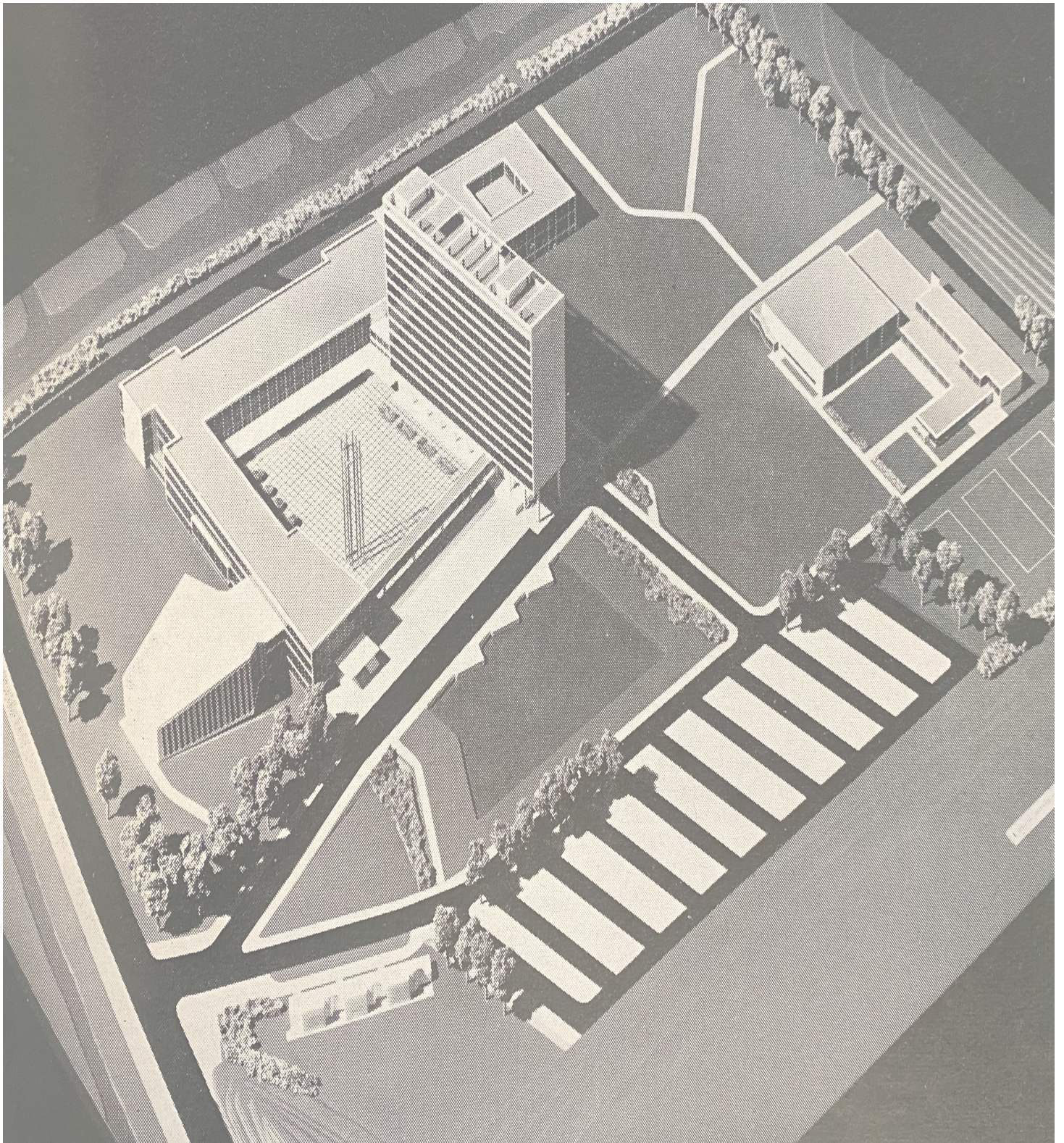




Architectural History Thesis
Jannik Niewiadomski
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Brutalist institutions in transistion

“Brutalism seeks to face up to a mass-production society and drag a rough poetry out of the confused and powerful forces which are at work. Its ruggedness and lack of concern to look comfortable or easy on the eye reflects the spirit of its era.

It is honest about its materiality, its textures, and the way it embodies space and light. It does not attempt to disguise the harsh realities of its environment, but rather, it embraces them with a stoic and bold demeanor.”

Reyner Banham

(1966, The new Brutalism p.75)

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Introduction



Photographed
By Gili Merin

Architecture, as a reflection of society's aspirations, technologies, and cultural values, has evolved through various styles and movements that encapsulate the ethos of their times. One of the most striking and contentious movements is Brutalism. Emerging in the mid-20th century, Brutalism is characterized by its use of raw concrete (béton brut), geometric shapes, and a functionality that starkly contrasts with the ornamental styles of the past. Architects like Le Corbusier laid the groundwork for this movement, which sought not only to redefine aesthetics but also to address the pressing need for institutional buildings and urban housing. Brutalism's imposing structures are often seen as symbols of modernist aspirations, embodying a stark, uncompromising vision of urban living and learning environments. As described in detail in literature like "Atlas of Brutalist Architecture" or "The Brutalist" by Owen Hopkins.

This thesis embarks on a meticulous exploration of how Brutalist buildings within the academic realm, specifically at the Woudestein Campus of Erasmus University Rotterdam, have navigated the tides of architectural appreciation, functional evolution, and societal change. Designed by Cornelis Elffers, the campus stands as a testament to the Brutalist ethos, marked by its robust forms and the integration of functional spaces within a cohesive architectural language.

Purpose of the Thesis

This research aims to dissect the layers of Brutalist architecture's impact, challenges, and transformations within the educational sector in the Netherlands. Although existing literature such as "Bruut" by Arjan den Boer provides a regional overview of the topic, my thesis will delve deeper into a specific project. By focusing on the Woudestein Campus, the thesis endeavors to unravel the complex narrative of Brutalism's adaptability to contemporary educational needs, its dialogue with urban development, and its ongoing battle with preservation and modernization efforts. This investigation is grounded in a broader inquiry into how architecture shapes, and is shaped by, the educational philosophies and societal dynamics of its time.

By examining articles of the time, such as Gabriel Smit's in „de Volkskrant“ dated November 22, 1969, which hailed the campus as „the best thing that has been built on a Dutch university campus,” and contrasting it with the August 15, 1968 issue of „The Vrije Volk,” which criticized the campus's „chaotic and heterogeneous design,” this thesis aims to capture the perception of that era. Additionally, an in-depth exploration of Cornelis Elffers' life and works, accessed through the Nieuwe Instituut, provides insights into his design choices and motivations influenced by the postwar era, as he noted in his article „We are building again.” To conduct a detailed analysis of the campus, this thesis will leverage archival plans from its planning phase in 1962, preserved at the Rotterdam Stadtarchief. This is complemented by various online resources provided by Erasmus University itself, as well as by offices involved in recent renovations of the complex.

Key Research Questions

Main Question: How have the functional aspects of Dutch educational institutions, with an emphasis on the Woudestein Campus, evolved since their construction? This central question seeks to understand the trajectory of Brutalist buildings from their original design intentions to their current states, considering the alterations necessitated by changing educational paradigms and technological advancements.

Sub-Questions:

What were the original functional intentions of the architect Cornelis Elffers for the Woudestein Campus, and how were these received at the time of completion? How have Brutalist structures on educational campuses been transformed to accommodate new uses or purposes, reflecting shifts in academic and societal needs?

This introduction sets the stage for a comprehensive examination of Brutalism within the educational sector, poised to contribute to the ongoing dialogue surrounding the preservation, adaptation, and significance of Brutalist architecture in contemporary society.



Photographed
By Philip Openshaw

Chapter II

Historical Context:

The Origins and Development of Brutalism

Analysis of the cultural and historical backdrop that influenced the

Fundamentals of Brutalism: key concepts, techniques and influences

a selection of essential brutalist concepts and formative influences

Cornelis Elffers and Woudestein Campus:

an outline on his life and architectural oeuvre

Historical Context



Brutalism, derived from the French “béton brut” meaning raw concrete, emerged in the mid-20th century, marking a significant shift in architectural style. This movement, characterized by stark, rugged appearances, exposed concrete, and geometric shapes, was a manifestation of a post-war architectural philosophy that emphasized honesty in materials, structural integrity, and functionality. Phaidon Editors (2018) It was both a continuation and a departure from modernist ideals, embodying a stoic and realistic approach to architecture in the wake of World War II devastation.

The origins of Brutalism can be attributed to architects such as Le Corbusier, whose Unité d’Habitation in Marseille (1952) displayed many of the style’s defining characteristics. However, British architects Alison and Peter Smithson became closely associated with the term “New Brutalism,” which Reyner Banham popularized through his seminal essay, “The New Brutalism”. Banham sought to define Brutalism as an ethical approach to architecture, emphasizing truth to materials, structural honesty, and a clear expression of volume. Banham, R (1966)



During the 1950s to the 1970s, Brutalism became prevalent in the United Kingdom, symbolizing the era's social democratic ethos and the welfare state's ideals through its application across a range of public buildings. The style also found international expression, reflecting its adaptability and the shared post-war aspiration for architectural forms that signified strength and a departure from traditional aesthetics. Phaidon Editors (2018)

Despite its prominence, Brutalism faced criticism towards the late 20th century, leading to a decline in popularity. Critics often described Brutalist buildings as cold and inhuman, a perception compounded by the physical deterioration of many such structures. However, the last decade has seen a resurgence of interest in Brutalism, fueled by social media and a re-evaluation of its architectural significance. Hopkins, O (2023)

This renewed interest underscores a broader appreciation of Brutalism's historical significance and architectural merit. Efforts to preserve and adapt Brutalist buildings to contemporary needs have highlighted the style's enduring legacy and its relevance in the 21st century.

Historical Context

The emergence of Brutalism as a dominant architectural movement in the mid-20th century can be understood within the broader context of post-World War II reconstruction and the socio-political climate of the time. This period was marked by a collective desire to rebuild and reshape societies across the globe, driven by an ethos of functionality, austerity, and honesty, which found its expression in the architectural domain through Brutalism. *Den Boer, A., & Haan, M. (2023)*

The architectural philosophy of Brutalism, with its emphasis on raw materials, particularly concrete, and its preference for stark, geometric forms, reflected the era's technological advancements and the need for rapid, cost-effective construction techniques. These characteristics were not merely aesthetic choices but were deeply rooted in the social and political realities of the post-war period, aiming to communicate strength, stability, and a break from the past.

Historically, the origins of Brutalism can be traced back to the modernist movement and are often associated with the work of architects like Le Corbusier. However, it was in the post-war context that Brutalism found its unique voice, aligning with the collective aspirations for new forms of living and learning environments.



Analysis of the cultural and historical backdrop that influenced the emergence of brutalism.

Educational institutions, public housing, and civic buildings became key sites for the application of Brutalist principles, serving as embodiments of societal progress and the democratization of space.

Furthermore, the cultural backdrop of the time, characterized by an exploration of new artistic and intellectual territories, also played a significant role in shaping Brutalism. The movement was as much a philosophical stance as it was an architectural one, challenging traditional notions of beauty and form and promoting a dialogue about the role of architecture in society Phaidon Editors (2018)

In summary, the cultural and historical context that led to the emergence of Brutalism was multifaceted, rooted in the aftermath of global conflict, technological progress, and a shift in societal values. This period fostered an architectural expression that was both a reflection of and a response to the times, with Brutalism standing as a testament to the era's complexity and aspirations.

Photographed
By Ron Ellis



Brutalistic essentials



Béton brut

refers to the raw, unadulterated texture of concrete as it becomes visible after the formwork has been removed. This style emphasizes the aesthetic beauty of the material without cladding or color, often resulting in a striking, expressive surface. In Brutalism, concrete brut is a symbol of honesty and functionality.

Emphasising the materials

Brutalism places great emphasis on the visible representation of the building materials used. This emphasis aims to show the natural nature and inherent properties of the materials, especially concrete. As a result, the architecture is often perceived as powerful and authentic.



Formwork

Moulds are forms or scaffolding used to hold liquid concrete until it hardens. In Brutalism, the textures and patterns of the moulds are often visible in the finished concrete and contribute significantly to the aesthetics of the building. This technique emphasizes the craftsmanship and design side of building with concrete.

Cast in place

Cast-in-place, also known as in-situ concrete, refers to concrete that is poured directly on-site into specially designed moulds. This method allows architects and builders to create unique shapes and structures that are firmly connected to the site and often have more complex geometric shapes.



Brise soleil

Brise Soleil are architectural elements that serve to block direct sunlight and thus protect the interior of buildings from overheating. These structures are often striking features of brutalist buildings, serving not only functionally but also as essential aesthetic components of the facade design.



Expressive Design

Expressive design in Brutalism involves the use of concrete in bold, sculptural forms that define both the structure and visual interest of a building. These forms are often dramatic and intended to evoke an emotional response that transcends the pure functionality of the material.

Horizontal windows

Horizontal windows are a common element in Brutalist buildings and serve to create long, uninterrupted sight lines while allowing natural light deep into the building's interior. They contribute to the visual weight of the structures and emphasize the horizontal expansion of the buildings.





Functionalism

Functionalism in Brutalism emphasizes the practical and efficient use of space and materials. Each element of a building is justified in both its form and function, resulting in a strong correspondence between aesthetics and usability



Photographed
By Gili Merin

Le Corbusier and the Unité ,Habitation

Le Corbusier and the Unité ,HabitationLe Corbusier, a Swiss-French architect, is considered one of the pioneers of Brutalism, in particular for his innovative use of raw concrete. His concept of "béton brut," which was used prominently in his later works, such as the Unité d'Habitation in Marseille, significantly characterized the aesthetics of Brutalism.

„The project that is usually seen as most emblematic (...) is the Unité 'Habitation in Marseilles. Here, Le Corbusier conceived a huge slab block rising eighteen stories, with its long sides subdivided into grids behind which lie 337 apartments of various types. The project was formulated not just as an apartment complex, but as an entire community, encompassing two interior shopping 'streets', a hotel, and a restaurant. The building's otherwise insistent rectilinearity was augmented by sculptural pilots - piers that raise the building above the ground - and a roof terrace that enjoys views across the city. All of this was realized in béton brut - raw, unfinished concrete - which gave the movement its name." Hopkins, O. (2017) (p. 184)

Cornelis Elffers





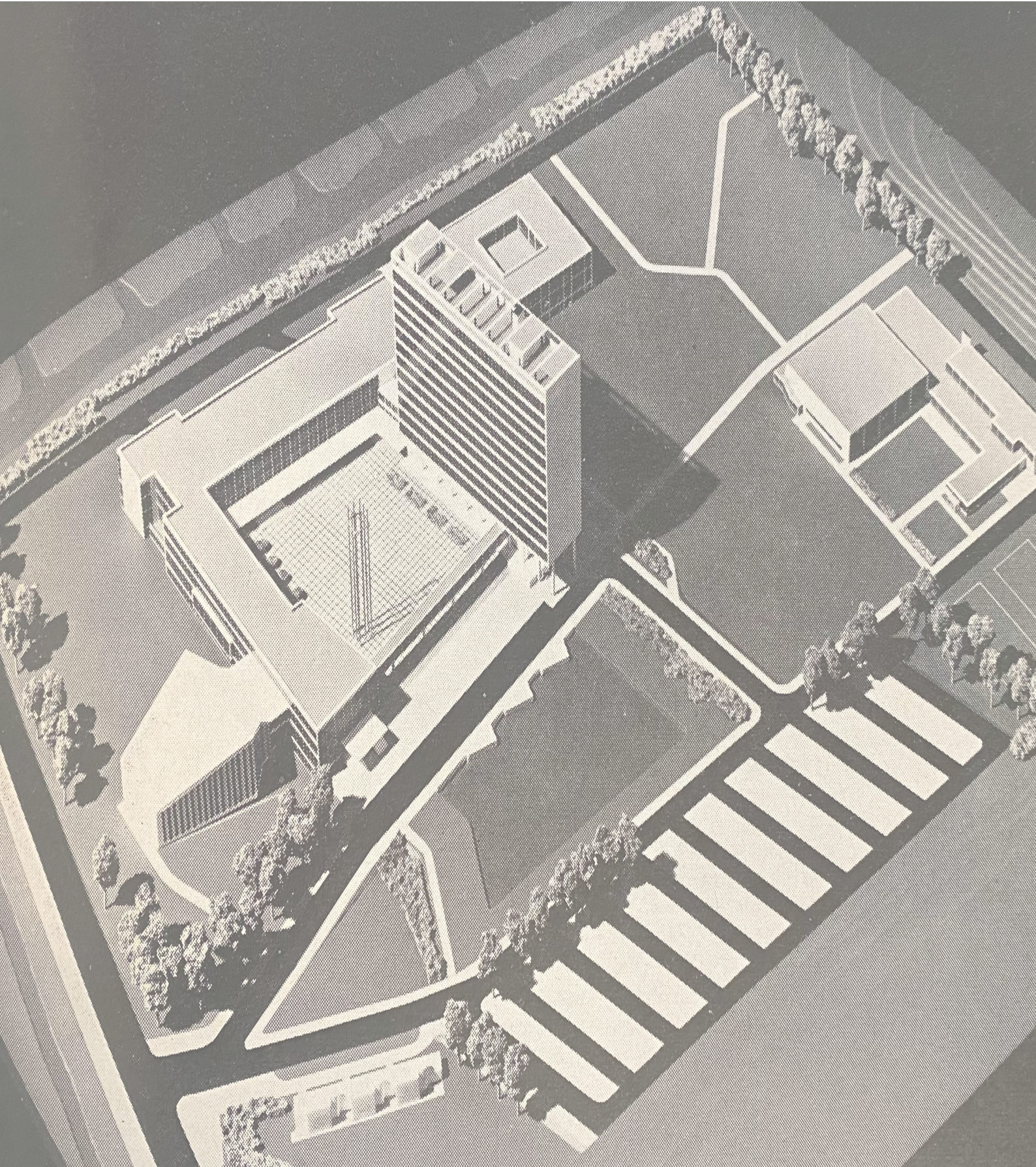
Cornelis Elffers (1898-1987), a distinguished Dutch architect, played a pivotal role in shaping Rotterdam's architectural landscape over his career spanning five decades. Hailing from a family with a strong artistic bent, Elffers was largely self-educated in the field of architecture, drawing on his comprehensive training in technical drawing and his experiences as a draftsman and site supervisor.

In 1923, Elffers launched his own architectural practice, quickly earning acclaim for his adept integration of functional design and aesthetic elegance. His initial projects mainly included industrial and residential buildings, but over time, his portfolio grew to encompass schools, office complexes, and public housing projects. His early works, such as the Dutch Trading Company (1942-1949), The Maschinist (1949), and the Design Bazar and Theater (1946-1948) in Rotterdam, bore the hallmarks of Art Deco and the Amsterdam School styles. Frishert, G. (2011)

Elffers was particularly instrumental during the post-World War II reconstruction of Rotterdam, where he significantly influenced the city's recovery and redesign. During this period, his architectural philosophy transitioned from the decorative Art Deco and Amsterdam School styles to embrace a more functionalist and rational approach, often featuring concrete and carefully considered interior layouts.

Additionally, Elffers was actively involved in various professional organizations, influencing architectural policy and education. His extensive contributions to Dutch architecture and his significant role in the national reconstruction efforts were recognized with the prestigious Ridder in de Orde van Oranje Nassau award. Elen, S. (2008)

Chapter III



Historical Context:

The motives that lead to the design of

Campus Woudestein

Analysis of the Campus:

Overview

Erasmus Building (A)

The Library (B)

The Theil Building (C)

The Tinbergen Building (H)

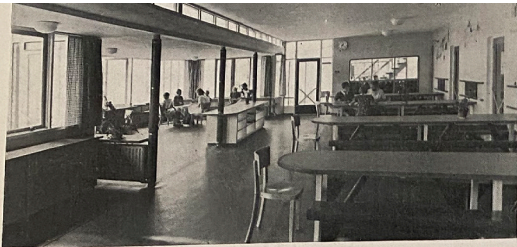
Historical Context

Before World War II, Cornelis Elffers' designs were deeply influenced by the Art Deco and Amsterdam School movements, noted for their ornate and expressive features. During this early phase of his career, he created buildings like the Insulinde office building, characterized by intricate facades and elaborate interior designs. His work from this era often highlighted decorative elements, focusing on visual appeal and the fusion of art within architectural forms, indicative of the wider European trend towards more embellished architectural expressions.

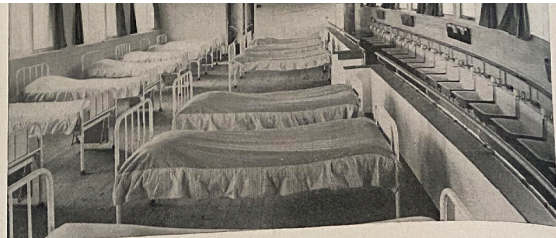
However, the extensive destruction of Rotterdam during World War II profoundly altered Elffers' architectural direction. The immediate post-war era necessitated swift rebuilding to meet critical housing and infrastructure needs, steering Elffers towards a more functionalist and rationalist approach in architecture. This shift aligned with the broader European movement towards Modernism, emphasizing simplicity, resource efficiency, and the functional demands of buildings.

In the aftermath of the war, his designs incorporated visible concrete structures and adopted simpler, more geometric shapes, emphasizing practicality and cost-effectiveness crucial for reconstruction efforts. His later projects were marked by clear structural layouts, minimal ornamentation, and straightforward designs. This evolution not only responded to the urgent needs of the time but also highlighted Elffers' versatility and depth as an architect, adeptly balancing aesthetic considerations with the pragmatic necessities required to rebuild a city devastated by war. Elen, S. (2008)

Elffers' reflections on the rapid construction of emergency stores post-WWII, as highlighted in "Wij Bouwen Weer" underscore the urgency and pragmatism that underpinned post-war reconstruction efforts. His contemplation on the pace of building in Rotterdam—whether it should be swift to fill the physical voids left by the war or more deliberate to ensure quality and sustainability—mirrors the Brutalist commitment to functionality and truth in materials. Elffers muses on the balance between rapid reconstruction and the need for thoughtful, enduring architectural solutions, a dialogue that resonates with Brutalism's embrace of raw, exposed materials as a form of honesty in design. Furthermore, Elffers' engagement with the decorative element in temporary constructions and the reintegration of the painter and sculptor into the architectural process reflect Brutalism's broader aesthetic and philosophical ambitions. By acknowledging the role of ornamentation within the architectural fabric, Elffers navigates the Brutalist principle of material honesty, not as a rejection of decorative elements, but as an integration of artistic expression into the fabric of functionalist architecture. This nuanced approach aligns with Brutalism's aspiration to transcend mere functionality, aiming for buildings that not only serve practical purposes but also communicate on an aesthetic and emotional level. Elffers' discourse and architectural endeavors exemplify a thoughtful engagement with Brutalism's core principles. His work on the Woudestein Campus, when viewed through the lens of his writings, illustrates a deep commitment to the movement's ethos—balancing the raw expressiveness of materials with consideration for human-scale interaction and the integration of artistry into architectural form. This approach not only embodies Brutalism's material honesty but also its social and ethical dimensions, offering spaces that are not just structurally expressive but also rich in experiential quality and integrated with the urban and social fabric. ("Elffers," 1940).



EET-SPEELZAAL



SLAAPZAAL

AGATHAHUIS TE OOSTVOORNE. ARCHITECTEN VAN TIJEN EN MAASKANT

„WIJ BOUWEN WEER”.

In het Bouwkundig Weekblad „Architectura” van 7 Sept. j.l. heb ik één en ander medegedeeld over het ontstaan en de constructie der in aanbouw zijnde noodwinkels, zoomede over de daarbij toegepaste materialen. Het is mij een genoegen, in aansluiting hierop, nu enkele foto's van deze noodwinkels te kunnen publiceren.

Al met al is het toch wel heel snel gegaan: in 10 à 12 weken tijds zijn straten verzezen met winkels, huis aan huis. Ik vraag mij af, of het met den opbouw van Rotterdam zoo snel zou kunnen doorgaan. Ziet men het van den eenen kant, dan zou men zeggen: „'t is te hopen”. En dan komt het beeld van de nieuwe stad ons voor den geest, een stad, waarbij alle opengeslagen gaten weer bebouwd zullen zijn, waarvan de straten, pleinen en singels in organisch verband zijn ontstaan en waarin de welvaart is weergekeerd. Maar aan den anderen kant moeten wij wel zeggen, dat het toch maar liever niet zóó snel moet gaan. Want al werd er veel bereikt, dat tot voldoening sterft en was het mogelijk den principaal, die op tijd zijn zaak kon openen, tevreden te stellen, — toch bleven vele vraagstukken inderhaast onopgelost en was het alweer de ontzaglijke snelheid van werken, die toch wel noodzakelijk overleg met alle bij den bouw betrokkenen onmogelijk maakte en belemmerde. En tenslotte komt men dan tot de conclusie, dat het werk gaver en beter had gekund.

Bij dezen bouw hebben wij kunnen leeren, dat het bouwen van tijdelijke objecten ook zijn moeilijke kanten heeft en dat de ware bevrediging daarin toch eigenlijk niet te vinden is. Neen, dit „tijdelijke” ligt ons architecten niet. Gelukkig maar, want zouden wij de geestelijke stroomingen van het heden daarbij niet teveel voet geven? Is onze tijd niet alleen „tijd” geworden, terwijl hij juist „Eeuwigheid” zoo hard noodig heeft?

Nu hoop ik, dat allen, die op één of andere wijze bij den „Bouw” betrokken zijn of zullen worden hierin iets van waarheid zullen ontdekken en dan is deze „tijdelijke” bouw er ook niet voor niets geweest.

In mijn vorige artikel is niet voldoende uitgekomen, dat het versierend element bij den noodwinkelbouw zulk een belangrijke plaats inneemt. Dit is bepaald één van de lichtpunten. Hier is inderdaad sprake van een terugkeer naar de versiering in de Bouwkunst. De kunstschilder en beeldhouwer zijn weer bij den bouw betrokken geworden en dit is een verheugend gegeven. Ik wil niet zeggen, dat dit overal zoo werd begrepen en dat overal de mogelijkheden goed zijn aanvoeld, maar het is weer een begin, een pogen. Hier is echter opnieuw bewezen, dat de schilder en de beeldhouwer een plaats bij den opbouw verdienen.

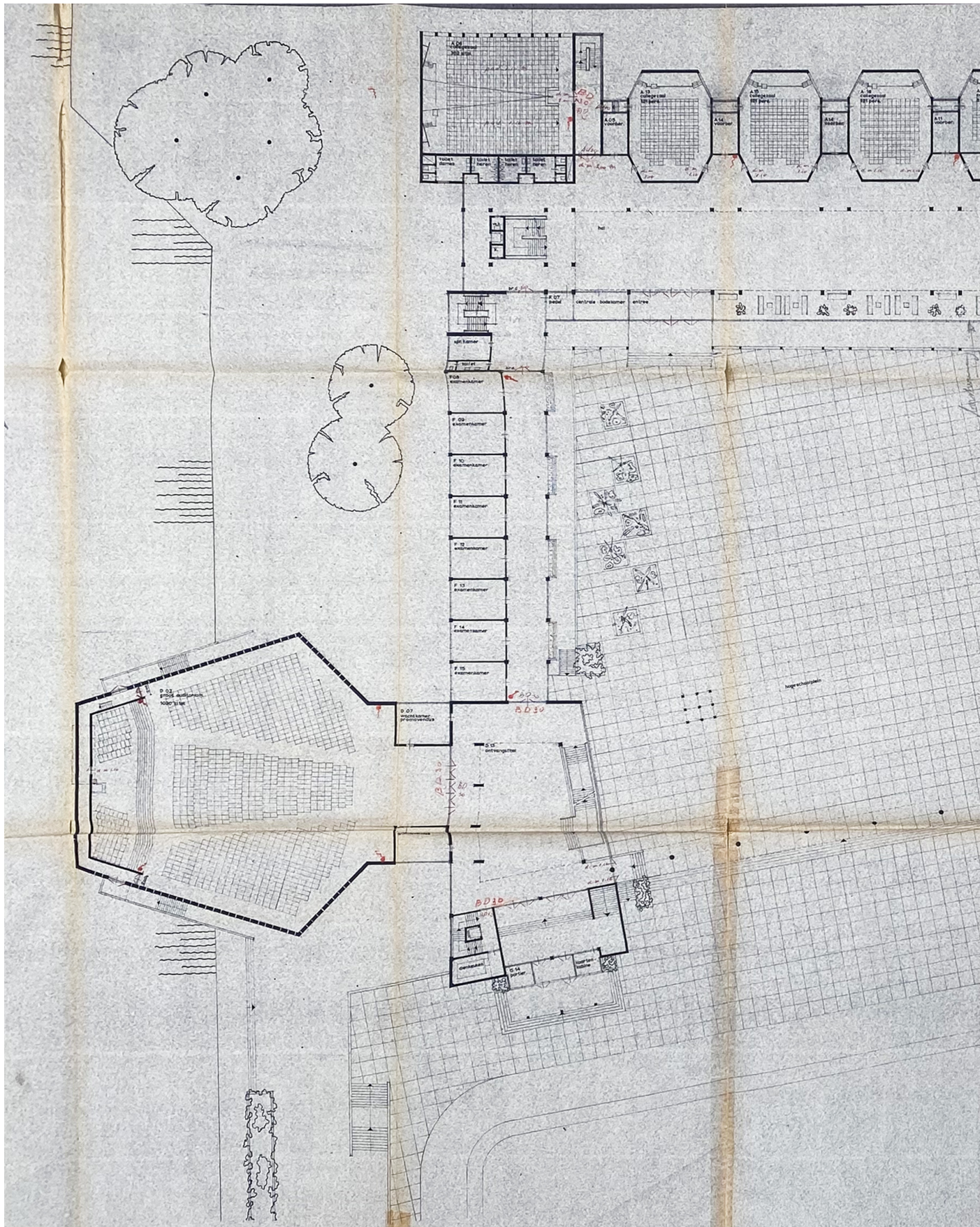
CORNIS. ELFFERS.

Rotterdam, 7 November 1940.



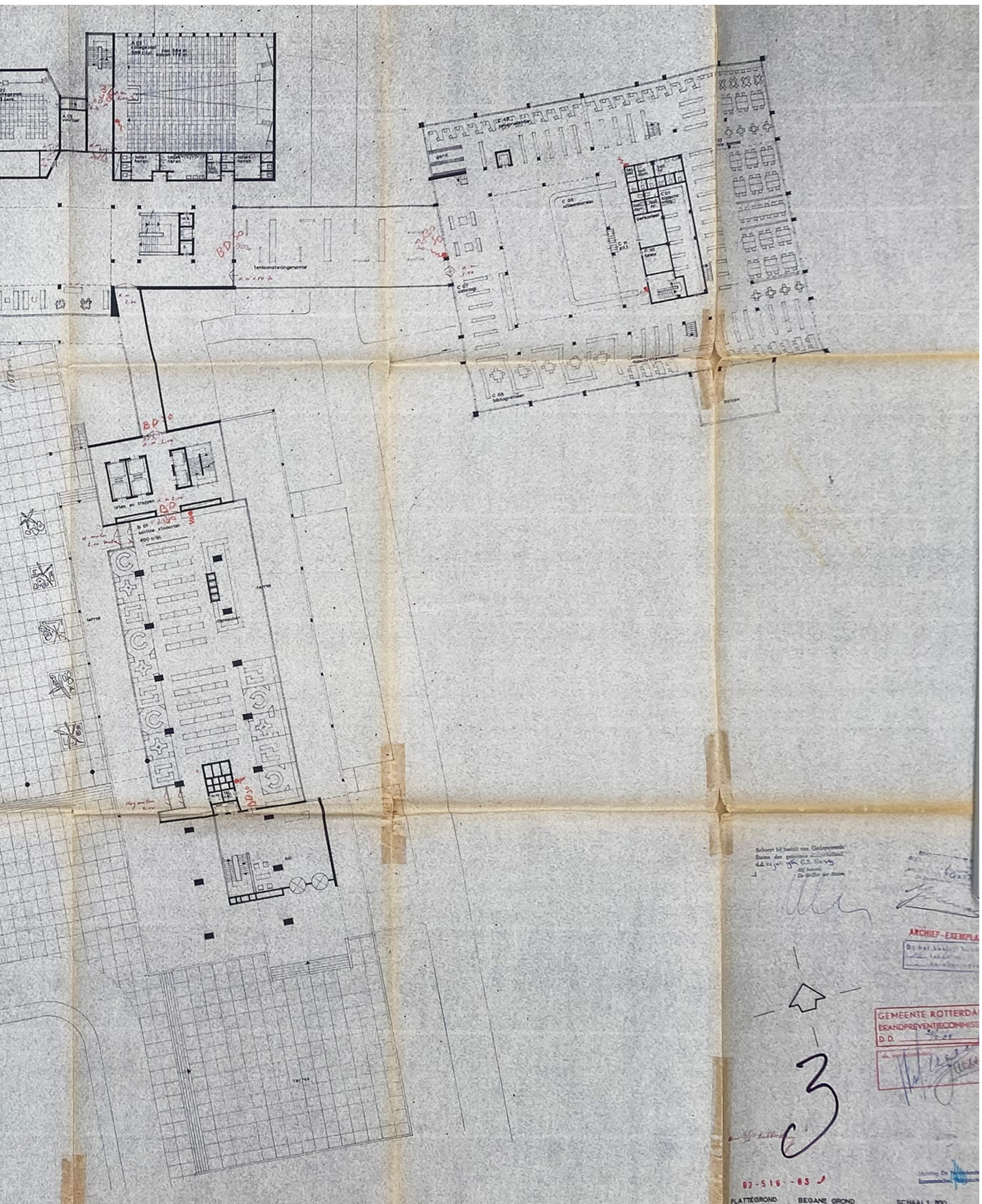
„DE VISSCHERS”

BEELDENGROEP VAN HAN RICHTERS BIJ DE NOODWINKELS COOLSINGEL



Ground floor plan complete ensemble

Key Buildings



Overview



As we unfold the blueprint of the Woudestein Campus, we can see it is not just a collection of buildings but a carefully orchestrated ensemble, each part contributing to a cohesive narrative of Brutalism and academia intertwined. The ensemble must be viewed as a single building, as all its parts are interconnected, with each component designed to complement the others and together form a cohesive, functional campus building. Nevertheless, to thoroughly analyze the complex, I will delve into each building part in detail. The Erasmus Building (Building A), The Library (Building B), The Theil Building (Building C), and The Tinbergen Building (Building H) together form an architectural symphony that speaks volumes about the era that shaped them and the vision that brought them into existence.

The synergy of these structures begins with the Erasmus Building, which establishes the tone for the complex. Its distinctive octagonal auditorium, not just an architectural focal point but also an intellectual beacon, commands attention while reflecting upon the surrounding water, symbolizing the reflective nature of academic pursuit. Here, form and function reach an equilibrium – the octagonal design is not a mere aesthetic choice but a deliberate one to enhance acoustics and visibility, marrying utility with grandeur.

Adjacent to this, the senate and administrative areas present a duality of exposure, from the outward-facing prominence of the auditorium to the introspective horizontal lines that serve as private academic sanctuaries. This juxtaposition is brutalism in its purest form – an honest display of materiality and a pragmatic approach to design. Transitioning to the Library, we see a different expression of Brutalism. While it maintains the robustness of concrete, the architecture here leans towards the subdued. The transparent renovation respects its historical concrete gravitas while illuminating its interior with natural light, facilitating a serene environment conducive to scholarly meditation. Here, the library is not a backdrop but an active participant in the educational process, with its openness fostering interaction and its structure embodying permanence.

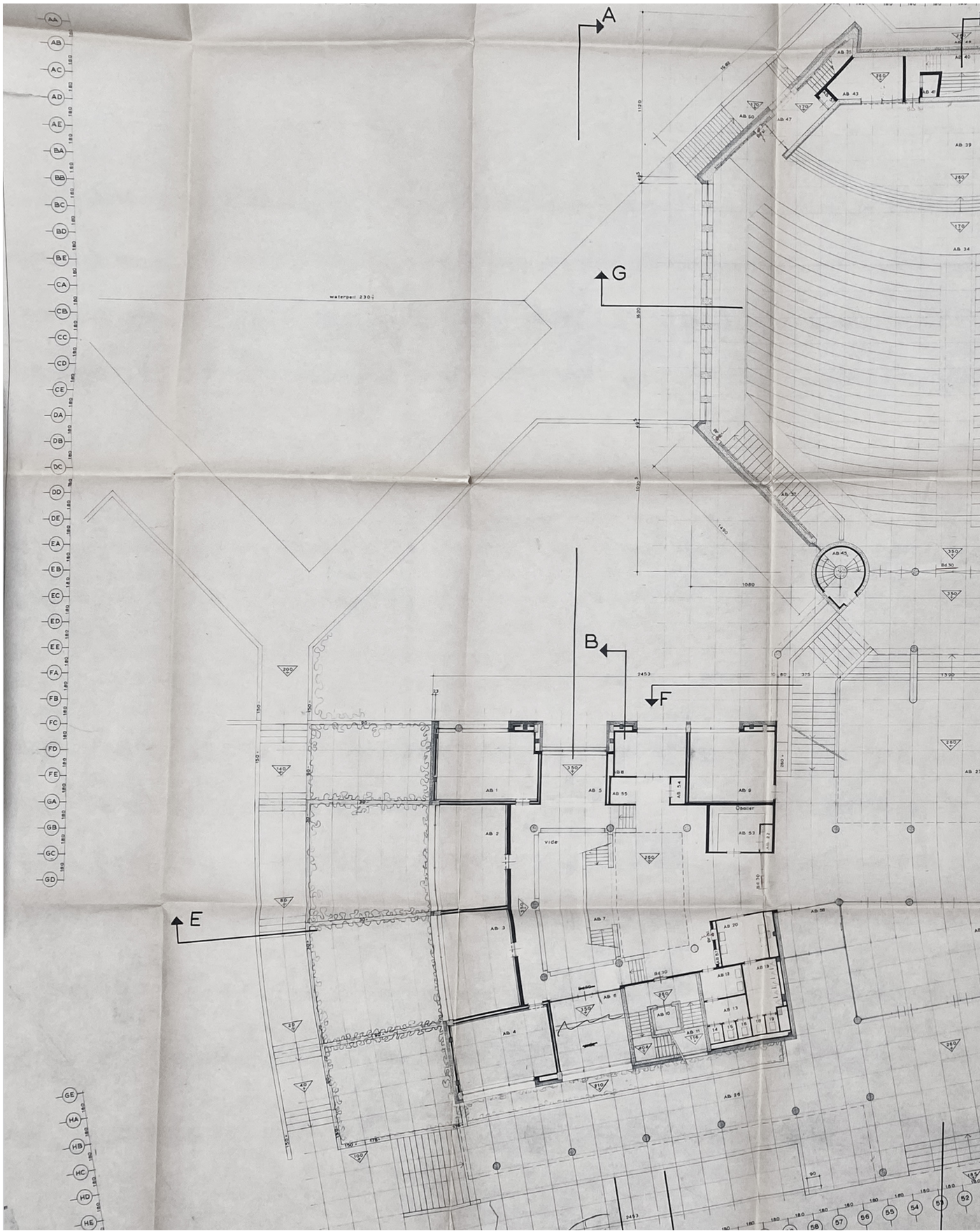
The Theil Building, with its grid-like façade, stands as a modern-day interpretation of a brise soleil. It is here that the campus's educational heart beats strongest. The octagonal lecture halls, resting on stilts, are a nod to both the functionality and the aesthetics of the space. The repetitive modular forms seen throughout its façade not only provide visual rhythm but also underscore the building's role as a hub for learning and discourse. The stark geometric shapes carve out a dominating presence, suggesting the campus's steadfast commitment to education. Meanwhile, The Tinbergen Building represents the crescendo of the campus's architectural narrative. Its 19 stories of Béton brut are an ode to the movement, a testament to the enduring quality of Brutalist architecture. This structure balances the utilitarian needs of its computer rooms and canteens with the cultural and social significance of its study spaces and offices, demonstrating that Brutalism can be both formidable and inviting. The inclusion of Karel Appel's mosaics introduces a dialogue between the harshness of concrete and the levity of art, enriching the campus landscape.

When viewed together, the campus is a tableau of Brutalist ideology. It is an embodiment of a philosophy that prizes the integrity of materials, the expressiveness of structural forms, and the functionality of space. The architecture of the Woudestein Campus is a narrative that weaves together the collective story of its parts – from the sturdy austerity of the Tinbergen Building to the sculptural vibrancy of the Erasmus Building, from the communal embrace of the Library to the educational stronghold of the Theil Building. Each building, with its unique design and dedicated purpose, contributes to the campus's overall ethos – one that respects the past while providing for the present and anticipating the future. It is a space that encourages interaction, contemplation, and learning, reflecting the very essence of the university it embodies. Thus, the Woudestein Campus stands not just as a collection of individual brutalist structures but as a unified whole, a composite portrait of architectural and academic excellence.



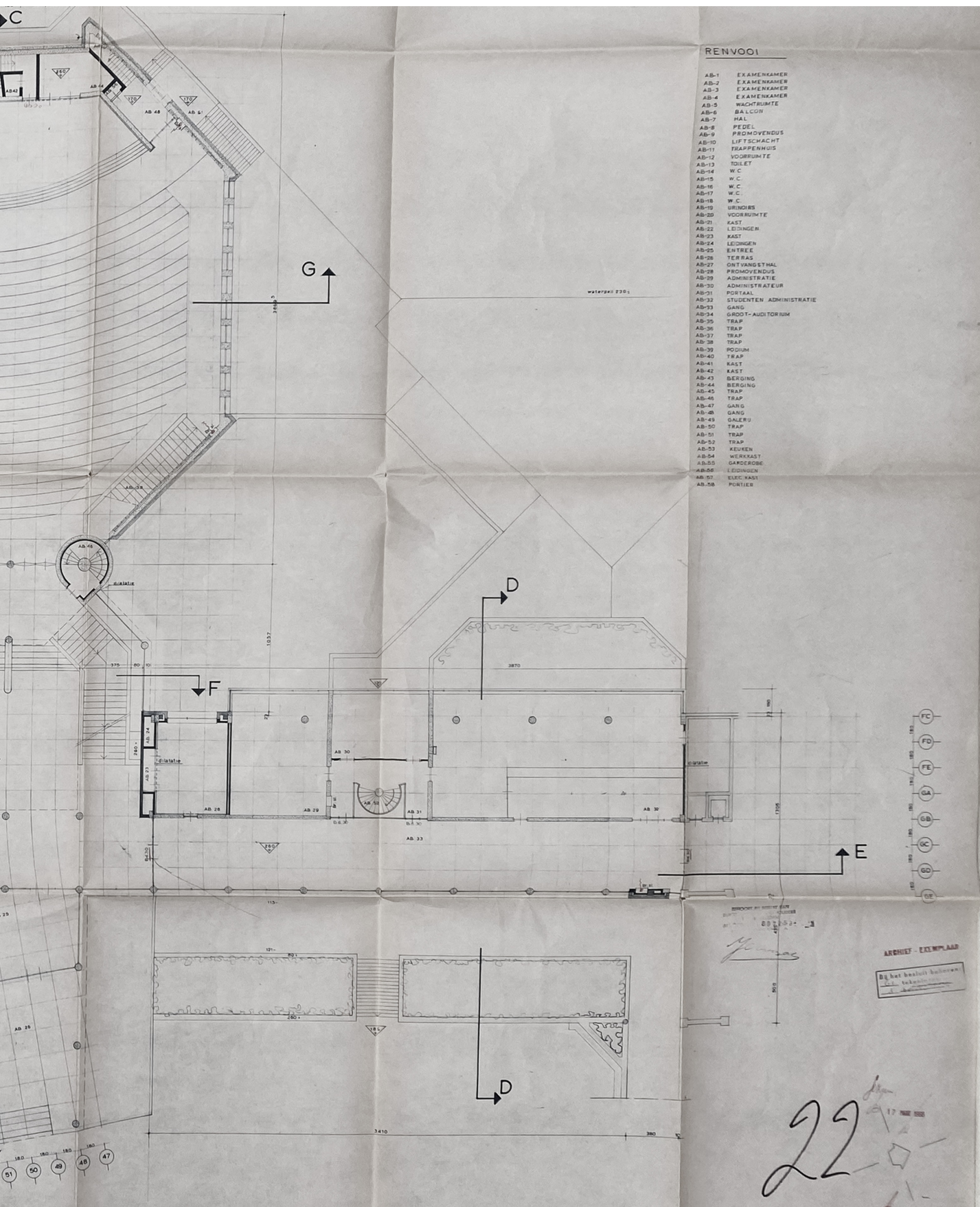
uilding (A)





Ground floor

Building (A)





The Erasmus Building (Building A):

The Erasmus building is characterized by its striking design. On entering the complex, the octagonal auditorium immediately catches the eye with its unusual shape and reflections in the water. Next to it is the part of the building that houses the senate area, which serves as a lounge for the professors. Another rectangular part of the building, which faces the inner courtyard, contains the administrative offices.

From the outside, the Erasmus building has a characteristically brutalist aesthetic with its massive concrete structure and large, expressive forms. The dominant use of concrete and the stepped façade reflect the design principles typical of Brutalism, such as a clear exposition of the structure and an emphasis on geometric shapes.

This material was chosen not only for aesthetic reasons but also for its robustness and durability, which are key characteristics of Brutalism.

The architecture is highly sculptural with striking, recurring geometric patterns. For example, the part of the building facing the street/public, which houses the auditorium, dominates the image when entering the complex from the west with its sculptural octagonal shape. This monumental aesthetic, which inspires both awe and respect, is typical of brutalist buildings, which are often perceived as powerful and imposing. In contrast, the more private part facing the inner courtyard impresses with its clear horizontal, two-dimensional structures.

The interplay of horizontal and vertical building openings makes the function visible from the outside. the "public" extroverted auditorium, for example, stands out with its high vertical window openings, which make what is happening inside clearly visible from the outside. the more private, introverted office buildings, on the other hand, stand out with their almost horizontal bands of windows facing the inner courtyard, which cannot be easily inserted. These patterns are not only decorative but also reveal the functional structure of the building.

Elffers intended the octagonal shape of the auditorium to make optimum use of the seats and optimize the view of the stage. Thanks to the folded roof, the acoustics were improved, resulting in increased sound quality throughout the room. In addition, the stairs and tiered seating area are carefully designed to ensure accessibility and comfort. Beerdens, A. (1970)





Entering the Erasmus building from the inner courtyard, the first thing you see is an impressive entrance area whose architecture and design pay tribute to the heritage of Brutalism. The space opens up generously and is traversed by a visible structure of concrete pillars that support both the ceiling and the adjacent raised area. The concrete is not only a load-bearing element here, but also a determining factor in the room's aesthetics.

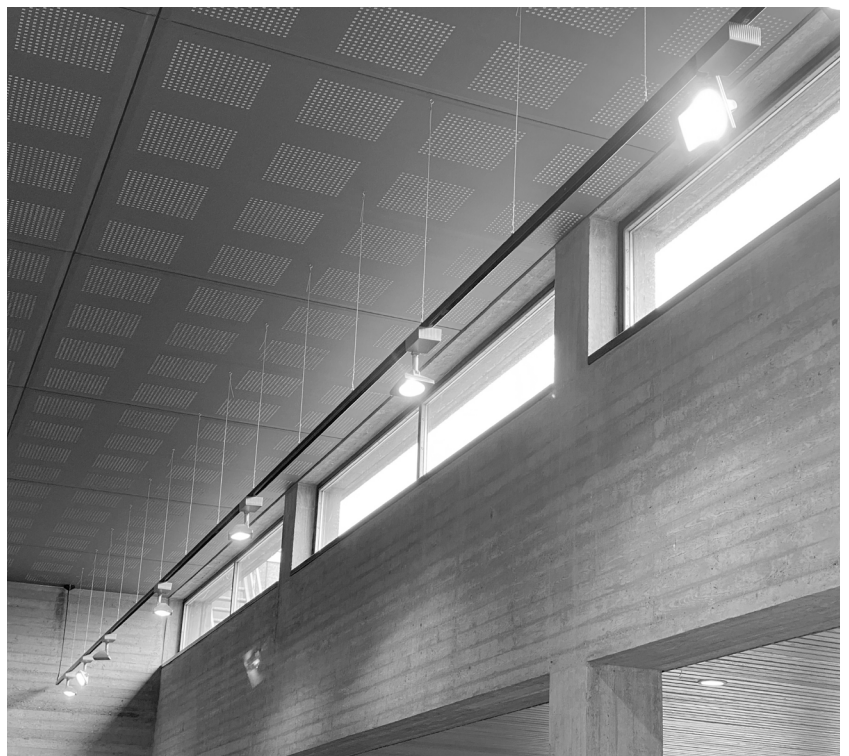
The ceiling is clad in wood, which lends warmth and visual softness in contrast to the cool concrete. The vertical lighting emphasizes the linear pattern of the wood and provides indirect lighting for the space, making the ambiance softer and more inviting. Large expanses of windows break through the concrete walls, allowing natural light to flood the interior and create a dialog between the interior and exterior.

In the foreground are symmetrically arranged steps leading to a mezzanine floor. These serve not only as a functional element to connect different levels of the building but also as informal seating areas where people can gather and exchange ideas. The foyer is defined by its open space and the reflective floor material, which could appear to be marble or a highly polished stone.

The steps lead up to the Senate area and the administrative offices. Here, the rather low ceiling height contrasts with the generous verticality of the foyer. A four-story section of the building unfolds, providing access to the offices via a central corridor. At the northern and southern ends, two atrium-like stairwells open up, creating an impressive interaction between space, structure and material. Robust concrete structures visually segment the space and guide the viewer's gaze into the depths of the picture.

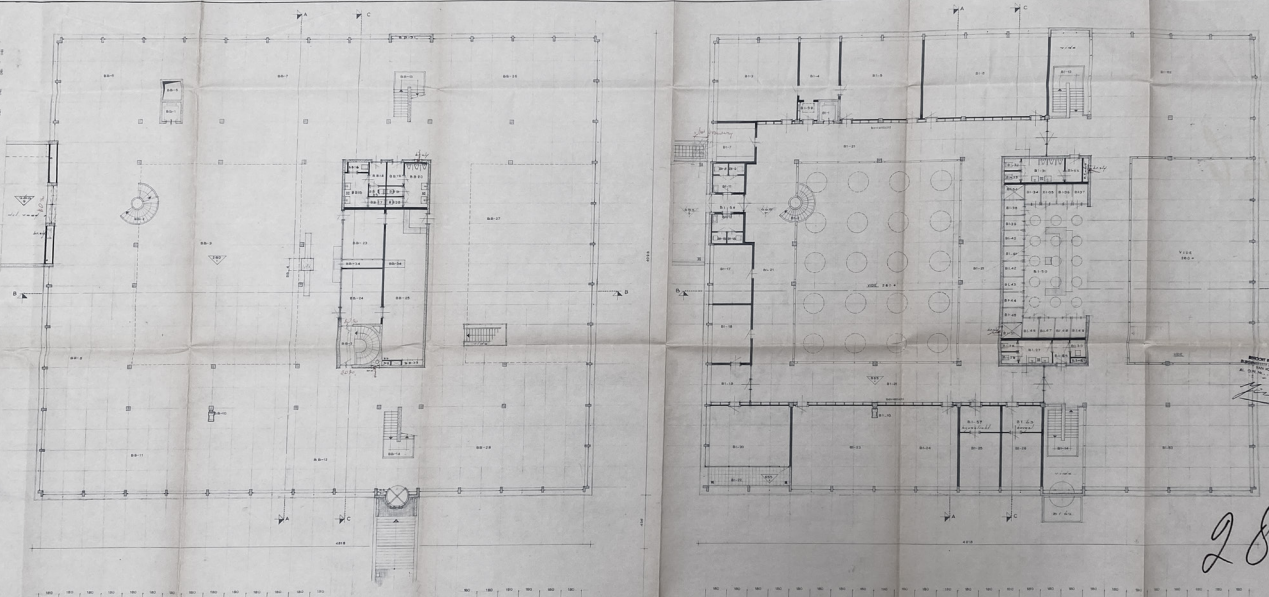
A glass connecting corridor leads from the Senate area on the second floor to the Tinbergen building. Elffers' aimed to make it easy for professors to get to their lectures without bumping into students. In the northern area, the building is connected to the Theil building.

Light plays a central role. It enters through skylights or through openings that are not visible due to the clever arrangement of the space and emphasizes the texture and contours of the concrete and brick structures. It contributes to the atmosphere and makes the space inviting despite the solid construction.



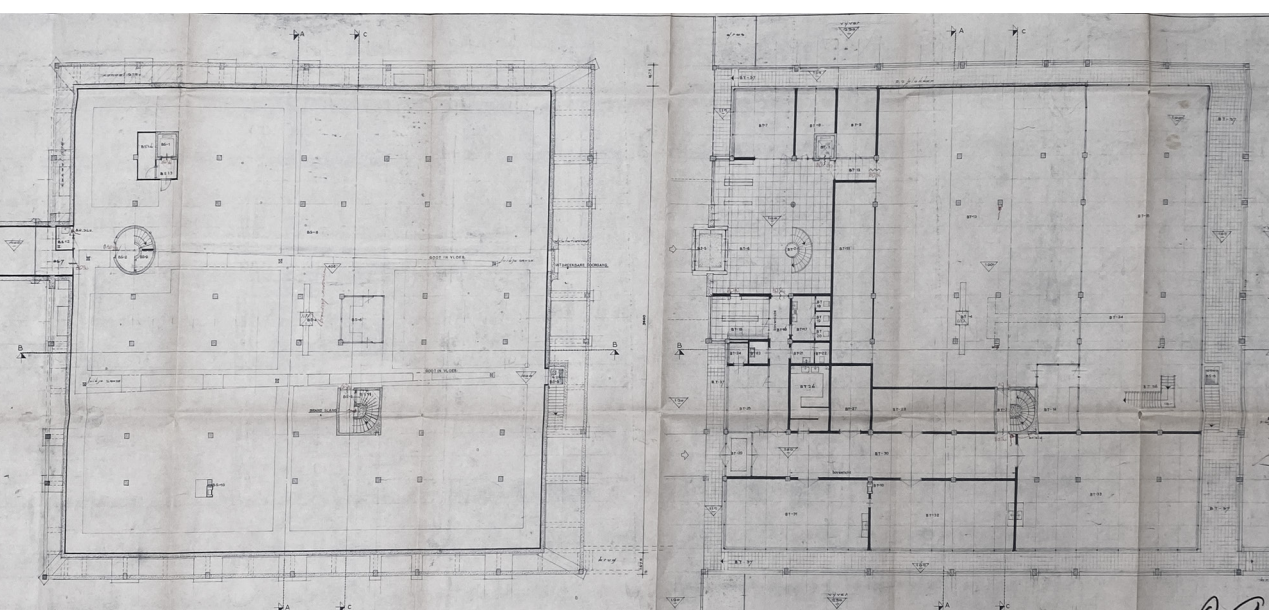






Ground floor

First floor



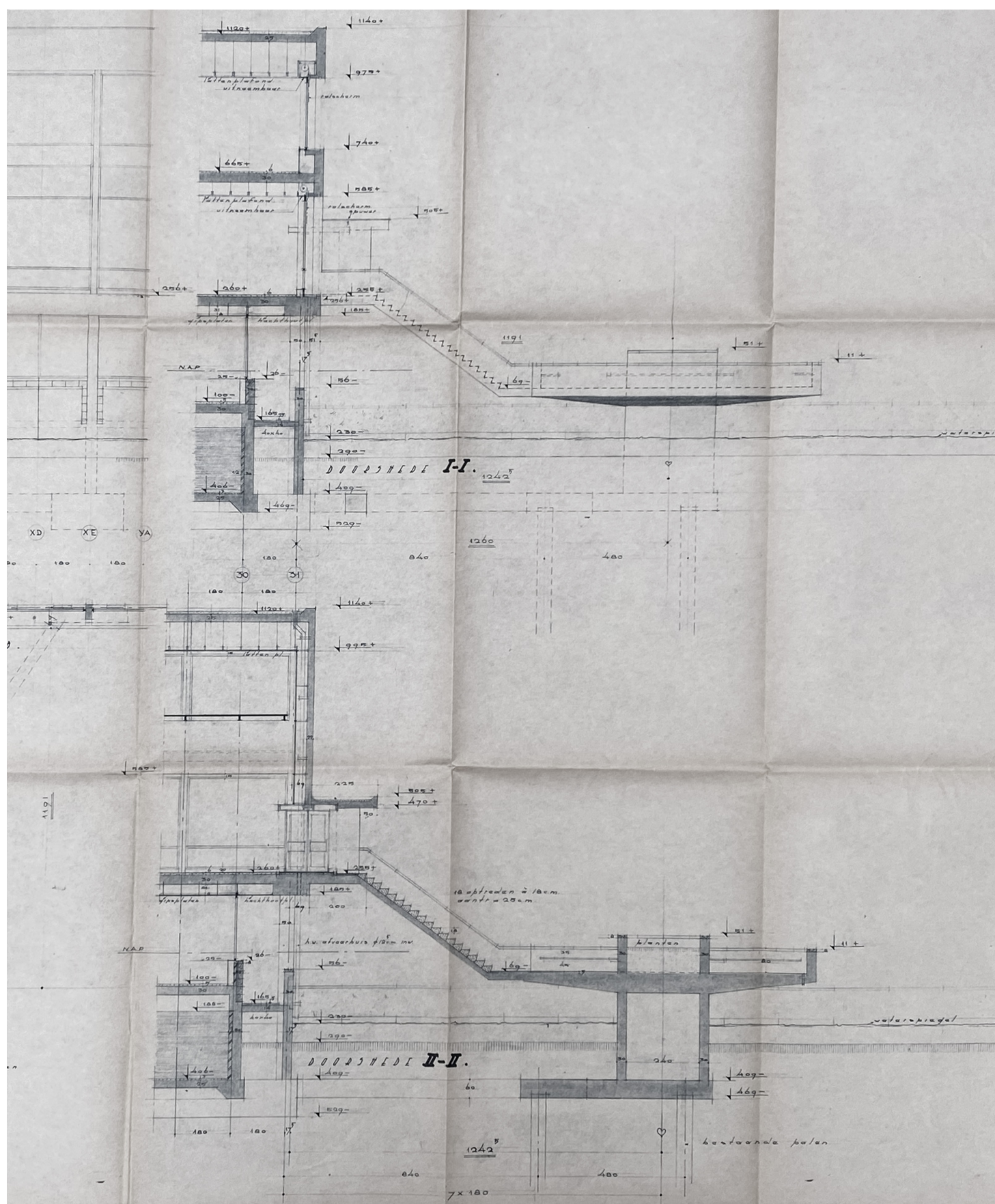
Souterrain

Basement

The Library (Building B):

Surrounded by ponds, the library recently underwent an extensive renovation that enhanced its transparency while preserving its brutalist concrete heritage. The restoration efforts respected the original concrete structure, but I will delve deeper into the restoration details later and for now, focus on the original condition as designed by Elffers. A notable feature is a striking concrete platform accessible via stairs. This platform offers a scenic setting, encouraging relaxation besides the soothing presence of water.

The building presents a robust and clearly defined geometric design. The library's flat, rectangular shape starkly contrasts with the more sculptural forms of other building sections, like the auditorium. Its structure not only facilitates its functional role as a library but also accentuates the visual and material heft of the concrete.





Photographies (c)
Cepezed

With its streamlined lines and form simplicity, the library exudes both severity and warmth. It acts as a tranquil, concentrated haven for students and faculty. Large windows punctuate the otherwise solid concrete facades, allowing natural light to infiltrate, visually softening the concrete's massiveness and illuminating the interior.

The façade combines large windows with concrete structural elements typical of brutalist buildings. The glass fronts offer transparency and connect the interior of the building with the outside world, while the concrete conveys solidity and durability. The interplay of glass and concrete reflects the tension between openness and solidity that is characteristic of Brutalism.

The 4-story structure is accessed through the basement, leading up to the first floor. Study areas are strategically placed on the ground and second floors encircling a brightly lit atrium. The placement of study spaces around the atrium is architecturally attractive and functionally beneficial, particularly within the context of brutalist design. This layout optimizes both the aesthetic appeal and practical utility of the space to meet user needs.

Brutalist buildings are known for their hefty construction, which can sometimes render interiors dark and daunting. However, the strategic positioning of the atrium and the surrounding study areas maximizes daylight utilization. The atrium serves as a central light source, channeling bright, natural light deep into the building's core. This design reduces the reliance on artificial lighting and fosters an inviting atmosphere conducive to learning and concentration.

Additionally, this spatial arrangement enhances social interaction among users. Brutalism frequently underscores communal space utilization. The open, radial layout around the atrium promotes visual connections and interactions across different study areas, fostering greater collaboration and community spirit. Such dynamics are especially beneficial in academic libraries, where teamwork and knowledge sharing are encouraged.

This open and unobstructed layout, facilitated by the strategic placement of learning spaces around the atrium, mirrors the Brutalist ethos of „honest“ structural expression. It allows for immediate appreciation of the building's structural integrity and functionality, offering a pure and unimpeded encounter with Brutalist architecture.



Building (C)



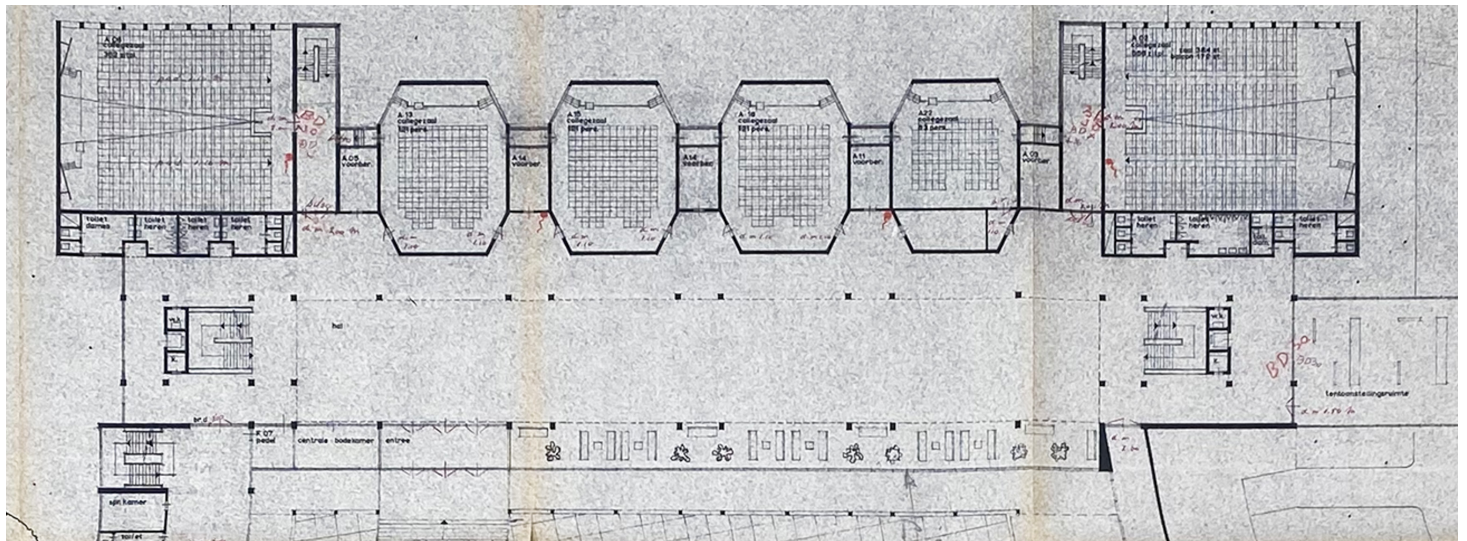
The Theil Building (Building C):

Houses most of the lecture halls. Dominating the raised square, the Theil building is characterized by a grid structure reminiscent of Le Corbusier's brise soleil. Within this structure, octagonal leg-resting volumes host lecture halls, featuring various concrete forms, including net concrete and béton brut, showcasing the intricate spruce formwork. In a similar fashion to building A the publicly oriented side of the building houses the lecture hall.

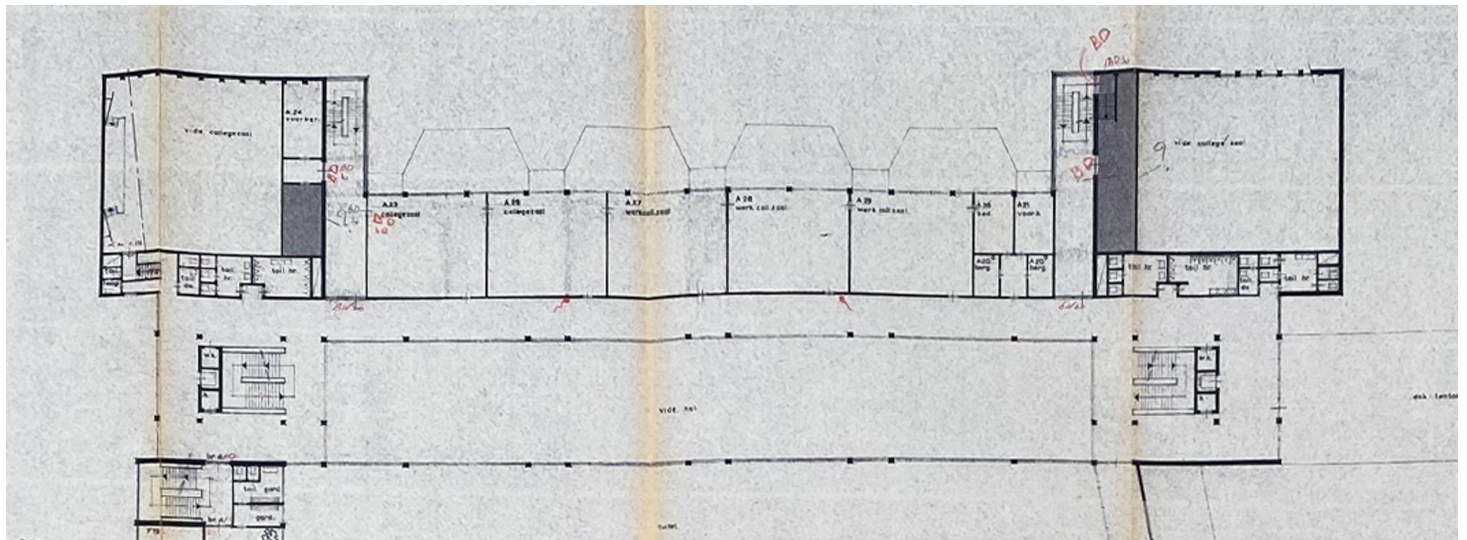
Staying true to its brutalist roots, the Theil building uses open concrete and striking angular forms that emphasize a raw and unrefined aesthetic. The building features a grid structure reminiscent of Le Corbusier's brise-soleil, which not only serves as a functional sunscreen but also reinforces the building's visual identity. The building's façade is dominated by octagonal modules that house lecture halls.



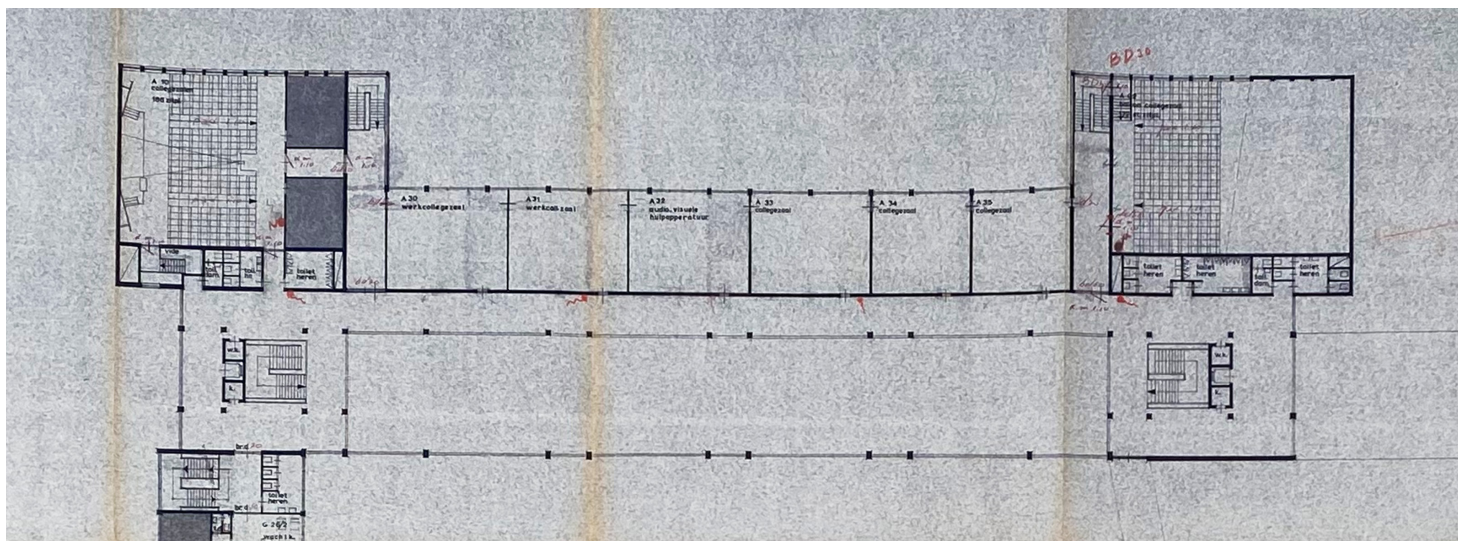
View from courtyard



Ground floor



First floor



Second floor



Brise soleil



Stairs to first floor

These modules protrude from the flat exterior walls, creating a dynamic interplay of shadows and architectural forms. This modularity is a key element of Brutalism, where the repetition of forms not only adds rhythm to the design but also reinforces the utilitarian ethos of the structure.

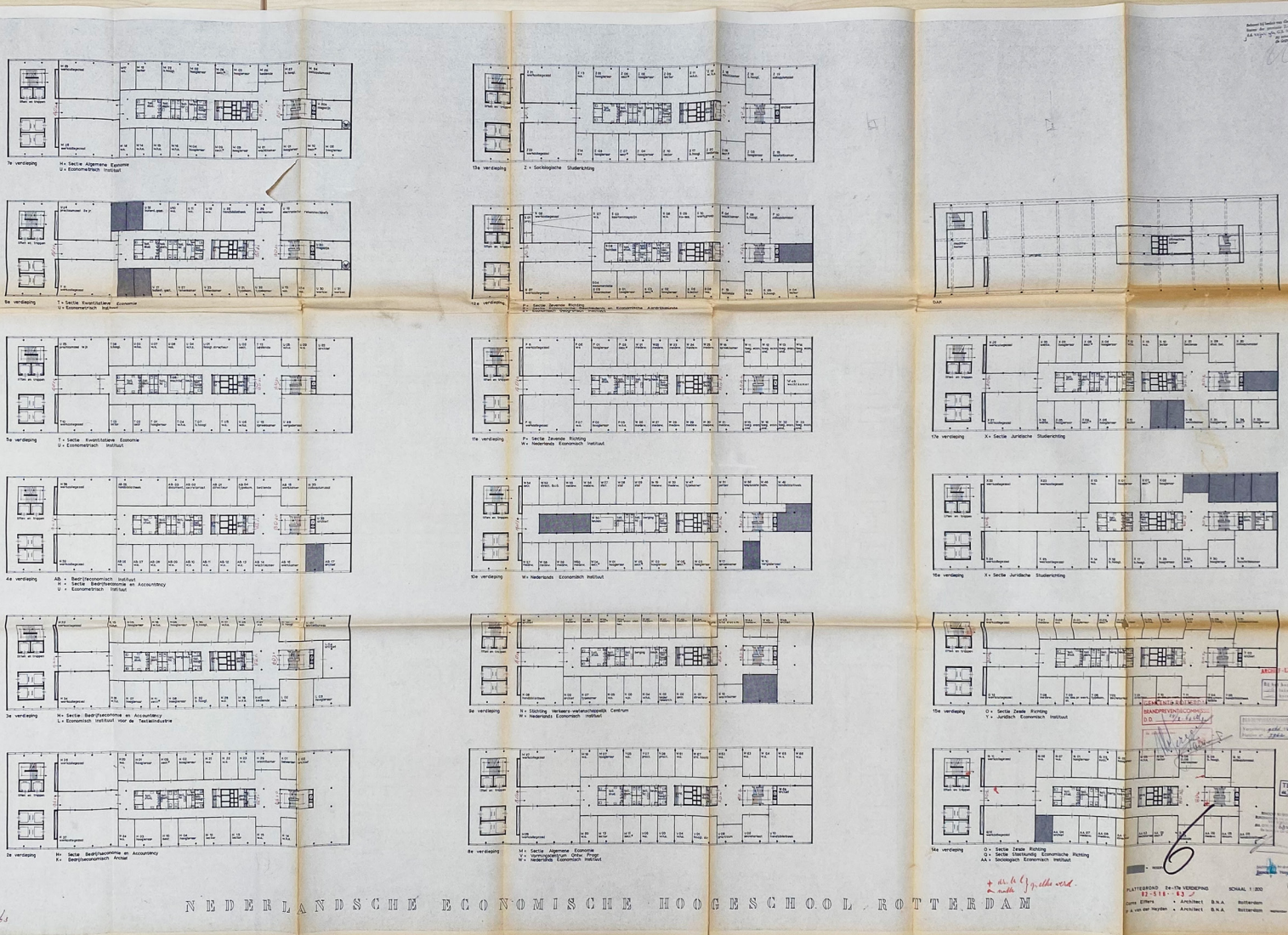
Theil building conveys a fortress-like appearance with its robust and geometrically defined form, exuding an aura of permanence and durability. This imposing aesthetic is typical of Brutalist architecture, which often makes a bold statement through its sheer scale and honest expression of materials. Originally designed to facilitate large-scale lectures and academic gatherings, the interiors of the Theil Building have been adapted to contemporary educational practices.

The octagonal lecture halls are particularly noteworthy because they maximize seating capacity while minimizing the distance between lecturer and students, which improves the acoustic and visual connection in the room. Elffers thus manages to sharpen the functional aspects of the space through sculptural forms.



n Building (H)





Floorplans

The Tinbergen (Building H):

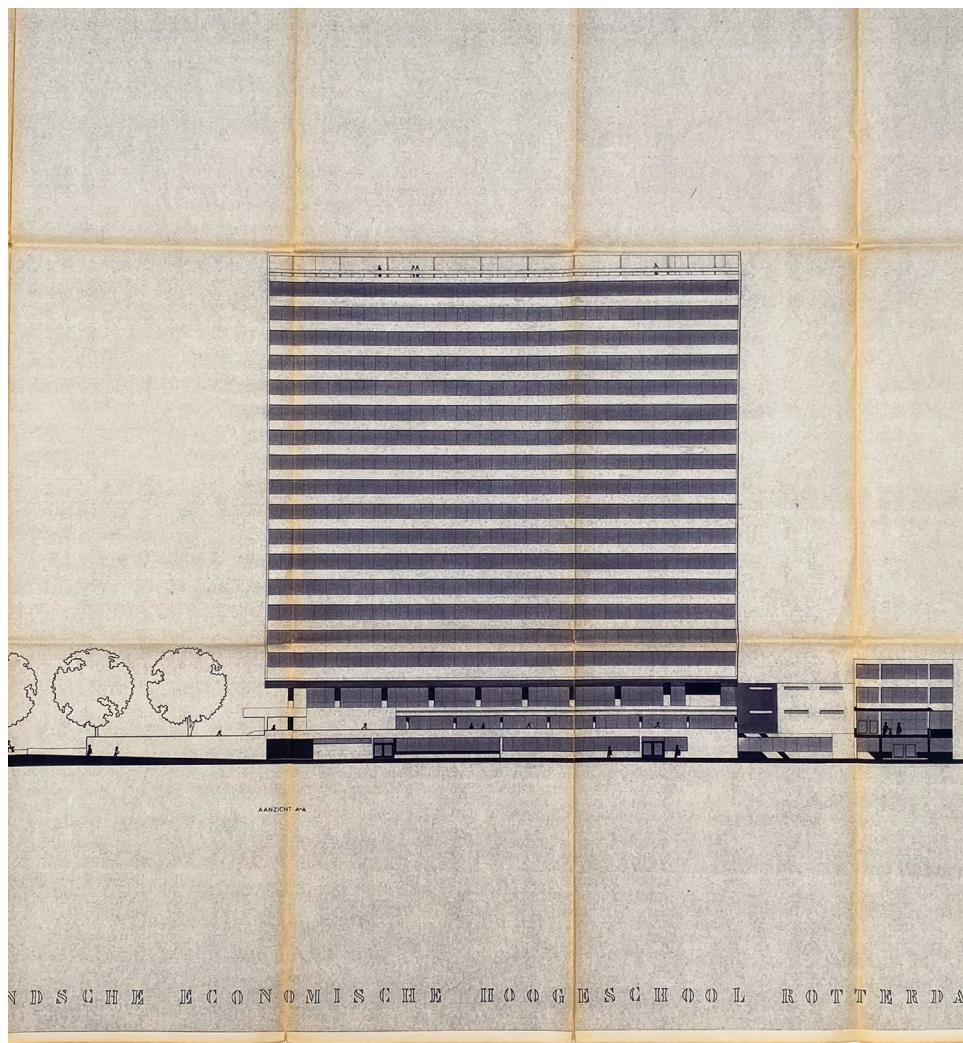
The Tinbergen building of the Woudestein Campus in Rotterdam, a monolith of Brutalism, towers over the university complex like a cemented guardian with its 78 meters in height and 19 floors.

Its appearance embodies the basic principles of Brutalism: the austerity of its lines and the unconcealed display of its building materials - primarily exposed concrete (Béton brut) - reflect an aesthetic of openness and an almost raw physical presence.

The architectural language of the building is one dominated by powerful, geometric forms and solid structures. However, the resulting simplicity is by no means synonymous with monotony or a lack of complexity. The façade impressively displays the texture of the concrete, whose subtle variations and play of shadows create a constantly changing visual dynamic depending on the daylight.

The lower two floors not only contain computer rooms and a canteen but also communal areas that serve as social hubs. They contribute to the vitality of the building and invite interaction. These levels are accessible and lively, a deliberate contrast to the monumentality of the floors above, which are dedicated to academic silence and concentration with study spaces, offices, and lecture halls.

Beyond these practical aspects, the Tinbergen building is also a stage for the combination of art and architecture. The vibrant mosaics by Karel Appel embedded in the façade serve not only as colorful breaks in the otherwise austere concrete landscape but also as meaningful symbols. They challenge the viewer to explore the interface between functionality and creativity and provide an impetus to reflect on the role of art in public space.



Elevation east





The water basin that greets visitors at the entrance is both aesthetically pleasing and functional. It mirrors the surrounding structures and creates a connection between the environment and the building, between the sky and the earth. This fountain provides a place of calm where the gentle sound of water drowns out the urban noise and seems to metaphorically soften the concrete masses.

The Tinbergen building is therefore not only a product of its time - a time when architecture spoke a utilitarian and unadorned language - but also a living monument that shows how such spaces can continue to be adapted and given new life.

It is a testament to the fact that buildings are more than the sum of their parts and that architecture is capable of making powerful statements without losing sight of humanity. In every angle, every line, and every space, it tells the story of permanence and change, of form and function, and of the unshakeable power of Brutalist aesthetics.

Chapter IV

Functional Aspects in Transition

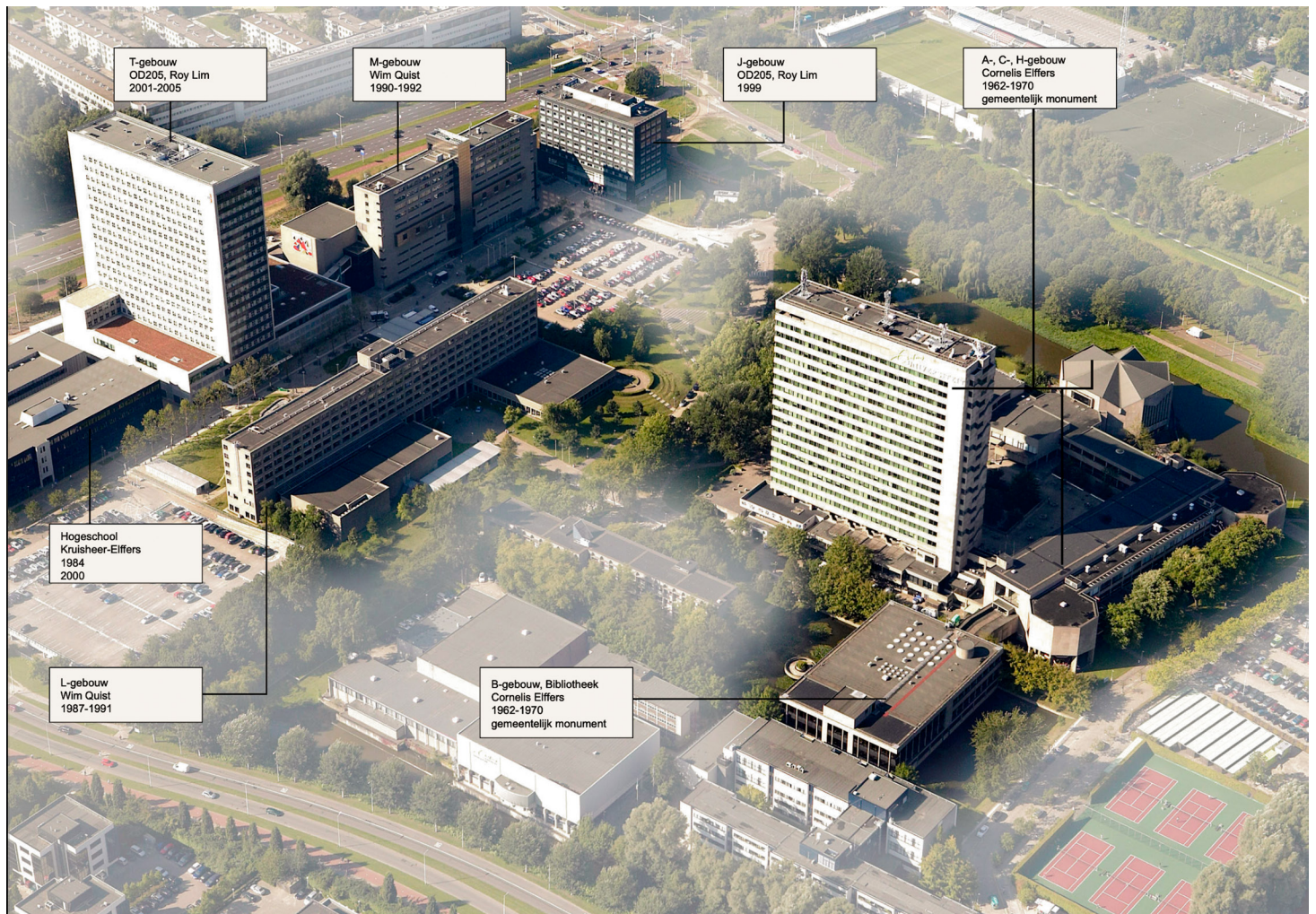
Renovations and Modern Needs:

Examples of respectful modernisations
of functional and sustainable aspects at woudestein
campus

Final conclusion

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Einleitung



Photograph (c)
Kees Lansbergen

While the campus of Erasmus University has been growing steadily since the beginning of the 1990s due to increasing student numbers, there is a gradual need for maintenance work on the original Elffers area.

The complex has been partially listed as a historical monument.

Special sensitivity is therefore required for these maintenance measures. The measures include both infrastructural improvements, such as the adaptation of acoustic ceilings in the Theil and Erasmus buildings, as well as sustainability aspects, such as the modernisation of the windows to current standards. There are also much more far-reaching changes, such as the extensive modernisation of the outdoor facilities in 2007-today and the renovation of the library. Further adaptations to the new conditions are also planned for the future.

Landscape

In 2007, Erasmus University invited several firms specializing in urban planning and landscape to design a modern vision for their campus. At that time, the campus appeared as a sparse array of isolated buildings set among occasional green spaces. The historic northern area contains the university's original buildings from 1963-70 (by Kees Elffers), which are partially recognized as municipal monuments. The southern section features newer constructions by Wim Quist and Roy Lim from the firm OD205.

The firms Juurlink and Geluk, together with Sputnik, won a design competition by proposing a strategy that allows for the gradual transformation and expansion of the Woudestein campus. Their plan capitalized on the existing urban landscape to segregate the campus into two distinct zones: a scenic, park-like area in the north and a more structured, urban area in the south arranged along a tight grid of streets.

The design introduces a significant elevation shift between these two zones, accommodating a parking garage beneath the Erasmus Plaza. Adjacent to this structure, a substantial pond acts as both a stormwater management feature and a cohesive element of the design, splitting the campus into two halves while establishing a central gathering point connected to essential public transportation links through the plaza. This arrangement, alongside the pre-existing Institutenlaan, establishes the main structural framework of the campus. The area is further defined by newly laid soft yellow paving stones topped with natural stone, enhancing the unique character and continuity of the urban landscape.



Photograph
Juurlink and Geluk



Photograph
Juurlink and Geluk

With the addition of the extensive underground parking facility, surface parking has been removed, allowing for a denser and more park-like setting in the southern part of the campus. Furthermore, the main entrance to the historic university building has been relocated to better integrate with the newly designed areas. This renovation helps to assimilate the once standalone structures by Elffers, Quist, and Lim into the broader campus environment, reflecting a seamless blend of old and new architectural elements.

The Library



Photograph
Roos Aldershoff

In 2014 the Library building underwent extensive renovations to its architecture and engineering systems by the office DVDP. As it approached the end of its functional lifespan, the building required updates to align with modern working methods. With the shift towards digital media, the presence of printed books is diminishing. The renovated library houses approximately 900 study spaces, around 50 offices for staff, and the collections of the University Library and Rotterdamsch Leeskabinet.

All renovation efforts were focused on making the building more open and inviting, with an emphasis on light, transparency, and spaciousness. The introduction of large voids and a new main staircase will enhance the sense of space, while roof lights will bring in additional light. Glass will be used for staircases and fire separations to improve spatial continuity between the building's west and east sections.

In terms of sustainability and comfort, while preserving the building's monumental character, all facade frames were replaced with insulated steel frames equipped with triple-glazing. A carefully chosen palette of natural materials and colors complements both the original structure and previous renovations of the Woudestein monument: exposed concrete walls and columns, black steel frames, grey epoxy floors, black carpet, slatted timber ceilings (oak), and light bronze metal coffers.

Besides the existing entrance connected by a footbridge, the library now features a new entrance on Institutenlaan, a key thoroughfare on the campus. This addition not only enhances the library's visual distinctiveness but also smoothly manages the flow of visitors. Defesche van den putte. (2023)



Photograph
Roos Aldershoff

Tinbergen Building



Photograph (c)
Cepezed

In the monumental, massive Tinbergen building in particular, an oppressive heaviness can be felt despite the original design for natural lighting, especially in the lower two stories, which serve as meeting areas. The enormous mass of concrete on the floors above weighs heavily on these areas. This is particularly evident where the lighting is not sufficient to illuminate the dark corners of the massive structures.

In addition, there are serious problems that make a comprehensive renovation unavoidable: In spring 2021, the Tinbergen building was closed because legionella bacteria had been found in its water pipes. In addition, an investigation carried out by the Rotterdam Rijnmond Safety Region found that the building's fire department does not meet current safety standards. (Ficheroux, 2021)

Toxic pipes and inadequate fire protection threaten the health and safety of users. These shortcomings show how urgently the campus needs to be modernized to meet today's safety and functionality requirements while preserving its architectural heritage. The upcoming renovations are therefore not only an opportunity to improve the efficiency of use but also to present the original brutalist elements in a new light and thus secure the historical significance of the campus for future generations.

The architectural firm Cepezed, based in Delft, has crafted the renovation plans for the Tinbergen Building. While preserving the building's 'brutalist functionality characteristic of the 1960s,' several elements will undergo modernization to enhance the building's interior, making it 'more expansive and spacious.' The redesigned layout includes open spaces that link the floors together, as well as a spacious lobby featuring a coffee bar, study areas, and a restaurant. (Smaling, 2018)

Photograph (c)
Cepezed





Final Conclusion

This thesis has intensively analyzed the transformation and ongoing legacy of Brutalism on the Woudestein Campus of Erasmus University Rotterdam. Central to this was the question of how the functional aspects of the Brutalist educational facilities have developed since their construction and how this is reflected in the context of modern educational demands and architectural renewal.

The study of the buildings, in particular the library and the Tinbergen building, has made it clear that despite the challenges associated with the preservation of such striking structures, innovative solutions have been found that allow for both architectural integrity and adaptation to contemporary needs. The extensive renovation of the library, with its focus on light, transparency, and spatial expansion, reflects a successful fusion of historical substance and modern requirements without losing the characteristic brutalist expression.

The planned redesign of the Tinbergen building also shows how targeted interventions and the introduction of new utilization concepts can increase functionality while preserving the Brutalist heritage. The integration of art and the creation of meeting zones prove that Brutalism is not only to be understood as a rigid form but can also react dynamically to current and future needs.

This work has confirmed that Brutalism, once thought of as a symbol of immediate post-war modernism, continues to speak a relevant language in the architecture of modern educational institutions. The projects on the Woudestein Campus impressively demonstrate how, through respectful modernization and careful adaptations, the heritage of Brutalism can be preserved and further utilized to create spaces that are both aesthetically pleasing and highly functional.

This thesis thus emphasizes the importance of Brutalism not only as an architectural form but also as an ongoing field of discourse that challenges us to critically reflect on and shape the interactions between past and future, between preservation and innovation. The Woudestein Campus serves as a living example of how architectural identity and historical significance can be reinterpreted and revitalized in a modern educational environment.

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