

A Golden Age: Innovation in Dutch Cities, 1648–1720

Jonathan Israel describes how the genius of the seventeenth-century Netherlands lay not just in painting but in blazing a trail in civic pride and technological improvements for the rest of Europe.

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Between April and June 1648 the most elaborate and impressive celebrations which had thus far ever been held in the northern Netherlands—parades, pageants, thanksgiving services, open-air theatrical performances, a series of bonfire and fire-work displays, sumptuous militia and regent banquets—were held in Amsterdam and most other Dutch cities. The reason for this unprecedented outlay, disruption of normal activity and quest to impress and involve the general public was the final ratification of the Peace of Münster (April 1648). This not only ended the Eighty Years' War in the Low Countries, one of the greatest struggles of Europe of early modern times, but marked the successful conclusion of decades of effort to establish and consolidate the Dutch Republic as a free and independent state on territory formerly ruled by the king of Spain.

That this was no small achievement can be seen from the fact that the United Provinces, as the Republic was officially called, was the only new state—as well as new type of state—created by means of a people's revolution against the

power of monarchs in the early modern era before the 1770s, when the North Americans embarked on their great struggle (on occasion with the Dutch example in mind) against the British crown.

At the same time, these celebrations were the Dutch contribution to a wider set of festivities held all across northern and central Europe to mark the end of the unprecedentedly destructive Thirty Years' War. As such, the festivities of 1648, both in their Dutch and wider European context, were a psychological turning-point between a dreadfully bleak era of struggle and dislocation, and the deep pessimism and gloom which had resulted, and a more hopeful era; one of rebuilding and reconstruction. Many of the cities of Germany had been severely damaged by the war, as well as the slump and disease which had come in its wake; while even those which had not been, such as Hamburg and Bremen, had nevertheless shared in the general sense of fear and uncertainty and, like Copenhagen, tended to avoid all major new city extensions and building projects for the duration of the conflict, except only for large-scale improvements to city fortifications.

With the Thirty and Eighty Years' Wars simultaneously out of the way, city governments could now think about reconstructing their war-torn cities and, in the case of the Scandinavian capitals and flourishing Hamburg, embark on those ambitious projects and city exten-

sions which it had seemed prudent to postpone whilst the fighting and disruption continued. Furthermore, since at that time the Dutch Republic was economically and culturally the most dynamic and flourishing country in Europe, it was entirely natural that many of these cities whether or not they had been devastated, especially those in the Protestant north, should look to the Dutch Republic for most of the ideas, designs, methods and technology which was to shape their general renovation and reconstruction during the second half of the seventeenth century and (particularly in the case of St Petersburg, Russia's window on the West) at the beginning of the eighteenth.

However, if we are to grasp how it was possible for such a small country as the Dutch provinces to have exerted such an immense influence over urban development in northern Europe, an influence which was, in most respects, far greater than that of Britain or France down to around 1720, it is by no means sufficient just to point to the general readiness for renovation and refurbishment, or to the special dynamism of the Dutch economy at that time. The phenomenon is more complex than that. For the Dutch cities were themselves then entering a major new phase of expansion and renewal, shaped by a dazzling array of innovations and new techniques and, more than anything else, it is this which gave them their special relevance

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and immense influence over such a considerable period.

If French influence in Europe in the late seventeenth century and early eighteenth century emanated, above all, from the court of Louis XIV, Dutch influence did not emanate from any arm of the Dutch state. Invariably, we find that it was not the Dutch Republic as such which appealed but specifically the Dutch cities, especially—but by no means only—Amsterdam. Over recent decades the Dutch Republic had proved remarkably effective politically, militarily and not least, in its financial operations. Yet this had been achieved without the new state intruding on the local autonomy of the cities. Somehow a remarkable balance had been struck between civic (and other local) particularism, on the one hand, and the 'Generality', as the Dutch then termed their federal institutions, on the other. Since the main cities and the provinces (each with its own local assembly) had been the backbone of the Revolt against Spain, this had indeed been a *sine que non* for the successful establishment of a Dutch state, and is what ensured that it would also be an entirely new type of state. For even in 1648 there was not yet a fully-fledged Dutch national identity. That was only to emerge more or less in its modern form at the end of the eighteenth century.

Most Dutchmen, like most Germans and Italians at the time, identified most strongly, and felt their principal political allegiance to, their city or locality rather than to the country as a whole. But they shared not just in the collective experience of the Revolt against Spain but, linked to this, an intense pride in the 'freedom' which they had won, the new political, religious and social context which they had created in which civic and local autonomy was combined with what we would call a federal, overarching, state. Of course, they can hardly have grasped that they had forged the world's first real federal republic—Switzerland being an earlier but only partial step towards genuine federalism. They can not have known that theirs would also be the only real federal republic until the American Revolution created the United States of America, but that this would one day (since Germany adopted the federal model after the Second World War) become possibly the most important type of state in the western world. But ordinary Dutchmen and Dutch women did vaguely grasp

that they had achieved something altogether exceptional and remarkable which they referred to as their 'freedom'.

By 1648, the impact of the Dutch cities on the European urban scene was already very considerable and had been growing, especially since the 1590s. The seemingly miraculous expansion of Dutch commerce and shipping which had begun to take over the 'rich trades' of the world in the 1590s, elbowing all rivals aside, had reached such a point that it had aroused intense envy and resentment in almost every part of Europe and not least in England. Moreover, by 1648 those parts of Europe—especially Scandinavia, northern Germany and the Baltic—which were particularly susceptible to Dutch cultural influences were already so steeped in Dutch methods, styles and ways of doing things that everything else had been pushed into the background. When Hamburg and Copenhagen rebuilt their city fortifications during the second decade of the century they did so using Dutch engineers and Dutch designs.

If Christian IV (1588–1648) was the greatest builder and art collector in the history of the Danish-Norwegian monarchy, it is equally evident from the architects, engineers and artists he employed (who were nearly all Dutch) and the designs and styles he adopted, that the imposing cultural framework he created was essentially an extension of the Dutch Golden Age. Yet, notwithstanding this vast impact of Dutch commerce and shipping, and of Holland's art, architecture and engineering (particularly drainage, harbours and fortifications), those aspects of Dutch culture which were to have the greatest impact on urban development, refurbishment and planning after 1648, were only just beginning to be noticed.

The chief reason why the Dutch had not yet begun even potentially to make their real impact in the sphere of urban improvements, health care, town planning and public services is that the Dutch cities too, like those of Germany and Scandinavia, had since around 1620 been systematically postponing major new investment in buildings and city extensions. Just as Amsterdam needed a new and larger city hall long before 1648 but work on the new edifice began only in that year, and Leiden put up with old and dilapidated gate-houses, only replacing them with magnificent new structures after 1648, so all big projects were put off. But once the Eighty and Thirty Years' Wars were finally over, the accumulation of grandiose and ambitious schemes led to a frenetic burst of building and refurbishment throughout the length and breadth of Holland. Not only were numerous large public buildings erected in the 1650s and 1660s, far more than in the previous three decades, but those cities which achieved an impressive measure of growth between 1648 and 1672, especially Amsterdam, Leiden, Rotterdam, The Hague and also Haarlem (see Table below) also laid out whole new urban quarters, constructed new canals and roads, and planned new housing as part of integrated urban development schemes. Delft too, though it grew much less than some others, had to be extensively rebuilt following the great gunpowder explosion of 1654 which devastated the city centre. Even Utrecht, a city quite stagnant compared with the Holland towns, seeing the ambitious projects of the others, drew up far-reaching plans, hoping by means of investing in redevelopment to attract more immigrants and activity.

However, the integrated reality of Dutch city planning and improvements

Table: The Demographic Expansion of the Ten Largest Dutch Cities

City	(estimates)					
	1570	1600	1632	1647	1672	1700
Amsterdam	30,000	60,000	116,000	140,000	200,000	200,000
Leiden	15,000	26,000	54,000	60,000	72,000	63,000
Haarlem	15,000	30,000	42,000	45,000	50,000	40,000
Rotterdam	8,000	12,000	20,000	30,000	45,000	45,000
The Hague	5,000	10,000	16,000	18,000	30,000	30,000
Middelburg	10,000	20,000	28,000	30,000	30,000	30,000
Utrecht	26,000	—	—	30,000	—	30,000
Delft	14,000	17,500	21,000	21,000	24,000	19,000
Dordrecht	10,800	15,000	18,000	20,000	20,000	20,000
Gouda	9,000	13,000	15,000	15,000	20,000	20,000

after 1648 could not be emulated elsewhere in its entirety because many features of the Dutch urban scene were highly specific to Holland and Zeeland. Thus numerous foreign travellers of the period remarked that Amsterdam was much cleaner and less cluttered than London or Hamburg. But one of the main reasons for this was that the city government banned the use of horse-drawn coaches and wagons in the city, insisting that goods, supplies and furniture be moved by water and digging new canals and improving old ones to facilitate such traffic. This was perfectly feasible also in other Holland and Zeeland towns, but hardly practice elsewhere.

Another feature which could not be imitated elsewhere were the regular passenger services between towns by means of horse-drawn passenger barges, with departures several times daily between the main towns, working according to a published schedule, a phenomenon which has been brilliantly researched by the American historian Jan de Vries. Furthermore, not only these but also many other Dutch urban improvements of the period could only be effectively implemented because of the almost absolute power of the city governments within their cities and jurisdictions. Although they had to pay some attention to opinion within their city, the regents who



Franz Hals' 1664 painting—'Lady Governors of the Old Men's Home': social provision and public works were an important expression of Dutch civic governance.

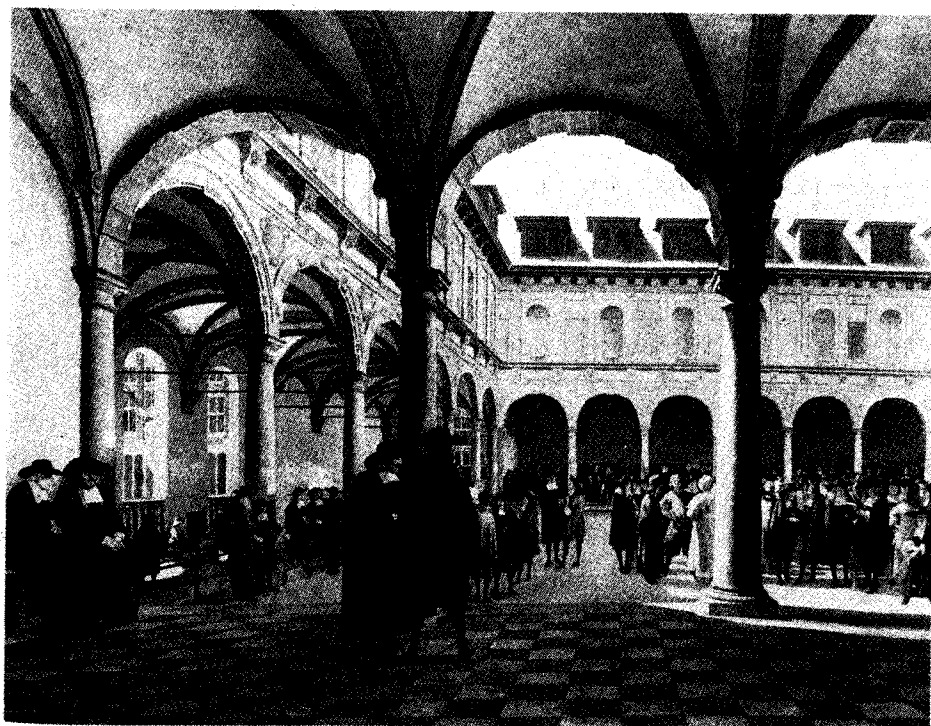
staffed the city governments could otherwise raise money through municipal taxation of one sort or another, and decide what went on in their city, largely as they saw fit. If a city government wished to implement an ambitious and costly urban plan there was no question of this being opposed by any authority or body outside. In this respect, Swiss

and some German Imperial Free Cities enjoyed a comparable freedom of action but cities under monarchs, such as London, Paris, Copenhagen or Stockholm, did not. Monarchs had their own agendas and priorities and, in most cases, a considerable sway over resources.

But what other European cities, including London, could and did do, some sooner, some later, was to adopt in full, or in part, such individual urban improvements and innovations introduced by the Dutch cities as did not need specifically Dutch conditions for their implementation. A classic instance of such successful borrowing was the adoption of the Dutch system of public street lighting. Europe's first proper system of public street-lighting was planned, in conjunction with members of the Amsterdam city government, by the artist-inventor Jan van der Heyden (1637–1712). Van der Heyden designed a street-lamp manufactured of metal and glass with shielded airholes able to let out smoke without letting in the wind. The lamps burnt through the night on a mixture of plant oils with wicks of twisted Cypriot cotton.

Besides the considerable cost, the plans to light up the whole of Amsterdam at night presented appreciable problems. But the burgomasters and regents decided to go ahead, motivated by a desire further to improve orderliness in the city, and reduce crime, as well as the incidence of drunkards falling into

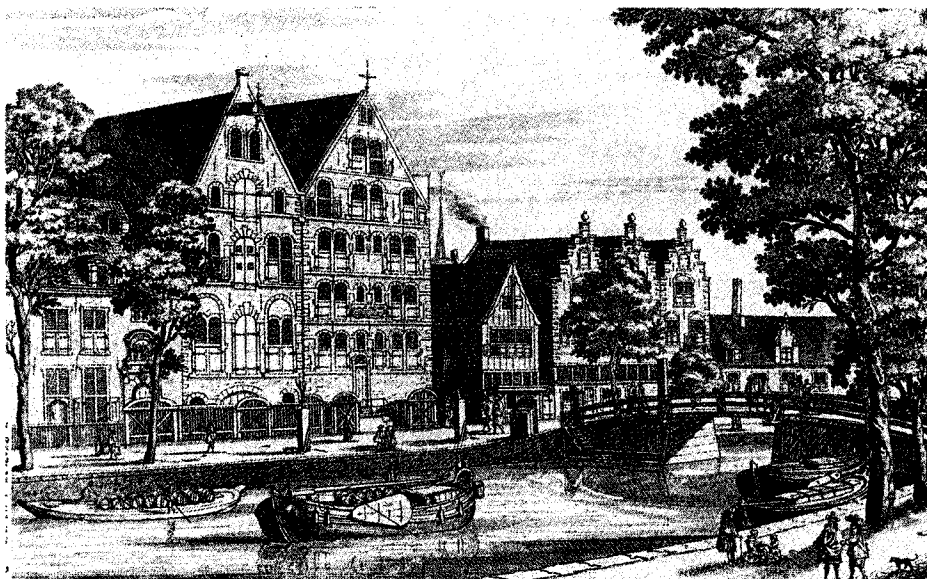
Making the world go round; Berckheyde's portrayal of the Amsterdam Bourse.



lations published in Hamburg in 1695, for example, are clearly based on the Amsterdam example, the central element being the storage of pumps and hoses in designated depots around the city and the assignment of responsibility, in each city quarter, for the maintenance and use of the equipment. Cologne obtained its pumps from Amsterdam; probably Hamburg did too.

One of the most crucial of the Dutch urban improvements of the mid-seventeenth century and one which was widely imitated, especially in Germany, Switzerland and Scandinavia, was the setting up in Amsterdam of a civic medical board called the *collegium medicum* consisting of three university-trained physicians and two prominent apothecaries to inspect, supervise, license and register medical practice in the city. Earlier there had been only the most rudimentary supervision over who practiced medicine, what medicines were sold in apothecaries' shops, how far the ingredients of medicines matched what was on the labels, and over how much was charged for medicines and medical supplies.

When the system of control was first introduced by the Amsterdam city government, by city edict of March 23rd, 1639, the chief concern seems to have been to curb the abuses going on in apothecaries' shops, especially the selling of impure or bogus medicines and wide discrepancies in charges. The edict laid down that the physicians of the collegium were to visit and inspect all the apothecaries' shops in the city 'two or three times per year', without prior notice, and verify what was being sold. At the same time, the city published a list of authorised prices for medicines to which apothecaries were expected to adhere and it was laid down that apothecaries and their assistants would only be permitted to practice in the city if they satisfied the collegium that they had adequate knowledge and expertise. Other Dutch cities followed and, soon, so did various German and Swiss cities. The city of Bremen published a new civic health *Ordnung*, based on the Amsterdam example, as early as 1644, the two main elements of which were the setting up of a system for regular inspection of apothecaries' shops by the city physician and the drawing up of a list of authorised prices for drugs and medicines. The Baltic city of Rostock adopted the system in 1659. In Stockholm, a *collegium medicum*, modelled



Invisible earnings; alongside a canal, the Amsterdam Exchange Bank, created in 1609 to enable merchants to settle mutual debts.

on the Amsterdam example, was introduced in 1663.

While the original emphasis was mainly on supervision of apothecaries, the Dutch system of regulating civic health care gradually evolved during the middle and late decades of the seventeenth century becoming more comprehensive as well as more sophisticated. Notable additions to the original conception include the Amsterdam city law of May 1668, laying down that 'no one shall be allowed to practice as a midwife in the city unless she has first been examined by the *inspecteurs* of the collegium . . . and obtained a certificate of expertise' and the by-law of 1675, stipulating as a necessary qualification for obtaining a license to practice as a midwife, from the *inspecteurs*, to have worked as an assistant to a qualified midwife for a minimum of four years.

The Dutch city governments of this period, eager as they were to attract immigrants and increase the populations of their cities, made a serious and sustained effort, and with some success, to improve living conditions and health care. At the same time, they vied with each other in erecting imposing public buildings—hospitals and orphanages, as well as town halls, gate-houses and churches—beautification and splendour being essential aspects of the urban development schemes which they so intensively devised and debated. As the English physician Walter Harris remarked, in 1699, Holland contained 'a greater number of

large, populous and considerable towns, than possibly are to be found so near together in any other part of the universe' so that, together with the great ease of passenger traffic between these cities, ordinary folk as well as the more sophisticated, were constantly appraising and making comparisons between them. If, as William Bromley remarked in his *Several Years' Travels*, the new Amsterdam city hall was 'the most magnificent structure of its kind in Europe', this is precisely what the Amsterdam city fathers had intended.

With both practical and aesthetic considerations firmly in mind, nothing appealed to the Dutch city governments of this period more than opportunities to combine public utility with beautification. A development which gave them precisely such an opportunity was the arrival in the middle decades of the century of new types of very large public clocks which (especially after the 1650s) also kept time much more accurately than the clocks of the past. In their drive to embellish Leiden, the city government there developed a veritable mania for affixing such clocks to the city's public buildings, including one, manufactured at The Hague, which was installed on the octagonal tower of their handsome new church (the Marekerk) in 1648. Another was placed at the top of the imposing new White Gate (built in 1650), near where the passenger barges loaded and unloaded the travelling pub-

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lic so as to facilitate punctuality in barge departures.

A typical feature of the new town hall of Maastricht built in the years 1659–64 to designs by Pieter Post (1608–69), one of the leading exponents of Dutch classicist architecture, were spaces assigned both inside and outside the structure for public clocks. The clocks, which were manufactured in Amsterdam, were installed a few years later. Needless to say the fashion caught on also outside the borders of the United Provinces. Dutch-style public clocks were affixed to several of the principal church-towers of Hamburg as early as the 1660s and 1670s.

The expansion of the Dutch economy, and of the Dutch cities, ended abruptly with the Anglo-French attack on the United Provinces in 1672. In that year Louis XIV invaded the Republic and occupied its eastern provinces while the French army, combined with the English and French fleets, delivered a blow to Dutch commerce and industry from which they were never fully to recover. After 1672, it was unquestionably

England which was the most dynamic and the fastest-growing commercial economy in the western world. Nevertheless, it is important to note that at that time there were in Britain no large cities other than London (albeit as large as Amsterdam and the six next largest Dutch cities combined) which was by all accounts a somewhat disorderly and chaotic place compared with the Dutch cities.

Moreover, despite their stagnation after 1672, the Dutch cities were at that time sufficiently far ahead of England in technological innovations, health care and urban planning to retain something of an edge not only down to the end of the seventeenth century but even for a decade or two into the eighteenth. It was not until after around 1720 that Britain can be said to have overtaken the Dutch Republic in terms of technological sophistication.

Consequently, despite the emergence of England as the world's most dynamic economic and colonial power after 1672, it was still the Dutch cities, rather than the British, which were the main

model for urban planning and improvements in northern Europe for another half a century.

FOR FURTHER READING:

C. A. Davids, 'Technological Change and the economic Expansion of the Dutch Republic' in C. A. Davids and L. Noordegraaf (eds.) *The Dutch Economy in the Golden Age* (Amsterdam, 1993); J. I. Israel, *Dutch Primacy in World Trade, 1585–1740* (Oxford, 1989); L. S. Multhauf, 'The Light of Lamp-lanterns: Street Lighting in 17th-century Amsterdam', *Technology and Culture* 26 (1985); J. L. Price, *Holland and the Dutch Republic in the Seventeenth Century* (Oxford, 1994); C. D. Strien, *British Travellers in Holland during the Stuart Period* (Leiden, 1993); Jan de Vries, *Barges and Capitalism: Passenger Transportation in the Dutch Economy (1632–1839)* (Wageningen, 1978).