The grand expansion of Amsterdam. City development and urbanism in the seventeenth century

Summary

1. The Paper City: Historiography, Problem Definition and Methodology

Between 1585 and 1663, during Amsterdam’s Golden Age, the city’s built-up area increased by more than fivefold. This growth over the centuries captured the attention of historians and city planners who analysed Amsterdam’s development from a variety of angles. However, there are two aspects that have attracted most of the attention: the large scale of the city’s expansions and their methodical planning. This second aspect has, since the nineteenth century, been seen mainly from the point of view of the townscape as a whole. Amsterdam was presented as a large-scale, scenographic composition, a ‘Versailles of the North’, and as a consequence, a work of genius. Later on, researchers began to study the city’s ground plan. Amsterdam’s development was seen as an elaboration of the ‘città ideale’, the apex of urban planning.

In this study, urbanism and city development are looked at from a more pragmatic point of view. The ideal, theoretical city was replaced by the actual city, and, therefore, the optimal city. This study views Amsterdam as an unruly physical reality with an unpredictable spatial and social dynamism, that had to be organised and managed by the city’s officials, while they coped with the existing landscape, hydrological circumstances, the state of technology and the rudimentary legal instruments that were available to them at the time.

The city’s ground plan was the result of a complex process in which different, sometimes incompatible, interests had to be balanced. A city design is not an isolated work of art, but a solution (or an attempted solution) for a broad range of problems within a specific situation. The city’s government was responsible for Amsterdam’s defence, functioning traffic and water infrastructures, the provision of sufficient numbers of empty lots for new construction and for the management of various other urban services. This task must be considered in relation to the circumstances in which urban development took place during this period: soil conditions, water management, traffic, a shortage of space for housing, harbour activities, trade and industry, spontaneous urbanisation, private landownership, and the entire network of infrastructures in which the city was entangled. But the city’s ground plan was not just the result of physical factors. Indeed, the social reality was also a prominent factor in the constitution of Amsterdam’s ground plan. The field of urbanism was a game of interests, interactions and sometimes confrontations between the forces of urbanisation and city design. Each of these factors had its influence on the planning processes and their outcomes. Furthermore, there were also the various instruments of urbanism: the methodology behind fortification plans, city design and the apportioning of parcels, as well as the legislative options.

We get a better idea of the city’s fixed points and the general freedom of design if we look at the links between the physical conditions and the choices that the city’s designers made when employing the various instruments they had at their disposal. From this, an image emerges that reveals the interconnections between the systems of fortification, water management, infrastructure and land apportionment. Moreover, it exposes the profound complexity of city development and the tradition from which seventeenth-century urban design derives. In chapters 2 and 3, a reconstruction of the sequence of city extensions is made, based on the relevant archival sources and available maps. Chapters 4, 5 and 6 each deal with the function of one specific aspect of urban space: city blocks, public space and the city’s waterways.

2. City Development 1600-1650

Amsterdam was confronted with an unprecedented increase in population in the years following the fall of Antwerp in 1585. This period saw a spectacular spurt of urban sprawl outside the city’s walls. Shortly thereafter, the first large-scale city expansion was initiated. This is called ‘the third expansion’. This chapter analyses the causes, design and execution of these expansions and their underlying processes.

In 1609, Amsterdam obtained permission from the States of Holland, the provincial authorities, to extend its surface area and territorial jurisdiction. The first plans called for an expansion on all sides of the city, but these were gradually pared down to include just the west
side. A year later, work commenced with the layout for a new harbour. In 1613, new fortifications were constructed. The completion of the fortifications was followed by the construction of buildings and the necessary infrastructure behind the newly expanded fortifications. Large parts of the suburbs had been built illegally but were absorbed behind the city’s new fortifications in order to not antagonise the inhabitants. The city’s government was well aware of the potential for disturbances of the public order. Thus the ‘Jordaan’ district was not a newly designed area of town, but a mere incorporation of illegally built suburbs, preserving the landscape structure of the medieval peat reclamations. The process of preserving this area led to a dispersal of the extension into a number of different neighbourhoods. The most important innovation of this expansion plan was the introduction of an exclusive residential area. This meant that all further urban activities were halted in this area. The realisation of the famous belt of canals created a new neighbourhood where luxurious homes were built according to (for the time) strict rules. The canal belt was the most successful aspect of Amsterdam’s expansion plans, not only aesthetically, but functionally and financially as well.

However, Amsterdam’s city council was unable to manage the planning, design and construction process properly. The expansion of Amsterdam occurred in the context of unbridled urban expansion, which was marked by the regents’ growing anxiety regarding public order, the limited financial resources, a lack of expertise and a political constellation that only provoked severe conflicts regarding the rampant land speculation by some of the more influential members of the city government. The results were that the grandiose expansion plan was cut up into a number of smaller parts. This caused a certain amount of fragmentation of the urban structure. It also meant that the belt of grand canals attracted all of the attention and became the standard for subsequent expansions.

3. City Development 1650-1700

Despite the large-scale expansions on the west side, a shortage of building lots arose shortly thereafter. As a result, parts of the city were developed and small, new quarters were created when sections of the Amstel River and the IJ were filled in. But despite these efforts, haphazard urbanisation again took over. New plans were drawn up after stadtholder William II’s failed ‘attack on Amsterdam’ in 1650. In 1652, an extension and fortification plan was approved by the city council. That same year, the First Anglo-Dutch War led to a period of economic stagnation that adversely affected the city’s development. Shortly after the war ended, a new harbour area was laid out along the eastern border of the city. This was a direct result of the war, during which hundreds of Dutch merchant ships and warships were destroyed. Again, harbour development ran ahead of city extension efforts.

In 1662, a new extension plan was approved for the area between the Leidsegracht and the Nieuwe Vaart. Previous experiences were brought to the new plans, which led to a well-considered, coherent scheme in which all urban problems were to be solved. These plans were developed by a commission of well-trained, professional planners and educated city administrators. The plans were rooted in the further elaboration of the canal belt concept. To facilitate the execution of this scheme, all of the necessary land was expropriated and all of the suburbs were levelled. The ‘fourth expansion’, as it was called, was the result of the development of an urbanist methodology, in which functionality and aesthetics came together and were able to be realised because land sales were expected to raised sufficient revenues. These integrated land policies ensured the success of the fourth expansion.

However, the ‘Disaster Year’ of 1672 saw the demand for land parcels plummet. Real estate development came to a sudden halt. Thereafter, progress was slow in the portion of the fourth extension east of the Amstel River while the area west of the river managed to develop quite dynamically. The city council gave extensive parcels of land to various charitable organisations who erected grand buildings in return. This allowed the city to prevent the Amstel, which was meant to become the central axis of the extension, from becoming the border that separated the canal belt from a large vacant tract of land. The area even further east of the Amstel was developed into a large private allotment garden complex, which was rented out to anyone who wanted a garden for pleasure or for growing vegetables. This area was called the ‘Plantage’ or plantation. However, it would not be until 1850 that urban development fully recovered its pace. The ‘plantation’ area once again was partitioned and sold for the development
of housing, thus fulfilling the function as the urbanists who had originally drawn up the plans in the 1660s had imagined it.

4. Functional Zoning
Amsterdam acquired a new functional profile in the seventeenth century, when its numerous urban functions were sensibly allocated. Within its sixteenth century city limits, in other words, in the old centre, a wide range of urban activities survived, despite numerous measures to put a stop to various polluting industries. The establishment of new industries in the centre was restricted, but the actual elimination of existing undesirable industries occurred quite haphazardly. The construction of the new City Hall, the Stock Exchange, along with numerous other public buildings and private housing developments, added much prestige to the city’s centre, despite the fact that many of the undesirable industries remained.

The strictly residential areas created a new phenomenon. They provided luxury housing in an urban environment without the usual inconveniences such as undesirable fumes, pollution, noise and congestion. The canal belt served as an upscale residential area, which was clearly distinguished from the busy centre and the more industrial areas beyond the Prinsengracht. The homes along the Herengracht were the most desirable in the city. If you could afford it, you could live in luxury, all within walking distance to the economic and administrative centre located in the Dam Square area. The Herengracht’s prestige radiated inwards to the older Singel. Although the Keizersgracht had less stature, it was, like the Herengracht, an exclusively residential area. The fourth expansion stretched Amsterdam’s borders to the Kerkstraat in between the canal belt and theouting industrial areas. Beyond the Kerkstraat, industrial development of all sorts was tolerated. The worst pollution was banned to beyond the city’s borders. Industries deemed detrimental to the urban atmosphere because of their size, nature, or specific requirements, such as sawmills and textile mills, were relocated beyond the city’s walls. The urban periphery was also designated as an area for the development of dangerous industries, such as the manufacture of gunpowder or health care institutions for patients suffering from the plague and other infectious diseases.

5. On the layout and use of urban public space
Amsterdam’s origins, expansion and wealth were due to its important location as a centre of trade. Rapid increases in traffic of all kinds led to urban congestion, an important detail of urban growth. When we read seventeenth-century texts about Amsterdam, we see descriptions of how it was inundated by traffic with its canals as the prominent feature. Amsterdam is essentially defined by traffic as it developed into a centre of trade. The ‘famous merchant town’, which was devoted to staple products, had a unique infrastructure all its own. Amsterdam’s most important monument was not some church, tower or palace, but the city’s infrastructure as a whole. Chapter 5 describes the many modes of heavy traffic that caused congestion and had to be regulated, as well as the infrastructure that had to deal with all of this traffic and, finally the layout of the actual streets, quays and squares. Public space essentially reflected the functional profile of the city, which is represented not only by its architecture, but also by the design and condition of the road surfaces, the bridges and quays, which were all different in the old city centre, the canal belt, and the areas beyond the Prinsengracht.

6. ‘The Beauty with Bad Breath’: The Issue of Amsterdam as a Water City
Amsterdam was and remains a water city. That was not the planners’ choice, just a fact of life. Much of the waters that drained out of the peaty areas to the south of the city passed through Amsterdam. Large parts of the city were built as polders and were at or below sea level. This problem only worsened as the soil continued to settle over time. More lakes were reclaimed to the south of the city. These reclamations placed increased burdens on the existing waterways.

Another aspect that must be taken into account was the fact that Amsterdam was located along the IJ. The effects of the tides were noticeable even in the heart of the city at the Dam Square. The construction of new embankments and dikes was absolutely necessary because high water levels along the banks of the IJ rose during the seventeenth century. The successful completion of new embankments and the adaptation of the existing bridges to the new dangers were two of the larger building projects undertaken by the city at the time. Flooding was just one
of many worries; there was also the low quality of the canal water, which was a far more complicated problem, because, at the time, there just was no technical solution. The city expanded and, at the same time, local population densities increased. Pollution caused by private homes and industry, increased sharply as the city continued to grow. Putting an end to pollution was basically impossible because the economy was the city’s top priority. The city that arose during medieval times was eventually raised to the ‘stadspieil’ or ‘city level’, but some areas dating from the seventeenth-century expansions such as the Jordaan, were developed at the lower polder level. Hydrologically, the city was divided into no less than seven different areas, each with its own water level. Contemporary sources speak of the ‘low city’ and the ‘high city’. This situation created enormous problems for the city. Several attempts were made to equalise the city’s water levels, sometimes with disastrous results. Many projects were initiated to improve Amsterdam’s water quality. Early attempts to circulate the water used windmills. Later on, the city’s canals began being flushed regularly with water from the IJ, using ebb and flow of the tides. The construction of the Nieuwe Vaart and a complex of locks and sluices in the Amstel did not have the desired result: the improved circulation of Amsterdam’s water in its many canals. By the end of the seventeenth century, hundreds of thousands of guilders had already been spent on improving the city’s water quality, with very little success. The problem of water quality was a regional problem, which could not be solved by the city alone. Successful technical innovations did not arrive until the nineteenth century. By that time, a large number of canals were filled in. Water circulation was further facilitated by a huge pumping station located to the east of the city. Until that time, however, Amsterdam was referred to as ‘the beauty with bad breath’.

7. Conclusions: functionality, beauty and profitability

Amsterdam became the third largest city in Europe in the course of the seventeenth century. The city’s expansions were many times larger than its old centre. Amsterdam became a new and modern city. The fourth expansion, with its elaborate traffic arteries, functional zoning system and its well-outfitted public spaces gave it a cosmopolitan feel. Other cities, like London and Paris, had expanded in a much less organised manner. In many cases, ‘emblissement’ was the only strategy for urban intervention; it even became synonymous for urban development. Meanwhile, in Amsterdam, order and planning replaced haphazard urbanisation. The city was designed based on rapidly evolving insights into urbanism and the management of urban space. Amsterdam was the centre of innovative urbanism in the seventeenth century, just as Paris two centuries later, under the guidance of Haussmann.

Amsterdam became a city of contrasts, which were observable in its population densities, as well as its prestige and the scale of its architecture, the city’s layout and the regular upkeep of its urban public spaces. The magnificent canal belt felt new and rich, wide and green, which was in sharp contrast to the cramped centre with its narrow, crooked alleys and quays. The planting of trees along the canals in the early seventeenth century further raised its profile. The scale of the city’s extension projects resulted in the largest systematic urban planting of trees up to that time.

In the more recent literature, Amsterdam’s developments are often linked to models of ‘ideal’ cities. Comparisons between Amsterdam and these ideal models are usually based on an arbitrary choice of elements out of both, that are often selected because of their formal similarities. Apart from that, the relevance of these models for the practice of urbanism is often misunderstood or overestimated. These models were not meant to be copied, but were schematic representations of the possible organisation of a city. There was no necessity to realize such a diagram. Amsterdam’s archives contain a rich assortment of city council, burgomasters’ and treasurers’ resolutions, which detail a great many public works. These documents sometimes offer hints about the motivations for carrying out public works. Three distinct motives are often cited: works were carried out ‘in the service of the city’, to beautify the city, and/or for profit. In other words, functionality, aesthetics and financial considerations were the major motives.

Analogy between architectural theory and city development are best pursued on the level of the city’s goals. A logical plan comprised of right angles usually had its advantages. The city’s architect, Daniel Stalpaert, employed the right angle as the basic principle for the fourth expansion. City blocks and plots of land were usually orthogonal in shape and the streets were fairly straight and as short as possible. Construction costs (prefabricated elements and structures
were already being used) and street and quay maintenance were thus kept to a minimum. Efficient use of the land was maximised because every square inch could either be sold as land to be developed or used for various infrastructural needs. The prevalence of right angles meant that land could be quickly measured and sold. A well-considered design and careful execution may initially be more expensive, but, in the long term, revenues would be higher and the city would function better.

Amsterdam was governed by a council of regents who came from the merchant elite. The city council can be likened to a multinational’s board of directors, in other words, an old boys’ network for whom profit was the main goal, and who were used to make decisions without interference from outside parties. City development and urbanism must be seen as the result of economic ambitions. The city itself was a development project, with a goal of generating revenue. Every new expansion was a risky affair. The city often financed parts of these developments with borrowed money. Revenues from the sales of land and tax revenues rose as the city attracted more and more new inhabitants and companies.

Fortifications and canals were the major concerns in the early phase of an extension. Much money was spent on major earthworks, which had to be realised as efficiently as possible. Meanwhile, the number of marketable parcels was also maximised. When land sales came to a halt it, public works were stopped. Amsterdam’s ground plan, with its efficient canal structure and squared parcels of land are the evidence that Amsterdam was a city of merchants, just as ‘wood of masts’ in its harbour and the quays and warehouses stacked with merchandise. Experience eventually taught them that planning and regulation and a certain degree of freedom were not necessarily contradictory concepts. Planning aids the urban economy, prevents conflict and contributes to long-term economic success. Amsterdam served as a symbol of early capitalism and at the same time became known as the most meticulously planned European metropolis.