Het Witte Huis and the rise of the American high-rise buildings

A paper about the influence of the American architectural high-rise movement on Dutch architecture around 1900 with a close examination of Het Witte Huis in Rotterdam designed by Willem Molenbroek.

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The Great Fire of Chicago in 1871 destroyed almost the entire city. As a result, the Chicago School of Architecture emerged, which is characterised by high-rise buildings with steel skeleton frames. This architectural movement spread beyond America and influenced cities worldwide. This thesis analyses the impact of the American high-rise movement and its influence on Rotterdam, the Netherlands, during the late 19th and early 20th centuries. The case study of Het Witte Huis (The White House), designed by Willem Molenbroek in 1898, which is often compared to the American high-rise movement, is used to illustrate this influence, the impact that it had on the city and whether it can truly be seen as an American high-rise building. This thesis aims to conduct a comparative analysis of architectural development in America, drawing insights from various texts written by Gwendolyn Wright and John Zukowsky. A further investigation was done into how the American architectural high-rise movement influenced Dutch architecture, utilising works by Jeffrey W. Cody and Herman van Bergeijk. Insights from this research were used to investigate Het Witte Huis, using texts, historical newspapers and magazines. The investigation covered aspects such as the reasons behind its design, similarities with American structures, public opinion, and its impact on Rotterdam's architectural development. The findings from this research showed how Het Witte Huis serves as an example of the integration of American influences with local context. Although it features American-inspired high-rise design elements, its construction method aligns more closely with traditional Dutch practices. While Het Witte Huis did not directly inspire subsequent high-rise constructions in Rotterdam and faced mixed reactions, it stimulated future experimentation and innovation in Dutch architecture. The city developed its unique architectural identity, exemplified by projects like the Van Nelle Factory.

Keywords

american architecture, chicago school, het witte huis, rotterdam, willem molenbroek, high-rise

Introduction

In 1871, the Great Fire of Chicago left the city in ashes, but it also gave way to a spirit of resilience and innovation. This spirit led to advancements in fireproofing and new construction materials. The need for improvement ultimately gave birth to the Chicago School of Architecture style. A style that is renowned for its pioneering use of steel skeleton frames that facilitated the construction of taller buildings. The style's focus on functionality, efficiency, and structural integrity often yielded minimalist designs with clean lines and large windows. Ornamental details at the base and cornices at the top of buildings. The average height of a high-rise building in Chicago around 1890 was between eight and fifteen floors. Pioneers architects like William Le Baron Jenney and Louis H. Sullivan emerged from this movement, redefining the city's skyline with their innovative designs. Sullivan's Wainwright Building (Figure 3), completed in 1891. symbolized the fusion of form and function in modern architecture, showing progress and innovation in urban development.1

Not only Chicago was influenced by building high-rise buildings and using new materials. In America, competition grew among cities like New York and San Francisco. Cities aimed to display their wealth and power by constructing tall buildings, each trying to surpass others in height. This competition fuelled the development of the American architectural movement, which soon spread beyond the country's borders, influencing the design of buildings in Europe.²

While American architectural influence can be seen in European capital cities such as London, Paris, Berlin, and Vienna by the end of the 19th century, it was not as prominent in the Netherlands.³ During the 1900s-1940s, Dutch architecture was shaped by an interesting mix of global influences and local tradition. This interplay not only shaped the physical landscape but also influenced the cultural identity and collective imagination of Dutch architecture during a period of significant change and transition.

The change and transition did not occur suddenly. The Netherlands had a reserved attitude towards foreign influences, such as America. This was mainly due to tradition, but other factors also contributed to this view. When architects allowed themselves to be inspired by America, the reactions were often negative. One such architect who let himself be inspired by American architecture was Willem Molenbroek, who designed among others Het Witte Huis.

Het Witte Huis (The White House) as can be seen in figure 1 is an icon in Rotterdam. Completed in 1898, this historic high-rise has the reputation of being one of the first high-rise buildings in Europe. Despite its European origins, the building is often compared to the architectural scale of America's cityscapes, particularly that of New York City. Its exceptional height of 40 meters for that time and ornate facade are similar of the high-rise that defined the growing skyline of American



Figure 1 Het Witte Huis in Rotterdam, Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

¹ John Zukowsky, ed., *Chicago Architecture: 1872-1922 Birth of a Metropolis* (Prestel-Verlag, Munich, in assoc. with the Art Institute of Chicago, 1987).

² "Exporting Steel-framed Skeletons of American Modernity," in *Routledge eBooks*, 2005, 19–46, https://doi.org/10.4324/9780203986585-4.
³ Arnold Lewis, "*A European Profile of American Architecture*," Journal of the Society of Architectural Historians 37, no. 4 (December 1, 1978): 265–82, https://doi.org/10.2307/989244.

cities in the late 19th and early 20th centuries. Its construction occurred simultaneously with a period of rapid industrialization and urbanisation, reflecting a time when American cities were undergoing similar transformations.

It is understandable why many associate Het Witte Huis with American building styles based on its exterior structure. This comparison has been noted in numerous research articles, including the one by Herman van Bergeijk, where he writes; "It was the first high-rise building in the Netherlands and was considered to be inspired by American skyscraper *examples.*".⁴ However, the origins of Het Witte Huis' design and whether it can truly be labelled as an American-style building remain a topic of inquiry. What was the reason for the design and did it follow the architectural trend that was happening at that moment? And what might be the reason that a similar building like Het Witte Huis was not built again in Rotterdam?

The objective of this thesis is to offer an understanding of the evolution of building styles in Rotterdam in the Netherlands during the late 19th century and early 20th century, with a specific focus on Het Witte Huis and the American high-rise influences from that era.

To achieve this goal, a comparative analysis of architectural development in America will be conducted to identify certain causes and effects. This information will be obtained in multiple texts such as USA: Modern Architectures in History by Gwendolyn Wright⁵ and the book Chicago Architecture: 1872-1922 Birth of a *Metropolis by* Zukowsky.⁶ While those two texts mainly focus on the development in America, chapter one of Exporting American Architecture 1870-2000 by Jeffrey W. Cody⁷ will give a more insightful look at the connection between America and Europe. This will then be followed by a more detailed explanation of how architecture influenced American the development of architecture in the Netherlands. Herman van Bergeijk's "Dutch Office Building 1900-1940: A Question of Style or Mentality?" offers an insightful exploration of the early 20th-century architectural developments of office buildings in the Netherlands.⁸ Van Bergeijk expertly considers whether these advancements were primarily influenced by style or broader architectural societal mentalities of that time. Were Bergeijk focuses more on the overall development of architecture and office buildings, an article from the book Jaarboek Monumentenzorg 1993 by W.G.M Bergé et al.⁹ not only discusses the connection between America and the Netherlands, it also mentions different Dutch architects besides Molenbroek who were interested in the American architectural style at the beginning of the twentieth century.

The insights gained from this research will then be applied to investigate Het Witte Huis. A few texts have been written about Het Witte Huis, such as Het Witte Huis 1898-1998 by Joris Boddaerd¹⁰ and Op het Witte Huis sta je hoger by Freek Faro and Hans Verschoor¹¹. Further information will be found in old newspapers and magazines from that time. The research will delve into the individuals involved, the reasons for selecting the particular style, the similarities between the building and American structures built at the same time, public opinion of the building, and its influence on the subsequent development of architecture in Rotterdam.

Development of the American highrise buildings

The turbulent events of 1848, paired with subsequent wars and the implementation of Bismarck's "blood and iron" policies, prompted a notable migration of Germans to Chicago. Among this influx were a significant number of architects and engineers, whose expertise and knowledge would profoundly influence the

⁴ Van Bergeijk, "*Dutch Office Building 1900 – 1940. A Question of Style or Mentality?*, page 163"

⁵ Gwendolyn Wright, *USA: Modern Architectures in History* (Reaktion Books, 2008).

⁶ Zukowsky, Chicago Architecture: 1872-1922 Birth of a Metropolis.

⁷ "Exporting Steel-Framed Skeletons of American Modernity."

⁸ Van Bergeijk, "De Voortdurende Strijd Om Hoogbouw."

⁹ Rijksdienst Voor De Monumentenzorg et al., *Jaarboek Monumentenzorg 1993, 1993*,

https://www.dbnl.org/tekst/_jaa030199301_01/colofon. php.

¹⁰ Joris Boddaert, *Het Witte Huis 1898-1998* (Boddaert produkties, 1998).

¹¹ Freek Faro and Hans Verschoor, *Op Het Witte Huis Sta Je Hoger* (De Havenloods, Wegener, Westermeijer, 1978).

city's expanding urban landscape.¹² Thanks to this increase of knowledge and expertise, the post-war era witnessed a remarkable surge in economic prosperity, particularly evident in the field of architecture. Nowhere was this more evident than in the expanding cities, where populations swelled fourfold over the following three decades.¹³

One of the developments that arose after the war was that of the engineer James Bogardus. Bogardus's pioneering work in 1850 in developing bolted connections for steel beams and columns revolutionized tall building construction, earning him recognition as the progenitor of the modern iron skeleton frame. However, not everyone embraced the use of iron; figures like John Ruskin organized an anti-iron campaign, emphasizing the debates surrounding technological progress and architectural aesthetics.¹⁴

Even though not everyone was a supporter of the steel construction, it did not stop the development of the first high-rise buildings. One of the defining landmarks of this period was the Equitable Building in New York, a pioneering structure that soared to a height of 43 meters and boasted two elevators upon its completion in 1870. This architectural construction, a forerunner to the skyscraper trend, symbolized the ambitions and ingenuity of the era, despite the building not being made of a steel construction.¹⁵

Between major cities, there was a constant rivalry, especially between Chicago and New York. However, Chicago's trajectory took a tragic turn with the catastrophic Great Fire of 1871, which ravaged the city from October 8th to 10th. The devastating impact of the fire, fuelled by the prevalence of wooden structures that characterized the architectural landscape of the time, nearly reduced the entire city to ashes.

Despite the widespread destruction, the fire also served as a spark for resilience and innovation. Rather than abandoning Chicago, architects and engineers focussed on their commitment to the city's reconstruction, even in the face of economic recession. The necessity of rebuilding from the ground up provided an opportunity for revitalization and renewal.

The fire itself also prompted a crucial realization: the urgent need for change in construction materials to minimize the chance of future disasters. Otto H. Matz's German building, The Nixon Building, was proof of the importance of using different materials. Part of the construction of the building was fortified with concrete and plaster. This demonstrated the potential of such measures. Technological advancements, such as the introduction of fireproofing for iron and steel frames, combined with breakthroughs like the elevator, laid the groundwork for the spectacular rise of high-rise buildings by the late 1880s.¹⁶

This rebuild and the strive for high-rise buildings would come to be known as the Chicago School of Architecture and signalled a departure from convention building styles. Pioneers of this movement like Richardsonian Romanesque, John Wellborn Root, Solon Spencer Beman, and Otto H. Matz, began to redefine the city's skyline with innovative designs and structural techniques.¹⁷

The narrative of Chicago's architectural development is further enriched by the legacy of William Le Baron Jenney, whose 1884 design is often seen as the prototype of the modern skyscraper.¹⁸ Jenney's crowning achievement, the Home Insurance Building, showcased a pioneering approach to construction with its utilization of skeleton framing, albeit not for the entire structure (figure 2). This groundbreaking design marked a shift in architectural principles, emphasizing both strength and efficiency in vertical construction.¹⁹

¹² Zukowsky, Chicago Architecture: 1872-1922 Birth of a Metropolis.

¹³ Gwendolyn Wright, *USA: Modern Architectures in History* (Reaktion Books, 2008).

¹⁴ Zukowsky, *Chicago Architecture: 1872-1922 Birth of a Metropolis*.

¹⁵ Wright, USA: Modern Architectures in History, 2008.

¹⁶ Zukowsky, Chicago Architecture: 1872-1922 Birth of a Metropolis.

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Wright, USA: Modern Architectures in History, 2008.



Figure 2 Home Insurance Building, the first steel-framed structure of its kin, Chicago Tribune, June 23, 1907

Another important architect from that time was Louis H. Sullivan. His visionary designs and philosophies left a lasting mark on the Chicago School style and the broader architectural landscape. One of the designs was the Wainwright Building built in 1890-1891, which stands as proof of the evolution of structural engineering. Notable for being the first steelframed structure of its kind, it exemplified the fusion of form and function, setting a new standard for modern architecture. As the urban landscape continued to evolve, driven by technological advancements and shifting societal needs, these iconic structures served as enduring symbols of progress and innovation, forever reshaping the skyline and the collective imagination of the cities they graced.²⁰

The construction of high-rise buildings has been a lengthy process over many years, particularly the shift from wooden and stone structures to utilizing a complete steel skeleton, which posed numerous challenges. However, the American architectural building style possesses certain elements that are common in many buildings, contributing to its recognizable identity. Upon examining buildings such as the Equitable Building, the Home Insurance Building, and the Wainwright Building, many similarities can be observed. These structures feature repeated designs, with windows arranged in a raster pattern and horizontal beams adorned with ornamentation to distinguish between floors. The main entrances of the buildings are also distinct, either featuring an arched entrance or being twice the height of a typical door. Additionally, the buildings showcase a variety of materials, with most of the structure covered in bricks and the plinths boasting a different material, such as larger stones or plaster.

American architectural influence in Europe

The Philadelphia Centennial Exhibition of 1876 and the Chicago Columbian Exposition of 1893 emerged as crucial events in the path of architectural and industrial development. Particularly noteworthy was the profound impact of the Chicago Exposition, which obtained widespread recognition for both architectural innovation and building technology, particularly across Europe.

The thriving iron and steel industry, strengthened by the expansion of railroads, emerged as the foundation of industrial America. This development facilitated the first phase of American architectural exporting, characterized by advancements in constructionrelated metals and the standardization of components such as I-beams and trusses.

The possibilities of foreign trade also stirred excitement among American business and political leaders, particularly amidst the economic decline of the 1893 depression, as they sought greater profitability in international markets.

During the 1880s, the work of architects like Henry Hobson Richardson began to capture the attention of European critics. As the twentieth century began, figures such as Louis Sullivan and Frank Lloyd Wright also gained praise across Europe. Furthermore, the influx of American architectural students to the École des Beaux-Arts in Paris, a renowned centre of architectural education, facilitated professional interactions with European peers, further enhancing the exchange of architectural ideas and expertise.

The adoption of American technology abroad resulted in a combination of architectural forms and principles. This cross-pollination led to the emergence of hybrid architectural styles, rooted in American innovation but quickly spreading to global prominence, albeit initially in isolated

²⁰ Wright, USA: Modern Architectures in History, 2008.









Image published by Sprang printing, Bosten



Wainwright Building, 1890-1891, Saint Louis, Louis H. Sullivan First steel-framed structure of its kind

Photograph by Emil Boehl

Figure 3 Important buildings in America

The New York Historical Society/Getty Images

instances. Hence, the exchange of architectural knowledge between the United States and Europe proved to be a dynamic and reciprocal process, shaping the built environment on both continents in profound ways.²¹

American high-rise movement in The Netherlands

In comparison to America, the Netherlands has always been hesitant to construct high-rise buildings. While other parts of Europe were already building high-rise buildings, the Netherlands was not. This reserved attitude may be attributed to tradition or practical considerations, such as the condition of the soil. Constructing high-rise buildings requires a costly and technically challenging foundation. In addition, there was also the fear that the building might collapse.

Another aspect that also played a role in this view was tradition. For example in Amsterdam, the challenges were not only limited to financial and construction issues but also included the preservation of the city's historical image. As a result, a reserved attitude was adopted.²²

In 1889, an article discussing American urban housing was featured in the Vademecum der Bouwvakken (architectural magazine). The author of the article used the Tacoma Building in Chicago as a prime example, noting its staggering height of twelve stories, which was described as "terrifying". Throughout the remainder of the nineteenth century, articles of similar nature maintained a consistent tone, rarely delving into the artistic aspects of American architecture. When they did mention this subject, the critique was often harsh. Generally, there was the opinion that Americans tended to build too tall. However, despite the negative view portrayed in multiple articles, many European architects regarded their decorative approach as a skilful response to eclecticism.²³

As a result, in the early 1890s, architecture underwent a gradual transformation towards simplified forms in response to the ornate and traditional style that had dominated the field from the 1850s to the 1890s. The foundations for these changes were laid in earlier times, with influential writings by Semper, Viollet-Le-Duc, Pugin, Crane, and Morris.²⁴

In 1891, the first influence of the American architectural style was visible. The city architect of Amsterdam, A.W. Weissman made a design that showed distinct Richardson stylistic influences. These influences did not came out of nowhere. A significant interest grew amongst

²¹ "Exporting Steel-Framed Skeletons of American Modernity."

²² Van Bergeijk, "De Voortdurende Strijd Om Hoogbouw."

²³ Rijksdienst Voor De Monumentenzorg et al., *Jaarboek Monumentenzorg 1993*, 1993,

https://www.dbnl.org/tekst/_jaa030199301_01/colofon. php.

²⁴ De Monumentenzorg et al., *Jaarboek Monumentenzorg* 1993.

architects for the architectural style from America. This interest resulted in multiple articles that appeared in Dutch architectural magazines or English magazines such as The Studio and The Architectural Record, through which they became acquainted with the writings of William Morris and Walter Crane. The increase in articles might have also been a result of the death of Richardson in 1886. After his death, the number of articles increased significantly, particularly those about himself. Not only articles but also photobooks became more common. Photobooks by Daly influenced architecture in the Netherlands. These books were likely available for architects and probably also for students at the Delft Polytechnic School.

The death of Richardson and the increase of articles might be the reason why Weissman designed the way he did. The fact, however, that the first American-inspired design came from an architect in Amsterdam is interesting since Amsterdam was considered to be a traditional city. Perhaps, Weissman was one of the architects who had the desire to express himself originally, a feeling that started to grow among architects in the Netherlands around that time.

This need for experimenting became further visible in cities such as Rotterdam and The Hague, where the first characteristics of Art Nouveau began to appear. According to Louis Gans, who was among other things an arthistorian and writer, studied the emergence of Nouveau movement in the Art the Netherlands.²⁵ According to him, this happened precisely here because these cities lacked an "architectural tradition" in comparison with cities like Amsterdam. Rotterdam was the site of Europe's first high-rise. Het Witte Huis was an attempt at city branding. Apparently, the American style was seen as a fitting solution to the office type that emerged in the nineteenth century. America was the symbol of progress and was considered the most modern country in the world. In this context, it is not surprising that entrepreneurs wanted to present themselves as modern and progressive, and if their office appeared American, it meant the company was up-to-date. However, Het Witte Huis and its American style had little influence

on future buildings and remained a unique structure in the city.²⁶

According to Van Bergeijk, some people didn't find the building attractive or fitting for the area. An 1898 article in Orgaan van het Genootschap (architecture magazine) stated that while the American style is considered to be beautiful in America, it doesn't translate well to the Netherlands.²⁷ Another article in a different magazine echoed this sentiment, suggesting that the building looked better on paper than in reality.²⁸ While not everyone agreed with these views, it may help explain why a similar building was never constructed in Rotterdam. Even though a city like Rotterdam was seen as a place that might have been open for a building like Het Witte Huis due to the lack of "architectural tradition", the design of Het Witte Huis was probably even too modern or American for Rotterdam.²⁹

Despite attempts by Dutch architects to introduce the building style, high-rises remained a hesitant subject for many Dutch cities. However, by the end of the 1920s, the need for high-rise buildings was slowly being accepted in the Netherlands due to a housing shortage due to the relocation of people from the countryside to big cities looking for work.³⁰

²⁵ "RKD Research," n.d.,

https://research.rkd.nl/nl/detail/https%3A%2F%2Fdata.rk d.nl%2Fartists%2F30165.

²⁶ De Monumentenzorg et al., *Jaarboek Monumentenzorg* 1993.

²⁷ "Architectura; Orgaan van Het Genootschap, Het Witte Huis Te Rotterdam".

²⁸"Christelijk Schoolblad, Witte Huis".

²⁹ Van Bergeijk, "Dutch Office Building 1900 – 1940. A Question Of Style Or Mentality?"

³⁰ Van Bergeijk, "De Voortdurende Strijd Om Hoogbouw," September 1, 2018.



Willem Molenbroek Architect

Photo: Het Witte Huis 1898-1998, Boddaert

Gerardus van der Schuijt ^{Client}

Photo: Het Witte Huis 1898-1998, Boddaert



Hermanus van der Schuijt Client

Photo: GenealogieOnline, 100 jaar Het Witte Huis



J.H. Stelwagen Contractor

Photo: Het Witte Huis 1898-1998, Boddaert

Figure 4 Important figures in the design of Het Witte Huis

Parties involved in the design of Het Witte Huis

Despite the slow start of high-rise buildings in the Netherlands around the end of the nineteen century, there were a few exceptions. One of the most prominent examples of American-inspired architecture is a building in Rotterdam, Het Witte Huis that was built in 1898. Het Witte Huis was considered the first commercial highrise building in Europe and it bears unmistakable American-inspired architectural characteristics.

In order to investigate how the American highrise movement influenced the design of Het Witte Huis in Rotterdam, it is necessary to research the people involved to gain insight into why certain choices were made. What was their background and what or who could have influenced them?

There are a few people who've played a role in the development of Het Witte Huis. There is the architect Willem Molenbroek, the contractor J.H. Stelwagen and the clients Geradus (G.H) and Herman (H.M) van der Schuijt (Schuit) (figure 4).³¹

The architect and the clients

Willem Molenbroek was an architect who was born in 1863 in Rotterdam and studied architecture in Delft at the Polytechnical School. After his studies, at the age of 26, he started working in Rotterdam and became a member of the Vereeniging Bouwkunst en Vriendschap, a progressive association that was founded to keep architects connected and up to date with the newest developments.³²

In 1896 the clients Geradus and Herman van der Schuijt came in contact with Willem Molenbroek. They first asked him to design a house for them in Rotterdam. After the house, the brothers asked him again to work with him, this time to make a design for an office building. How exactly the two brothers came in contact with Molenbroek and why the plan was made to make an American-inspired high-rise building is uncertain.³³

W. Molenbroek

Molenbroek was a member of the Vereeniging Bouwkunst en Vriendschap, which means that was possibly interested in foreign he architecture, however, he has never been to America so why he used the Chicago school style as an inspiration is unclear. He might have been inspired during his studies in Delft where there might have been magazines in the library. Another possibility is that he could have been inspired after working together with Jacobus Pieter Stok, an architect who worked in Rotterdam and was also a member of Bouwkunst Vereeniging en Vriendschap. Throughout J.P. Stok career, multiple influences

³¹ Joris Boddaert, *Het Witte Huis 1898-1998* (Boddaert produkties, 1998).

³² "Molenbroek, Willem," Het Nieuwe Instituut, n.d., https://zoeken.hetnieuweinstituut.nl/nl/personen/detail/

c60e2193-c10f-5df1-bcb9-1d6b512912ce.

³³ Faro and Verschoor, Op Het Witte Huis Sta Je Hoger.

from America can be recognized in his designs. He could have influenced Molenbroek while working together on a competition for a summer concert hall where foreign influences were used.³⁴

This thesis argues that if Molenbroek was the initiator of the design choices, he may have been inspired during his studies in Delft, his time at the Vereeniging Bouwkunst en Vrienschap, or when he worked with J.P. Stok.

Van der Schuijt

However, if Molenbroek wasn't the initiator of the design choices, another possibility arises. The design of Het Witte Huis could have been more driven by the two brothers. The Van der Schuijt family, known for their long-standing involvement in merchant activities and a steamship shipping company, held significant status in Rotterdam. Geradus and Hermanus, two of nine siblings, actively participated in the trading company G.H. van der Schuijt & Co., which not only conducted business within The Netherlands but also engaged in foreign trades.³⁵

Given the company's prosperous nature, the two brothers started a new project. On 6 may 1897 they established the Public Limited Company 'Het Witte Huis' with plans to construct an office building.³⁶

The fact that they've named the Public Limited Company 'Het Witte Huis' gives the impression that they already had an idea of how the building was going to look. This makes it more plausible that the Van de Schuijt brothers played a significant role in the final design of the building. What makes this even more plausible is the visit Gerrit Van der Schuijt made to New York in 1896.

Visit to New York

According to a family member, Gerrit Van der Schuijt harboured a keen interest in architecture and, in 1896, journeyed to New York alongside his brother Andries. Rumour has it that during this visit, he found inspiration in

³⁶ Ibid

the city's architecture. It's plausible they visited a family member residing in New York, possibly a nephew who lived near the New Netherlands Hotel as can be seen in Figure 5. Remarkably, Het Witte Huis bears a striking resemblance to the New Netherlands Hotel, suggesting Gerrit may have seen it and might have drawn inspiration from it.³⁷

The question remains: how did he share this design with Molenbroek? Did he possess a camera? If so, he could have captured an image of the hotel to share with Molenbroek. Alternatively, Gerrit or Molenbroek may have had access to Moses King's photobook, "King's View of New York 1896,"³⁸ containing photos of many buildings in New York, some of which also one of the New Netherlands Hotel. However, Het Witte Huis shares not only similarities with the New Netherlands Hotel but also with the design for the San Francisco Examiner Building, designed by architect J.W. Root in 1890. While the building was never built, according to Freek Faro and Hélène Damen en het duo Vermeer/ Rebel was its design published in "Vademecum van Bouwvakken" in 1892, a magazine Molenbroek may have had access to.³⁹ However, after inspecting all the issues of 1892⁴⁰, the design of J.W. Root buildings is missing. This makes the argument that Molenbroek might have also been inspired by the Examiner building unlikely.

Probable influences design

It's evident that Molenbroek didn't visit America, and the choice for the American architectural style likely originated from Gerrit Van der Schuijt. This isn't just probably due to his visit to New York, but also because of a occurring trend among companies. American architectural styles symbolized wealth and prosperity, and given the thriving nature of G.H. van der Schuijt & Co., it's conceivable that the brothers sought to showcase their success

³⁴ De Monumentenzorg et al., Jaarboek Monumentenzorg 1993.

³⁵ Boddaert, Het Witte Huis 1898-1998.

³⁷ Ibid

³⁸ Moses King, King's Views of New York: 1896 (New York : Arno Press, 1896),

https://archive.org/details/kingsviewsofnewy0000king/p age/226/mode/2up.

³⁹ Boddaert, Het Witte Huis 1898-1998.

⁴⁰ Mijzinga, "Vademecum Der Bouwvakken | Tresor," Tresor, December 10, 2019,

https://tresor.tudelft.nl/tijdschrift/architectuurtijdschrifte n/vademecum-der-bouwvakken/.

through Het Witte Huis by building in the American architectural style. Whether the true inspiration came from the New Netherlands Hotel or the Examiner Building cannot be proved, however, the probability that the design of Het Witte Huis was inspired by the New Netherlands Hotel is more plausible than the Examiner Building.



Figure 5 New Netherlands Hotel (left), Photo; King's View 1896

The design of Het Witte Huis

Het Witte Huis has 10 floors, resulting in a height of 40 meters. The building's height is often associated with American architecture, and its façade features distinctive elements that are also reminiscent of the American style. The name Het Witte Huis comes from the white glazed tiles that cover the façade from the second floor onwards. The cladding differences on the façade are typical of the American architectural style. Usually, the ground and first floors are clad with hardstone, while the rest of the building is clad with bricks or tiles. Het Witte Huis also features many horizontal lines, which are a recognisable characteristic of the The arched entrance and American style. commercial sign on the roof are common features in many American buildings.

However, there are also some differences between American buildings and Het Witte Huis. Ornaments on the facade are rare in America, most of the time only small details are added, such as in the horizontal lines or above and below windows. Adding for example statues as can be seen in Figure 6 was not very common. In this aspect, the design of Het Witte Huis is somewhat more eclectic. Despite these differences, the façade of Het Witte Huis shares many aspects with other American buildings.



Figure 6 Cafe Het Witte Huis, © 2024 Eetlokaal Het Witte Huis

Although Het Witte Huis has an American exterior style, its construction does not follow the architectural trend of the time. Unlike other high-rise buildings in America that were being built around the same time with a steel skeleton frame, Het Witte Huis is built in a more traditional Dutch way. The building has a load-bearing brick construction, which is 1.4 meters thick at the basement and 0.4 meters at the top floor.

It is interesting to consider why Molenbroek, Stelwagen, and Van der Schuijt opted for bricks instead of the more popular steel building material in America during that time. It is possible that their lack of experience with steel may have played a role, or the cost may have been prohibitive. Alternatively, the necessity of using steel may not have been as pressing as it was in America.



Figure 7 Het Witte Huis, ©Jan van Helleman

The main reason for buildings being constructed with a steel frame was to prevent fires like those that devastated Chicago and New York. As a result, the primary building material in major cities in America shifted from wood to steel.

The transaction in the Netherlands was notably lengthier, which could possibly be attributed to the country's lack of major fires during that time period, unlike America. Although Enschede experienced a relatively significant fire in 1862⁴¹ and Genemuiden in 1868⁴², these incidents are nothing compared to the devastating fire that swept through Chicago in 1871. This discrepancy may be due to the fact that in the Netherlands, brick was the primary building material while wood was reserved mainly for the floor beams⁴³, resulting in more fire-resistant structures compared to the predominantly wooden constructions in America.

However, iron was used for the window frames, floor, and roof instead of wood, which was not very common in Dutch architecture at that time. The total construction materials used were roughly 900 pile-foundations of 16 meters long, 3,000,000 bricks, 300 m3 of hardstone, 100,000 white glazed tiles, and 300,000 kg of iron.⁴⁴



Figure 8 Cross section Het Witte Huis, Archief Rotterdam

Although the building was ahead of its time in the Netherlands, it did not receive much attention. Many people felt that the building did not reflect the identity of the harbour city, which is interesting since Rotterdam was positioned as a city that was not strict when it came to tradition, especially compared with Amsterdam. The design of Het Witte Huis may have been too unconventional for some. One possible reason for this negative view could be the construction process of the building. In order to lay the foundation, 900 piles had to be driven into the ground, which caused the collapse of the adjacent building. This incident also led to an increase in the floorplan size from 15x20 meters to 20x20 meters.⁴⁵ Additionally, the placement of the foundation caused damage to the quay walls, which resulted in the Jan Kuiten bridge being unusable for a period of time. These complications may have caused inconvenience, which could have strengthened the negative reputation of the building.⁴⁶

An 1898 article in Orgaan van het Genootschap (architecture magazine) stated that while the

⁴¹ "De Grote Stadsbrand," Canon Van Nederland, 1858, https://www.canonvannederland.nl/nl/overijssel/twente/ enschede/-stadsbrand-.

⁴² "Stadsbrand Genemuiden," Canon Van Nederland, 1867,https://www.canonvannederland.nl/nl/overijssel/sa lland/zwartewaterland/stadsbrand-.

 ⁴³ H.W. Lintsen, Geschiedenis Van De Techniek in Nederland. De Wording Van Een Moderne Samenleving 1800 - 1890. Textiel. Gas, Licht En Electriciteit. Bouw: Techniek, beroep en praktijk, 1993.

⁴⁴ Faro and Verschoor, Op Het Witte Huis Sta Je Hoger.

⁴⁵ Faro and Verschoor, Op Het Witte Huis Sta Je Hoger
⁴⁶ "Het Witte Huis te Rotterdam," *Delpher*, September 28, 1897, accessed March 21, 2024,

https://resolver.kb.nl/resolve?urn=ddd:010387053:mpeg 21:a0018.

American style is considered to be beautiful in America, it doesn't translate well to the Netherlands.⁴⁷ Another article in a different magazine echoed this sentiment, suggesting that the building looked better on paper than in reality.⁴⁸ While not everyone agreed with these statements, they may help explain why a similar building was never constructed in Rotterdam again.

While there were some negative reactions, there were also positive responses, and many buildings constructed after Het Witte Huis over time demonstrated a unique building style. However, the American architectural style is not really recognisable. One of the changes that Dutch architecture experienced that can be connected to America is that the use of ornamentation slowly became less. But the big open windows and the use of steel was not really present around the 1900s. For example, in 1917 the Luxor Theatre was built. This building has a really closed façade which is in contrast with American architecture, but compared to the City Hall building which was built in 1920, the Luxor building does not have a lot of ornamentations. Another project that was unique for its time was the Justus van Effencomplex built in 1922, a residential complex where a gallery had been applied for the first time. However, also this building does not share similarities with American architecture.



Figure 9 Luxor Theatre, Top010.nl



Figure 10 City Hall Rotterdam, wiki



Figure 11 Van Nelle Factory, ©ANP

Still, it could be argued that Het Witte Huis served as an inspiration for architects to pursue more innovative designs. An excellent example of this is the Van Nelle factory, built in 1931, which was designed by Johannes Brinkman and Leendert van der Vlugt and showcases modern architecture at its finest.⁴⁹

Both Het Witte Huis and the Van Nelle Factory stood out as anomalies within Rotterdam's mainly traditional urban fabric. The solid, monumental presence of Het Witte Huis contrasted with the sleek, transparent facade of the Van Nelle Factory creating a dynamic interplay of form, function, tradition and innovation. Their bold aesthetic and departure from architectural conventions sparked debates and resulted in mixed reactions from the public. However, the architects behind these projects, Molenbroek, Johannes Brinkman and Leendert van der Vlugt respectively, demonstrated a visionary approach that anticipated future architectural trends.

⁴⁷ "Architectura; Orgaan van Het Genootschap, Het Witte Huis Te Rotterdam".

⁴⁸"Christelijk Schoolblad, Witte Huis".

⁴⁹ Van Bergeijk, "Dutch Office Building 1900 – 1940. A Question Of Style Or Mentality?"

One could say that these two buildings were the starting point of a new identity of the city. Especially after the war second world war, the identity of the city changed. Over time, Rotterdam evolved into a melting pot of architectural styles, blending classical buildings with modernist high-rise masterpieces.⁵⁰

Conclusion

To conclude, the development of architectural style, particularly that in the late 19th and early 20th centuries, reflects a complex interplay between tradition, innovation, and the influence of international trends. The aftermath of the Great Fire of Chicago in 1871 not only sparked a physical rebuilding of the city but also allowed resilience and innovation, characterised by the emergence of the Chicago School of Architecture. This movement, characterised by high-rise buildings constructed with steel skeleton frames, reshaped the urban landscapes, not only of Chicago but also of other American cities, resulting in a competitive streak that fuelled architectural advancements.

This competitive streak began to cross over to international borders, influencing architectural trends in Europe and beyond. However, the reception of American architectural styles varied across different regions. While some European cities eagerly embraced these influences, others, like the Netherlands, exhibited a more reserved attitude, grounded in tradition and practical considerations.

Het Witte Huis in Rotterdam serves as a fascinating example of the intersection between American architectural influence and local context. Constructed in 1898, Het Witte Huis stands as one of Europe's earliest high-rise buildings, bearing unmistakable Americaninspired architectural characteristics. Despite its groundbreaking design and symbolic significance, Het Witte Huis faced mixed reactions from the public and architectural community. While some praised its boldness and modernity, others criticised its departure from traditional Dutch architectural norms. The involvement of key figures like architect Willem Molenbroek and the Van der Schuijt brothers underscores the complexity of Het Witte Huis' design process, intertwining personal motivations, business interests, and international inspirations. The building's distinctive features, such as its white-glazed tile facade and load-bearing brick construction, reflect a fusion of American influences with local building practices.

American-inspired Despite the elements present in Het Witte Huis, it's essential to acknowledge that its traditional construction methods diverge from the typical characteristics of American high-rise buildings of the time. While its facade and some design elements may suggest comparisons to American high-rise buildings, Het Witte Huis lacks the steel skeleton frame construction that was representative of American high-rises from that time. Instead, it relies on a load-bearing brick structure, a more traditional approach common in Dutch architecture. This distinction is crucial in defining Het Witte Huis's architectural identity; while it may bear aesthetic resemblances to American buildings, its construction method aligns more closely with Dutch architectural traditions.

In essence, the development of Het Witte Huis shows the dynamic nature of architectural fusion, shaped by a complex interplay of cultural influences, economic factors, and individual creativity. While it may not fit neatly into the category of American high-rise buildings, its significance lies in its role as a pioneer in European high-rise architecture and its contribution to Rotterdam's architectural heritage.

While Het Witte Huis's immediate impact on Rotterdam may have been modest, Het Witte Huis paved the way for future experimentation and innovation in Dutch architecture, as evidenced by later projects like the Van Nelle Factory and the Luxor Theatre. However, After the completion of Het Witte Huis, Rotterdam did not build another high-rise building that was inspired by the Chicago School of Architecture. Instead, the city developed its own unique architectural identity.

⁵⁰ Van Bergeijk, "Dutch Office Building 1900 – 1940. A Question Of Style Or Mentality?"

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Figures

Figure 1 Het Witte Huis in Rotterdam, Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Figure 2 Home Insurance Building, the first steel-framed structure of its kin, Chicago Tribune, June 23, 1907

Figure 3 Important buildings in America

Figure 4 Important figures in the design of Het Witte Huis

Figure 5 New Netherlands Hotel (left), Photo; King's View 1896

Figure 6 Cafe Het Witte Huis, © 2024 Eetlokaal Het Witte Huis

Figure 7 Het Witte Huis, ©Jan van Helleman

Figure 8 Cross section Het Witte Huis, Archief Rotterdam

Figure 9 Luxor Theatre, Top010.nl

Figure 10 City Hall Rotterdam, wiki

Figure 11 Van Nelle Factory, ©ANP

Appendix



TE ROTTERDAM. t het artikel over skyscrapers van de vorige week werd, door een vergissing van den drukker, die zeker een product van Ameri-

HET WITTE HUIS

kaanschen oorsprong voor zich meende te hebben een afbeelding opgenomen van het Witte huis te аоттельзм. Hoewel d t gebouw met zijn elf verdiepingen nog lang niet kan weaijveren met zijn Amerikaansche collega's welke er soms acht en twintig tellen is dit het eerste type van dien aard dat in ons land gebouwd wordt.

De schrijver van het stuk over de Amerikaansche skycrapers gevoelt zich zeer verheugd over die gebouwen en beschouwt het als een uiting van een nieuwe architectuur-periode.

Wij kunnen echter deze meening niet deelen, want die huizen, of laat ons liever zeggen bewoonde torens met hunne stalen geraamten waartusschen en over een steenbekleeding is aangebracht, zijn waarachtig geen toonbeelden van fraaie architectuur.

Het Witte huis te воттепрам heeft het echter nog zonder stalen geraamte kunnen stellen en is, waar het ook trouwens zijn naam aan te danken heeft, geheel van verglaasde witte steen opgetrokken.

Dit gebouw maakt, dank zij zijn gunstige ligging recht tegenover het HARINGVLIET en in de onmiddellijke nabijheid der WINHAVEN en MAAS met zijn groote bruggen geen onaangenamen indruk.

Maar in de centra's van handel en verkeer zal niet altijd gelet worden op gunstige ligging, maar zal het de hoofdzaak zijn, of het zijn rente opbrengt. Met de nitbreiding der stad, de voornitgang des handels wordt ook hier de behoefte naar ruimte grooter en aangezien er geen grond meer is of zeer duur moet men zijn toevlucht nemen tot de hoogte. Een ieder die het wel meent met de architectuur zal moeten toestemmen, dat dit niet de weg kan zijn, die de bouwkunst op moet, — al moge het nit een constructief oogpunt nog zoo belangrijk zijn. Die groote kolossen, al het andere overschreeuwend, zijn niet geschikt om een straat te versieren.

't Is te hopen dat wij hier in ons land van dergelijke Amerikaansche producten verschoond mogen blijven; ze mogen ze in AMERIKA mooi vinden, wij doen dit allerminst.

Misschien dat wij later nog eens op het Witte huis te ROTTERDAM, wanneer het geheel voltooid is, terugkomen. "Architectura; orgaan van het Genootschap, Het Witte Huis te Rotterdam," *Delpher*, July 2, 1898, accessed February 22, 2024, https://resolver.kb.nl/resolve?urn=MMKB30:0 21853028:00006.

ALLERLE

Het "Witte Huis" te Rotterdam. Door het groote getal heipalen, ruim 600, die voor den bonw van het amerikaansche pand aan de Geldersche Kade op den hoek van de Wijninavan Noordzijde te Rotterdam in den grond geslagen meeten worden over een kleine oppervlakte, heeft on-

der de bestrating der Wijnhaven en een gedeelte der Geldersche Kade een grondverschuiving plaats gehad in de richting ven het brughoofd, waarop de eene helft rust der hydraulisch-beweegbare Jan Kuytenbrug.

Door den drang van den saamgepersten grond op de kaaimuren van bedoeld brughoofd is een brugklep dermate ontzet, dat de leuning dier klep verwrongen werd door de leuning der tegenover liggende brugklep. Een gedeelte der leuningen 'is daarom afgezaagd moeten worden.

Ten einde meerderen drang op de kaaimuren van het brughoofd af te wenden, is in verticale richting een gleuf gehouwen in den kaaimuur, waardoor het verband tusschen den kaaimuur en het brughoofd verbroken is en de overtollige massa saamgeperste grond zich kan verwijderen.

"Het Witte Huis te Rotterdam," *Delpher*, September 28, 1897, accessed March 21, 2024, https://resolver.kb.nl/resolve?urn=ddd:0 10387053:mpeg21:a0018.

19de eeuw. Het Witte Huis, een navolging van New-York en Chicago, wil ons in de teekening meer bevallen dan in de werkelijkheid. De tombe van Kortenaer, den schrik van

"Christelijk Schoolblad, Witte Huis," Delpher, August 15, 1902, accessed February 22, 2024, https://resolver.kb.nl/resolve?urn=MMZ AH03:021132033:00003.

Het Witte Huis.

Op uitnoodiging van de directie van de maatschappij het »Witte Huis" te Rotterdam begaven zich 8 Sept. j.l. tal van belangstellenden, waaronder wethouders, raadsleden, leden van de rechterlijke macht, directeuren en opzichters van gemeentewerken, commandanten van oorlogsschepen en mariniers, leden van de kamer van koophandel, havenmeester, hoofdlieden van de brandweer, cargadoors enz. naar de Wijnhaven, waar zij werden ontvangen door den heer W. MOLENBROEK, den architect van het gebouw. Met dezen waren ook de heeren VAN DER SCHUYT daar om de bezoekers voor te lichten.

Na eenige oogenblikken toevens werd men uitgenoodigd, in de allereerste plaats een kijkje boven te gaan nemen. Telkens begaven de bezoekers zich met hun zevenen in een van de twee electrische liften en 18 seconden daarna stonden zij 40 meter boven de straat op de tiende verdieping.

Een machtig mooi, indrukwekkend en duizelingwekkend panorama ontplooide zich dààr boven voor het oog, uren ver het polderland in. Nog een trapje hooger bereikte men de belvedère en nu nog een laddertje op en men stond op het platform, genietende van een door niets meer belemmerd wordend vergezicht. Van hier af gezien zinkt, behalve de groote toren, alles in 't niet, menschen en huizen schijnen nietig, het Haringvliet een bassin, de Kralingsche Plas een groote vijver. De heer W. MOLENEROEK leidde hier zijne gasten rond, steeds bereid

De heer W. MOLENBROEK leidde hier zijne gasten rond, steeds bereid te antwoorden op de vele hem gedane vragen. Na een half uur genoten te hebben van het vergezicht, daalde men

Na een half uur genoten te hebben van het vergezicht, daalde men nu langs de trappen af. En gelukkig dat men de voorzorg genomen had om bordjes op te hangen met aanduiding op welke verdieping men was; anders had men somwijlen niet geweten of men op de vierde of zevende verdieping, was, zooveel lijkt het een op het ander, alles steen, ijzer en glas, met dit onderscheid dat, hoe lager men komt, hoe hooger en ruimer de verdiepingen toeschijnen.

Het geheel, bijna voltooid, en voor een klein deel al betrokken, geeft een indruk van soliditeit en practische inrichting. Ziehier een klein staaltje van wat er onder anderen voor den opbouw gebruikt is: 900 heipalen van 16 meter lengte, ruim 3,000,000 steenen, ruim 300 M³ hardsteen, 100,000 verglaasde steenen waarvan de buitenmuren zijn opgetrokken, 300,000 kilogram ijzer, benevens natuurlijk de noodige hoeveelheid cement en verdere benoodigdheden bij het metselwerk.

Onder den beganen grond bevinden zich de waterdichte kelders, ingericht : een gedeelte voor centrale verwarming van het gebouw, een ander gedeelte voor electrische beweegkracht en een derde gedeelte voor Safe deposit.

Aangezien het huis te hoog is om de gemeentelijke waterleiding tot bovenaan te voeren, is een apart reservoir gemaakt, inhoudende 15 kubieke meter, om de bovenste verdiepingen van water te voorzien. Het water wordt door middel van electrische beweegkracht in het reservoir gepompt. Het reservoir is boven de 10e verdieping.

De trap, naar de bovenverdieping leidend, loopt tot de nok toe, langs een luchtkoker.

In het gebouw is tot gerief der huurders een centraal telephoonbureau ingericht, terwijl ook op alle verdiepingen centrale brievenbussen zijn.

De verlichting van het gebouw bestaat uit gas- en electrisch licht. Vermeld zij nog dat de oppervlakte waarop dit gebouw staat

400 vierkante meter bedraagt; dat het Witte Huis geheel brandvrij geconstrueerd is, van onder tot boven bestaat uit ijzer, steen en glas, terwijl het ijzer nog met onbrandbaar materieel is bekleed en de ijzeren kap aan de binnenzijde is geïsoleerd tegen warmte en koude door middel van geprepareerde kurkplaten.

Het Witte Huis, van welks platform men met helder weder de torens van Dordrecht en 's-Gravenhage kan waarnemen, behoort ongetwijfeld tot de bezienswaardigheden van Rotterdam. "Het Witte Huis," Delpher, September 17, 1898, accessed March 3, 2024, https://resolver.kb.nl/resolve?urn=dts:2649039:m peg21:0011.