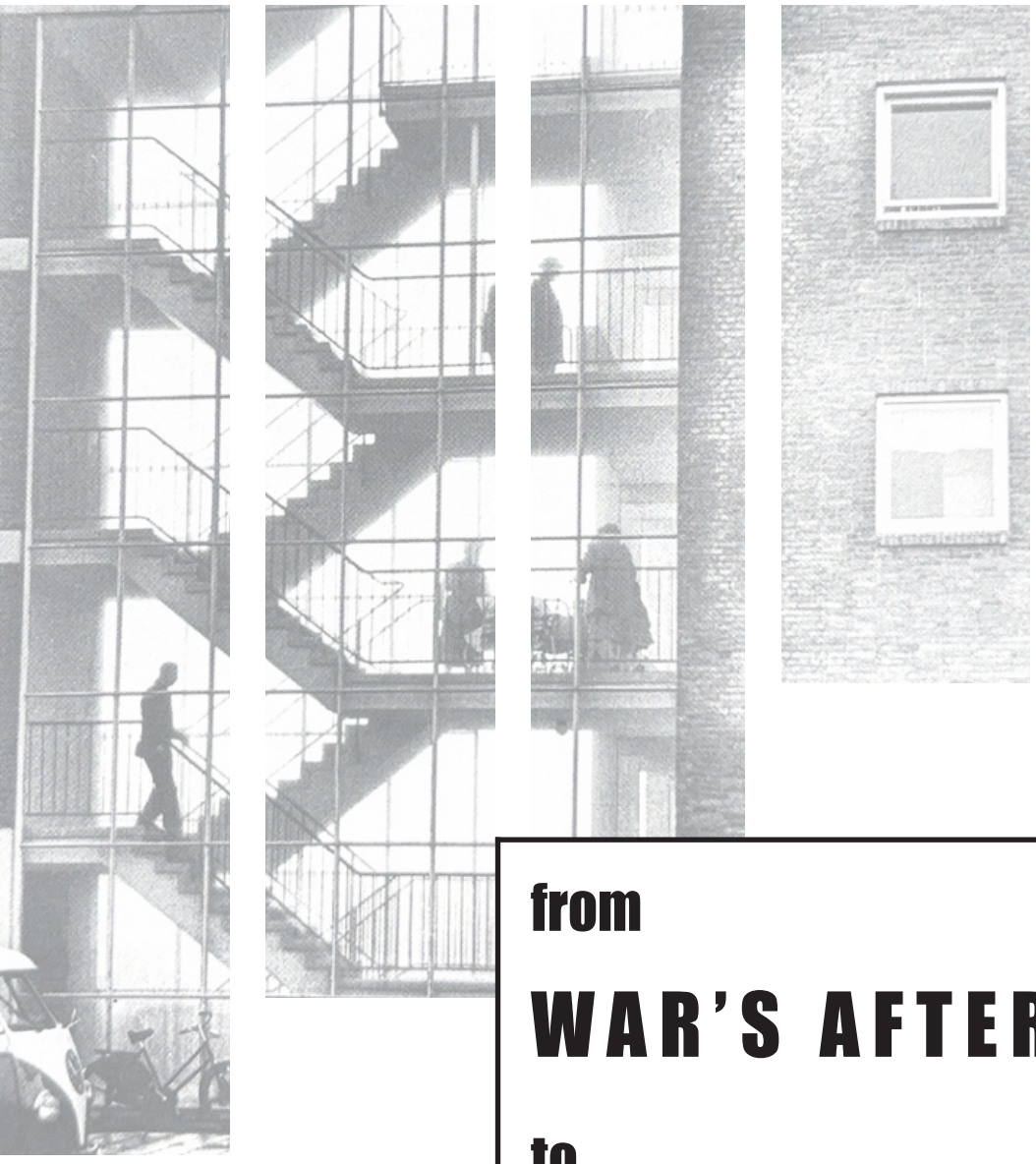

from WAR'S AFTERMATH to URBAN STRUGGLES

TU Delft | Architectural history thesis | Meike Traa | 5303583 | 17-04-2025 | Mentor: Vibeke Gieskes

A research about the effects of the post-war reconstruction in Rotterdam on the social and spatial challenges arising in the Pendrecht district in the 1980s.

Contents

Abstract

The major bombing of Rotterdam in 1940 made the city a centerpiece for the Netherlands' post-war reconstruction efforts. Pendrecht was one of the neighbourhoods built during this period, and followed the principles of speed, functionality and efficiency for which the large-scale reconstruction was widely known. The district was designed by Lotte Stam-Beese as a new example of urban development, where space, social contacts and living in the green space were the focus. However, a few decades later the neighbourhood shifted from being the ideal picture to an increasingly vulnerable one, with rising numbers of unemployment, immigrants and physical deterioration.

The relationship between the post-war physical urban planning strategies in the Pendrecht district and the issues that emerged decades later is the main focus of this study. Using historical sources and archival documents, this thesis shows that there is a strong connection between these two aspects, and that even after multiple policy strategies, these problems often still reappeared. The research also makes a link to more modern Vinex neighbourhoods where, over the years, there have also been signs of similar developments to those in Pendrecht. For this reason, the thesis concludes in emphasizing the need to consider flexibility, adaptivity and variation early in the design process. By not only focusing on today but also looking to the future, a sustainable an inclusive future can be built.

Introduction

The widespread destruction caused by World War II left vast parts of Europe in ruins, with the Netherlands, and particularly Rotterdam, being no exception. On May 14, 1940, the German Luftwaffe destroyed approximately 258 hectares of Rotterdam, resulting in the loss of not only 2320 shops, 527 cafés and 62 schools, as well as at least 24,978 homes. A later bombing in 1943 would result in the devastation of an additional 3,000 residences (Van Schilfgaarde, 1987). Immediately after the bombings, the local government recognized the necessity of large-scale reconstruction. Consequently, they embarked on the formulation of ambitious redevelopment plans with the objective of revitalizing the city's infrastructure and housing stock.

The reconstruction of Rotterdam that took place in the aftermath of the war was guided by three key principles: urgency, efficiency, and functionality. Addressing the acute housing shortage was a top priority, but so too was the creation of modern, well-planned urban districts that reflected the modern ideals of urban living. A notable area within Rotterdam's redevelopment plan is Pendrecht, a prime example of well-organized urban expansion, strategically designed to accommodate workers from the proximate industrial zone. (Barbieri et al., 1981). Pendrecht embodied the principles of modernist urban planning — characterized by a spacious layout, abundant green spaces and a clear separation of functions – making the district appealing and a highly desirable place to live. In this manner, the project was not merely a response to the housing crisis but also contributing to shape a more functional and harmonious society through urban design.

In the decades that followed, however, Pendrecht began facing significant socio-economic challenges, including poverty, increasing segregation, rising crime rates, and widespread vacancy. Existing research largely attributes these negative developments to external factors, such as economic downturns and suburbanization, while the urban planning of the district itself is often only praised. As a result, the true influence of Pendrecht's physical structure in shaping these social developments remains underexplored. The fast reconstruction, monofunctional layout, the dominance of social housing and the prevalence of underutilized open spaces may also have significantly contributed to the neighbourhood's decline.

This study aims to specifically examine the spatial and urban planning elements that influenced Pendrecht's decline. What effects did the design choices made during the post-war reconstruction period have on the district's evolving social dynamics and increasing vulnerability starting in the 1980s? Through historical literature analysis and an urban planning study, this thesis seeks to answer the following research question:

"To what extent did the modernist urban planning strategies of Rotterdam's post-war reconstruction contribute to the social and spatial problems faced by the Pendrecht district in the 1980s?"

To address this question, the first chapter of this research discusses Rotterdam's post-war reconstruction vision, emphasizing the principles of modernist planning (Van Walsum & Van Traa, 1955). It then provides an in-depth analysis of Pendrecht's urban design principles, investigating what initially made the district a perfect model of post-war urban development. The second chapter explores the socio-economic and spatial challenges that emerged in Pendrecht during the 1980s. The chapter examines how the original planning ideals evolved in practice and to what extent the urban structure contributed to these issues. The third chapter reflects on the efforts that Pendrecht has made to revive the neighbourhood through physical and social renewal. Finally, the research is placed in a broader context, reflecting on potential lessons for future urban developments. *What lessons from Pendrecht's history can be applied to contemporary and future approaches to urban planning?*

"In the first instance, the aim was not to achieve an incidental aesthetic solution, but to use the structure of a social constellation itself as a formative element. (...) In other words, the plan deliberately refrained from creating a meaningless alternation in outward form, trusting that the inner social diversity of the housing groups would come to the fore sufficiently strongly and would manifest itself in the use of the dwellings and the communal garden, in the activities of the residents and in their mutual relationships, so that the apparent sameness and monotony would be eliminated. More strongly and consciously than in any previous subdivision, the Pendrecht plan emphasizes the coherence between built and unbuilt space, between dwelling and communal or public greenery, between dwelling and street space."

Lotte Stam-Beese, architect of Pendrecht

(in: van Velzen, 1994, p.115-117, own translation)

1

Modernism in practice:
post-war urban planning in Rotterdam

Rotterdam, almost completely destroyed by the German army in 1940, faced the enormous challenge of rebuilding the city from the ground up by the end of the war. Just five days after the bombings, the municipality already granted permission to start the reconstruction process. An immense task, yet made possible by the unification of "unbridled energy, indestructible optimism, and unwavering confidence" (Van Walsum & Van Traa, 1955, pp. 103-105, own translation).

Although the reconstruction plan was already on the table in 1941, its execution was hampered by the acute lack of fuel, building supplies, and construction labour (McCarthy, 1998). These shortages quickly overshadowed the initial enthusiasm behind these reconstruction efforts, causing the city to experience years of building stagnation. When the German occupiers began prohibiting all non-essential construction projects in 1942, the housing crisis was further worsened (Wagenaar, 2011). Although the reconstruction was physically at a standstill, work on the "Basic plan" continued behind the scenes and was eventually published on May 26, 1946.

In addition to restoring the demolished city centre, the plan included urban development and modernization in order to create a growing, forward-thinking city (Van Walsum & Van Traa, 1955). The reconstruction of the old city therefore was strongly related to the development of surrounding industrial sectors and new residential districts; because after all, each function had to be given the space to develop itself in the most appropriate location (Van Walsum & Van Traa, 1955).

Thereby, the idea of drastically reviving society arose in Rotterdam after the war. This concept originated specifically in Rotterdam, in part because of the unexpected shock the city felt after the bombing and in part because of the numerous opportunities the extensive urban destruction provided for a comprehensive reorganization of the city's structure. It was a unique opportunity, giving urban planners the freedom to incorporate their fresh, radical visions into these plans for a new society (Reijndorp et al., 1994).

"More attention to the social, cultural and emotional aspects of the design of the city" was the main focus of these new ideas (Reijndorp et al., 1994, p. 35). In addition to addressing the severe housing shortages, urban planners also acknowledged the need for areas devoted to relaxation, leisure, and personal growth (Van Walsum & Van Traa, 1955). "Residents must be able to find peace in their neighbourhoods; when they are not working, their eyes should be able to witness an orderly, friendly, green world, where women and children predominate" (Barbieri et al., 1981, p.147, own translation).

The chaos and issues of the big city were meant to be remedied by creating smaller urban units: the neighbourhood (Reijndorp et al., 1994). According to Wagenaar (2011), the neighbourhood is "the intermediate level between the city, which coincided with society as a whole, and the individual home." The city was divided into discrete neighbourhoods, creating semi-autonomous areas with easy access to all daily conveniences. These units could function independently while still being part of the larger urban fabric (Zweerink, 2005).

This "neighbourhood idea" had a significant impact on Rotterdam's post-war urban planning. To guarantee the uniqueness of each district, it had been decided that different urban planners would design each of Rotterdam-Zuid's neighbourhoods (Zweerink, 2005). This is supported by Reijndorp (1994), who claimed that the new city must be a cohesive whole made up of distinct, well-defined neighbourhoods, each with its own independent personality and style. Residents could only genuinely find serenity and personal development in a smaller community, which would subsequently encourage the emergence of a new way of life for everyone, ultimately forming a changed society.

Urban designer Van Tijen was also determined that this neighbourhood-based structure would provide ample opportunity for both individual and collective growth and development. His first implementation of this neighbourhood concept was in Zuidwijk's design; a neighbourhood with distinct units, a clear structure, a self-contained layout with lots of green space, and close ties to other areas of the city (Zweerink, 2005). Van Tijen used Zuidwijk as the starting point for a socio-cultural experiment in which he centred his urban planning around social principles (Reijndorp et al., 1994).

The Pendrecht district, created by architect Lotte Stam-Beese starting in 1948, closely aligned with Van Tijen's ideas of the neighbourhood (Zweerink, 2005). In the process for the design of Pendrecht, however, Stam-Beese introduced a new principle into Pendrecht's design: the housing unit, a concept that enables the creation of an efficient, cohesive, yet diverse neighbourhood. This unit formed a smaller entity than the neighbourhood, giving her greater control over both the physical and social aspects of the design. To encourage the social aspect, the unit integrated a wide range of housing types, in order to provide housing for a wide range of residents (Zweerink, 2005).

Image 1: Architect Lotte Stam-Beese in front of community centre Pendrecht. Source: Reijndorp, A. et al. (1994)

Image 2: Square 1953, Pendrecht. Photo: 1963.
Source: Reijndorp, A. et al. (1994)

According to Stam-Beese, in an urban environment it is important for individuals to be able to choose their contacts and social activities, which this differentiated housing unit environment would accommodate. Stam-Beese's design focused on the different lifestyles and the diversity and characteristics of urban life, which differs from Zuidwijk where they were considered as negative influences. Another important difference from Zuidwijk is the continuing focus on the "urban." In a written text, Stam-Beese emphasizes Pendrecht as an integral part of Rotterdam, and about the importance of the square as a central part of the neighbourhood she explains: "The spacious size of the square guarantees a use for all possible purposes, such as strolling along the shop windows, the gathering and partying of the youth at competitions on the roller skating rink and the contemplative resting of the 'oldies' along the waterfront. It is meant to be an urban square full of changing events, just as Pendrecht as a residential area is meant to be an urban neighbourhood and not a commuter commune." (Reijndorp et al., 1994, pp. 50-51, own translation).

"The urban individual shares with many the ground on which his home is located, on which he walks and rests. He makes use of things and institutions, which countless others (mostly strangers) also make use of beside him, (...) Characteristic of the city dweller is his need to be able to choose among many possibilities for contact with his environment. He has more freedom than the rural person and prefers freely chosen, uncontrolled contacts with society politically, athletically and culturally over the more natural and stable contacts in the countryside. This general characteristic of the city dweller also applies with respect to his dealings with neighbours and others in the immediate vicinity of his home. An environment differentiated according to forms of life (...) will in my opinion better meet his need for freely chosen, mostly unstable contacts."

Lotte Stam-Beese

(in: Reijndorp et al, 1994, p.49, own translation)

In architectural terms, Stam-Beese designed the housing unit to be more open and varied, moving away from the small, unhygienic garden city model. Closed building blocks were opened up, a lot of greenery was added, and high-rise and low-rise structures blended together seamlessly. This aesthetic and cohesive unit was then applied as a stamp throughout the rest of the district, mirrored rather than repeated, in order to create a dynamic urban landscape. Because of this shifting, the focus of the design is focused on the public spaces created between the building blocks. The way the housing unit was used as a starting point provided an unprecedented solidity to the design of the neighbourhood, in which the building block and public spaces were connected to all aspects of daily life, for example, stores, playgrounds and traffic arteries (van Velzen, 1994). The continuous traffic lines running through the district ensured a division into four distinct neighbourhoods on one hand, but they also improved residents' access to other areas of the city. Even the separation of cars and pedestrians was carefully considered, and for this final group, Pendrecht became a green experience featuring well-planned spaces, streets, and squares (Zweerink, 2005).

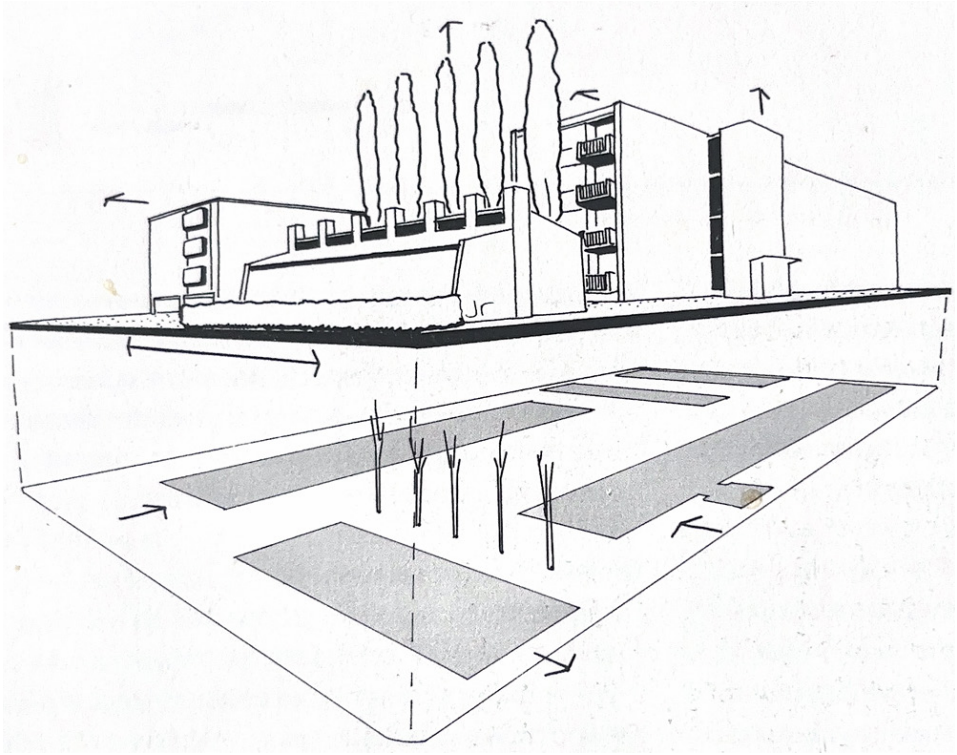

Image 3: The basic principles of the housing unit.
Source: Zweerink, K. (2005).

What is remarkable on building scale is the traditional building style used for the construction, as opposed to the style used in many other postwar neighbourhoods. Because different developers were assigned to different parts of Pendrecht, subtle differences in the architecture can be observed across different streets. In order to connect the openness of the district to its architecture, large glass surfaces were included in the design to smooth the transition between indoor and outdoor spaces (Zweerink, 2005). According to Reijndorp et al. (1994), Pendrecht became the ideal illustration of a new, contemporary urban expansion where residents could readily find social interaction within the open society while still being able to withdraw into their own homes. With Pendrecht's new urban design, Stam-Beese was able to successfully apply urban principles in a contemporary manner (Zweerink, 2005).

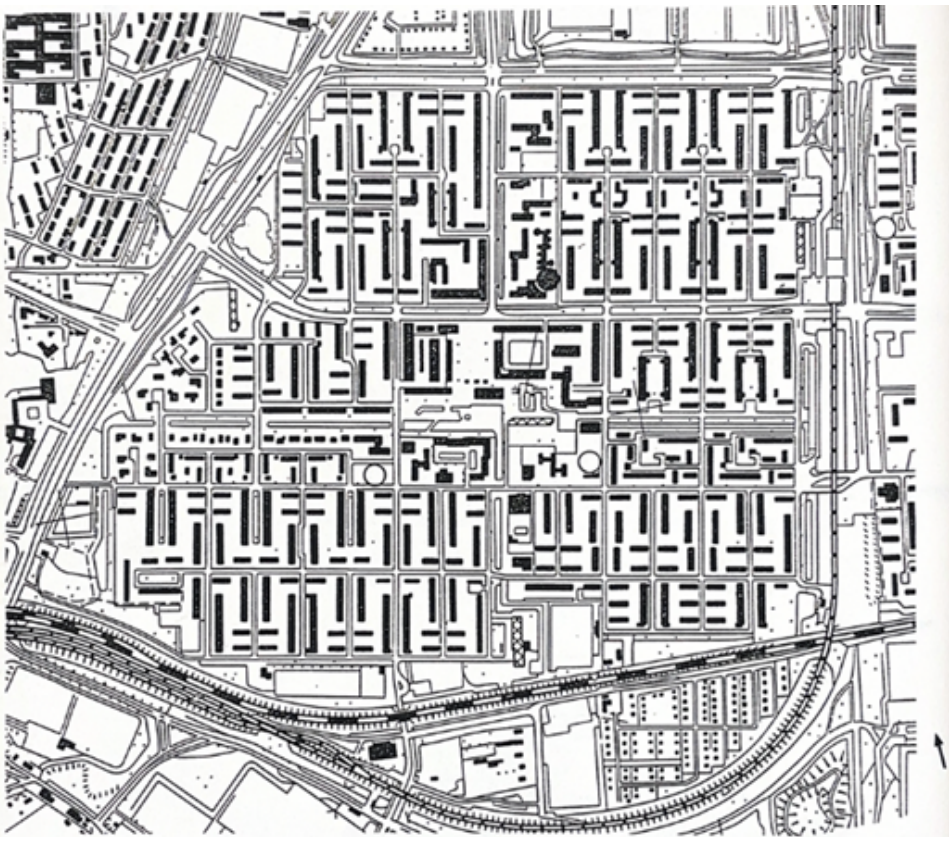

Image 4: Situation Pendrecht 1992.
Source: van Velzen, E. (1992).

"The housing shortage forces the tens of thousands of people in need of housing to accept what is put in front of them and assigned to them. They even do so quickly and with a willingness similar to that of those who accept a dry piece of bread after a period of deprivation and hunger. The haste and economy of construction often result in houses, neighborhoods and architecture that are so monotonous, uniform, cramped and poor that it is to be feared that, in the long run, the well-being of the residents will suffer."

Johan Niegeman, architect

(in: Reijndorp, A. et al., 1994, p.94, own translation)

2

Social and Spatial Challenges in Pendrecht during the 1980s

For the first few decades following its construction, the new Pendrecht district was a highly desirable place to live. For many, a contemporary house surrounded by green space was a “giant improvement” over the bustling city centre where roughly three-quarters of the newcomers had previously resided. The feeling was described as if one was finally able to live ‘outdoors’ (Reijndorp et al., 1994). A significant number of workers along with people of middle-class families were drawn to the neighbourhood and found work in the port of Rotterdam. Additionally, many people from outside Rotterdam, including from the provinces of Zeeland, Brabant, and Friesland, came to Pendrecht in the early post-war years to start a new life (Graaff, 2012).

The large number of new houses in the Southern Garden Cities already contributed significantly to the extreme housing shortcomings in the first years after the war. However, there were still a lot of shortages, and the municipality placed a number of restrictions on newcomers to neighbourhoods like Pendrecht because of the high demand for housing. For instance, in order to qualify for housing in the early 1950s, couples had to have reached the age of 60 together. Due to these stringent regulations, families who moved to Pendrecht were typically older, and the residents thereby tended to belong to the same social class and stage of life. This monotonous population at that time was also closely related to the relatively one-sided housing supply, consisting mainly of social rent. (Reijndorp et al., 1994).

However, starting in the early 1980s, Pendrecht faced a larger number of socioeconomic issues that resulted in a period of decline. The neighbourhood no longer appeared to be able to accommodate the evolving needs of its inhabitants on a number of levels. For instance, according to Graaff (2012), Pendrecht’s housing was soon viewed as being too small as the need for space grew over time. Families with small children consequently left Pendrecht for more modern neighbourhoods like Barendrecht and Ijsselmonde, where they could afford larger, more modern homes with gardens. This movement was at odds with the diversity that Stam-Beese had originally intended for Pendrecht (Graaff 2012). “The neighbourhood and neighbourhood life can only flourish on the basis of natural and healthy family relationships and their proper disclosure and expression in housing” (Hellman, 1992).

The people who were forced to stay in Pendrecht due to financial constraints “could almost without exception be counted among the working class and lower middle class” (Reijndorp et al., 1994, p.164). In addition, this first generation of residents had come to an older age, which meant that children had left home and the neighbourhood was aging more and more. Older people stayed in their homes, and the ones that became available over the years were only suitable for one-person households (Reijndorp et al., 1994).

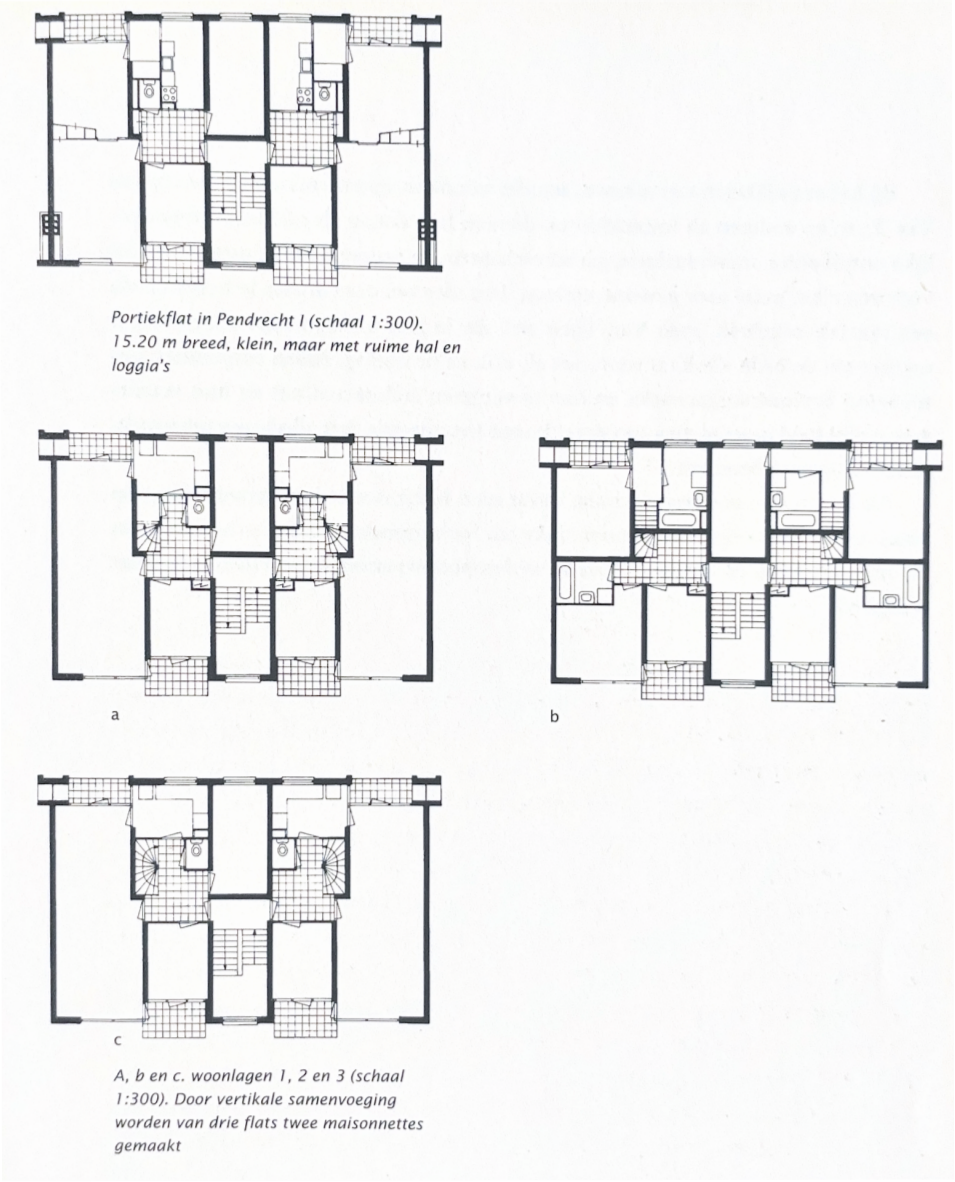

Image 5: Standard floor plans apartments type a,b,c.
Source: Reijndorp, A. et al. (1994)

However, the abundance of social housing and the comparatively small apartments continued to attract the many foreign workers looking for work in the Rotterdam harbour. Guest workers, mainly from Turkey and Morocco, took over the housing from the leaving middle class. A later group of immigrants from the Antilles followed (Graaff, 2012). As a result of this rapid development, Pendrecht's Dutch population fell from 90% to 50% in just ten years (van Ostaaijen, 2012).

The one-sided and cheap housing supply created a concentration of poorly educated and underprivileged people from a wide range of backgrounds in Pendrecht. The clashing lifestyles of the different nationalities created a rift between the original inhabitants of Pendrecht and the influx of young immigrants (van Ostaaijen, 2012). The original residents of Pendrecht and the wave of young immigrants were at odds due to the divergent lifestyles of the various nationalities (van Ostaaijen, 2012). The fact that these various demographic groups did not mesh well with Stam-Beese's "open society" became more evident as a result. "Excessive class inequality will undoubtedly lead to numerous problems" (Graaff, 2012). Indeed, as a result of the large influx of immigrants, Pendrecht's residents witnessed a rapid transformation of their neighbourhood. Among the issues that resulted from this were "nuisance, insecurity, pollution, health risks, and language and learning deficits." (van Ostaaijen, 2012, own translation).

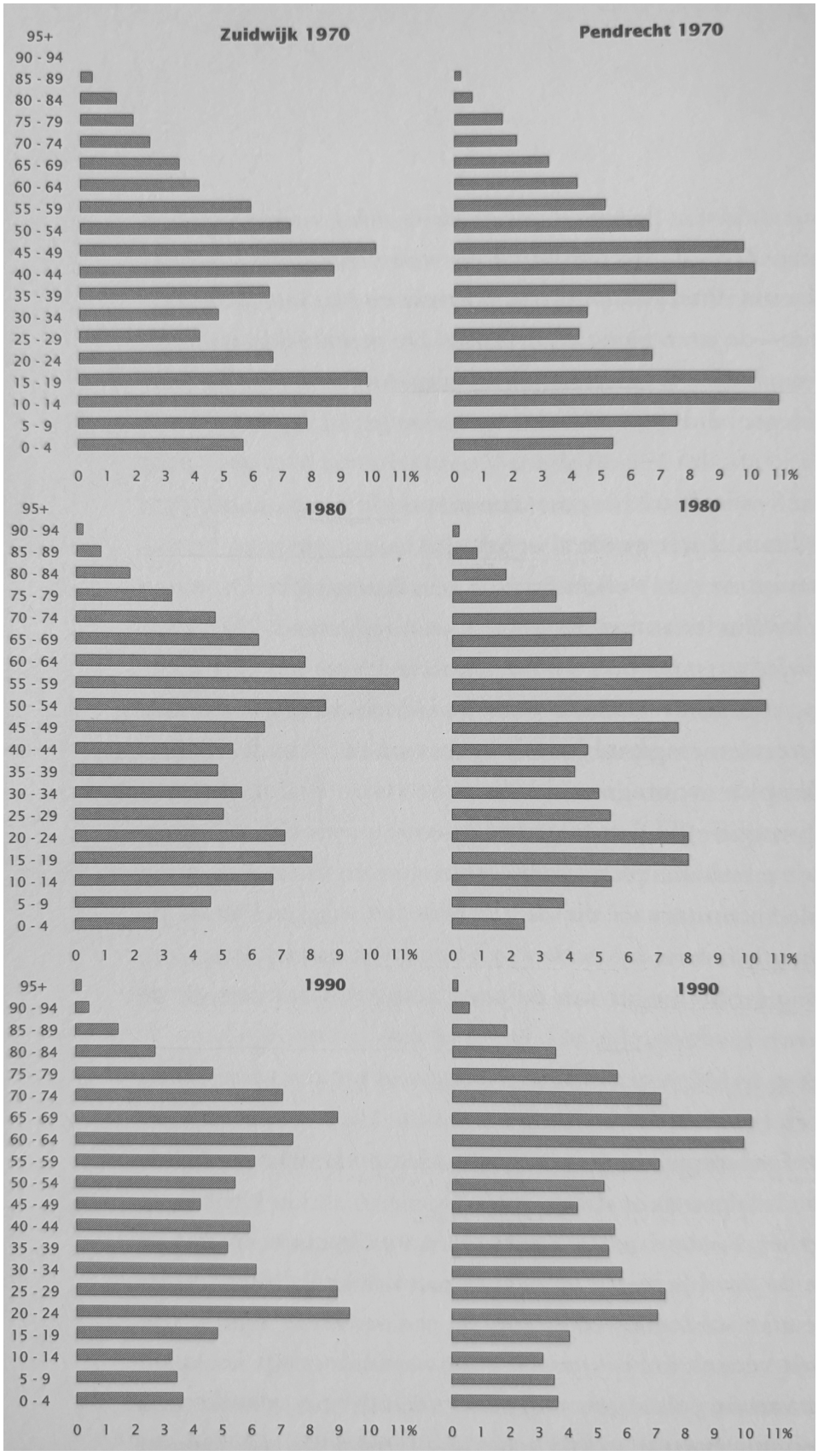

Image 6: Age pyramid in the Zuidwijk and Pendrecht districts in 1970, 1980 and 1990. The process of the ageing population is clearly visible. Source: Reijndorp, A. et al. (1994)

The departure of families and the growing number of single households, either elderly or immigrants, resulted in a sharp decline in the population of Pendrecht. As a result, it was no longer profitable for facilities in the center of the district to remain open. The facilities, such as shops and cafes, concentrated themselves in the busy city centers, and over the years this led to many vacancies and the streetscape became increasingly quiet (Zweerink, 2005).

The houses themselves also deteriorated physically over the years, and by the 1980s much of the existing stock was in poor architectural condition (Doevendans, 2000). This was partly due to the speed with which construction had to be carried out after the war, with new building systems and savings in expensive materials. Also, the central government enforced using small, standardized floor plans to make the reconstruction process as efficient as possible. The poor quality of housing started to emerge more and more from the 1970s onwards: “many systemic defects, impractical small layouts and factory manufacture with more attention to quantity than quality will make the scale of the urban renewal problem immense” (Reijndorp et al., 1994, p.165).

Doevendans (2000) argues that the approach of building large numbers of the same houses helps to increase productivity and consistently, reduces costs. However, this new building system led in Pendrecht also to an inevitable uniformity of the cityscape, which did not fit in with Lotte Stam-Beede’s original idea. There was no room in the houses for a washing machine and other household appliances that quickly emerged in the postwar period, and a central heating installation was missing. Many of the storey buildings also lacked an elevator, making the homes unsuitable for the increasing number of elderly people. (Dienst Stedebouw + Volkshuisvesting, 1991). In terms of space as well as layout and quality, the simplistic housing was therefore quickly overtaken by the new housing estates that emerged in the 1970s, which were characteristic for their economic expansion and rapidly growing consumption (Reijndorp et al., 1994).

Also the ideas behind the architecture of the houses were not well received in practice. The openness of the spaces was even perceived as a problem; the blurred division between private, collective and public left residents without a sense of privacy (Graaff, 2012). “Everything is so open,” said one resident. “Real intimate family life is almost impossible. With all this glass, everyone can see through your whole house. You can’t even pull up your stocking” (Barends and De Pree, 1955, p.108). The problem of closed families in the openness in the neighbourhood was widely researched by various sociologists and psychologists, and it emerged that openness was actually seen as a hindrance in a social society. “The running in and out of neighbours and family members interfering with everything made both intimate family life and spreading one’s wings to a larger part of urban society almost impossible” (Reijndorp et al,. 1994, p. 54, own translation). The intimacy of the family and home is precisely what is needed for establishing social contacts. In the same study, psychologist Linschoten writes: “Just as the body delimits personal individuality, our very home, so does the home delimit social individuality.” (Reijndorp et al,. 1994, p. 55, own translation) Because where the home is supposed to limit, it also opens its doors to real encounters.

"The current Dutch housing market is the engine for social inequality "

Peter Boelhouwer, professor TU Delft

(in: Boelhouwer, P. 2020, p.454)

3

From Pendrecht to Vinex: the ongoing battle against systematic vulnerability

Over the decades, Pendrecht increasingly emerged as a problem neighbourhood. The once innovative and promising district had by the 1980s become a place where social inequality prevailed, with record numbers of unemployed, disabled and high percentages of non-Dutch immigrants (Engbersen, 2002). In addition, the segregation of functions and migrating amenities created a lack of vibrancy, and the housing itself was also poorly maintained and no longer met the changing needs of families, the originally intended target group for Pendrecht.

Although the problems in Pendrecht were also becoming increasingly apparent to the municipality, the ongoing housing shortage meant that hardly any attention was paid to improving these postwar neighbourhoods. First it was the turn of the pre-war districts; by building large new construction projects, mainly the middle class should be attracted back to these parts of the city. However, this drew much criticism from residents; the reconstruction of the neighbourhood would "make their neighbourhood as lifeless and cold as city centre" (van Ostaaijen, 2012, p. 14). Urban renewal would focus too much on improving the physical state of the district, and lack an integrated approach that would also include the interests of residents and the existing social structure.

Because the initial focus was primarily on pre-war districts, neighbourhoods such as Pendrecht fell into even greater disrepair, and benefited very little from the economic and physical improvements undergone by the rest of the city (van Ostaaijen, 2012). Pendrecht had its turn for these renewals later in the 1980s, and also in this case, the focus was put mainly on the physical structure and lacked an integrated approach. Plans were developed for renovation of the existing housing, new construction projects, putting a larger share of owner-occupied housing on the market, and the centre of Pendrecht, Plein 1953, was redesigned (Zweerink, 2005).

The emergence of "social renewal" changed this physical approach in the late 1980s. The movement rested on the fact that economic and physical improvements cannot be achieved without also taking social measures, in order to try to solve the problems of vulnerable neighbourhoods and populations (van Ostaaijen, 2012). However, Fortuin (1996) argues that social renewal should not only focus on these problems and disadvantaged people, but that the movement actually offers opportunities for the entire city. It is up to all Rotterdammers to contribute to improving their city. This way, residents, schools and organizations were increasingly encouraged to improve their own living environment (Fortuin, 1996).

This approach, which focused specifically on the creation of opportunities, meant that Pendrecht slowly abandoned the term "problem neighbourhood," and gradually offered more perspective. By providing extra education, attempts were made to overcome the numbers of long-term unemployed, and by not only concentrating on the disadvantaged residents, different target groups were attracted to the district. This allowed the social cohesion in the neighbourhood to be improved, and the combination of physical measures and social interventions integrally strengthened the district (Gastkemper et al., 2019).

The climax of social renewal translated into the 'Opzoomerdag' on May 28, 1994, in which Pendrecht also participated. More than a year of preparations resulted in the participation of tens of thousands of residents and organizations scattered throughout the city in renovating more than 1,250 streets. Whereas social renewal itself has always remained more of a government program, in the run-up to this 'Opzoomerdag' this perspective thus shifted toward "More citizen, less government" (Fortuin,1996). As a result of this day, social cohesion in the participating neighbourhoods improved; people saluted each other again and contact developed between residents who might have avoided each other before, according to Fortuin's (1996) research. The 'Opzoomeren' itself also persisted at the local level. In Pendrecht, the movement caused the emergence of many different new initiatives, such as the organization of neighbourhood festivities and various cleaning activities (van Ostaaijen, 1996).

Image 7: Archive photo of the 'Opzoomerdag',28 May 1994. Source: Havenloods (2024).

Some attempts to improve Pendrecht show that merely paying attention to the physical structure of the neighbourhood is not enough. Programs such as social renewal were a good complement to this earlier physical perspective for Pendrecht, but despite this, it turned out to be difficult to continue the improvements. This is also noted in van Ostaaijen's (1996) research. He states that in the 1990s many problems related to liveability, integration and safety still existed. Mainly in cities such as Rotterdam, urban neighbourhoods continued to exist with an extremely one-sided housing supply, attracting large groups of vulnerable people. Temporary policy measures have proven to be inadequate to address structural problems: many underlying problems continued to recur.

Projects must therefore be purposeful, especially in the present time with the Netherlands facing enormous housing challenges. “The supply of sufficient housing is currently the biggest problem on the Dutch housing market” (Boelhouwer, 2020). Admittedly not because of war, but because of factors such as the construction industry being at a standstill and sharply increasing immigration, the housing shortage has only increased in recent decades. In addition, for a large part of the population in the Netherlands, the middle-income group, buying a house has become virtually impossible; “They earn just too much to enter the social housing sector, they are not eligible for a mortgage, and a private rental house is often (too) expensive or even unavailable.” (Boelhouwer, 2020, p.450).

The consequences of this situation are clearly similar to those of the reconstruction period. Indeed, over the years, this gap for middle-income earners led to an ever-growing separation between different income groups, which then further developed into spatial segregation. Boelhouwer (2020) explains this by stating that “attractive neighbourhoods in the major cities are becoming less accessible to these middle income groups, and, vice versa, the concentration of low incomes in ‘poor neighbourhoods’ is getting worse.” He also explains in his research that as a result of this movement, neighbourhoods are being put under pressure, residential properties are declining in value and the liveability of neighbourhoods is spiralling downward as a result. The modern developments in the housing market also exert a direct effect on social inequality, notes Boelhouwer (2020) sharply; “The current Dutch housing market is an engine for social inequality and leads to sharp divisions in various areas.” (Boelhouwer, 2020, p.454). In this way, the increasing number of vulnerable people in unattractive neighbourhoods with a one-sided housing supply and social inequality reflect the problems Pendrecht was already facing half a century ago.

Most of the housing shortage is being addressed in “Vinex-neighbourhoods”. These neighbourhoods were built in new suburban locations or just outside the city boundaries to meet the growing demand for family homes (Lennartz & de Vries, 2024). With increasing car ownership, improved public transport connections and bicycle networks, work and other amenities were easily accessible (Li, 2013). This accessibility, the short distance between different functions and the proximity to recreational facilities made the Vinex neighbourhoods a popular place to live (Lennartz & de Vries, 2024). Attracting middle-class families was done by building relatively large and expensive housing. However, according to Lennartz & de Vries (2024), this resulted in a relatively high uniformity of dwelling types, and thus also in too much uniformity in the population composition. In addition, over the years the houses have become even larger, further increasing house prices and in recent decades, more and more higher incomes have moved to the Vinex districts. For lower incomes, these homes have become practically inaccessible (Lennartz & de Vries, 2024).

Image 8: Aerial photo Noorderplassen-West, Almere. Source: Stadszaken (2024).

The same research by Lennartz & de Vries (2024) describes these processes of neighbourhood change primarily based on the “displacement model”. This implies that current residents are replaced by a new group of residents when the district itself or the housing stock changes, which splits into either downgrading or upgrading. Downgrading is the underlying process behind the creation of deprived neighbourhoods, where wealthy residents leave the district resulting in poverty and unemployment being concentrated in the neighbourhood. Pendrecht is also an evident example of this. However, what Lennartz & de Vries (2024) specifically highlight are the risks that may arise in the upgrading process of a neighbourhood. Here, residents with a lower socioeconomic position are replaced by residents with a higher income. By continuing to improve and upgrade neighbourhoods, housing prices and living costs rise, forcing lower-income residents to leave. This practice shows that over-successful improvements also cause a form of social inequality.

When combining the knowledge of the developments from Pendrecht with contemporary practice, it becomes evident that both in neighbourhoods in which the downgrading process and the upgrading process takes place, social inequality and an unbalanced living environment are created by the unconscious exclusion of certain income groups. Thus, in both cases, a one-sided housing supply reinforces segregation between different populations, which in an urban environment is not desirable for the viability of an area. This is also becoming increasingly apparent in contemporary Vinex neighborhoods. Districts must be flexible and diverse, and history shows the enormous social and economic impact that the profession of urban planning has on the environment, and that design must go beyond the moment to work toward an inclusive future.

Conclusion

This history thesis focused on the influence of urban planning strategies during the reconstruction period in Rotterdam on the social and spatial problems that emerged in the Pendrecht neighbourhood starting in the 1980s. Investigating this influence was facilitated and proved by the utilization of both primary and secondary sources.

The strategy for rapid reconstruction, devised to provide quick shelter for the large numbers of homeless individuals after the war, included three rational principles: urgency, functionality and efficiency. The development plan for Pendrecht was also created within this framework by the architect Lotte Stam-Beese. The district's design was conceived as an ultimate example of a neighbourhood for the future. Stam-Beese designed the housing unit, featuring abundant greenery and a clear separation of functions, which had to contribute to the development of a modern and dynamic society. After all, the main focus of the design was put on the social aspect. Here, in contrast to the busy city, residents could find peace and quiet and work on their own growth and development.

However, the developments of the neighbourhood demonstrated that over the years these principles, including the separation of functions and standardization in the form of the repeatable housing unit, could not effectively address the social changes that emerged from the 1980s onward. The implemented urban planning principles transformed the neighbourhood in a few decades into a vulnerable area with high concentrations of problems such as social segregation, unemployment and physical deterioration of the housing stock. It soon became evident that the one-sided stock was unable to evolve in response to the increasing housing needs and developments among the population.

Despite various measures that were initiated by the municipality to improve the neighbourhood, first physically and subsequently also through social strategies, it proved difficult to address the rooted problems at their core. The vulnerability of the neighbourhood emerged again and again. The case of Pendrecht thus shows that the urban design of the neighbourhood contributed significantly to its decline, and demonstrates the importance of a diverse and flexible neighbourhood. More recent housing developments such as the Vinex neighbourhoods, where these aspects were also not integrally included in the design, confirm this by starting to show comparable shortcomings to the Pendrecht district. Practice makes one aware of the enormous social and economic influence that the profession of urban planning has on the environment, that the physical state of a city is related to its social structure and that design must go beyond the moment to work towards an inclusive future.

Reflection

Today, the subject of this thesis is more important than ever. The enormous housing shortage that the Netherlands is still facing requires a structural and purposeful approach from the very beginning of an urban planning project, in order to avoid repeating the mistakes of the past.

The concepts of speed and efficiency, which have again become increasingly popular in recent years, must be combined with a long-term view. History teaches us that, especially in large housing projects, it is important to consider changing housing needs in the future and not just focus on the present. For example, residential neighbourhoods should be diverse, with variations in housing types for good circulation, with a wide range of social amenities, and with diverse public spaces and greenery to encourage contact between residents, as also concluded in both Lennartz & de Vries' (2024) and Li's (2013) research.

Pendrecht sends a clear message about the importance of implementing these principles from the very first design stages. This is confirmed by the development of some relatively recently built Vinex districts. Not only Pendrecht, but also these neighbourhoods already show signs of a lack of flexibility and future-proofing, which will only further increase social inequality over the years. These principles should therefore not be an add on, but the main issue in order to work towards a more sustainable and socially inclusive future.

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