

THE ARCHITECTURAL YOUNGTIMER

a sustainable reuse strategy for administrative office buildings
of the late 1970s and 80s



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1 Introduction

„But beauty will be perceived differently in the next century than in the last, because the term is subjective and timebound.“

- Herman Kraaijvanger in an Interview from 1962 ¹

„Fashion has shown us the trend: People find nothing as awful as the aesthetics of the previous generation and, as with clothing, the same applies to architecture. The houses of the 70s and 80s seem particularly unattractive to today's contemporary taste.“

- Welt am Sonntag 25.01.2009 (Tröster, 2009, n.p.) ²

In the German media, there is often talk of the „building sins of the 1970s and 80s“, with particular reference to the extensive use of concrete and its environmental impact.³

In Bonn, the city where I grew up, the city hall was celebrated as modern and progressive in the 1980s. Honecker is supposed to have said he wanted “something like that, too” (Die Zeit, 2006, n.p.), but today people view it rather suspiciously.

Not only the aesthetics seem unpopular today. The function of office buildings has also changed in recent years due to digitalisation and the recent pandemic situation (CBRE Research, 2020, p. 2).

Both factors- aesthetics and spatial use- first lead to poor maintenance and often even to the demolition of many buildings from the late 1970s and 80s or transformations that make the original design unrecognizable without any prior review of elements considered to be of heritage value.

Furthermore, if we consider the current shortage of resources and the need to save energy in the building sector (UNEP, 2020, n.p.) it must be assessed even more if building new is preferable to technical optimisation and intelligent adaptive reuse strategies for these still relatively young and very stable buildings.

This study is looking for a strategy to master the balancing act between today's and future demands on the built environment and relevance for past time heritage.

¹ “Maar over schoonheid zal in de volgende eeuw anders worden geoordeeld dan in de vorige, omdat het begrip subjectief en tijdgebonden is.” (Jager, 2015, p. 159)

² „Die Mode hat es vorgemacht: Nichts finden die Menschen so scheußlich wie die Ästhetik der vorangegangenen Generation und wie für die Kleidung gilt das auch für die Architektur. Die Häuser der 70er- und 80er-Jahre erscheinen dem heutigen Zeitgeschmack besonders unattraktiv.“

³ see e.g. Die Zeit, 2006 n.p. Tröster, 2009 n.p. Vogler, 2007 n.p.



Figure 01: Bonn Stadthaus built in 1978.

Source: Qualle, CC BY-SA 3.0 <<http://creativecommons.org/licenses/by-sa/3.0/>>, via Wikimedia Commons.

2 Relevance

2.1 Studio Research Context: Spatial investigation on Police Real Estate

Currently, changes to the work life due to technological development, digitalization and the pandemic, lead to changes in the spaces we need for working. In a recent study from CBRE Research, 126 senior-level global real estate executives were interviewed on the changes of offices. 73% expected more flexible office space to play a role in future real estate strategy and 70% even expected some workforce to work completely remote in the future. (CBRE Research, 2020, p. 1)

The developments described above are particularly evident in the police real estate portfolio. The reorganization of the Dutch police in 2013 led to the urgency of revising its current real estate. This is expected to cause the divestment of around 700,000 sqm of the respective real estate, but also renewal and adaptation of use. (Weessies, 2017, n.p.)

Trough the buildings and portfolio transformation the aim is „to achieve a good relationship between functional, technical, spatial, aesthetic and financial requirements“ according to Weessies (2017 n.p.). An estimated 30% of the police real estate is affected by these redevelopment measures.

In an individual in depth research the focus will be placed on 70s and 80s office buildings, represented by the police station in Eindhoven (completed in 1981) as a decisive part of the police departments also contains office space. In the Netherlands, buildings from 1971-1990 currently make up 29% of the total office stock in the Netherlands. In comparison, the total amount of pre-1971 buildings is more than 10% less (see Figure I) (Bak, 2021, p. 22). The office architecture from the 1980s is rarely protected through monument conservation. Currently, many buildings from this period are still in use, but they are in urgent need of renovation, not exclusively for aesthetic reasons. Outdated technology and insufficient insulation makes them inefficient in their energy use and therefore unsustainable.

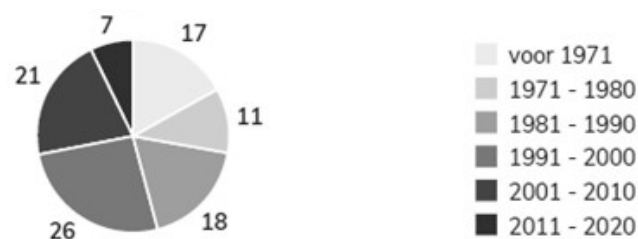


Figure 02: Stock of office space [in the Netherlands] by construction period (31 December 2020)
Source: Bak, 2021 p.22.

2.2 Societal context: Changing needs and shortage of resources

If we nevertheless need other uses today and the buildings do not meet today's requirements, the question arises if building new wouldn't be more sustainable and efficient.

A first argument against this approach is to save resources. New construction consumes new building materials that have high embodied energy through their processing, transport and assembly. With adaptive reuse, many materials can be saved. Thus, energy efficiency must be considered not only in the finished building but also in the construction process. In addition, less material and a shorter construction process, as well as lower disposal costs, can also save money (Trabucco & Fava, 2013, p. 43). Furthermore, critical points can be improved in a selective manner, because even with a new building there is no guarantee of perfection and it will probably be confronted with the same problem in the future. Finally, an important point is the identity and heritage of the building and possible elements relevant to monument preservation that need to be investigated and preserved. Lastly, buildings of this period meet some criteria that might have a positive effect on a reuse strategy and further use: The 1970s and 80s architecture started to break with the idea of functionalism (Zey, n.d., n.p.). Due to the use of grids in design and the manner in which interior walls are built, they can be re-used very flexibly. Furthermore, their construction of glass, concrete and steel on the one hand makes demolition and disposal even harder more costly and also problematic under sustainability aspects (Trabucco & Fava, 2013, p. 38). On the other hand it ensures a stable structure in further re-use.

2.3 Academic Context: Beginning recognition of 1970s and 80s architectural heritage

The preservation of buildings from the late 70s and 80s has just started. Although there are already numerous collections of buildings which are probably worth preserving from the so-called "Post '65" era, there is not much research on separate characteristic spatial elements of the 70s and 80s that are relevant to the preservation of historical monuments in a transformation and reuse context (see frame of reference). This research is therefore intended to look for these identifiers and shall focus on how to preserve them in a sustainable reuse or conversion project. This way it shall provide a starting point as a basis for further research.

3. Research Approach and Process

3.1 Research on Spatial Building Typology

The research on this topic is done in three phases: In a first phase, eight Dutch police buildings will be studied by a group of 12 students from the Delft University of Technology under the guidance of Hielkje Zeijlstra.

The subject of the research in Phase 1 is the typology of Dutch police-owned buildings. The

results will be compared and evaluated in phase 2. This forms the basis of the individual research topics in Phase 3 and thus the basis for the formulation of redesign options and resulting design solutions in Phase 4. (Zijlstra et al., 2021, p. 9)

It must be considered that although buildings are often designed for a specific purpose, the needs of society inevitably change and so the use is also subject to change (Zijlstra et al., 2021, p. 10).

Here, too, other options for continued use are possible if there is a need for change in the respective case. Therefore, the focus of this study is not on the current function, but on the space itself. From the entirety of all typologic spatial identifiers, it forms the essence of the building's architectural value.

3.2 Individual Research on Spatial Characteristics of the late 1970s and 1980s

As mentioned previously, the individual research part in Phase 2 will focus on the period of the late 1970s and 1980s, using the example of the Mathildelaan police station in Eindhoven, which was designed and built between 1976 and 1981. During this period, architects started to break with purely functional design (Zey, n.d., n.p.), which is why the research on spatial characteristics becomes increasingly important for this period. Since many buildings from this time in particular are now under review as to whether they should be demolished or modernised, the possibilities for further (re-)use strategies should also be examined in the light of the abovementioned sustainability and monument preservation situations.

4. Research Question

The research for the graduation project in Heritage and architecture is twofold. There is an overarching group research on Spatial Building Typology and an individual research topic. Both researches are entangled, complement each other and are guiding design decisions in the redesign of the Mathildelaan Police Department in Eindhoven. The SBT research question is formulated as follows:

What are the common spatial identifiers that form the typology of [Dutch Police real estate]? (Derived from Zijlstra et al. 2021 p.8)

For Phase 3, the police station in the Mathildelaan in Eindhoven has been chosen as the focus object for this graduation project. As mentioned before I would like to particularly examine the characteristics relevant to the temporal context and how to use these specifically for a sustainable approach. Therefore I formulate my research question as follows:

How can the spatial characteristics of Dutch administrative office buildings from the late 1970s and 1980s be implemented into a sustainable adaptive reuse strategy, on the example of the Mathildelaan Police department in Eindhoven.

The question contains several sub-questions, each of which builds on the others and ultimately lead to answering the main question.

- Subquestion 1: *What are characteristic design identifiers of the late 1970s and 1980s office buildings?*
- Subquestion 2: *Which characteristic elements could be relevant according to the results from SBT research?*
- Subquestion 3: *Which identified characteristics are relevant to be preserved under the consideration of a Value Assessment?*
- Subquestion 4: *How can the characteristics found be implemented into a sustainability strategy by way of adaptive reuse?*

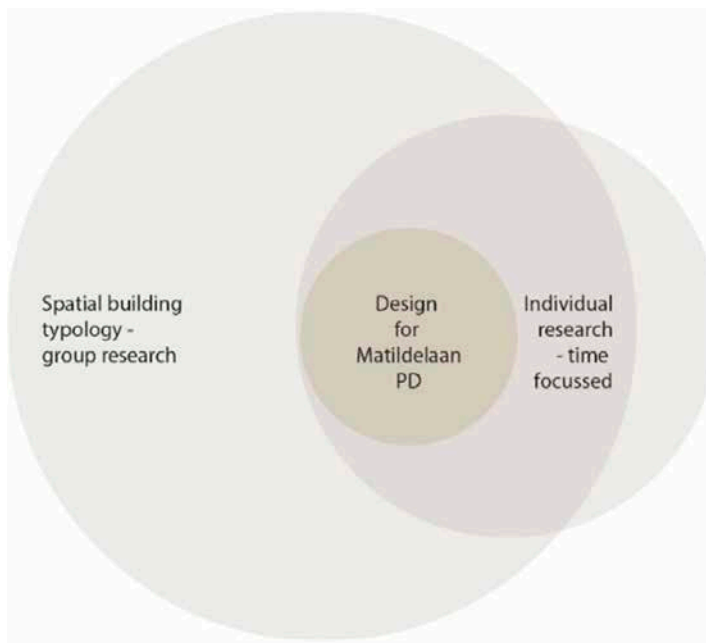


Figure 03: Entanglements of SBT, Individual Research and Design.
Source: own image.

5. Research Methodology

5.1 Hausmann Method for the overarching research

The SBT research is subdivided into 4 phases (here phase 1a-4a) : In Phase 1a, 8 selected Dutch police buildings are examined on four scale levels:

1. city centre
2. urban block
3. building object
4. facades and roof

On the respective scale, three further sub-aspects will be examined in more detail. In this way, each object is first studied independently of the others.

Each object is examined on the basis of planning material provided by the police, supplemented by archival material and databases such as Q-Gis. The data and aspects relevant for the investigation are reproduced by drawing, tracing and mapping in the sense of the „Hausmann method“ (Jallon & Neapolitano, 2017). The analysis is additionally completed and evaluated in written form for each aspect. In phase 2a, the aspects are compared and striking commonalities are identified as typological characteristics. In phase 3a, individual research and redesign options are presented in diagrams for the students at the selected location. Finally, in phase 4a, the detailed individual re-design results are compiled and evaluated diagrammatically to identify typological reuse options.

The SBT research serves as a basis for the individual research. In particular, the investigation of the police station in Mathildelaan is included in the individual part, but the development of the typology in phase 2a also allows for conclusions about temporal characteristics.

5.2 Additional Methods for the individual research

Like the SBT part, the individual part is divided into four sections (here called 1b-4b) by answering the four sub-questions.

In phase 1b, which refers to the first research question, literature research is conducted to find characteristics of the late 1970s and -80s. Secondary literature and databases of 70s and 80s monuments are used where available (see Theoretical Framework), but also primary literature on design approaches is analysed. In addition, several buildings will be examined quantitatively for certain characteristics as case studies. Referring to the “built artifacts” of Steward Brand’s framework of building layers (site, skin, structure, space, plan, services and stuff) added by surroundings, surfaces and spirit of place as proposed



Figure 04,05:

Amsterdam Medical Center
Architects: Dick van Mourik en Marius Duintjer,
Istha, Kramer & Van Willegen
Opened: 1984
Renovated: started 2019 (Wiegerinck Archi-
tecten)



Figure 06,07:

Regionale Omroep Zuid, Maastricht
Architect: Paul Schuffelers
Opened: 1979
Renovated: start 2021



Figure 08,09:

Rijkswaterstraat Office building in Schubertsin-
gel, Den Bosch
Architect: unknown
Opened: 1977
Renovation: 2019 (Houben/ van Mierlo)



Figure 10,11:

Ministry of Finance, Den Haag
Architect: J. Vegter/ M. Bolten
Built: 1975
Renovation 2009 (MSVA/ van Schoten)



Figure 12,13:

Haskoning Administration Office, Nijmegen
Architect: Alexander Bodon
Opened: 1977
Renovated: 2017 (Teake Bouma architectuur/
stedenbouw)

*Sources listed in Literature

in the HA method by Kuipers et al. (2017). A pre-selection of possible case studies include e.g. the Amsterdam Medical Center, „Regionale Omroep Zuid“ building in Maastricht and the Rijkswaterstraat Office building in Schubertsingel, Den Bosch (see Figures 04-13). The selection will consist of buildings that were built in the late 70s and 80s as administrative office buildings and which in the best case have already undergone an adaptive re-use and renovation. These buildings will be analysed by analytical re-drawing and mapping from pictures and on site and literature research.

For phase 2b, it will be evaluated and compared to what extent the characteristics found are reflected in the Mathildelaan police station. The analytical drawings from SBT phase 1a will be used for this purpose.

In phase 3b the results from phase 1b and 2b are evaluated in a value assessment using the HA method from Kuipers et al. (2017 p.87) (See Figure 14).

In this way, the characteristics initially identified from the quantitative case study research are qualitatively evaluated for the building in Eindhoven.

In phase 4b, the possibilities of using the typology's characteristics (SBT) from the corresponding time period (individual research) in a sustainable conversion strategy are investigated. Firstly, this is done using the case studies from SBT and individual research as references. Secondly, a strategy for the selected building in the Mathildelaan is developed in the form of drawings, model building and evaluations of technical methods and data.

	RIEGL +	AGE value	HISTORICAL value	INTENTIONAL COMMEMORATIVE value	NON INTENDED COMMEMORATIVE value	USE value	NEW-NESS value	(relative) ART value	RARITY value (+)	OTHER relevant values (+)
BRAND +										
SURROUNDINGS / SETTING [+]										
SITE										
SKIN (exterior)										
STRUCTURE										
SPACE PLAN										
SURFACES (interior) [+]										
SERVICES										
STUFF										
SPIRIT of PLACE [+]										

Figure 14: Heritage and Architecture Value Assessment Matrix

Source: Kuipers et al., 2017 p. 87.

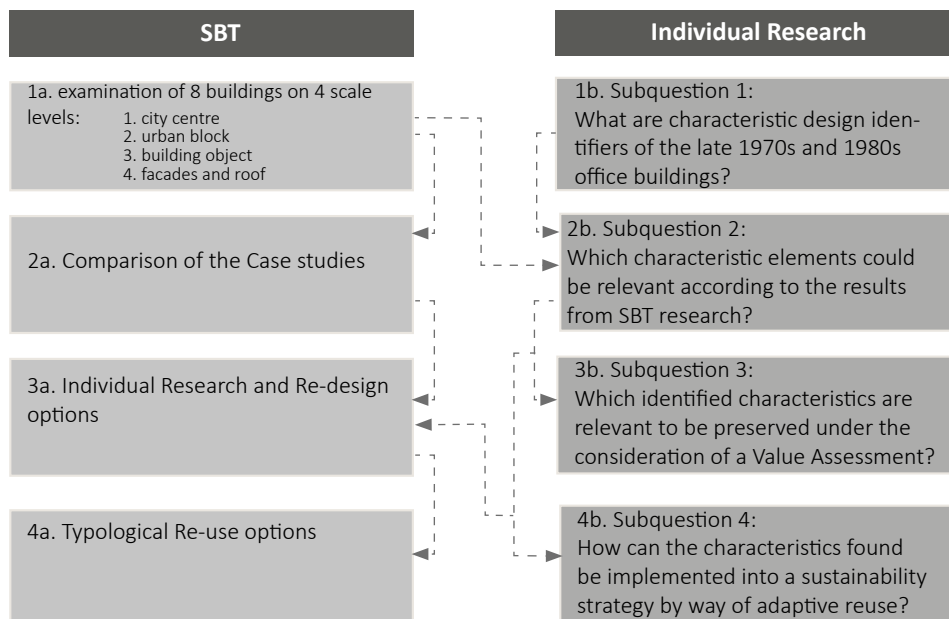


Figure 15: Overview: Entanglement of Research

Source: Own image.

6. Frame of reference

The theoretical framework of the thesis relates to the 3 main factors of research of this thesis: the topic of typological investigation of spatial characteristics, the building period of the 1970s and 1980s in the Netherlands and finally sustainability strategies.

Jean Nicolas Louis Durant laid the foundation for typological studies as early as 1801 in his "Recueil et parallèle des édifices" de tout genre anciens et modern. In this work, he categorised formally similar buildings in order to highlight common characteristics (Durand, 1801). Subsequently, numerous other works were written that dealt with this subject.

In 2009, Hielkje Zeijlstra developed the ABCD in time method, as also intended in this research. With her method she researched post-war architecture up to the 1970s with regard to its qualities before a re-design. (Zijlstra, 2009)

Another graphically oriented method is the one used by Jallon et al. in their analysis of the Interventions of Hausmann in Paris (Jallon et al., 2017). It investigates a building and its surrounding on several scales in black and white analytic drawings. This method was already used in the first edition of the SBT series on department stores. The resulting SBT analysis was collectively discussed and refined for this year's analysis of police real estate. The individual analysis is based on the existing research on the Post ,65 period. For the individual research the collections of iconic buildings in the Netherlands will be the starting point. Especially relevant are the website "www.love80sarchitecture.nl" run by Lidwine Spoormans and "post65.nl" as well as regional monuments lists such as in Amsterdam and Rotterdam. In addition, the Dutch "Rijksdienst voor het cultureel erfgoed" is also working on the collection on the Post 65 period up to 1990 in its analyses and studies. This research was initiated in response to requests from the Dutch people and has three main objectives: to develop and share knowledge, to deal with this heritage in relation to current spatial planning assignments and to broaden the base of support. (Ministerie van Onderwijs, 2019).

In addition, a theoretical framework on the design strategies with a focus on Dutch office buildings from the respective two decades is to be examined. Gert Staal deals with the process and influence of the client in his book "Between dictate & design: The architecture of office buildings" (Staal, 1987) and Dick de Gunst deals with the topic of the typology of office buildings in "Planning en ontwerp van kantoorgebouwen: Typologie van gebouwen" (de Gunst, 1989). The framework of the analysis of values is derived from the Heritage and Architecture Value Assessment published in the book "Designing from Heritage". (Kuipers et al. 2017) This examines material and imaterial values on different construction shells in a matrix. The list of values is based on the list of values by Alois Riegl in "Der Moderne Denkmal Kultus" (Riegl, 1903) and the building layers by Steward Brand in "How buildings learn" (Brand, 1995), which were extended by further layers which are marked with a [+] in Figure X.

Some of the still rare writings on the subject of the renewal and adaptive reuse of modern buildings are a.o. writings by the Docomomo association.

Additionally, the book „Welche Denkmale welcher Moderne“ by Frank Eckardt, which is based on research results of the TU Dortmund University and the Bauhaus University Weimar, is very relevant in this context. It deals with the situation of the building fabric in Europe and explores approaches to assessing it from a heritage perspective, the role of different actors and strategies for the future. Contributions a.o. by Marieke Kuipers also deal specifically with the situation in the Netherlands (Eckardt, 2017 p.156).

Finally are also numerous approaches to the issue of sustainability. In the writing „Dierbaar is Duurzaam“, Christoph Grafe explains that architecture is sustainable when it is valuable for people's living environment (Grafe & Janssens de Bisthoven, 2011, a.o. p. 27). In this regard, not only ecological aspects play a role, but also social and economic ones, in line with John Elkington's triple bottom line (Elkington, 2018).

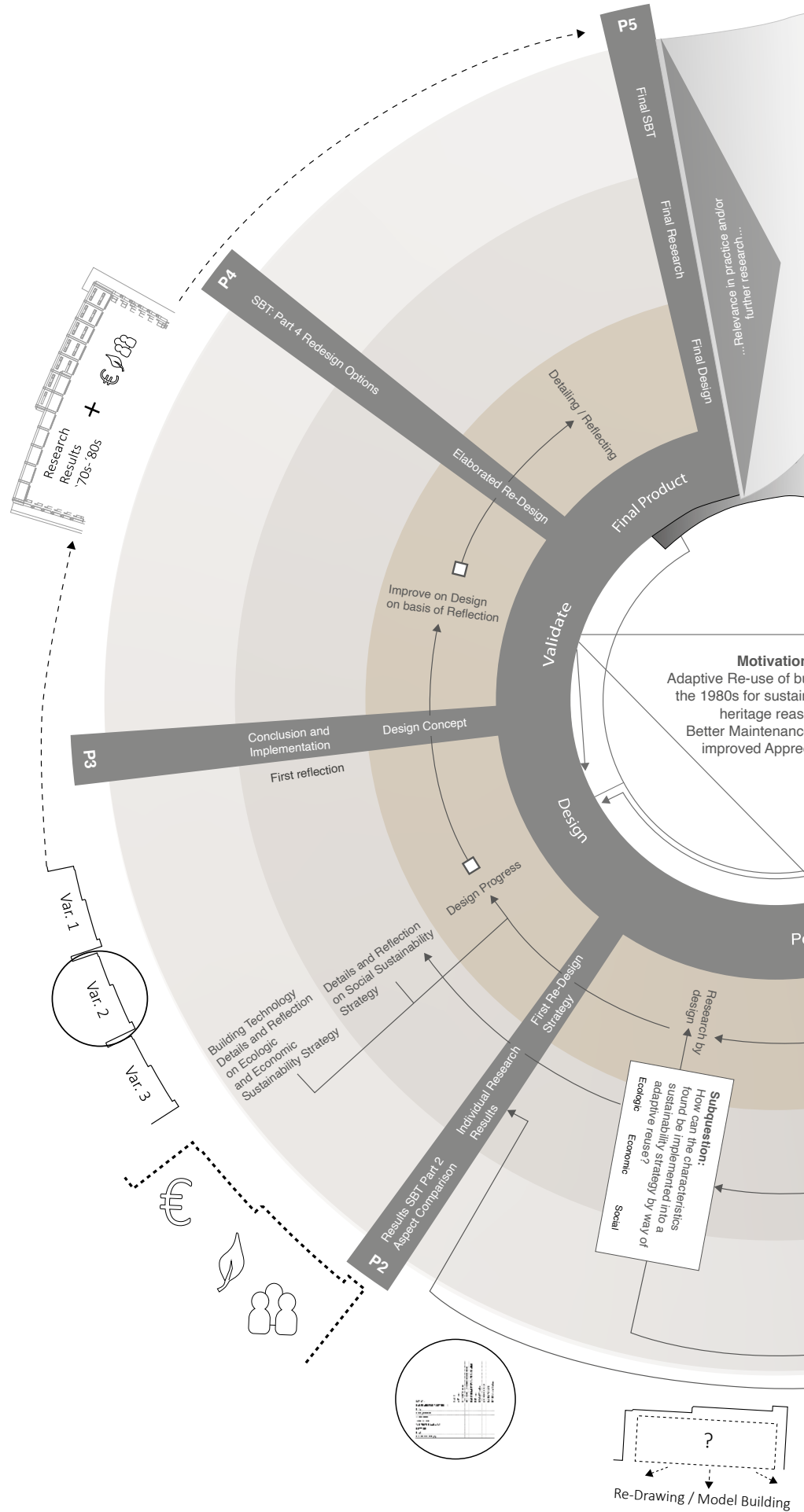
7. Reflection

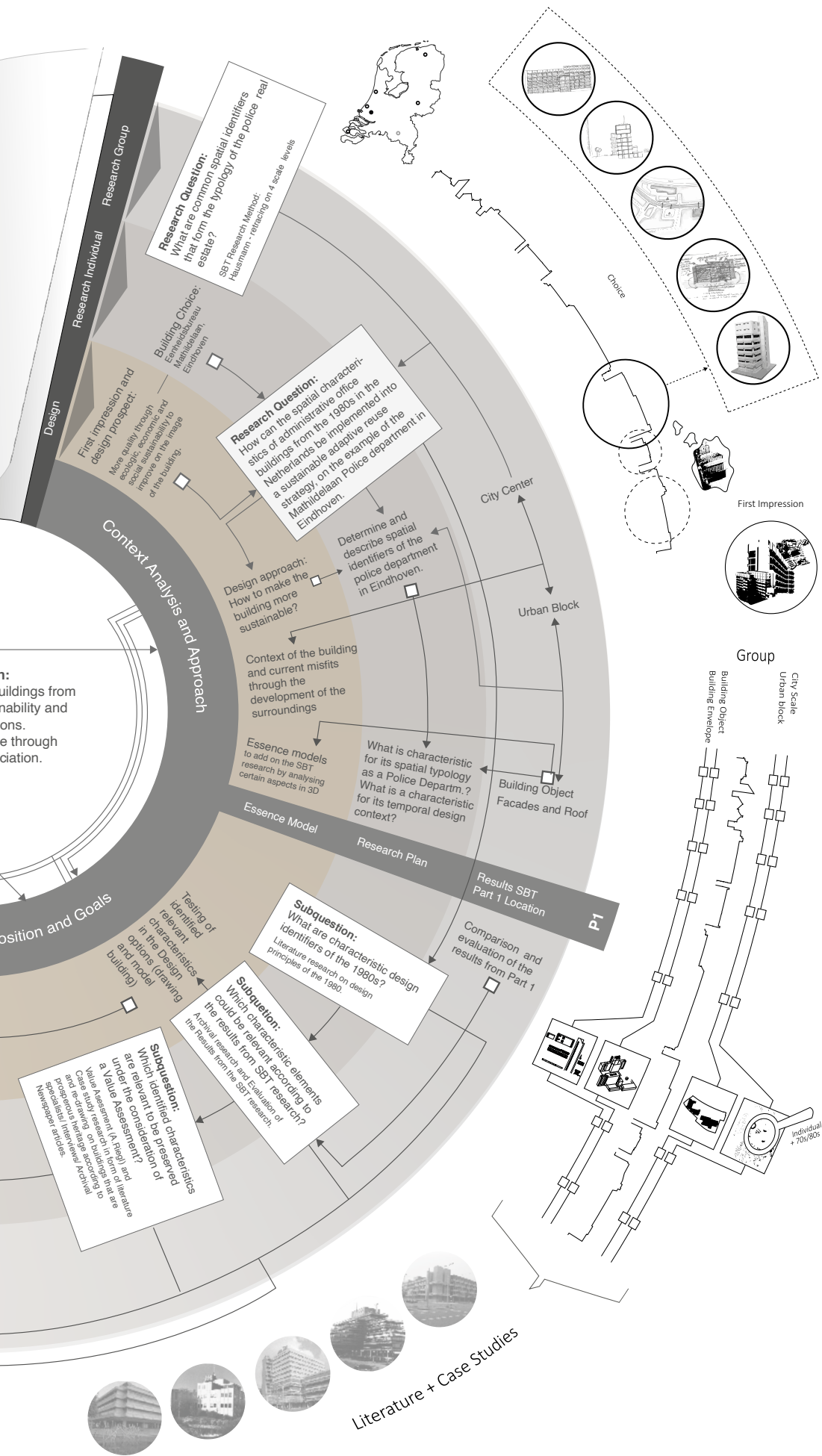
The first aim of this study is to gain initial insights into the typological characteristics of buildings from the late 1970s and 1980s by analysing them. Subsequently, the related possibilities of use within the framework of adaptive reuse are to be investigated and finally the findings will be applied to the example of the Mathildelaan.

Problems I will have to deal with are, that on the one hand, the topic I chose still offers quite an open field of research possibilities but, on the other hand, a lack of information. Although many buildings still exist and are in use, little information on them has been collected. Copyrights can also lead to problems, as can the accessibility of plans, which are often not yet available in archives. Finally, the buildings have not yet been largely evaluated in detail from a monumental heritage perspective, which is why not many qualitative assessment can be derived from professional sources.

The strategy is therefore to quantitatively examine buildings for common characteristics and also to investigate their possible re-use options with regard to or even because of these characteristics. This should provide a basis for further research, which will inevitably become more relevant as the respective buildings age even further. However, it is already important to enable a more conscious approach to the building structure from these decades with regard to monument protection and sustainability, today.

⁴ “De insteek van deze verkenning was drieledig: kennisontwikkeling en kennisdeling, de omgang met dit erfgoed in relatie met de actuele ruimtelijke opgaven en draagvlakverbreding.”





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10. Images

Front Page: Collage First Impressions. From own imgs.

Figure 01: Bonn Stadthaus: Qualle, CC BY-SA 3.0 <<http://creativecommons.org/licenses/by-sa/3.0/>>, via Wikimedia Commons

Figure 02: Stock of office space [in the Netherlands] by construction period (31 December 2020)
Source: Bak, 2021 p.22.

Figure03: : Entanglements of SBT, Individual Research and Design.
Source: own image.

Figure 04: AMC. <https://www.amsterdam.info/museums/museum-vrolik/>.

Figure 05: AMC Aerial view. <https://www.ern-eye.eu/dk/RB100957.P134/leiden-university-medical-centeracademic-medical-center-amsterdam>.

Figure 06: ROZ. <https://www.facebook.com/HoudeROZindeLucht/>

Figure 07: ROZ Aerial view. <https://www.google.nl/maps/place/Banka+Studios/>

Figure 08: Schubertsingel:
<https://www.bastionoranje.nl/index.php?pagina=nieuws&categorie=134&artikel=12052>.

Figure 09: Scubertsingel Aerial view: <https://www.google.nl/maps/place/Schubertsingel,+s-Hertogenbosch/>.

Figure 10: Ministry of Finance. <http://proxy.handle.net/10648/ac74e03c-d0b4-102d-bcf8-003048976d84>.

Figure 11: Ministry of Finance aerial view. <https://www.google.nl/maps/place/Ministerium+der+Finanzen>.

Figure 12: Haskoning. <https://rvbangarang.org/2021/02/04/estel-gebouw-nijmegen/>

Figure 13:Haskoning Aerial view. <https://www.google.nl/maps/place/hting+Pensioenfonds+HaskoningDHV/>

Figure 14: Overview: Entanglement of Research
Source: Own image.

Figure 15: Heritage and Architecture Value Assessment Matrix
Source: Kuipers et al., 2017 p. 87.

Figure 16: Research Diagram. Own work.

11. Annex: Overview: Collection of relevant Literature and Research Sources

11.1 Information on the building in Eindhoven

On the Architects

Galema, W., Hutjes, G., Segaar-Höweler, D. C., Pey, E. B. F., & Boersma, T. (2000). E. H. Kraaijvanger (1899-1978), H. M. Kraaijvanger (1903-1981): Tussen traditionalisme en modernisme- op zoek naar schoonheid voor een moderne wereld. Stichting BONAS.

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Archival Source on the modification of the building in 1987, received from Regionaal Historisch Centrum Eindhoven.

Databank Topotijdrijs

Databank Qgis

Set of Plans received from Politie Bouwmeester

11.2 Information on (Dutch) late 70s and 80s architecture

Primary Sources

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Databanks with Collections of relevant buildings

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„Love80sarchitecture“ - <https://www.love80sarchitecture.nl/>

„post65.nl“ - www.post65.nl

Databanks of regional monuments:

e.g. Amsterdam: <https://www.amsterdam.nl/kunst-cultuur/monumenten/projecten/jonge-monumenten/>

e.g. Rotterdam: <http://rotterdam70.nl/>

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