(Bio)diversifying Identity

Urban biodiversification as a means to strengthen the identity of post-war housing neighbourhoods

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MSc 3 Architectural Engineering
Research Plan - October 2023

Fig. 1: *Photograph of post-war building, Boerhaavewijk, Haarlem. (By author)*

Personal Information

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Studio Information

Studio: MSc3/4 - Architectural Engineering
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Choice of studio:
The Architectural Engineering studio offers the chance to openly explore my personal fascinations within the context of two incredibly relevant domains, namely, technology and sustainability (with its numerous definitions). The guidance of the studio's specialized tutors help to deepen my understanding of construction innovations or approaches that might otherwise remain obsure to me. This knowledge promotes a design approach that prioritizes environmental considerations. Given the pressing global climate challenges, addressing these concerns stands as the foremost goal of architecture. The need for a new approach to building may, however, carry unforeseen potential, which I hope to discover in this graduation studio.

Project Information

Title: (Bio)diversifying Identity
Location: Boerhaavewijk, Haarlem, Netherlands
Keywords: urban biodiversity, biodiversification, post-war, transformation, adaptive reuse, identity

Problem Statement

A need for new architectural languages

Fig. 2: *Aerial photo of the area around White House, before and after the bombing of Rotterdam*

The Second World War left many cities in Europe heavily destroyed, marking the start of an unavoidable era of large-scale reconstruction across the continent and beyond. Between the urgent need for large amounts of housing, material scarcity, damaged infrastructure and financial limitations, this was a task of immense complexity. Despite the many challenges it brought, this historical context offered somewhat of a blank slate — a chance to experiment with new architectural and urban forms, which reflected the growing presence of technology, as well as the emergence of modernism as the new, dominant architectural language.

During the Post-War period of 1946-1980, about half of the current housing stock of most European countries was built (Archive: People in the EU - Statistics on Housing Conditions - Statistics Explained, 2020), mainly through the construction of modernist multi-storey apartment buildings (Cutieru, 2023). Although every region developed their own version of them, these housing blocks all shared common aspects: they were erected quickly, they were of quite poor quality, with dull, ornamentation and repetitive designs, and surrounded by large amounts of idle green space (generally grass). Their focus was primarily on

functionality — and while this is an essential aspect, it overshadowed the need for a more profound connection between people and the places they inhabit.

Today, the built environment sector faces problems of comparable significance to those after WW2: populations of cities are growing exponentially and the lack of affordable housing is being felt worldwide (European Commission - Joint Research Centre, 2019). Even more importantly, in the face of climate change, we must, again, rethink how we approach architecture and the urban landscape from the ground up — dealing with both existing and new infrastructure.

While technological advancements are key in addressing these challenges, they also sustain an (almost) exclusively performance-driven approach to design. As a result, many of the new buildings emerging in cities across Europe bear a striking resemblance to one another, lacking distinctiveness and site-specific architectural features (Cultural Identity: Koolhaas Frames the Venice Proposition, n.d.). Furthermore, sadly, their architectural language does not resonate with many people, who prefer buildings with a historical identity over modern-day constructions (The Aesthetic City, 2023). This uniformity, reminiscent of the post-war housing blocks of the past, disconnects

people from their surroundings and dilutes the richness of local contexts.

Yet, the challenge extends beyond new constructions.

Existing post-war housing blocks risk demolition due to their perceived ugliness and inefficiency. However, despite their flaws, they still house countless residents and are surrounded by vast territories of purposeless "greenery" with untapped potential. A systematic approach to their renovation which not only focuses on reducing their energy consumption but also actively contributes to the regeneration of the local environment could have a large-scale positive impact. Furthermore, building practices that help reviving the environement, whether in renovation or new buildings, are fundamentally site-specific. Thus, such practices can breathe new life into these generic and outdated housing blocks, infusing them with a local dimension. As such, the renovation of post-war housing could revive communities and foster a deeper connection between people and the places they call home.

Problem Statement

A need for new architectural languages

Fig. 3.1 – 3.9: *Collection of post-war apartment blocks from various locations in Europe. Although every region developed their own version of them, these housing blocks all shared common aspects: they were erected quickly, they were of quite poor quality, with dull, unornamented and repetitive designs, and surrounded by large amounts of idle green space (generally grass).*

Back in the post-war era, there already was the intention to create more user-centered, social design with identity. Some architects have followed that path. However, the dominant trends have failed to do so.

"The aim of CIAM is to work for the creation of a physical environment that will satisfy man's emotional and material needs, and stimulate man's spiritual growth."

– 7th Forum, p. 205, 1959

Fig. 4.1 – 4.6: *Collection of modern apartment blocks (renders) across Europe, bearing a striking ressemblance to one another.*

Project Objective

Thematic Research and Design Questions

The responsibility that the construction sector bears regarding climate change cannot be understated. Hence, it seems logical that this sector should alter its ways not only to minimize its damage in the future but also to actively contribute to the restoration of the natural world. Furthermore, the urgency to adapt our building methods does not only concern new constructions but also the existing, underperforming building stock.

The foundational objective of this research is precisely that: adapting existing buildings to modern-day standards and searching for opportunities to actively revive the natural environment in the process.

In this context, post-war housing offers great potential for exploration. First, it represents a significant proportion of the European housing stock, and it almost universally requires renovation to meet modern performance norms. Secondly, most of these buildings across Europe were influenced by similar developments in technology and architecture (modernism), most of them featuring minimal ornamentation, efficiency, repetition, openness, and green space. Because of these shared characteristics, an approach to the renovation of post-war apartment blocks should be relatively easy to replicate. Ultimately, given their widespread

presence, their methodological transformation into environmentally beneficial objects could have a significant global impact on the environment.

As far as renovation goes, it would be a shame to limit the narrative to a climatic need. If transformation is to happen, it may be well worth exploring how necessary performance adaptations can be leveraged for better building typologies on a social level as well. Post-war neighbourhoods are commonly perceived as ugly, homogenous (lacking local character), individualistic, and uninspiring (Douma, 2011). They are often surrounded by vast territories of plain grass, parking spaces and other paved areas with no clear definition. In most instances, these neighbourhoods could benefit from a transformation that prioritizes the social dynamics within them and aims to enhance their overall quality. Hence, the thematic question behind this thesis is **how environment-oriented innovations in the construction sector can become a tool to revitalize post-war buildings and neighbourhoods, providing them with a stronger identity and fostering community formation in them.**

"Environment-oriented innovations" encompass a multitude of approaches, each deserving dedicated research and presenting unique possibilities to

reinforce the character of the locations they are implemented in. This thesis responds to the unused grass landscapes commonly surrounding post-war housing, which provide an opportunity to establish more biodiverse surroundings. As such, the thesis will specifically focus on the potential of biodiversification strategies to enhance the identity of a post-war building and its immediate surroundings.

The term "identity", already alluded to a few times, inherently evokes diverse interpretations: does it pertain to the building's iconic status, its expression of cultural or stylistic attributes, its responsiveness to local characteristics, or its recognizability? The consensus in architectural literature on the meaning of this term remains unclear. Part of the objective of this thesis is to take stock of some available definitions and propose one that can be practically used in socially oriented architectural design. As a result, this definition will hopefully support a methodology to improve the quality of life in these post-war buildings and neighbourhoods. The Theoretical Framework section of this paper elaborates further on the concept of "identity".
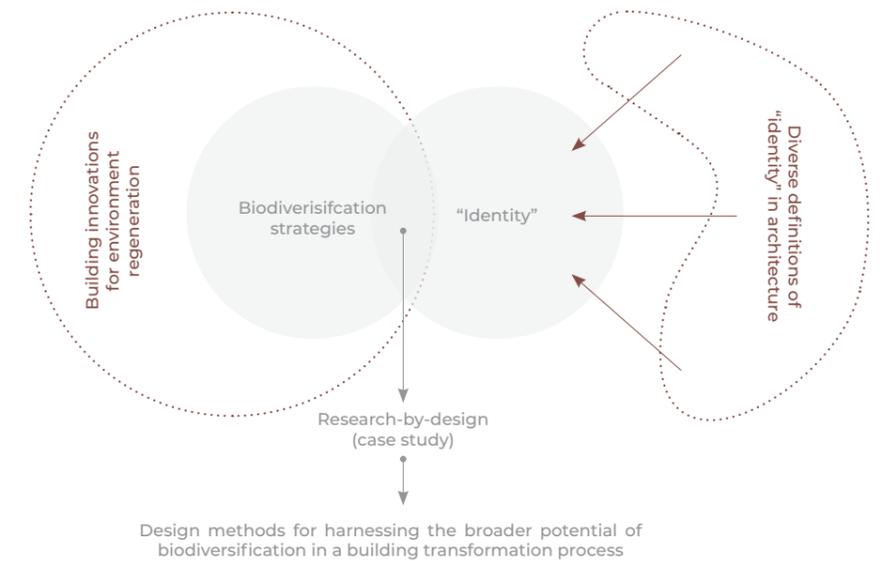

Fig. 5: Scheme illustrating the design research question and the format of its expected outcomes.
Proposing a practical defintion of "identity" constitutes a goal of the study in an off itself. (By author)

Project Objective

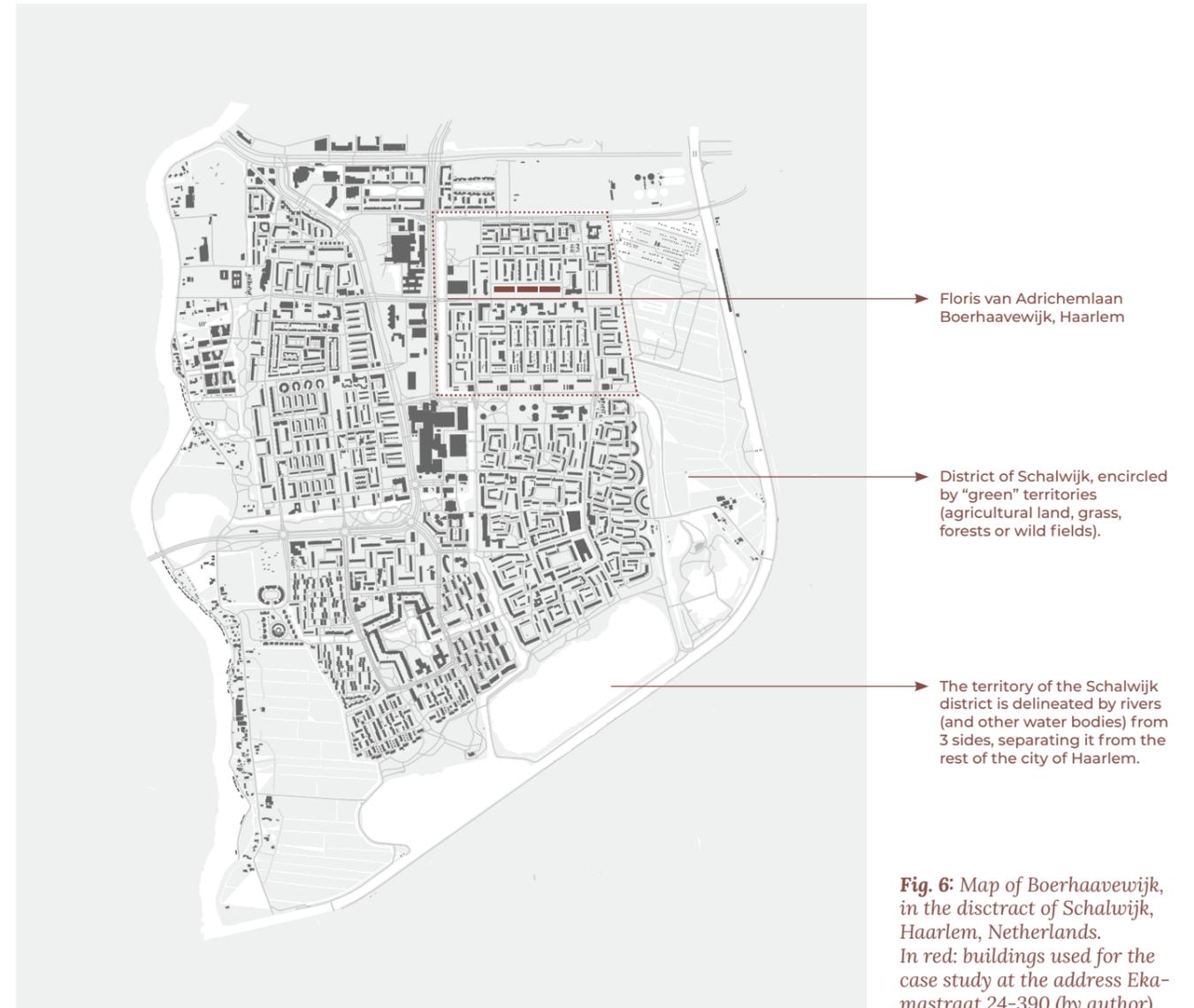*Themes and Research Questions*

What existing definitions share, though, is the literary definition of "identity" — something which determines what an object is or represents. Hence, any consideration of "identity" is inherently tied to a physical object, which is why this research is conducted through a case study. Specifically, the study will propose biodiversification strategies suitable for the post-war Boerhaaverwijk neighbourhood in Haarlem, Netherlands. This context is chosen due to its typically post-war characteristics (such as large unused grass areas), and due to the municipality's vision, which puts an emphasis on the connection with nature and the social revitalization of the neighbourhood. The focus of this research will be on three identical apartment buildings constructed in 1969 (Ekamastraat 24 to 390), which represent a common building model of that era. The use of a case study is instrumental in demonstrating the applicability of the method and will lead to the development of specific design guidelines for the transformation of the site, answering the design question: **how can biodiversification strategies be leveraged to enhance the identity of a typical Dutch post-war apartment block and its immediate suroundings in its transformation process?**

Ultimately, by addressing this question, the aim is to demonstrate that the necessity for environmentally conscious construction methods can pave the way for buildings and urban spaces that do a better job not only in terms of performance and functionality but also in nurturing culture and social well-being. Therefore, the hope is to propose a method for recognizing the broader potential of one of these so-called "environmentally conscious approaches" — namely, biodiversification — and using it in the transformation of a building.

At the very least, the project seeks to present the capacity of biodiversification to enhance the well-being of individuals in the sample project. The resulting design guidelines are then to help the creation of a new construction layer that both has an identity that benefits users and reflects a culture of environmental awareness.

How can biodiversification strategies be leveraged to enhance the identity of a typical Dutch post-war apartment block and its immediate surroundings in its transformation process?

Floris van Adrichemlaan Boerhaavewijk, Haarlem

District of Schalwijk, encircled by "green" territories (agricultural land, grass, forests or wild fields).

The territory of the Schalwijk district is delineated by rivers (and other water bodies) from 3 sides, separating it from the rest of the city of Haarlem.

Fig. 6: Map of Boerhaavewijk, in the disctract of Schalwijk, Haarlem, Netherlands.
In red: buildings used for the case study at the address Eka-mastraat 24-390 (by author)

Fig. 7: *Pictures of the central street of Boerhaavewijk: Floris van Adrichemlaan. Images 21-24 were taken friom the Ekamastraat. (Photographed by author)*

Methodological framework

How can biodiversification strategies be leveraged to enhance the identity of a typical Dutch post-war apartment block and its immediate surroundings in its transformation process?
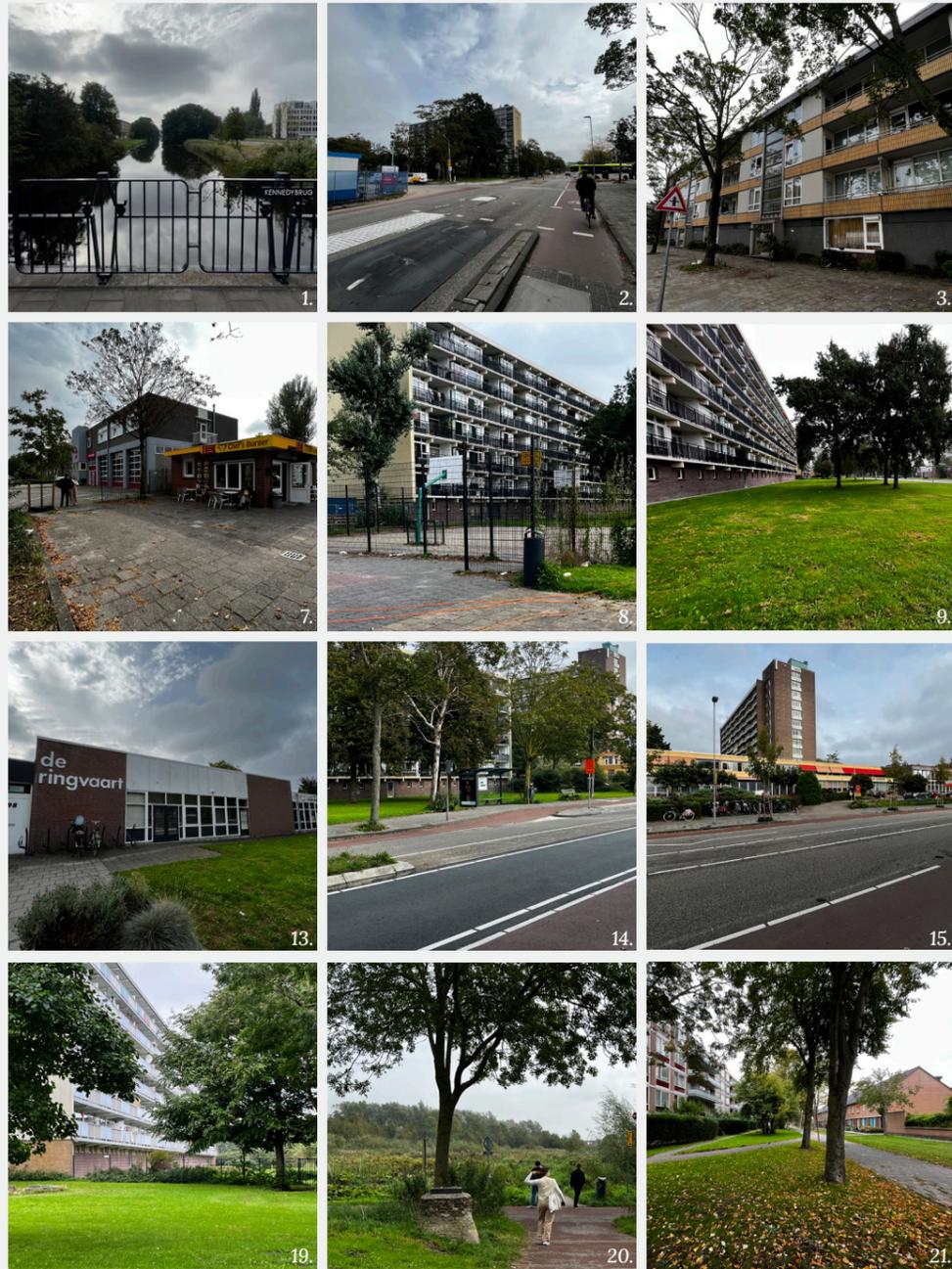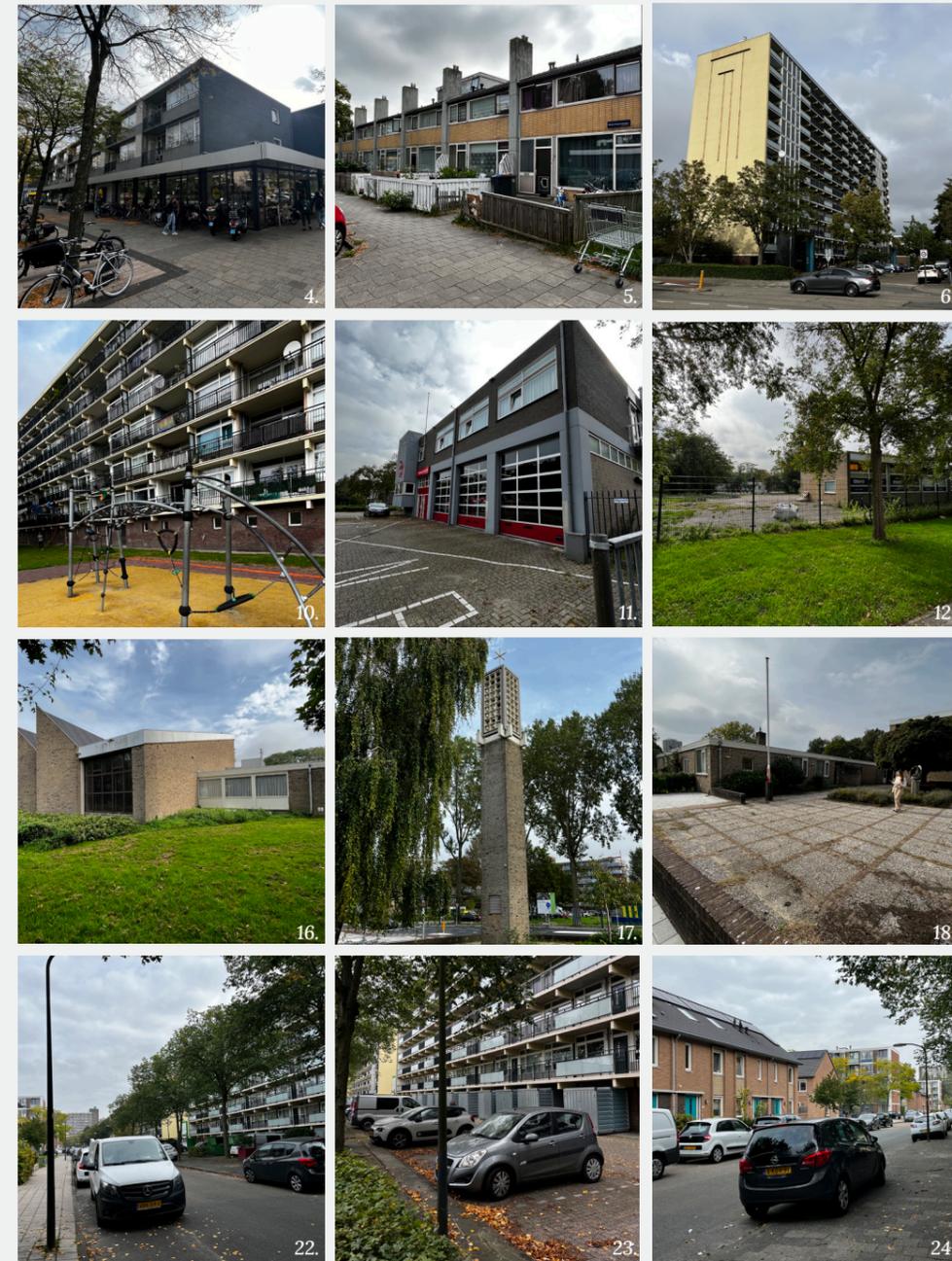
The structure of this research is twofold: on one hand, it will put forward a definition of "identity" which is to act as a guide to more socially considerate design processes. On the other hand, it will review available biodiversification strategies and suggest some that, based on their architectural features appear as applicable to post-war apartment blocks on different scales and levels.

While the definition of identity plays a crucial role in this study, it's important to note that the design conclusions will primarily stem from biodiversification strategies, rather than the other way around. This means that our approach involves identifying opportunities to enhance identity within a set of relevant biodiversification strategies, rather than seeking ways to strengthen identity first and then adding biodiversity as an afterthought. This top-down approach is grounded in the belief that design primarily oriented around identity loses its significance in an environmentally compromised setting. While this thesis indeed encourages exploring the social benefits of adaptive reuse projects (such as enhancing identity), it's essential to underscore that, given the current

global context, our primary objective is to prioritize the well-being of our planet above all else.

Both the "Defining identity" and "Listing appropriate biodiversification strategies" steps will involve collecting information from diverse sources, the overview of which is provided in figure 9.

The results of these two steps will be concretized in a sample project (Ekamastraat 24 – 390, Boerhaavewijk, Haarlem), for which biodiversification strategies will be tailored. To ensure the study's comprehensiveness and organization, the list of appropriate biodiversification strategies will be developed and categorized by levels and their corresponding scales. Firstly, we will explore how biodiversity can be integrated at the plot and street section levels. Then, we will examine the plinth level, followed by the façade, interior, and finally, the roof level. We will then assess how each of these proposed strategies can be harnessed to strengthen identity, based on the initially proposed definition, at each of these levels.

Considering the broadness of the themes tackled,
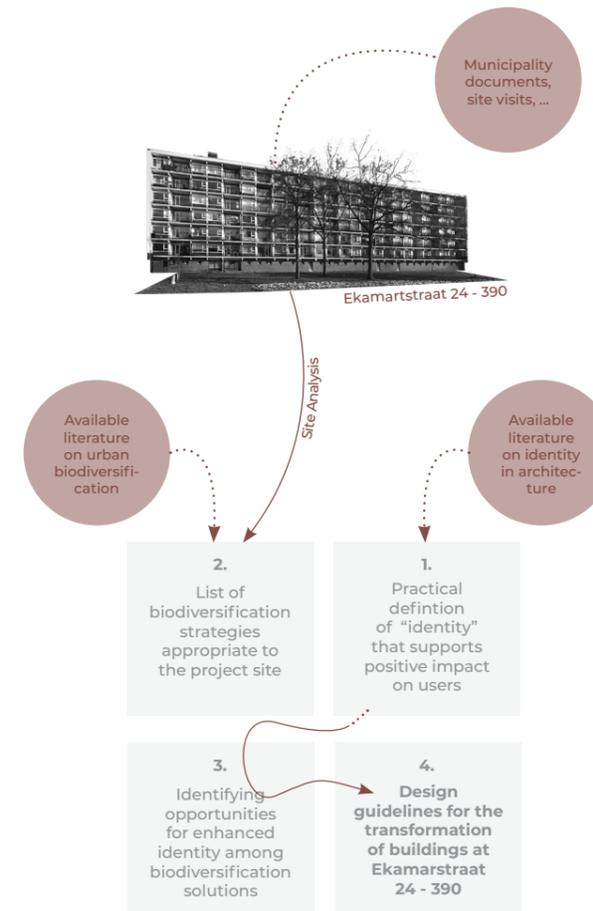
Fig. 8: Scheme of the research process, information sources and the organisation of expected results. (By author)

and the time constraints surrounding this study, not all available data on the subjects of "identity" and "biodiversification" will be accounted for. Instead, the aim is to gather sufficient information to establish a well-grounded design framework, which will then be tested in the sample project. Although the design outcomes will be based on the Boerhaavewijk site, it is believed that the design steps taken could inform the redesign of other post-war buildings, given their shared design characteristics across many European countries.

When evaluating this study, it is important to account for these limitations in the framework's development and ensure the applicability of the proposed methods to each new transformation project. Furthermore, it is important to bare in mind that alternative methods exist to enhance the neighbourhood and its buildings on a social level, such as through education or culture. Strengthening identity may not in all cases be the most suitable path to follow when redesigning a post-war apartment building.

Technological fascinations

Urban green & farming

Adaptive reuse

Environment regeneration

Use of local materials

Environmental benefits of rural living

Seasonal adaptations

Urban biodiversity

Identity

Global housing crisis in cities

2010

1965

Loss of identity, monotony

Lack of attachment and appreciation of modern architecture

Communal and inidivual expression through architecture

Social fascinations

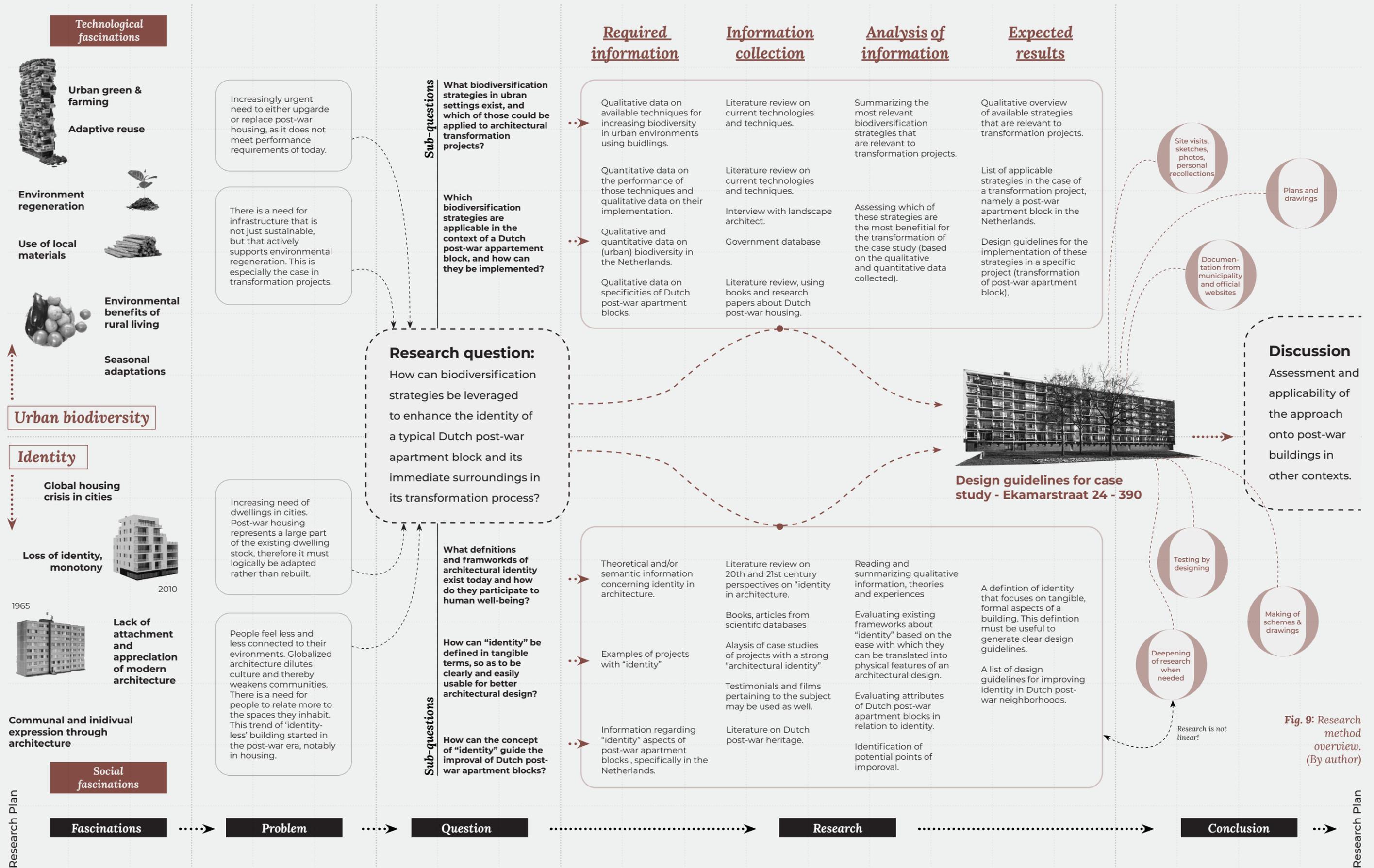Increasingly urgent need to either upgarde or replace post-war housing, as it does not meet performance requirements of today.

There is a need for infrastructure that is not just sustainable, but that actively supports environmental regeneration. This is especially the case in transformation projects.

Increasing need of dwellings in cities. Post-war housing represents a large part of the existing dwelling stock, therefore it must logically be adapted rather than rebuilt.

People feel less and less connected to their evironments. Globalized architecture dilutes culture and thereby weakens communities. There is a need for people to relate more to the spaces they inhabit. This trend of 'identity-less' building started in the post-war era, notably in housing.

Sub-questions

What biodiversification strategies in ubran settings exist, and which of those could be applied to architectural transformation projects?

Which biodiversification strategies are applicable in the context of a Dutch post-war appartement block, and how can they be implemented?

Research question:

How can biodiversification strategies be leveraged to enhance the identity of a typical Dutch post-war apartment block and its immediate surroundings in its transformation process?

Sub-questions

What defnitions and framworkds of architectural identity exist today and how do they participate to human well-being?

How can "identity" be defined in tangible terms, so as to be clearly and easily usable for better architectural design?

How can the concept of "identity" guide the improval of Dutch post-war apartment blocks?

Required information

Qualitative data on available techniques for increasing biodiversity in urban environments using buidlings.

Quantitative data on the performance of those techniques and qualitative data on their implementation.

Qualitative and quantitative data on (urban) biodiversity in the Netherlands.

Qualitative data on specificities of Dutch post-war apartment blocks.

Theoretical and/or semantic information concerning identity in architecture.

Examples of projects with "identity"

Information regarding "identity" aspects of post-war apartment blocks , specifically in the Netherlands.

Information collection

Literature review on current technologies and techniques.

Literature review on current technologies and techniques.

Interview with landscape architect.

Government database

Literature review, using books and research papers about Dutch post-war housing.

Literature review on 20th and 21st century perspectives on "identity in architecture.

Books, articles from scientifc databases

Alaysis of case studies of projects with a strong "architectural identity"

Testimonials and films pertaining to the subject may be used as well.

Literature on Dutch post-war heritage.

Analysis of information

Summarizing the most relevant biodiversification strategies that are relevant to transformation projects.

Assessing which of these strategies are the most benefitial for the transformation of the case study (based on the qualitative and quantitative data collected).

Reading and summarizing qualitative information, theories and experiences

Evaluating existing frameworks about "identity" based on the ease with which they can be translated into physical features of an architectural design.

Evaluating attributes of Dutch post-war apartment blocks in relation to identity.

Identification of potential points of imporoval.

Expected results

Qualitative overview of available strategies that are relevant to transformation projects.

List of applicable strategies in the case of a transformation project, namely a post-war apartment block in the Netherlands.

Design guidelines for the implementation of these strategies in a specific project (transformation of post-war apartment block),

A defintion of identity that focuses on tangible, formal aspects of a building. This defintion must be useful to generate clear design guidelines.

A list of design guidelines for improving identity in Dutch post-war neighborhoods.

Site visits, sketches, photos, personal recollections

Plans and drawings

Documen-tation from municipality and official websites

Design guidelines for case study - Ekamarstraat 24 - 390

Testing by designing

Deepening of research when needed

Making of schemes & drawings

Research is not linear!

Discussion

Assessment and applicability of the approach onto post-war buildings in other contexts.

Fig. 9: Research method overview. (By author)

Research Plan

| Fascinations | Problem | Question | Research | Conclusion |

Research Plan

Theoretical Framework

Definitions of "identity" in architecture

In its isolated form, "identity" refers to the distinguishing characteristics of an object, making it unique. The dictionary definition also suggests an aspect of wholeness — as such, identity encompasses the collection of features which make something different from others, but also unify its elements within (Miriam Webster Dictionary). Therefore, identity relates to both what the object conveys (which determines its wholeness) and how its otherness is perceived (Ylmaz, 2006).

This fundamental definition is the common thread among most approaches developed around the concept of identity in architecture. Whilst this explanation is relatively easy to understand, in practice, it demonstrates its limitations in encompassing various aspects it is often associated with, such as meaning, culture, expression or physical form. The more it is analysed, the more the concept becomes intricate and multifaceted (Brahman & Torabi, 2013, p.107).

A generally agreed-upon assumption is that "every community's architecture contributes to establishing its identity because it conveys the message, idea, and distinctive characteristics associated with the community in which it originated" (Alavi & Tanaka,

2023, p.551). In other words, the "identity" of architecture is both affected and affects local culture, people and lifestyles (Ylmaz, 2006; Lynch, 1960). The "distinctive characteristics" of a space and its architecture exist as an intangible glue for communities because they relate to something that differentiates them from other communities. Hence, if identity is tied to the quality of being distinguishable, then architecture with a strong identity carries the potential to support the formation and preservation of communities.

Beyond its clear social significance, the concept of identity in the architectural domain has been the subject of multiple interpretations, some more pragmatic and concrete, others concerned with more intangible, psycho-social aspects (Abel, 2012; Alzahrani, 2022). Recent research regularly presents it as an all-encompassing term that gathers both tangible and intangible aspects of a place. For example, Ylmaz defines architectural identity as the set of "geographical formations [as well as] cultural and social characteristics of man-made formations" (2006, p. 142). "Identity" is gerenally linked to temporality, whether it pertains to historical heritage or the representation of contemporary attributes. Ultimately, as several publications suggest, architectural identity is present

when a building expresses the characteristics of its context. Thus, identity is created if these contextual attributes are actively integrated into the conceptual, spatial, and material development of a building. (Ylmaz, 2006; Alzahrani, 2022; Brahman & Torabi, 2013;

Alavi & Tanaka, 2023). Fig. 10 displays the collection of various "charactereistics of identity in architecture", collected from the works of Brahman & Torabi (2013) and Alavi & Tanaka (2023).
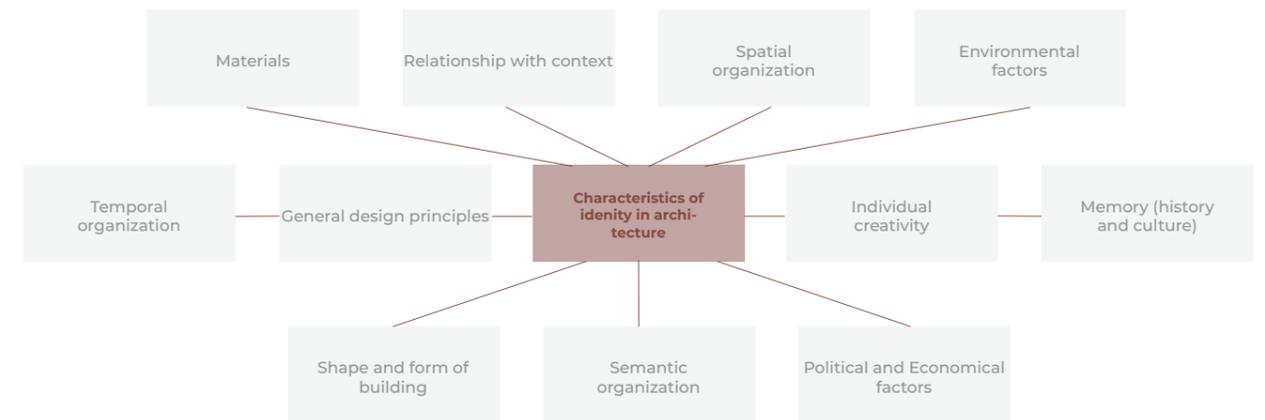

Fig. 10: *Collection of various "charactereistics of identity in architecture", collected from the works of Brahman & Torabi (2013) and Alavi & Tanaka (2023).*

Theoretical Framework

Definitions of "identity" in architecture

The problem with such definitions of identity in architecture is that they deal with notions that are arduous to understand and control, let alone translate into the physical space. As Ylmaz indicates, identity is about "how you are seen and how your otherness can be observed" — a statement which underscores the connection of identity to perception (2006, p.141). The subjective nature of perception complicates the comprehension of identity, which can, if the notion is misused, eventually lead to spaces that are detrimental to communities. Hence, frameworks like these are useful to describe ideas and perceptions that concern the built environment, but often fail at informing a design process or physical structure (Hauge, 2007).

In his book The Image of the City (1960), Kevin Lynch introduces a distinction between "identity" and "meaning", which helps to work with the former concept in more tangible ways. In Lynch's work, "identity" has to do with spatial organization — specifically, "its distinction from other things, its recognition as a separable entity [in the sense of oneness]" (p.8). The spatial clarity it provides helps users orient themselves and understand the space they evolve in, thereby strengthening their engagement and attachment to it. "Meaning", on the other hand, pertains to the significance or value that is attributed to an object. As

such, "meaning" encompasses all the psycho-social aspects of a place, such as memory, history, culture and more. Figure 11 illustrates in a simplified manner these two concepts in relation to a door. Together with the notion of "structure" (the spatial relation of a user to an object), meaning and identity from the total image of the object.
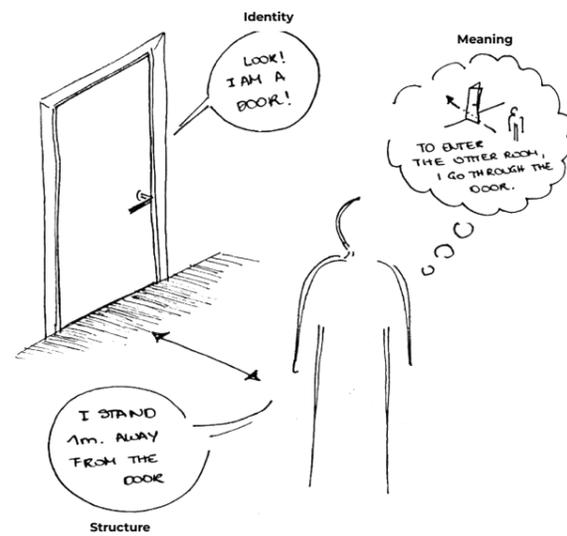
Fig. 11: According to Keven Lynch (1960), the image of an object is composed of its identity, meaning and the structure that relates it to its environment. (By author)

It is undeniable that identity and meaning are intricately linked. However, because of the inconsistency of meaning, it is easier to shape designs focusing on identity, and then letting meaning develop by itself. At least at the start of the design process, emphasis can be placed on the physical characteristics of space, as these are the foundational elements upon which meaning takes shape (Lynch, 1960, p.8). While this approach does not disregard the significance of psycho-social aspects of identity, it allows for a more tangible exploration of it. Lynch's framework predominantly addresses scales beyond individual buildings, focusing on cities or neighbourhoods, however, it can inspire an alternative approach to architecture on a smaller scale as well, one that considers the cognitive impacts of a well-organized sequence of spaces that support their intended use.

This perspective somewhat aligns with the ideas of structuralism star Herman Hertzberger: building aesthetics may not profoundly influence individuals; instead, the functional quality of spaces that meet people's needs, including functionality, fostering natural human connections, physical safety, and clear spatial organization, plays a more pivotal role (Herman Hertzberger: "the Origin of Architecture Is in the Public" | the Strength of Architecture | From

1998, n.d.). Spaces have the potential to either nurture or challenge personal and communal identity; thus, it is wise to view identity as part of more a more socially-considerate design process. In this research, the ideas of Lynch and Hertzberger will serve as a base for the development of a usable framework to think, design and evaluate the presence of physical identity in a design. Figure 12 illustrates the points that this new framework aims to integrate.
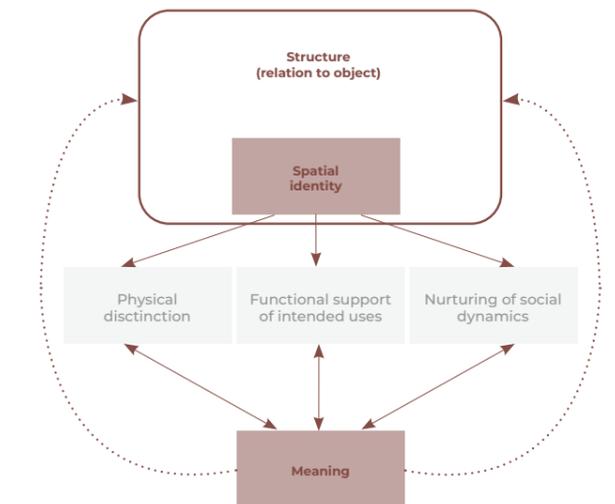

Fig. 12: Framework of spatial identity, inspired by Lynch (1960), Hertzberger (1998). (By author)

Theoretical Framework

Biodiversification strategies in transformation projects

Over the last decades, the field of architecture has seen many new building and designing strategies appear, reflecting the need to adapt to technological advancements, evolving tastes and a fast-growing population. However, in more recent years, the focus has gradually shifted towards environmental considerations: as the built environment sector is one of the most significant culprits of climate change (, it is understandable that the sector bears a particularly urgent responsibility to do something about it.

A less frequently acknowledged consequence of the built environment sector is its impact on biodiversity. Both the crises of biodiversity loss and climate change are closely interconnected, and addressing one is inseparable from addressing the other. However, contemporary projects tend to prioritize the latter, specifically focusing on carbon emissions and material issues (Gunnell et al., 2019). This approach results in the creation of highly efficient, hermetically sealed structures. While these structures offer certain advantages, they also make it exceedingly challenging for wildlife and plant life to inhabit or coexist with them (Gunnell et al., 2019).

The building industry often places great emphasis on "sustainability," a widely used term describing

buildings designed to minimize harm to the environment. However, this singular focus can sometimes overshadow alternative approaches that could more profoundly benefit the environment. Nonetheless, it's crucial to recognize that the construction methods employed by our contemporary society are responsible for 30% of global biodiversity loss (World Economic Forum, 2020; Ning Li, 2021). Hence, the construction sector must urgently adopt measures to actively contribute to the regeneration of biodiversity. As stated by Mario Lambertini, the Director General of WWF International, "Achieving net-zero loss for nature is certainly not enough; we need a nature- or net-positive goal to restore nature and not simply halt its loss." Biodiversity, of which nearly 70% has been lost in the last 50 years, is indispensable to both natural ecosystems and human structures: its continued decline poses an existential threat to humanity, leading, among others, to issues such as food scarcity and the spread of disease-carrying invasive species (WWF, 2022). Thus, the need for new buildings and existing building adaptations presents an opportunity not just to maintain an environmentally neutral stance but to actively engage in its restoration. The term "biodiversity" is more complex than it may initially seem. Biodiversity is typically categorized into three main groups: genetic, species, and ecosystem

biodiversity. To narrow the research scope, this study exclusively focuses on species biodiversity, specifically terrestrial fauna and flora. Due to time constraints, a comprehensive examination of all three categories is not feasible. Additionally, marine life will not be considered, as it holds less relevance within the context of an architectural study, despite its overall importance.

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identified five drivers of biodiversity loss: habitat degradation, exploitation, invasive species, pollution, and climate change. Within the architectural lens of this study, our research primarily addresses habitat degradation, which is alos considered the most consequential driver. Although habitat destruction is primarily linked to food production, densely populated areas like cities often provide limited space for fauna and flora to thrive. Thus, in this study, "biodiversification strategies" refer to **design approaches that focus on optimizing the physical aspects of a building to create habitats for various forms of insects, terrestrial wildlife, and plant life.**

In this thesis, various such biodiversification strategies are researched for different levels of a characteristic

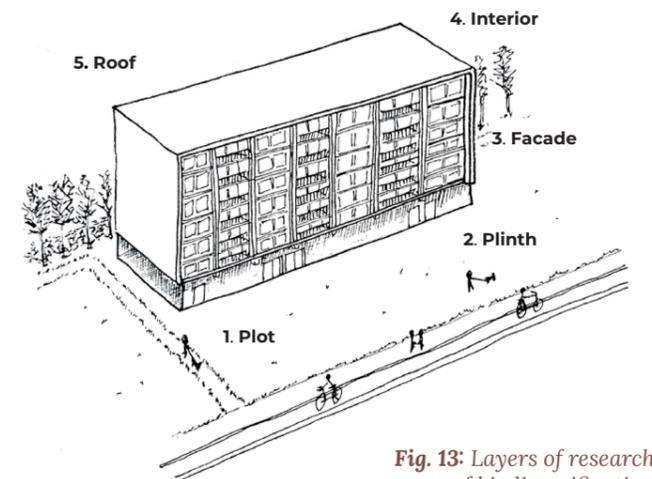post-war apartment block, which are structured as follows:

Fig. 13: Layers of research of biodiversification strategies. (By author)

Each of these offers distinct physical characteristics that may be best suited for different strategies. For instance, within post-war neighbourhoods, large plots of unused grass are quite common, presenting an opportunity to optimize them for a greater variety and density of fauna on the level of the plot. Similarly, the typically flat roofs of these buildings can be tailored to support not only fauna but also bird populations. Meanwhile, other strategies may prove more effective for the façade level, such as nesting opportunities for bats, for instance.

Planning

Design research phase

Autumn semester																					
Calendar Week 36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5
Academic Week 1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4	2.5	2.6	Christmas Break	2.7	2.8	2.9	2.10

Personal deadlines

DEVELOPPING RESEARCH PLAN — PRESENTATION **P1**

1. INVESTIGATING & DEFINING "IDENTITY"

2. INVESTIGATING BIODIVERSIFICATION STRATEGIES

3. TESTING BIODIVERSIFICATION STRATEGIES ON CASE STUDY

4. DEDUCING DESIGN STRATEGIES FOR ENHANCING IDENTITY — CONCLUSIONS

Deadline P2 application! — **P2** — **P2**

PRESENTATION

Month	September				October				November				December				January				February
Monday	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29
Tuesday	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Wednesday	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	31
Thursday	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1
Friday	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2
Saturday	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3
Sunday	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	4

1. Investigating & defining "identity"

1.1. Literature review: available defintions and frameworks of identity in architecture.

1.2. Proposition of a definition and framework for identity in architecture with a tangible, formal focus.

1.3. Best practice examples of projects with identity, as defined in point 1.2.

1.4. Specific design considerations that could enhance identity (as defined in point 1.2.) in the context of a Dutch post-war neighborhood.

2. Investigating biodiversification strategies

2.1. Investigating general approaches for increasing urban biodiversity.

2.2. Investigating specific methods that can be applied in architectural transformation projects.

2.3. Best case practices of ubran biodiversification.

2.4. Deducing methods that are appropriate in the context of a Dutch residential block.

2.5. Listing relevant site-specific information to gather for the sucessful implementation of these methods.

3. Testing biodiversifcation strategies on case study

3.1. Site analysis: collection of information according to the points listed in section 1.4. and 2.5.

3.2. Schematizing the most appropriate biodiversification methods and their application on the case study site at Ekamastraat 24-390.

4. Deducing design strategies for enhancing identity

4.1. In accordance with previous results, conclude design considerations that combine identity and biodiversification for the transformation of buildings at Ekamastraat 24-390.

4.2. Schematization of these conclusions in plans, sections and other drawings.

5. Conclusions

5.1. Discussion: applicability of the approach onto post-war buildings in other contexts.

5.2. Assessment of relevance and limitations of the study

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Images

Cover image: produced by the author.

Fig. 1: Photograph of post-war building, Boerhaavewijk, Haarlem.

Fig. 2: Reddit. (March 28, 2021). Reddit. https://www.reddit.com/media?url=https%3A%2F%2Fi.redd.it%2Fumnog1tnfpp61.jpg

Fig. 3.1 - 3.9: Collection of post-war apartment blocks from various locations in Europe.
From right to left, top to bottom:

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   3.2: Stadsarchive Rotterdam. (n.d.). The Joost Banckertsplaats with at the left the Olveh apartments and the Nillmij apartments, seen from under the canopy at the Karel Doormanstreet, 1962. Platform Weropbouw Rotterdam. https://wederopbouwrotterdam.nl/uploads/_large/lijnbaanflats-6.jpg

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Fig. 4.1 - 4.6: Collection of modern apartment blocks (renders) across Europe, bearing a striking ressemblance to one another.

   4.1: Beta Office. (2020). Leidsche Rijn, Utrecht. https://beta-office.com/wp-content/uploads/025-leidsche-rijn/beta-leidsche-rijn-e5-render-vaduzdijk-corner-image-filippo-bolognese.jpg

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Fig. 5: Scheme illustrating the design research question and the format of its expected outcomes.

Fig. 6: Map of Boerhaavewijk, in the disctract of Schalwijk, Haarlem, Netherlands.

Fig. 7: Pictures of the central street of Boerhaavewijk: Floris van Adrichemlaan. Images 21-24 were taken friom the Ekamastraat. (Photographed by author)

Fig. 8: Scheme of the research process, information sources and the organisation of expected results.

Fig. 9: Research method overview. (By author)

Fig. 10: Collection of various "charactereistics of identity in architecture", collected from the works of Brahman & Torabi (2013) and Alavi & Tanaka (2023).

Fig. 11: According to Keven Lynch (1960), the image of an object is composed of its identity, meaning and the structure that relates it to its environment. (By author)

Fig. 12: Framework of spatial identity, inspired by Lynch (1960), Hertzberger (1998). (By author)

Fig. 13: Layers of research of biodiversification strategies. (By author)

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