 2000, p. 48.

50. Henk Engel, 'Randstad Holland in kaart', in: *OverHolland 2*. Amsterdam (SUN) 2005, p. 38.

51. Reinout Rutte, *Stedenpolitiek en stadsplanning in de Lage Landen (12de-13de eeuw)*. Zutphen (Walburg Pers) 2002, pp. 113-114, and Chapter VI: 'Stedenpolitiek en stadsplanning in het westen'.

52. Jan Baart, 'De ontstaansgeschiedenis van de stad Amsterdam' (note 43), p. 23. Ben Speet also refers to the excavation in 1977 at the location of the Hotel Polen, which showed that the plots of land on the east side of the Kalverstraat had been expanded in an

eastern direction by filling in parts of the Amstel since the end of the thirteenth century. Ben Speet, 'Verstening, verdichting en vergroting', in: Carasso-Kok (ed.), *Geschiedenis van Amsterdam tot 1578* (note 43), p. 84.

53. Speet, idem, pp. 83-85. According to Speet, the Nieuwezijds Voorburgwal first appears in the records in 1333 and the Oudezijds Voorburgwal in 1352. The Nieuwezijds Achterburgwal would certainly have been dug before 1395 and the Oudezijds Achterburgwal possibly even before 1367.

54. Breen, 'Topografische geschiedenis van den Dam' (note 39), pp. 103-114. Oldewelt, 'Amsterdam's oudste raadhuis' (note 25), pp. 13-29.

55. C.H. Slechte and N. Herweijer (ed.), *Het Waagstuk. De geschiedenis van waagegebouwen en wegen in Nederland*. Amsterdam (De Bataafse Leeuw) 1990, p. 47.

56. Bas de Melker, 'Burgers en devotie 1340-1520' (note 48), p. 294. Jan de Heer, in his wonderful and entertaining study about the towers of Amsterdam, mixes up the dating of the construction of various parts of the Oude Stadhuis in every possible way. De Heer, *Het architectuurloze tijdperk* (note 49), p. 70.

57. R. Meischke, 'Drie kerken van Rutger van Kampen' (1964), in: idem, *De gotische bouwtraditie*. Amersfoort (Bekking) 1988, pp. 8-45.

58. Oldewelt, 'Amsterdam's oudste raadhuis' (note 25), p. 20.

59. C.G. 't Hooft, 'Op zoek naar de oudheid van het Middeleeuwse Stadhuis, voorgesteld op het schilderij van Pieter Saenredam, in de burgermeesterskamer', in: *Jaarboek van het genootschap Amstelodanum 32*. Amsterdam 1936, pp. 1-16<sup>d</sup>.

60. Raoul Serrée, *Amsterdam ommuurd, 1481-1601. Het raadsel van de Middeleeuwse Stadsmuur*. Abcoude (Uniepers) 1999. See also: H. Janse, *Middeleeuwse Stadswallen en Stadspoorten in de Lage Landen*. Zaltbommel (Europese Bibliotheek) 1974, pp. 123-127 concerning Amsterdam.

61. Taverne, *In 't land van belofte* (note 42), pp. 116-117. J.W. Verhey, 'Warmoesstraat, Nieuwendijk en Damrak in het midden van de zestiende eeuw', in: Jonker, Noordegraaf, Wagenaar, *Van stadskern tot stadsgewest* (note 42), especially the section about spatial structure, pp. 65-71.

62. C.P. Burger, 'Amsterdam in het einde van de zestiende eeuw. Studie bij de uitgaaf van den grooten plattegrond van 1597', in: *Jaarboek van het genootschap Amstelodanum 16*. Amsterdam 1918, pp. 30-36.

63. Breen, 'Topografische geschiedenis van den Dam' (note 39), pp. 114-116.

64. Ibid, pp. 117-118.

65. Kuyper, *The Triumphant Entry of Renaissance Architecture* (note 31), pp. 222-223.

66. R. Meischke, 'Het architectonisch ontwerp in de Nederlanden gedurende de late Middeleeuwen en de zestiende eeuw', in: idem, *De gotische bouwtraditie* (note 57), p. 186 (originally published in: *Bulletin KNOB*, 1952, no. 5, pp. 161-230). In relation to the

city expansions of 1585 and 1593, land surveys and design activities of Joost Janz. Beeldsnijder were reported. C.P. Burger, 'Amsterdam in het einde der zestiende eeuw. Studie bij de uitgaaf van den grooten plattegrond van 1597', in: *Jaarboek van het genootschap Amstelodanum 16*, Amsterdam 1918, pp. 1-103. E. Taverne also refers to Joost Janz. Beeldsnijder in connection with fortress building activities, but also to Joost Janz. Bilhamer as a surveyor for the planning of new urban areas. Taverne, *In 't land van belofte* (note 42), p. 131 (note 55, with reference to Burger) and p. 134. Finally, Boudewijn Bakker considered Joost Janz. Beeldsnijder and Joost Janz. Bilhamer to be the same individual. To support this argument, Bakker referred to a note from Nicolaes Witsen, who painted a portrait of Beeldsnijder (alias Bilhamer). Boudewijn Bakker, 'De zichtbare stad', in: Frijhof and Prak (eds.), *Geschiedenis van Amsterdam 1578-1650* (note 3), p. 18.

67. For both the Paalhuis and the Waagebouw see: Kuyper, *The Triumphant Entry* (note 31), pp. 214-215.

68. Breen, 'Topografische geschiedenis van den Dam' (note 43), pp. 124-126.

69. Ibid, pp. 128-129.

70. Ibid, pp. 130-131.

71. Boudewijn Bakker, 'De eerste gezichten van de Dam', in: *Kunstschrift 36* (1992), no. 2: *De Dam in vogelvlucht*, pp. 14-16. Regarding the painting of Jacob van Ruisdael, see: Jan Peeters, 'De stad als landschap, de stad als stillevan', in: idem, pp. 20-24.

72. Esther Gramsbergen, 'Continuity and Change. The architecture of public buildings in the centre of Amsterdam', in: François Claessens, Leen van Duin, *The European City. Architectural interventions and transformations*. Delft (DUP) 2004, pp. 118-124.

73. Kuyper, *The Triumphant Entry* (note 31), p. 222. See also R. Meischke, *Amsterdam Burgerweeshuis*. 's-Gravenhage (Staatsuitgeverij) 1975.

74. According to Taverne, after his death in 1590 Bilhamer was succeeded by Adriaen Ockersz. Ed Taverne, *In 't land van belofte* (note 42), p. 134. If Bilhamer, like Hendrick de Keyser, had been appointed as municipal stonemason in the *Fabriekamt*, then according to Kuyper he would have been succeeded following his death by Cornelis Bloemaert, the teacher of De Keyser, who would in turn have been succeeded in 1595 by De Keyser. Kuyper, *The Triumphant Entry* (note 31), p. 222. Kuyper's suggestion fills the gap in Meischke's findings regarding the renewal of the *Frabiekamt* in 1595. Meischke appears to assume that a new position was created for De Keyser and therefore does not refer to any predecessor for him. But he does refer to predecessors for Dankertz and Staets: 'The municipal mason Roemer Gerbrantsz (°) remained in service until his death in December 1594. On 2 February 1595, Cornelis I Dankertz (1536-1595) was appointed to this position. Simultaneously, Hendrick de Keyser

began his work for the city. (\*) Cornelis I Dankertz died several months after his appointment and was succeeded by his son Cornelis II Dankertsz (1561-1634). In June 1595, due to the death of municipal carpenter Adriaen Lenaertsz, this post also became vacant. Hendrick Jacobz Staets (1558 - to about 1630) was appointed to this position.' Meischke, 'Het Amsterdamsche fabriekambt' (note 4), p. 101.

75. Neurdenburg, *Hendrick de Keyser* (note 8), pp. 15-16. Neurdenburg states that Cornelis Bloemaert was appointed to the function of 'Ingenieur voor 't stadts Bouwmeester' (Engineer for the Municipal Master Builder) for the period 1591-1594 (p. 5).

76. Breen, 'Topografische geschiedenis van den Dam' (note 39), pp. 126-127.

77. Ibid, pp. 142-143.

78. Breen is unable to provide any information about this; *ibid*, pp. 141-142.

79. Ibid, p. 144.

80. Meischke, 'Het Amsterdamsche fabriekambt' (note 4), p. 107.

81. Breen, 'Topografische geschiedenis van den Dam' (note 39), p. 145. R. Meischke, 'Het Amsterdamsche fabriekambt' (note 4), p. 102.

82. Messure, *Die Architectuur der Antwerpener Börse* (note 34), pp. 22-23.

83. Stratton, 'The Royal Exchange' (note 1), p. 27.

84. Verhey, 'Warmoesstraat, Nieuwendijk en Damrak' (note 61), p. 76.

85. J.G. van Dillen, 'De termijnhandel in effecten op de Amsterdamsche Beurs' (1927), in: *idem, Mensen en achtergronden. Studies uitgegeven ter gelegenheid van de tachtigste verjaardag van de schrijver*. Groningen 1964, p. 466.

86. Lesger, 'De wereld als horizon. De economie tussen 1578 en 1650' (note 3), p. 147.

87. J.G. van Dillen, 'De oprichting en functie van de Amsterdamsche wisselbank in de zeventiende eeuw 1609-1686' (1928), in: *idem, Mensen en achtergronden* (note 85), p. 466.

88. Breen, 'Topografische geschiedenis van den Dam' (note 39), p. 145.

89. Neurdenburg reported that in mid-June a budget was made available for the trip to London. Neurdenburg, *Hendrick de Keyser* (note 8), p. 68.

90. Breen, 'Topografische geschiedenis van den Dam' (note 39), p. 145.

91. Ibid, p.146.

92. W. Kuyper, *Dutch Classicist Architecture*. Delft (DUP) 1980, p. 29.

93. Eveline Botman and Petra van den Heuvel, *Het tekeningenarchief van A.N. Godefroy, architectuurtekeningen 1841-1896*. Rotterdam (NAI) 1989, pp. 35, 101 and 103-106. This includes a reconstruction of the Amsterdam Oude Stadhuis, pp. 36 and 108-109.

94. For an extensive description of the architecture of the exchange: Neurdenburg, *Hendrick de Keyser* (note 8), pp. 68-70.

95. Beginning in 1525, designs were made by famous architects for this bridge, located in the middle of the most important market dis-

trict of Venice. Ultimately the design of the lesser-known architect Antonio da Ponte was chosen. Da Ponte was proto (building supervisor) of the Magistrato al Sal and had specific experience with hydrological projects. He built a bridge that spanned the Canal Grande with a single arch. The bridge contains small shops. A new aspect is that besides a middle lane, two lanes on the outer sides were included, which provided a view of the space of the Canal Grande. The highest point of the bridge was left entirely open. M. Kaminski, *Kunst & Architectuur: Venetië*. Keulen (Könemann) 2005, p. 52. See also: R.J. Dietrich, *Faszination Brücken: Baukunst – Technik – Geschichte*. München (Callwey) 1998, pp. 144-149.

96. With the construction of a new wing between the Louvre and the Tuileries (1594-1610), a wharf along the Seine was created as public space for the first time. This project linked up with the construction of the Pont Neuf (1578-1604), which connected the wharf along the Louvre with the west point of the Ile de la Cité and ended on the south bank. On the Ile de la Cité, the Place Dauphine was built (1607-1613). On the outer sides of the triangular square, stone wharves replaced the sandy banks of the Seine. The square opens onto the Pont Neuf. In 1614, opposite the entrance to the square at the point of the island, the mounted statue of Henri IV was put in place. Ed Taverne, 'Van Pont-neuf tot Champs-élisés, het straatbeeld van Parijs 1600-1914', in: *De straat. Vorm van samenleving*, Catalogus Van Abbemuseum, Eindhoven 1972, p. 97 with reference to: J.P. Babalon, *Demeures parisiennes sous Henri IV et Louis XIII*, Parijs 1965. Jean Castex, *De architectuur van renaissance, barok en classicisme. Een overzicht 1420-1720*, Nijmegen (SUN) 1993 (original French edition 1990), pp. 347-352. Hilary Ballon, *The Paris of Henry IV, Architecture and Urbanism*, Cambridge, Mass. / London (MIT Press) 1991, Chapters 1 and 3.



**From Vrije Gemeente to Paradiso 125 years as a venue for culture, society and music in Amsterdam**  
Roberto Cavallo and Dirk Zuiderveld

### Introduction

The district along the Singelgracht in Amsterdam has a remarkable history. It is exception-

al not only due to its development at the edge of the city directly behind the city walls, but it is also a space with striking buildings. One of these is the former building of the Vrije Gemeente (a humanistic society) on the Weteringschans, which has been the home of Paradiso since 1968. The building, originally designed as the society meeting hall for the Vrije Gemeente, has functioned for many years as a 'temple' for pop music located only a stone's throw from the famous Leidseplein. From the viewpoint of urban architecture, the building can be seen as a hinge between the large blocks of buildings on the Leidseplein and the elongated, narrower building strip on the Weteringschans on which urban villas have been built. Its position and the related urban architecture, together with the interesting uses of the building, have made it into an important link in the development of its immediate surroundings. This striking building has become a symbol of the city.

The internal transformations that the building has undergone to meet the demands of a present day pop music venue, together with its key position in the city, have given it the role of an urban artefact.<sup>1</sup>

In this article we aim to describe the urban transformations of the location as well as the origin of the building and the various architectural interventions. In the analysis we will pay special attention to the dynamic and constant elements during the transformation processes of the building. In order to provide insight into the diversity of information and sources, we have chosen a chronological structure for the article.

### Location

The first developments in the area date back to the well-known seventeenth century city expansion. The municipal decree of 1657<sup>2</sup> gave the impulse for the construction of the 26 bulwarks which would become the fortifications of Amsterdam. In 1672, the building of the fortified city wall was completed, so that the plans for city expansion, which had been drawn up in 1612, could finally be given shape. A broad canal was dug around the outside circumference of the wall: the Buitensingelgracht. Although the fortifications and the related structures were built at even distances from each other, every bulwark was given its own name and its own specific character related to the position of the bulwark with respect to the city and the surrounding land. The location where the building of the Vrije Gemeente would be built lay between two bulwarks, the Schinkel and Amstelveen.<sup>3</sup> The Schinkel was built in 1658 on the east side of the Leidsepoort (Leidse gate). Amstelveen was the next bulwark to the east, the place where the flour mill 'de Spring' (later called de Spiering) was built in the axis of the Spiegelgracht. Except for the modification of the city gates and the facilities needed for the gates, the area between

these two bulwarks, the Buitensingelgracht and the Baangracht (the current Lijnbaansgracht) did not undergo any clear development for many years. Other than minor modifications of workplaces and storage sheds located on the Lijnbaansgracht, the urban picture at this location remained virtually unchanged until about 1840. In 1844, the city council decided to give the bulwark the Schinkel to the State for the construction of the *Huis van Bewaring* (a prison). The Schinkel had many additional buildings; in Amsterdam it was known as *het Roode Dorp*<sup>4</sup> (the red village) due to the red roof tiles of the houses and sheds. This also became the common name of the first cellular prison in the Netherlands, designed specifically for this location by the architects Van Gendt and Warnsick. The design of the prison complex was based on the Pentonville model prison, which opened in 1842 in London; it was built on the example of the Panopticon.<sup>5</sup> On the side facing the Singelgracht, the prison was surrounded by a half-circle wall. This wall ended in a straight line on the Weteringschans, where the gate building was situated. The decision to situate the entrance to the prison complex on the Weteringschans resulted in the total width of the street being reduced to 13 metres, instead of the original 20 metres. Between the prison and the Amstelveen bulwark, a covered market for fruit, vegetables and flowers was then planned. After much discussion at the municipal level, the plans for the market were ultimately cancelled due to a number of objections concerning the positioning of the Rijksmuseum. The construction of the museum had a major influence on the area in question. The construction of the bridge in the axis of the Spiegelgracht and the traffic passage under the museum required the demolition of the Amstelveen bulwark and its conversion into a canal. A city council decision shortly thereafter opened the way for the public sale of the land between the Singelgracht and the Weteringschans, which later was developed as an area for urban villas.<sup>6</sup> The plots of land on the Weteringschans ultimately went on sale on 28 May 1878. Of the seven building lots for villas, only three were sold. The first lot, immediately next to the prison, was purchased on 9 October of the same year for the price of 25 guilders per m<sup>2</sup> by the 'corporate body' of the Vrije Gemeente; they planned to build the society meeting hall on this land.<sup>7</sup>

### The Vrije Gemeente

This society was established in 1877 due to dissatisfaction with the conservative and rigid attitude of the Dutch Reformed Church.<sup>8</sup> Under the leadership of the Hugenholtz<sup>9</sup> brothers, several hundred members left the Dutch Reformed Church and established the Vrije Gemeente. The association was emphatically not a church and sought religious inspiration both inside and outside



Christendom. The aim was to promote free religion and strengthen ethical awareness, in a free-thinking, non-dogmatic spirit'.<sup>10</sup>

In 1878, the Vrije Gemeente, which meanwhile had nearly one thousand members, held a closed competition for the design of a new society building on the Weteringschans. Six renowned architects were invited to submit designs: A.L. van Gendt, J.L. Springer, I. Gosschalk, N. Vos, J.H. Leliman and G.B. Salm. The rules of the competition specified that the religious beliefs of the society should become visible in the design of the new building, and the architects were given the explicit mandate to design a building that did not look like a church. Like the society itself, the building should break with the tradition of the church in general.

None of the submissions met all the requirements of the society. The design with the motto 'Beginning' by Gerlof Bartholomeus Salm was judged to be the best submission, but did not receive first prize. Only after the executive committee acquired advice from the *Architect des Konings* (government architect), L.H. Ebersson,<sup>11</sup> was Salm was commissioned as the architect for the new building.

## Two designs

G.B. Salm was one of the many architects in Amsterdam during the second half of the nineteenth century who gave shape to a city with a booming economy. The oeuvre of G.B. Salm, who later worked together with his son A. Salm,<sup>12</sup> is extensive and varied in nature and is characterized by a great 'diversity of art-historical styles'.<sup>13</sup> Both father and son were typical eclectic architects: 'Most of their designs show an adaptation of forms chosen from the entire range of architectural history, without preference for a single architectural style, combined into a non-historical collage'.<sup>14</sup>

There are two versions of the design Salm made for the Vrije Gemeente.<sup>15</sup> Both the original design and the realized design, which differed significantly, have the character of a style collage.

The front façade of the original design has a classical structure with three orders and a horizontal cornice as a termination. The middle ressault is crowned with a fronton. The two side façades are emphasized by the termination with a fronton that is higher and larger than that of the front façade.

The classical rounded arch windows, the middle order of the frontal extension, are repeated in a smaller variation in the upper part of the rear extension. The Romanesque double windows in the base of the rear extension do not appear in the front extension, while the rectangular windows of the ground floor and the arched windows of the topmost layer of the front extension do not appear on the rear extension.

The date on this design is 1879; it was therefore made less than five months before the beginning of the construction on 24 May

1879. It is unclear why the design was changed so drastically just before construction began. The fact that G.B. Salm had difficulty with the commission is shown clearly by his request that his son, Abraham, investigate a number of alternative façade motifs for the building at the library of the École des Beaux-Arts in Paris, where he was studying.

Abraham answered him in a letter dated 23 April,<sup>16</sup> slightly more than one month before the beginning of construction, in which he sketched a number of possible solutions for an alternative termination of the middle ressault of the front façade.

However, the front façade that was ultimately realized used a different solution, which showed a strong similarity with two designs of Salm's Amsterdam colleague and fellow member of the architectural society 'Architectura et Amicitia', A.N. Godefroy. These were the designs for the Nieuwe Walenkerk on the Keizersgracht (1856) and the former maternity clinic of the Binnengasthuis on the Turfmarkt (1871).<sup>17</sup> The façades of both of these buildings have a three-part structure with a cornice, where the middle ressault goes through the cornice and ends in a neck gable with a pilaster motif on the sides and the top. At the top of the middle ressault, both façades also have the combination, which is characteristic of Paradiso, of a rounded arch window, flanked by two smaller rounded arch windows (a motif that can also be seen in the sketches of Abraham Salm). Moreover, the Nieuwe Walenkerk has the characteristic Romanesque rounded arch frieze that also outlines the front extension in the implemented design of the Vrije Gemeente.

In the implemented design, the saddle roof with two frontons has been replaced by a hipped roof with the frieze. Consequently, the side façades are given a subsidiary role, which amplifies the emphasis of the front façade.

The rear extension differs very little in both designs. In the implemented design, Salm also has the pilasters protrude on the upper side, which he tops with pinnacles, probably in order to strengthen the coherence between the front and rear extension.

In the new design, only the upper frieze has been modified, and the two other friezes retain a classical character. The arched windows on the upper floor of the front extension have been replaced in the implemented design by the small, double rounded arch windows, later also used in the rear extension.

The changes have resulted in a shift in the stylistic centre of gravity. The first design makes a clearly neo-classical impression and reminds the observer of one of Salm's most well-known buildings, the aquarium of Artis, which was designed at virtually the same time as the building for the Vrije Gemeente. In the implemented design, the Romanesque elements are much more emphatically pres-

ent and it is understandable that some observers have referred to the building as being designed 'in Romanesque style'.<sup>18</sup> However, based on the development of the design and the eclectic working method of Salm, it seems justified to conclude that this is not a building in Romanesque style.

The initially neo-classical design negates the assumption that these Romanesque elements are a reference to the purity of early Christianity and the motto 'Beginning'.<sup>19</sup> As long as it is unclear why the design was modified so drastically, it remains uncertain whether or not this Romanesque symbolism played a role in the modification.

In view of the basic principles of the Vrije Gemeente, it appears unlikely that they sought to give the building a more early-Christian character. However, it is just as improbable that Salm himself could have arrived at that insight if we consider the opinion of Van der Woud: 'The eclectics did not think it was their task to morally improve society using art; they refused to conceive of architecture as an instrument in service of a higher political or religious ideal'.<sup>20</sup>

## The building

The design of the building is symmetrical. It is composed of two volumes, a tall and representative portion on the Weteringschans and a lower and plainer component in between the front extension and the Singelgracht. Although the ornamentation continues over both components, there is a clear articulation. The front extension is somewhat broader than the rear extension and distinguishes itself from the rear extension by the application of stone in the plinth, the classical windows on the ground floor, a number of decorative round windows and the Romanesque frieze near the edge of the roof.

In contrast with the front extension, the rear extension has a somewhat religious character. This is due to its roof shape, its proportions and especially the emphatically present apse on the Singelgracht.

The currently undeveloped plot of land southeast of the building was originally a small public garden, and the adjoining side façade possesses a number of special elements that are lacking in the side façade on the opposite part of the building next to the former prison. This façade contains the service entrance; what's more, the side entrance of the main hall (in view of the fact that the Vrije Gemeente expressly avoided religious connotations, so 'church' is not a suitable name) has become spatially more independent and has been constructed from sandstone. In the design drawings, this asymmetry is also recognizable in the interior of the main auditorium; only the main entrance and the side entrance on the side of the public garden have a portal; the exterior door on the side of the prison is directly accessible from the auditorium. In the implemented version, a portal was also built on the prison side, and

the symmetry in the interior was restored.

Via the main entrance, the symmetrical entrance hall provides direct access to the main auditorium. On both sides of the entrance hall there is a high-ceilinged room on the front façade flanked by a stairway to the mezzanine from which the library, the board room and the residences located above are accessible. The clarity of the symmetrical stairs in the entry hall contrasts with the diversity of the other stairs that provide access to the various levels. The symmetry has disappeared on the other levels and there is no coherence with the architectural articulation of the interior.

The clear definition of the building with two volumes – front extension and auditorium – has not been continued in the interior. The first bay of the rear extension, immediately adjacent to the front extension, is mostly not part of the auditorium. The service entrance, seen from outside, is located in the volume of the auditorium, but provides access to a zone located between the large space of the main auditorium and the supporting spaces of the front extension. This interim zone appears on all lower floors: the cellar, the ground floor, the mezzanine and the level of the first balcony. Only above this does the zone become part of the main auditorium and forms the second balcony. In cross section, this transition can clearly be seen. One result of this solution is that the large arched window in the first bay is divided horizontally; the lower part provides light to the interim zone, while the upper part provides light to the second balcony of the main auditorium.

The main auditorium has a traditional division into three naves. Light cast-iron columns support the balcony and the wooden ceiling, which is flat above the side naves and forms a barrel vault above the middle section of the auditorium. The central section of the barrel vault has been raised. The rise in the ceiling corresponds with the rise in the roof. The auditorium is ventilated through the vertical sides of both rises. The space between the roof and the ceiling of the auditorium has, like the top of the front extension, no function.

The large rounded arch windows above the first balcony give the auditorium, in combination with the cast-iron construction and the great height, a light and spacious character. In the division of the windows, a doubling of the rounded arch motif takes place, where the space between the upper side of the doubling and the underside of the rounded arch of the window is filled by a circle. This is a religious motif that was also used, for example, by Hendrick de Keyser in the West-erkerk and the Zuiderkerk.<sup>21</sup> The use of this motif appears to display Salm's ambivalence with respect to the aspiration of the Vrije Gemeente to 'separate oneself from every traditional piety'.

The twenty leaded-glass windows in the

main auditorium on the ground floor illustrate the open approach of the Vrije Gemeente to religion and ethics. On these windows the Old Testament prophet, Moses, and the Church Father, Saint Augustine, are flanked by the Roman emperor Marcus Aurelius and the philosophers Spinoza and Kant.

The doors in the side façade of the auditorium make the space directly accessible from outside, and in this way literally open the building to the outside world.

Under the entire building is a cellar that follows the plan of the upper building. The spaces along the front façade under the classrooms were used, among other things, for the youth organization of the Vrije Gemeente and were known as the *vooronder* (front-under)<sup>22</sup>.

The shape of the apse in the cellar deviates from that in the auditorium, and provides access to the podium in the auditorium. Next to the apse, there were several spaces for the leader and the speakers. The spaces between the *vooronder* and the rooms next to the apse were probably used for storage.

### Paradiso

Until the 1950s, the building functioned satisfactorily as the headquarters of the Vrije Gemeente. At the end of the 1950s, the building was 75 years old and the society was faced with the fundamental choice of completely modernizing the building or looking into the possibility of a new building. This resulted in a great deal of uncertainty for the society and for Salm's building.

At the beginning of the 1960s, the society decided to move to a new building that would be built in Buitenveldert; they chose Gerrit Rietveld as the architect. After the death of Rietveld in 1964, Van Tricht took over the commission. His building was completed in 1967.

The final Sunday service of the Vrije Gemeente in the old building on the Weteringschans took place on 3 January 1965. After this, the building underwent a period of vacancy and neglect, during which it often became the target of speculation. Its temporary use as the storage facility for a carpet company and the following period of semi-illegal use contributed to the further decline of the building, especially in structural terms. During this period, a number of important elements also disappeared from the interior of the main auditorium: the organ, the large chandeliers and all twenty leaded-glass windows on the ground floor.

The year 1967 was crucial for the future of the building. Following a tug-of-war between the municipality, various developers who threatened the building with demolition, and a group of hippies who demanded shelter at the building of the Vrije Gemeente under the auspices of the youth periodical *Hitweek*,<sup>23</sup> the building was taken over by squatters on Sunday afternoon 29 October 1967. The occupation was of short duration,

but had as consequence that the municipality, and especially the former Alderman Harry Verhey, were put under pressure to speak out about the future of the building. In January of 1968, the *Stichting Vrijetijdscentra Amsterdam* (the Amsterdam Foundation for Leisure Activities) was established; it was to temporarily manage the building. Despite the recurring threat of demolition, on 9 February 1968 the front page of *Hitweek* had an article which stated that the building of the Vrije Gemeente would be known as 'Paradiso' after 23 February. In only a month's time, the building was remodelled, cleaned and equipped to allow the official opening of Paradiso to take place on 30 March 1968.

The developments surrounding the opening of Paradiso turned out to be a harbinger of the future that the building faced under its new name.<sup>24</sup> During its first years, Paradiso was the 'magical creative centre' of the hippie movement. The combination of pop music, miraculous acts, films, light shows and drugs drew international attention. However, the energy and innovative drive of the hippie movement gradually ebbed away, and Paradiso developed with fits and starts into a leading pop music venue.

In 1975, following yet another crisis, a number of new members were appointed to the executive committee, after which the organization was drastically renewed. One of these new members was Huib Schreurs. To signal this new beginning, the white, blue and red outer façade from 1968 was painted entirely white.

Huib Schreurs became general manager in 1977, a position he held until 1990. Under his leadership the organization was professionalized, and its identity as a pop music venue was strengthened. The arrival of punk music in 1977 confirmed the leading position of Paradiso on the Dutch music scene.

In 1981, another far-reaching reorganization took place, and the building was given yet another colour: black to symbolize the beginning of the 1980s. Under the leadership of Schreurs, the programming was expanded and cultural activities took a more emphatic position in the programme. Paradiso became a 'pop music and cultural venue', a change in direction which would define Paradiso until the present day.

### Structural modification

After a rather chaotic period at the beginning of the 1990s, Pierre Ballings was appointed general manager in 1992. He was from the Dutch Ministry of Health, Welfare and Sport, and under his leadership the professionalization and institutionalization of Paradiso were continued. For the first time, plans were developed for a full-scale renovation. After 25 years, the building of the Vrije Gemeente could finally be modified with structural modifications to meet the requirements of a pop music venue. The renovation would ultimately take place in two phases. The first phase was

completed in 1994, and the second, more extensive phase took place from 2002 until 2004.

A thorough structural inventory of the interior in 1993 mapped out for the first time all the changes that had taken place during the 25-year history of Paradiso. Although many smaller renovations had taken place during the years, it was remarkable that the original structure was still virtually intact.

The four main spaces – the main auditorium, the meeting room and the two classrooms on the ground floor – still formed the heart of the building. In the main auditorium the podium had been significantly enlarged and four lower side stages improved the lines of sight. To benefit traffic circulation, two stairways had been added to the first balcony along with two stairways from the first to the second balcony. A bar and various technical facilities were placed under the first balcony. The structure that previously supported the organ, which had been used for a number of years as a DJ space, was largely demolished and the lower portion was used to expand the second balcony.

The meeting room had been enlarged by breaking out the wall to the board room and was used as a second auditorium. The classrooms were being used as reception rooms and offices and the double ceiling height was utilized to install interim floors. In the entry hall, the most important change was the addition of a draught-free portal. Apartments that previously existed on the second story and in the attic of the building were vacant.

The zones of the building that were less well defined programmatically had undergone the greatest changes. The cellar offered a location for a range of support functions: dressing rooms, a workshop, beer refrigeration, beverage storage, printing shop, technical spaces and more offices. The open zone between the front extension and the main auditorium was used at all levels for supplementary functions. The cellar contained the beverage store and print shop; on the ground floor, toilets and a cloak room had been installed; a coffee shop was operating on the mezzanine; and at the level of the first balcony, extra toilets and space for an extra passage to the second auditorium had been installed. The original links between the stories had been left virtually unchanged.

In the design from Studio di Architettura (Eric Hulstein, Umberto Barbieri) for the first phase of the renovation, the various traffic flows – visitors, artists and staff – were streamlined, and the architectural coherence between the modifications to the original building was strengthened. Extra space was created by moving all offices to the uppermost two stories of the front extension. A separate stairwell from the ground floor provided access to the offices. The vacant classrooms on the ground floor were utilized for the reception area and the cloakroom, which were designed in relation to the new

entrance portal. The double height of these spaces was utilized to install a new mezzanine to create extra public space. The partitions between the former classrooms and the entry hall were opened so that the mezzanine became a visual part of the entry hall. In the main auditorium, the added stairways were removed.

The cellar became accessible for the public through the addition of a stairway from the ground floor; the new toilets were also installed here.

In addition to the new stairways to the offices and the cellar, the zone between the front extension and the rear extension also provided space for a lift. The space of this zone that is part of the second balcony was made spatially independent and removed from the main auditorium. In the spaces thus created, new stairs from the first to the second balcony were installed and the space could be used for a number of support functions. The original depth of the main auditorium, which is equivalent with the visible volume on the outside, could then only be seen on the inside from above the third balcony, which was used for the spotlights.

The outside of the building remained unchanged, but in accordance with Paradiso tradition it was given another colour that reflected the developments in the organization and the building. All paint layers were removed from the brick façade, and for the first time in more than 25 years the building could be seen as it was originally built. It recovered its monumental position in the historical urban landscape, and in this way reflected the status achieved by Paradiso in the world of Dutch pop music and culture.

Beginning in 1997, Studio di Architettura worked on the design of the second phase of the building renovation. The initial mandate was to expand the capacity of the main auditorium by enlarging the second balcony and to improve working conditions by creating a covered loading platform on the side of the former public garden. In addition, the ventilation and electrical installations would be entirely renewed.

An important additional requirement was that Paradiso would remain open as much as possible during the renovation. During the entire eighteen-month renovation, Paradiso would be closed for only four weeks, during which the most drastic construction activities were completed in the main auditorium.

The mandate was expanded to build a new cellar as storage space under the former public garden; as a result, the existing cellar, after having been deepened, could be used as a public space. This also led to the complete renovation of the cramped and outmoded dressing rooms in the cellar. In addition, a bar was installed on the first balcony and the small auditorium was renovated. The bar in the small auditorium was moved to the adjacent space, which returned more of the original character to the small auditorium and

provided it with more usable space for concerts.

In 2000, Studio AI (Dirk Zuiderveld, Roberto Cavallo) took over the renovation mandate from Studio di Architettura.

Due to the tragic café fire in Volendam on 1 January 2001 and the resulting stricter enforcement of fire safety requirements, the usage permit of Paradiso was amended in the summer of 2001. Although Paradiso always assured fire safety in close consultation with the fire department, the fire department had imposed supplementary requirements for the escape routes. During a period of only two weeks, three new emergency exits were realized in the outer façade.

The supplementary fire safety requirements also had consequences for the design of the second phase. An emergency stairwell was installed that linked all the floors accessible to the public. Several stairways were widened, along with many doors.

For that matter, in 2004 it would turn out that the extra requirements imposed by the fire department based on the Building Act were not justified. Many of the drastic measures to ensure compliance that were carried out in 2001 and during the implementation of phase two were not actually required. However, some of the damage caused to the building during these modifications cannot be restored.

In the meantime the mandate had become so extensive that changes would take place almost everywhere in the building. As a result, it became possible to improve the total appearance of Paradiso, and this would become an important supplementary aim of the project. The point of departure was the maintenance of the special atmosphere of the building, the unique combination of monumental nineteenth century architecture and the contemporary dynamics of a pop venue.

The coherence of the various spaces in the building was strengthened by fully linking a number of small structural modifications with the original materials and details of the building. This linkage was improved by the consistent application throughout the entire building of a new colour scheme, which was somewhat lighter in character. Due to the colour choice, the monumental architectural elements and the rich detailing were given more emphasis. The leaded glass was restored or rebuilt at a number of locations, and the original lighting fixtures from the main auditorium, of which only a single example was still intact, were copied and reinstalled at the original locations.

The new elements of the project that impacted the image of the building were the following: the loading platform, the second balcony, the new stairwell, the artist's foyer in the cellar and the three bars. These elements were constructed of materials which, to a greater or lesser extent, clearly distinguished themselves from the existing building, but

were realized as much as possible within the original architectural design and structure of the building.

The covered loading platform was the most striking change on the outside of the building. The rhythm of the design and the architectural means used were based on the existing building, while the materials used are clearly different. The combination of galvanized steel and concrete gives the addition a contemporary character and creates a respectful contrast with the materials of Salm's design.

Zinc was also used in the two new ventilation towers on the roof of the main auditorium, which echo the two towers that were part of Salm's original design, but were never built.

In the interior, the zone between the front extension and the rear extension once again underwent an important change. The use of the intermediate zone on the side of the new construction has remained virtually the same as it was during phase one, and the stairway to the offices and the lift form an important part of the internal organization. On the other side of the building there was more fundamental change: from the level of the cellar to the second balcony, all previous uses were replaced by a new stairwell that links all these levels for the public. To function as an escape route, it was essential that a direct connection with the outside was created. The original service entrance on the side of the former public garden was copied and in this way reflects the development of the public space around Paradiso: the original public garden has partly become the loading space for Paradiso and has partly become a building lot, while on the side of the former prison, a small public square was created on the roof of an underground bicycle parking facility.

The materials used in the new stairwell link up with those used in the original building; white oak, plaster work and wooden mouldings. The grey-green steel railing, built with adhesive, creates a contrast that is characteristic of the project.

The second balcony along the side façades distinguishes itself clearly from the existing balcony. The steel construction was developed within the architectural rhythm of the building and it is suspended from the roof structure. The middle portion of the second balcony is a reconstruction. The original cast-iron balustrade elements have been reused, but the position, main design and other materials are not original. The character of the new artist's foyer clearly deviates from the original building. The perforated steel screen between the hallway and the foyer, the lighted polyester panels in the bar and the modern furniture give this space, in combination with the original masonry arches, a contemporary feeling.

On 28 November 2004, when the festive reopening of Paradiso took place, plans for

new renovations were already in development: the opening is only an interim station on a continuous journey of change.

### Urban artefact

During the 125 years of its existence, the building of the Vrije Gemeente has acquired an important place in the cultural and societal landscape of Amsterdam. The transformation by a society building to a pop music venue has increased its importance in and for the city.

The economic, cultural and urban architectural developments in the immediate surroundings of the building have strengthened this position. During the twentieth century, the area around the Leidseplein had developed to become the most important entertainment centre of Amsterdam; in addition to a large concentration of restaurants and cafés, the area contains a number of leading theatres and cinemas. Due to the conversion in the 1980s of the neighbouring prison complex into apartments, food service facilities and the De Balie cultural centre, Paradiso has become linked directly with this entertainment centre.

The building functions as an urban architectural hinge between the large blocks of buildings on the Leidseplein and the elongated and narrower strip with urban villas on the Weteringschans (see the introduction). This hinge function has been given extra importance due to the fact that the building marks the limit of the entertainment centre of the Leidseplein. The relatively autonomous position of the building is strengthened even further due to the construction at the end of the 1990s of a public square on the roof of an underground bicycle parking facility located between Paradiso and the former prison.

The successful transformation of a society's building to a pop music venue was made possible by the combination of a large auditorium, also suitable for pop music, and the programmatic flexibility of the other spaces. Due to this flexibility, Paradiso was able to experiment with a pop music programme that was new to the Netherlands and in this way has had a major influence on the development of other pop music venues in the country. This continuous process of rebirth has lasted until the present day.

The special position of the building in the urban fabric and the important and continuing contribution to the cultural and societal climate of Amsterdam resulting from its transformation and change make this building into an excellent example of an urban artefact.

### Notes

1. As Aldo Rossi states in his *Architettura della città*. Padua (Marsilio Editore) 1966; Dutch translation: *De architectuur van de Stad*. Nijmegen (SUN) 2002, an urban artefact is a building or monument that, irrevocably linked to its locus, can serve as a memory

support, as a symbol of the city.

2. The municipal decree was signed by the burgomasters C. van Vlooswijk, G. Schaep, J. Huijdecoper and A. de Graeff as reported in J. van Eck, *De Amsterdamsche Schans en de Buitensingel*. Amsterdam (P.N. van Kampen & Zoon) 1948, p. 108.

3. *Ibid.*, p. 144.

4. *Ibid.*, p. 145.

5. An extensive discussion on this topic can be found in T. Morris, *Petonville. A sociological study of an English prison*. New York (Routledge) 2000.

6. The book *Amsterdam als stedelijk bouwwerk* by Casper van der Hoeven and Jos Louwe (Nijmegen [SUN] 2003<sup>2</sup>), provides an extensive description of the transformation of this part of the city (beginning on page 77). The changes on page 83 are well illustrated with schematic drawings.

7. Van Eck, *De Amsterdamsche Schans en de Buitensingel*, p. 148.

8. (Anonymous). *De Vrije Gemeente*. Amsterdam s.a., p. 1.

9. The brothers Ph.R. Hugenholtz and P.H. Hugenholtz were two Amsterdam clergymen; following a conflict over the confessional formula, they distanced themselves from the *Nederlands Hervormde Gemeente* (Dutch Reformed Church) to form a new religious group, as described in: L. Mutsaers, *25 jaar Paradiso. Geschiedenis van een podium, podium van een geschiedenis*. Amsterdam (Jan Mets) 1993, p. 11, and in: J. Hartman, *De Vrije Gemeente. Verleden, heden en toekomst*. Amsterdam (Vrije Gemeente) 1997, 2001, p. 2.

10. Hartman, *Vrije Gemeente. Verleden, heden en toekomst*, p. 6.

11. L.H. Ebersson (1822-1889) was a well-known architect and was frequently asked to be a jury member for architectural competitions. In this function, he was involved, among other things, with the competition for the Amsterdam Exchange.

12. G.B. Salm (1831-1897) established an architecture bureau with his son, A. Salm (1857-1915) in 1881, where they often worked together on designs.

13. In J. Kuyt, N. Middelkoop, A. van der Woud, G.B. Salm & A. Salm Gbzn – *Bouwmeesters van Amsterdam*. Rotterdam (010) 1997, an essay is included from Auke van der Woud about eclecticism: 'Architectuur voor een nieuwe geschiedenis', pp. 10 ff.

14. *Ibid.*, pp. 10-11.

15. In the article by R. Hoogewoud and Louis Feisser, 'Vrije Gemeente / Paradiso moet blijven', in: *Wonen-TA/BK*, nr. 18, 1975, these two variants were published for the first time, p. 15.

16. In Kuyt, Middelkoop and Van der Woud 1997, sketches from this letter are included, p. 20.

17. See for example *ibid.*, p. 11, and G. Kemme (ed.), *Amsterdam Architecture*. Amsterdam (Thoth) 1987, p. 78.

18. In Hoogewoud and Feisser 1975, it is sta-

ted that the building of the Vrije Gemeente was 'titled' as such by contemporaries; however, no sources are given, p. 16.

19. In Hoogewoud and Feisser 1975, this hypothesis is expressed, although cautiously, p. 15.

20. Kuyt, Middelkoop and Van der Woud 1997, p. 12.

21. In W. Kuyper, *Dutch Classicist Architecture*. Delft (Delft University Press) 1980, design drawings of De Keyser and photographs of both churches are included, see pp. 337, 340, 341.

22. The book *Vrije Gemeente* includes a photograph with a description of the space.

23. Willem de Ridder was the driving force behind this periodical. Together with Ruud Tegelaar (Youth and Music), Matthijs van Heijningen (Sigmacentrum) and Koos Zwart, de Ridder sought a building that was suitable for the Provo activities as described in *25 jaar Paradiso: geschiedenis van een podium, podium van een geschiedenis*, pp. 13-19.

24. In Mutsaers, *25 jaar Paradiso*, the history of the origin and the first 25 years of the existence of Paradiso are described extensively.



## The Oostelijk Havengebied (eastern harbour area) of Amsterdam and the railway line: architectonic interventions with an eye to urban continuity

Roberto Cavallo

The constant transformations of the city and the accompanying architectural issues are very interesting topics to study. With special attention to the Dutch City, the above themes are extensively addressed in the Urban Architecture MIT<sup>1</sup> of the Faculty of Architecture, Delft University of Technology. The research programme focuses specifically on studying the relationship between urban transformations and architectonic interventions. Due to an approach in which education and research activities are interwoven, students and lecturers work together in the 'Masters Thesis Studios' of Hybrid Buildings/Urban Architecture on current changes at a number of crucial locations in the Randstad.

In this article, several results from one of these Masters Thesis Studios will be discussed. Firstly, the general themes concerning the project location will be addressed, then I will provide an explanation of the 'Master Plan' proposed by the students, and I will end the article by presenting a number of projects that have been worked out by individual students.

### The eastern harbour area of Amsterdam and the railway zone

In the past three years, the Amsterdam Masters Thesis Studio has concentrated on the area around the railway zone in the Oostelijk Havengebied (eastern harbour area). Viewed historically, the inner city and the eastern side of the waterfront of the IJ have not been linked with each other since the seventeenth-century expansion of Amsterdam. In fact, this part of the city has always had the character of an outlying area. Due to the harbour and industry being located there, people have always sought to separate this location from the rest of the city for many reasons. The separation was first realized with the construction of the Plantage. After the construction of the railway dike around 1880, this part of the city became even more isolated from the historical city centre. With the further growth of the harbour and industrial activities, the railway was expanded with various branches in order to provide direct railway access to piers and warehouses. Over the years, the rail traffic increased, and the further development of the harbour islands was partly determined in functional and morphological terms by the presence of the railway. The area in question has been split into two sections by the railway dike. In the section on the IJ to the north of the railway, where the islands KNSM and Java were built, the destination primarily concerns the harbour. The islands Kattenburg, Wittenburg and Oostenburg south of the railway, constructed soon after the seventeenth-century city expansion, offered space to the harbour and industry, and were later used for residential construction.<sup>2</sup>

After the harbour activities moved elsewhere, along with most of the industry, the location – with its unique geographical situation – offered a great deal of space for new development. The city council had the intention of strengthening the image of Amsterdam as a 'city on the water' by developing the waterfront of the IJ. New buildings on the former harbour islands to the north of the railway, the area along the IJ and the expansion of the Central Station were intended to give shape to this idea. Large-scale projects such as the KNSM and Java islands and the Borneo Sporenbrug have been completed in the meantime. In their design and realization, the urban designers attempted to find linkage with the urban planning and the architectonic characteristics of the inner city of Amsterdam. This is especially the case with the

Java island. This approach has largely been successful; these projects have become highly desirable residential locations and are very widely known inside and outside architectural circles.<sup>3</sup>

In addition, the new waterfront of Amsterdam on the IJ is characterized by a strip of land between the water and the railway which contains the new Muziektheater (music theatre), the Passenger Terminal and a number of new buildings designed by renowned architects.<sup>4</sup> Despite the close proximity to the city centre, it must be noted that these latter buildings do not link up seamlessly with the inner city. Although this is often presented in another light in the sales brochures, the size of the building plots and the ultimate design and scale of these realizations have more in common with the former harbour warehouses than with the canal-side houses. In any event, we can ascertain that the waterfront of the Oostelijk Havengebied of Amsterdam has been completed with the realization of these buildings.

### Theoretical framework

In the design studio, the first data were collected and an inventory was made in an easily usable digital database. Besides collecting insightful information, at the same time we began with brainstorming about the location and its relationship to the city. From this discussion it emerged that in view of the recent developments, a number of unsolved problems have continued to exist, especially on the south side of the railway. Here as well, projects have been completed recently. The demolition of several empty buildings on the terrain of the former Stork factory<sup>5</sup> created the space for the construction of the INIT complex.<sup>6</sup> In addition, the housing project Het Funen<sup>7</sup> was completed in a triangular space enclosed by the railway, the Cruquiuskade and the blocks of buildings on the Czaar Peterstraat. Finally, the public spaces in the area of the Czaar Peterstraat underwent a major renovation in an attempt to provide linkage with the developments on the other side of the railway.

One of the results of the analysis of the area conducted in the studio, was that despite the intrinsic qualities of the recently completed building projects, this location as a whole is lacking in coherence in terms of urban planning and architecture. The conclusion of the analysis was that no satisfactory solution could be found for the problem of the railway barrier. The presence of the large railway shunting yard, previously part of the Stork complex and no longer used today, makes the separation between the two sides of the railway even more noticeable. In order to provide a better integration between the strip of new construction to the north of the railway dike and the realizations to the south, the redevelopment of this railway shunting yard could play an important role. In reality, however, the ownership situation<sup>8</sup> of this

shunting yard makes possible interventions in this area very problematic. Therefore, we chose to make a further investigation of this area. By going beyond what project developers and the municipality believed to be realistic and feasible, we could, by means of experimental interventions, map out possible future scenarios.

It soon became clear that answering the 'how' and 'why' of these experimental interventions required a suitable theoretical foundation to prevent every project from remaining an exercise in itself. The first thoughts about the theoretical framework concerned possible visions of the railway in relation to the city. My own proposition is that the railway can be seen as a series of architectonic elements that strongly influence the form and spatial development of their surroundings. The direct consequence of this interpretation is that all interventions in the city that focus on building and/or modify the railway must be seen as architectonic tasks.

To support this proposition, I used the writings of Kevin Lynch and Aldo Rossi on this topic. One of the important points of departure of both the authors is that they view the city as an architectonic construction that has developed in the course of time. While Kevin Lynch in his book *The Image of City*<sup>9</sup> writes about the perception of the city, Aldo Rossi, in his book *De architectuur van de stad*<sup>10</sup> (*The Architecture of the City*) focuses primarily on its construction. Perception and construction of the city are complementary concepts, both being instruments to study the relationship between the city and the railway.

Kevin Lynch places the contents of the 'city images' in five categories of elements: 'paths, edges, districts, nodes and landmarks'.<sup>11</sup> With respect to paths, he contends that 'those are the channels along which the observer customarily, occasionally, or potentially moves. They may be streets, walkways, transit lines, canals, railroads'.<sup>12</sup> In other words, according to Kevin Lynch, the railway, as one of the paths, is an element that enables us to perceive the city. In the section of his book where Rossi refers to the generating elements of the city, he emphasises the fact that, 'To define primary elements is by no means easy. When we study a city, we find that the urban whole tends to be divided according to three principal functions: housing, fixed activities and circulation. Fixed activities include stores, public and commercial buildings, universities, hospitals and school. In addition, the urban literature also speaks of urban equipment, urban standards, services and infrastructures. To simplify matters I will consider fixed activities as included within primary elements'.<sup>13</sup> The railway is an infrastructure, one of the fixed activities referred to by Rossi, and as such it is also one of the *primary elements*. These are elements which are 'capable of accelerating the process of urbanization in a city, and

they also characterize the processes of spatial transformation in an area larger than the city. Often they act as catalysts.<sup>14</sup>

If we place the assertions of both authors next to each other, we can ascertain that the railway is one of the generating elements of the city that often functions as a catalyst and provides the possibility of perceiving the city. As a result, an architectonic perspective is linked to the construction of viaducts, bridges and other elements that form the railway.

Another one of Rossi's interesting points of departure is the concept of continuity of the urban space, as he describes in the article 'I problemi metodologici della ricerca urbana'.<sup>15</sup> In this article, Rossi explains that all events that have taken place in a city, or a specific part of the city, have a common nature and that there are no fundamental interruptions in this series of elements that are situated in the same city (or a part thereof). If we apply this theoretical framework to our intervention area, we would be able to view the railway as an element of transition and not necessarily as a barrier.

#### Master Plan

The above propositions and thoughts about the relationship between city and railway were addressed extensively in the framework of the Masters Thesis Studio. The way in which the students formulated their plan of approach with respect to the location was influenced to a certain extent by this theoretical background. In fact, the joint Master Plan for the location is based on the view of the city and railway as architectonic elements and on the conception of the continuity of the urban space. These points of departure have made it possible to include the north and south sides of the railway in a proposal for an intervention in which the railway itself no longer has to be an unbridgeable barrier.

One of the aims of the Master Plan is to create an urban fabric in which both sides of the railway can be integrated. In the figures included in this article (Figure X, Figure Y, etc.) the students indicate in which areas surrounding the railway construction can take place. As stated previously, an important characteristic of the location is that it is sliced in two by the railway. As a result, all large plots of land have been cut into at least two parts. For every plot of land, it is essential that a link is established between the part to the north of the railway and the part to the south. Different subdivisions or combinations of the railway create interesting interim areas that contribute to the apparent narrowing of the railway infrastructure and its physical impact.

Other themes of the Master Plan concern the establishment of general rules, such as maximum building heights and building alignment. The theoretical approach sketched above has, from the viewpoint of the perception of the city, a direct influence on the way in which the façades of the new buildings

and the railway react to each other. Via the façades on both sides of the railway, the architecture of these buildings plays a special role in the interaction between new and existing blocks. At the same time, the railway section of the project becomes not only an engineering task, but is also an architectonic theme that must be solved within the blocks. The presence of the railway in or next to the parcels of land contributes to the hybrid character of the blocks.

Due to its combination of ideas and construction possibilities, this Master Plan provides a starting point for the further development of architectonic proposals. The empirical approach that has been used for drawing up the Master Plan only determines the basis for the various tasks. Additional architectonic solutions are not explicitly included in the plan in order to provide space for their individual completion by the students.

The plans that are presented here give an idea of the broad variation of approaches that the students have chosen with respect to the Master Plan and the location. Although the design studies do not always link up with the expectation of the research, the results of these projects have been very positive. An important question that all students have asked themselves is: how can the theoretical framework be used as a point of departure for the architectonic interventions?

#### 'In het recht(e) spoor' (On the right track), Martin Elso

Martin Elso worked out his proposal by following the Master Plan's main principles in their entirety. First he studied how to deal with the partial substitution of the existing railway yard by building a new viaduct at the same height. He treated the new viaduct as an 'urban basement' under, above and next to which new functions could be housed. His initial approach to the project was very technical. While investigating how to combine the realization of the railway and construction in general, he came across many interesting technical aspects that are clearly visible in the preliminary design. He thoroughly analyzed the problems of the foundations, the acoustics and the vibrations for both the railway and construction.

The scale of this project recalls the one of the new interventions recently completed on the IJ waterfront; the 'Detroit' and 'Chicago' buildings are good examples.<sup>16</sup> The project's position is strategically chosen: exactly on the intersection between the Czar Peterstraat (an important urban axis) and the railroad underpass already planned by the municipality of Amsterdam. In terms of architecture, the main theme was how to make a building which fronts on both sides of the railroad, thereby also functioning as a gate to the historical centre of the city.

Martin looked for a very clear solution in terms of size and position of the building. The

outlines and shape of the building follow the urban texture of the existing blocks of building at the south side of the railway. On the north side and parallel to the railway tracks, he designed a long elevation, characterized by the semi-open courtyard ending in the gate and continuing on the other side in the Czar Peterstraat. Due to its strategic position and its great size, Martin decided to look for a very representative function for the building; he chose the new main Court of Justice for the city of Amsterdam. The programme and requirements for such a public building were difficult to solve on this complicated location. The parking garage, storage and some temporary residential facilities are situated on the ground floor, partly under the railway viaduct. Offices and facilities are situated directly above the basement, which contains shops, along the boulevard parallel to the railroad. Through the main entrance, located in the semi-open courtyard, the visitors can access the main common hall positioned directly on the railway. This main hall, interpreted and designed as a raised covered square, is the core of the project. Here we can find all the different rooms of the Court inserted as hanging blocks and defining the rhythm of the huge glass roof. The materials and layout of the elevations contribute to the idea of giving a massive image to the building. While entering the semi-open courtyard and looking towards the gate, the visitors can see all the layers of the project: the urban blocks marking the underpass, with the visible railroad level covered by the main glass hall located above. In this project, the infrastructure and the building are combined in a very substantial fashion.

#### 'Urban Living', David Philippen

The approach of this project is based on the problem of how to emphasize the connection between the two sides of the railway. The building alignment, the shape of the blocks and the re-use of the marshalling yard, which were so important for Martin Elso's proposal, are only the starting points for this second project. The attempt to design a complex with a unitary architectural language is far more important to this project than fitting it into the outlines of the Master Plan. The main theme, how to link the two parts of the city separated by the railway, is the inspiration for the symbolic architectural interpretation: crossing the railway becomes an opportunity to create a building that stands as a gate to the city centre.

This 'Hybrid Building' is the programmatic sum of the heterogeneous functions organized around an inner courtyard. A cultural centre, gymnasium, supermarket and other smaller facilities are integrated with offices and with dwellings above.

David Philippen worked out his intervention as a sculptural building flowing together with the complex surroundings. Although the railway (divided into two zones) and the park

literally slice the project into strips, there is a strong will to interlace all the different parts of the site through the building. The design of the inner courtyard as an important public space was crucial during the development of the project. Besides serving as an access to the various functions, this space works as a filter between the busy road at the north side and the quieter south side of the railway zone. The problem of circulation around and inside the intervention is solved by constantly looking to the relationship between the possible users and the surrounding space. Materials and details of the complex are handled with special care. The result is a very interesting proposal that claims the autonomy of the building in a context where the infrastructure plays a primary role.

#### 'Beauty in the Margin', Leander Moons

The current state of the location along the railway as a marginal context, as 'leftover' space in the city, provides the opportunity to take a completely different position towards the problems sketched out in the Master Plan. Operating at the edge of the site, in a zone between railway and water, Leander Moons designed his Beauty & Health centre using the core of the building as the starting point of his project. The crossroads where a slow traffic route parallel to the railroad meets an existing road marks the position of the complex, which houses a beauty centre, a gym and a swimming pool. Its form, structure and dimensions are the result of a design process based on the multiple transformation of a block of canal houses typical of Amsterdam's historical centre. The visual interaction between the passers-by along the waterfront and the customer of the beauty complex is a very important issue to understand the project.

From the slow traffic route passing along the entrance of the building, the visitor can catch a glimpse of the deepened gardens as well as a wing of the covered swimming pool. The building requirements are carefully combined with aspects like the natural and artificial illumination and the acoustics of every space. Cold, massive and warm materials are combined in order to strengthen the experience of the customers when they enter the specific spaces of the complex. The functions that are benefited by a higher degree of intimacy are strategically placed under the water level. Although shape and position of the building were not generated by the Master Plan, there is a strong will to link the project with this context. The way the slow traffic route passes through it, the visual relations between inside and outside, the way the building meets the water and last but not least, the completion of its form inspired by the historical city blocks create the indirect but significant connections between the building and this particular site.

## Notes

1. Research programme 'Urban Architecture MIT: Modification, Intervention and Transformation of the Built Environment', Faculty of Architecture, Delft Technical University.
2. See also J. van Eck, *De Amsterdamsche Schans en de Buitensingel*. Amsterdam (P.N. van Kampen & Zoon NV) 1948.
3. See also J.E. Abrahamse, A. Jolles e.a., *Oostelijk Havengebied Amsterdam*. Rotterdam (NAi Publishers) 2003.
4. This refers to the recently completed buildings in the Oostelijk Havengebied of Amsterdam. Examples of these buildings include the 'Detroit' building designed by AWG Architects, the 'Chicago' building of Rapp & Rapp and the apartment building 'De Loodsen' designed by Köther and Salman.
5. The former terrain of the Stork factory is located on the Oostenburgereiland on the south side of the railway.
6. The Czaar Petergebouw, also known as INIT, is the first new building that was completed on the Oostenburgereiland. In this building, designed by Groosman and Partners Architects, the 'Werf Binnenstad' is combined with commercial functions.
7. The Funen project comprises an elongated apartment complex on the Cruquiuskade, an apartment building 'de Sporenboog' along the railway, and an inner area with urban villas, 'het Funenpark'. In total this project contains 565 residences. The Master Plan is a design of the Architecten Cie.
8. The railway, railway dike and shunting yard are owned by the Nederlandse Spoorwegen (Dutch Railways). The wharf and a strip at least three meters wide along the water are owned by the municipality.
9. K. Lynch, *The Image of the City*. Cambridge, Mass. (MIT Press) 1960.
10. Aldo Rossi, *De architectuur van de stad*. Nijmegen (SUN) 2002.
11. Lynch, *The Image of the City*, p. 46.
12. *Ibid.*, p. 47.
13. Rossi, *De architectuur van de stad*, p. 91.
14. *Ibid.*, p. 93.
15. The article 'I problemi metodologici della ricerca urbana' (Methodological issues in urban research), was included in the compilation: *La formazione del concetto di tipologia edilizia*. Venetia (CLUVA) 1965. The article was also published in: Aldo Rossi, *Scritti scelti sull'architettura e la città*. Turijn (CittàStudiEdizioni) 1975.
16. See note 2.

## [Polemen]

### Book review

Guus Borger

Wouter Reh, Clemens Steenbergen & Diederik Aten

**Zee van land. De droogmakerij als atlas van de Hollandse landschapsarchitectuur (A sea of land. Land reclamation as an atlas of Dutch landscape architecture)**  
Amsterdam (Architecture & Natura), 2005, 340 pages

In this voluminous and beautifully-illustrated book, the authors take the reader on a search for the authentic landscape architecture of North Holland land reclamation. Their aim is to analyze and typify the design language of this land reclamation in such a way that its design instruments are exposed and a framework is established in which the form of the historical man-made landscape can be updated. In a time in which urbanization and restructuring are advancing unrelentingly, also in the rural areas of North Holland, the authors believe there is an urgent need for such a framework. According to the authors, acquiring more in-depth knowledge about the architectural structure of the reclaimed landscape is necessary not only to improve our understanding of the issue of development and transformation, but also as a means to search for an authentic landscape architecture that can both protect the Dutch heritage and create possibilities for the responsible and creative use of the past. The question is therefore whether the study of land reclamation in North Holland can provide building blocks for a 'grammar of landscape architecture' that would make it possible to provide access to the programme and design of the current landscape and consequently mean something of importance for present-day design tasks. The authors do not conceal the fact that this question was prompted by the disappointment about the results achieved by many designers of natural areas for recreation and of 'new' nature. They ascertained with dismay that we have actually been tricked.

The authors therefore embarked on a search for a contemporary balance between conservation-by-protection and conservation-by-development. In this regard, their work is indeed pioneering. There have been many discussions that extensively address the qualities of the Dutch polder landscape. These discussions usually concern the engineering/hydraulic engineering aspects and are less involved with the field of tension between the conflicting interests that played a role in land reclamation and that have been crucial to the design and development of the new land. What is entirely lacking, however, is an analysis of the landscape-architectural design of the land reclamation process in the

perspective of the future use of the new land. It is this void that the authors intend to fill with their book. Due specifically to the role that water has played in the development of the new land, dike building and land reclamation have been able to play a key role in linking typical Holland landscape architecture with an urban development tradition in which water customarily plays a crucial role.

In their research, the authors began with the proposition that the peat districts and the reclaimed landscapes in the lowlands of Holland are closely linked together. The landscape lies anchored in the large bodies of water, the coastal landscape and the streams in the peat bogs, while the topography of the reclaimed peat lands is laid as a matrix over these natural landscapes. Their point of departure is that land reclamation has placed a unique architectural stamp on the peat lands, and has therefore given expression and shape in a characteristic fashion to the interaction between natural landscape and reclamation. In addition, they assume that the system of forms, both of rural areas and urban settlements, besides explicit elements also has implicit architectural determinants of lines, points and surfaces, spaces and sight relations. The authors call this the 'imaginary architectural landscape' and believe that this landscape can be understood as an architectural composition, as a design in the tradition of landscape architecture. They surmise that four formal processes play a role in this composition: the geometrical land form, the spatial form, the image structure and the programme form. In the final chapter about landscape architecture in Holland, the nature of these four elements and their importance to 'polder grammar' are explained most clearly. The research on which this book is based focuses on the question of whether these four layers of meaning can be seen in a structural fashion as part of land reclamation in North Holland. The fact that the authors have high expectations is completely justified. After all, the land reclamation process, and especially that in North Holland, was an important school for the development of the disciplines in the Netherlands that are involved with the design and development of space!

The book opens with a well written and very readable sketch of the cultural-historical backgrounds of the landscape, the architecture and the society of the area (primarily the Western Netherlands). I frowned at several points, but such points keep the reader on his or her toes. Then the authors focus on the land forms of the lowlands of Holland, the river area, the coastal zone and the peat district. This approach is correct in itself, but it is clear that the authors are not well-versed in this material. The geological and landscape reconstructions are generally adequate, but for the archaeology of the Netherlands, the authors used a general reference work from

1970. The latter book was quite an accomplishment at the time, but it is no longer very relevant. As a result, the authors have missed the entire dynamic of the settlement pattern of the North Holland peat pasture lands since the reclamation. Moreover, in North Holland there are no standardized plots of land with previously-determined dimensions. Such standard dimensions are characteristic of the *cope-ontginningen* of the South Holland-Utrecht peat district, but do not appear in North Holland. A more interdisciplinary approach would have led to better results here. In addition, in the authors' sketch of the water management organization, any North Holland nuance is lacking; the authors missed the fact that West Friesland remained independent until it was conquered by Floris V in 1288. Before that time, the social relations to the north of the IJ were largely determined by Friesian legal relations, and these affected the administrative and water management relations for many years thereafter. As a result, the monitoring of dike maintenance and the water management tasks in North Holland were characterized for centuries by a fragmentation that would have been unimaginable in the more southern parts of the *graafschap*.

Proper understanding of the forces shaping the natural landscape and the opening up and reclamation process does not require a complete overview of the current insights of all relevant disciplines. This is not only impossible, but is also unnecessary. However, it would have been desirable to place the field of tension between natural processes and human interventions – in a more responsible and balanced fashion – in the context of the long history of the continuously-changing interaction between people, technology and nature. The book does not focus on this continuously changing interaction, but rather on the question of whether North Holland land reclamation can be understood as a landscape-architectural composition. Stated another way: does the relationship between farmhouse, farmyard, standard plot and polder block provide a usable framework for the design of a new man-made landscape in the reclaimed lands of North Holland? The elements cited above were considered by the authors as the basic ingredients for the modular construction of the new land and consequently of land reclamation as a coherent structure.

In the book, the cradle of North Holland land reclamation is sought in the area around Alkmaar. This was also the school for practising the world of forms that has been crucial for the development of the later dike-building projects. For these reasons, the search for the landscape architectural form of land reclamation began by sketching a history of dike construction and the land development of a number of small lakes around Alkmaar. The urban expansions and the land consoli-

dition of Geestmerambacht have largely obscured the traces on the landscape of these early land reclamation projects. Old maps and historical documents create the impression that it was initially pragmatic considerations that played a role in the design and development of the new land. This is totally different in the case of the dikes built around Zijpe in 1597. In many respects, the authentic landscape architecture there is still clearly recognizable in the current landscape. Although Zijpe concerns a dike building project and not land reclamation as such, the exemplary role that this polder assumed in later land reclamation projects completely justifies the fact that Zijpe is given a place in this book. Moreover, the difference between building a dike around an area and land reclamation is not so great if one pays attention to the landscape architectural design of the space. The authors therefore justifiably conclude that Zijpe, in a number of respects, is the prototype of the North Holland reclaimed landscape, although they also ascertain that in this dike building project, development of the space was not based on an 'agricultural ideal standard dimension'.

The discussion of the creation and development of the Zijpe polder is followed by a discussion of a large number of North Holland land reclamation projects. These are Wieringerwaard (1611, actually a dike-building project), Wogmeer (1608), Beemster (1612), Watergraafsmeer (1629), Purmer (1622), Wormer (1622), Heerhugowaard (1630), Schermer (1635) and Haarlemmermeer (1850). This is followed by Anna Paulownapolder (1846) and Wieringermeer (1930). The latter is also classified as dike-building because the Afsluitdijk had not been entirely completed when the polder was enclosed. For all these polders, the authors provide a brief characterization of the soil conditions, the history before the dike building, the process of development and design and several aspects of the later use of the land. These are all jewels of local historiography. For this reason alone, the book is worth purchasing. However, the authors want to achieve more. They are concerned with the analysis of the landscape architectural design of these land reclamation projects and the question of whether there is a 'grammar' that is applicable for future use; the authors also discuss the changing development of the reclaimed lands, or more broadly, the landscape of the Western Netherlands.

While searching for a usable grammar, the discussion of each land reclamation project is completed with an analysis of the landscape architectural form. This analysis shows that the geometric layout of the polder is apparently the simplest to understand and to express in words. More striking, however, is that the four formal processes are not addressed with equal emphasis in all of the land reclamation projects. These four elements of 'polder grammar' are discussed

extensively in the case of Beemster, but the landscape architect traditionally and almost self-evidently sees land reclamation as the 'virtuoso moment'; in an architectural sense its presence is both very outspoken and very reserved. In the final analysis regarding Schermer, which was reclaimed and developed three centuries later, these four elements are also explicitly addressed. Schermer could have shown how much progress the landscape architectural form had made in those thirty years. However, the authors ascertain, almost with disappointment, that the cultural-historical improvement of Schermer with respect to Beemster is primarily due to the more advanced drainage system. In this way the architectural and rational ideal of Beemster finds its opposite in the advanced technology of Schermer. In the conceptual field of tension between these two poles, it does not appear to be very feasible to give one or the other preference. So it is an improvement, but is it progress?

The discussion of Purmer is also explicitly closed with an analysis of the four formal processes. This takes place less extensively than was the case with Beemster or Schermer, but Purmer is even less compatible with the almost self-evident assumption of the progressive rationalization of polder development, with the aim of a more and more regular and efficient design of the new land. The four grammatical elements also return during the discussion of Haarlemmermeer. However, here the layers of meaning appear to be intended to illuminate – as brightly as possible – the contrast with the creation and development of the previously discussed land-reclamation projects. The 'image-less' scheme of this polder could not have provided anything more than a meagre landscape, virtually naked and without Arcadian inspiration. The meagre 'upholstering' and the spatial indeterminacy of the rough agricultural grid are to be called striking. In almost mean wording, the largest North Holland land reclamation project is set aside as the exercise terrain for a new administrative and spatial order.

The following chapters are devoted to the polder water, the polder villa and the polder city. In this part of the book the authors attempt to make a link between the authentic landscape architecture of the North Holland land reclamation projects, as analyzed in the preceding chapters, and the spatial consequences of several contemporary issues such as inadequate water storage, the desirability of living outside the city and the urbanization challenge faced by the Western Netherlands. It is certainly a good thing that these important contemporary themes are also considered from a landscape-architectural point of view and placed in the historically expanded spatial framework of the peat landscape and land reclamation projects. In my opinion, it is indisputable that the authors have attempted in a careful and circumspect

fashion to link the spatial task related to these great themes with their knowledge of the current development of the space and the history of the development of the spatial patterns as shown in the book under review. Nevertheless, these chapters create the strong impression that the authors are working from the pattern and not from the process. This suspicion is confirmed in an alarming way by the almost timeless chapter about landscape architecture in Holland with which the book ends, and by Appendix 2, in which it is suggested that the polder grammar of land reclamation can only be found in the language of design. But this cannot have been the intention of this book, could it? It is exactly at the point of the field of tension between form and process that this excellent and pioneering study urgently requests the following step: how can the analysis of the landscape architectural design of North Holland land reclamation as a product of a historical process be made relevant for the spatial design of the major restructuring tasks faced by today's society?

Luckily the authors themselves have seen that their challenging project has not been completed with this book. This is shown from their plea in favour of a design atlas in which the simple and clear polder scheme of North Holland land reclamation is described in such elementary terms that it would acquire an operational importance for a wide range of new programmes and compositions. This atlas should be an annotated catalogue in which explicit references are made to the strong images of the man-made landscape of Holland. It can be hoped that this atlas would also provide historical and process-based attention to the nature and backgrounds of the still recognizable polder scheme. In that case, this design atlas, in my view, could play an important role in recording and assuring the *genius loci* of the lowlands of Holland. Simultaneously, the atlas in this way would create a basis for new transformations that do not threaten or harm the unity of the polder landscape as an architectural construction.

The strength of this study lies in the careful and precise way the authors look at the diversity in design at various levels of scale; for ease of use, these levels of scale are typified as farmhouse, farmyard, parcel, polder block and polder fringe. With the aid of a study into the origin and use of this design throughout the centuries, this language of design can be understood as an articulation of a changing interaction between people, society and nature. By translating this language of design into the spatial consequences of the challenges with which today's society is faced, it would appear that its creation and use throughout the centuries would play little or no role. I am convinced that this should play a role because otherwise the bare design is the only link between past and future; consequently too much is asked of the design, and the believability of the pro-

posed spatial solutions is put at risk. After all, what do similarities in design mean? In geography, it has long been assumed that similarities in design say something about similarities in origin or genesis. However, this turns out not to be the case: the same function can be given shape in different ways, and the same shape can be the product of various functions. Therefore, do not become fixated upon the form! Nature has gone before man in this respect; the whale is no longer a fish, but a mammal, and despite having a similar fruit, the sweet chestnut is genetically unrelated to the horse chestnut. Understanding the historical development process is therefore a better foundation for a responsible anchoring of spatial diversity than form alone. The authors have taken an extraordinarily interesting step into a challenging area of research. I am extremely curious about the next step.

In conclusion, the following: the authors are justified in stating in their introductory analysis about 'the land reclamation project as a landscape architectural building kit' that land reclamation has been an important school for the development of the disciplines in the Netherlands that focus on the design and development of space. However, at that time the building kit was filled with forms, tools and materials that belonged to the era in which the land reclamation projects were developed and completed. One can ascertain to a certain extent that these forms have withstood the test of time, but the tools and materials used to make them would no longer be viewed as contemporary. If one views North Holland land reclamation in typical ideal terms as the acme of Dutch surveying and landscape architecture, then one would choose by definition to take a preservation-based approach towards the landscape of the Western Netherlands. However, it becomes exciting when the land reclamation areas are seen as a typical product of a past that has slipped away. Then one is faced with the task of indicating how new forms, tools and materials can be suitably linked up with the old. A fascinating challenge!

---

### Book review

François Claessens

Antonio Monestiroli  
**The Metope and the Triglyph. Nine lectures in architecture**  
Amsterdam (SUN) 2005, 166 pages

The Italian architect Antonio Monestiroli occupies a special position in the field of contemporary architecture. He is one of the few architects to successfully combine the demands of a thriving practice with a teaching position and a deanship at one of the universities of Milan, and yet he still finds time to write penetrating theoretical reflections on his profession. His reputation as an

author was established in 1979 with the publication of his book *L'architettura della realtà* (The Architecture of Reality),<sup>1</sup> which is famous in his native Italy. In the decades since then Monestiroli has lectured and presented papers at various international events. A collection of his lectures was published in Italy in 2002 under the title *La metopa e il triglifo*.<sup>2</sup> With their English translation – which appeared recently – Monestiroli's theoretical and architectural work is now available to a wide international audience for the first time.

Monestiroli perceives the architect's work as being primarily an intellectual exercise. In addition to the conceptualizing and drawing of buildings (designing), architecture also requires an element of reflection in the form of writing. Without the continuous construction such discourse, according to Monestiroli, there can be no grounds for architecture to exist as an independent discipline. This is why he deliberately positions his own architectural 'project' (designing, researching, writing, teaching) in the tradition of authors of architectural treatises. It is significant that most of the literary- theoretical and design references he makes are to architect-authors from the long history of the profession: from Vitruvius to Alberti, Filarete, Milizia, Boullée and Schinkel, to modern masters, such as Loos, Mies, Le Corbusier and Hilberseimer, continuing all the way to Rossi (as whose assistant he began his academic career at the University of Milan). In his writings Monestiroli also refers repeatedly to the systematic analyses of architectonic aesthetics by philosophers such as Hegel, Schelling and Lukács, which is not exactly a fashionable thing to do within the architectural profession given that French postmodern philosophy is all the rage among today's practitioners.

The central theme that determines Monestiroli's position within the context of contemporary architecture is 'continuity'. At a time when concepts like dynamics and changeability are certainly seen as hallmarks of modernity, such a position can appear exceptional if not peculiar. There is a tendency, at least in the Netherlands, to identify modernity with the constant creation of breaks (breaks with history, with tradition, with conventions). So being modern means drawing a boundary between modern times and the newest times, and seeing the present as the latest stage in the newest times. The break with the past must be followed as a constant renewal. This involves kinetic concepts, such as revolution, progress, emancipation, crisis and *zeitgeist* (spirit of the age). Seen from the perspective of this idea of modernity, the yardsticks we use to gain our bearings can no longer be patterned on examples taken from the past. We must create our own normativity ourselves instead.<sup>3</sup> Contrary to the contemporary history books, which present modern architecture as a radical departure from the architecture of the past, Monestiroli boldly states that lines most

assuredly can be traced from the classic to the modern tradition in architecture. In doing so he counters a concept of modernity implied in the term revolution with a more 'realistic' view contained in the term evolution.

Monestiroli defines the need for formulating a positive theory of design and architecture (which, according to him, are not identical) starting from the observation that in our age we have lost a coherent vision of architecture. We could, of course, accept this observation and allow ourselves to be drawn into the vortex of commercialization and consumerism that is increasingly affecting our profession and its products. Or we could deliberately search for other paths to take. This is Monestiroli's choice. Such a choice does not, however, imply an informal search for new types of personal inspiration. It implies penetrating and critical study done in a spirit of scientific enquiry and endeavor. After all, those who seek to define shared principles, rules and standards of a profession or discipline can only do so under the aegis of the sciences. To believe in the possibility and necessity of such canons of architecture also presupposes the conventionality of its content. When canons are presupposed, we do not have to keep leaning on our personal points of view and inspirations. We can base our work on – and subsequently measure it by – established examples, which is why 'analogy' is considered an important epistemological instrument. In Monestiroli's opinion architecture within this tradition is based on analogies involving at least two sources of knowledge: nature and history. While nature is a particularly significant model in the Vitruvian tradition (consider the proportion systems and anthropomorphic forms), history – the historic forms of architecture – has also remained a unifying element among modern architects. It was with this in mind that already in his first book Monestiroli pointed to the work of the Dutch masters of the 1920s (in particular to J.J.P. Oud and H.P. Berlage) as a model of what he called an 'architecture of reality'. The study of continuity in the history of architecture, and the inherent rationality and logic of the methods and instruments used, dictates the contents of the lectures on architecture brought together in this book. Such a study is a time consuming endeavor, which is why Monestiroli's theoretical project is far from complete.

*The Metopa and the Triglyph* is first and foremost a textbook for students of architecture, and as such it displays Monestiroli's great skills as a teacher. Although not originally written as a single work, it nevertheless reads as if it adhered to a continuing and consistent line of reasoning. Monestiroli has a talent for lucidly setting out and showing the relation between several basic, recurring themes of architectural theory. The book expresses not only his wish that architecture

is a subject that can be systematically taught and learned, but also his conviction that this is truly possible.

#### Notes

1. A. Monestiroli, *L'architettura della realtà*. Milan 1979; Turin 1999. For an overview of Monestiroli's architectural designs see: M. Ferrari (ed.), *Antonio Monestiroli. Opere, progetti, studi di architettura*. Milan (Electa) 2001.
2. A. Monestiroli, *La metopa e il triglifo. Nove lezioni di architettura*. Bari (Laterza) 2002.
3. See: J. Habermas, *Der philosophische Diskurs der Moderne*. Frankfurt am Main (Suhrkamp) 1988<sup>3</sup> and 1991, pp. 15-16.

---

#### About the authors

**Guus J. Borger** (1942) holds the chair of historical geography with the Faculty of Social and Behavioural Sciences at the University of Amsterdam and with the Faculty of Earth and Life Sciences at the Free University of Amsterdam.

**Roberto Cavallo** (1967) graduated with honourable mention in 1991 as an architect. He is partner of Studio AI in Amsterdam and works as an assistant professor of architectural design at the Faculty of Architecture of the Delft University of Technology, where he teaches and researches at the Department of Building Typology. Currently he is working on his PhD thesis *Railway and City, shifting in spatial relationship*.

**François Claessens** (1967) is an architect and philosopher. In 2005 he finished his PhD on the architecture of the German *Großstadt* (*The city as an architectural construction*) at the Delft University of Technology. He is currently an associate professor of architectural design at the Faculty of Architecture at that university.

**Reinout Rutte** (1972) studied history of architecture at the Free University of Amsterdam and historical geography at the University of Amsterdam, where he also finished his PhD on *Stedenpolitiek en stadsplanning in de Lage Landen (12<sup>de</sup>-13<sup>de</sup> eeuw)* (Urban politics and city planning in the Low Countries, 12th-13th Century) (Walburg Pers 2002). Rutte is an assistant professor architectural history at the Faculty of Architecture of the Delft University of Technology.

**Dirk Zuiderveld** (1966) is an architect and partner in Studio AI in Amsterdam. The renovation of Paradiso in Amsterdam and the realisation of an office building at the Teilingerstraat in Rotterdam are projects of his office that were recently published. He has been teaching regularly at the Faculty of Architecture of the Delft University of Technology since 1994. In addition he also writes and publishes articles for various occasions.