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Proceedings of the 19th International Docomomo Conference



Multiple Moderns: Climate, Community, Creativity

Los Angeles, 2026

Dynamics in the Late-Modern House

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Abstract. Housing from the late twentieth century is on the verge of entering the heritage domain. However, its architecture, which aimed for adaptation and appropriation, along with its everyday active use, challenges traditional heritage assessment approaches. How can we evaluate the significance of these late-modern housing projects as recent heritage while simultaneously appreciating them as lived-in architecture? In a combined research and educational project, we have examined two case studies of late-modern housing: the Diagoonwoningen, designed by Herman Hertzberger and the Koepeltjesbuurt, designed by Benno Stegeman. Built in the 1970s as suburban housing, both are now designated as municipal monuments. Our research methods included collecting archival materials, conducting house visits, and participatory research through a digital tool. All information was synthesized using a narrative drawing method, merging physical attributes of architecture with intangible attributes of use, social interaction, and daily life patterns. Results show that in the Diagoonwoningen, designed as a "blank canvas" to accommodate residents' appropriation, the physical alterations to the architecture are limited. Residents highly value Hertzberger's design and tend to adapt their dwelling practices accordingly. In the housing of Koepeltjesbuurt, where Stegeman designed a wide variety of types and irregular forms to allow for individual expression and appropriation, numerous additions, interior plan changes, and technical adaptations were made to accommodate each household's unique needs. This research indicates that dwelling practices are dynamic in both cases but vary due to their position between heritage and everyday architecture. In the Diagoonwoningen, where the monumental status is more apparent, the intended dynamic ultimately became static, whereas Koepeltjesbuurt continues to adapt actively to current needs. The narrative drawings capture this by presenting different time cycles: Diagoonwoningen integrates the cumulative residential legacy of past generations who inhabited the house, while the Koepeltjesbuurt house reflects the contemporary 24-hour dynamics of a single family.

1. INTRODUCTION

Modern housing from the late twentieth century exists at the intersection of old and new. It stands on the verge of entering the heritage domain, although it is not yet widely recognized for its heritage significance, but rather regarded as an everyday active environment.

In a research project for the Dutch Cultural Heritage Agency, linked to a Master's program at Delft University of Technology, we have examined two case studies of late-modern housing: the Diagoonwoningen in Delft, designed by Herman Hertzberger, and the Koepeltjesbuurt in the new town Zoetermeer, designed by Benno Stegeman. Their designs reacted against the repetitive schemes of the post–WWII reconstruction era, aiming for an architecture that could adapt to appropriation and change. Both cases were built in the 1970s as suburban housing, still serve as everyday living environments, and are now designated as municipal monuments. How can we evaluate the significance of these late-modern housing projects as recent heritage, while simultaneously appreciating them as lived-in architecture?

2. METHODS

The evaluation of late-modern housing cases was conducted in two research phases: collecting stakeholder opinions on valuable attributes, and analyzing these attributes by capturing them in drawings. The methods employed for data collection include studying archival materials and consulting local her-

itage experts. For each case study, Diagoonwoningen and Koepeltjesbuurt, one dwelling was carefully inspected, documenting its current physical condition and observing and inquiring about dwelling patterns and practices of current inhabitants. A broader range of stakeholders' evaluations was collected through a digital tool for participatory research. This tool, called WijkWijzer, was developed for the research project "Co-waarderen door Digitaal Participeren" conducted by Heritage and Architecture at TU Delft (Spoormans 2025). The WijkWijzer walking survey, using a smartphone application, encourages residents, visitors, and professionals to engage with everyday environments. It invites participants to explore a neighborhood and share opinions on encountered attributes through questions, allowing them to submit attributes they value and support their responses with pictures. The approach is deliberately open for alternative and unexpected attributes, beyond traditional heritage definitions. It is based on Howard's statement that "heritage can be regarded as anything that someone wishes to conserve or collect and to pass on to future generations" (Howard 2003, 6). The survey structure is based on the understanding that heritage significance relates to various attribute types, stakeholder groups, and scale levels.

Collecting a wide range of evaluations poses the question of integrating these for analysis. How to combine and compare data on the original design concepts, later adaptations and renovations, contemporary dwelling practices, positive and negative opinions of users and visitors, spatial qualities, seasonal changes and future opportunities? How to integrate tangible attributes of architecture with intangible attributes of use, social interaction, and patterns of daily life? In their publications on "Graphic Anatomy," the Japanese Atelier Bow-Wow developed a drawing method that depicts both the "planned and the occupied." It aims to establish a connection between the architectural objects that are planned *anteriorly* and the observations *posteriorly*, such as furniture and everyday items, views through the windows, and the behaviors of people (Bow-Wow 2014, 127). One-point perspective drawings, in vertical and horizontal projections, serve as a method to merge attributes that are integrated in everyday domestic life, yet commonly documented, studied, and evaluated separately. For both case studies, a drawing set was made including: 1) formal and informal attributes, 2) tangible and intangible attributes, and 3) originally intended attributes and today's lived situation.

3. CASE STUDIES

3.1. Diagoonwoningen

The architect Herman Hertzberger designed the Diagoonwoningen between 1967 and 1969 for "Stichting Experimentele Woningbouw." The ensemble of eight dwellings was completed in 1971 and is located on Gebbenlaan in Delft in the neighborhood Buitenhof (**Fig. 1**). The Diagoonwoningen are exceptional in the Buitenhof area, characterized by many high-rise and standardized postwar housing complexes. However, the direct urban context is low-rise, surrounded by greenery, including numerous pedestrian and bicycle routes. The Diagoonwoningen are well recognized by the concrete blocks that construct the facade, the black window frames and the volume of staggered shapes creating a blocky identity.

Herman Hertzberger aimed to create residential spaces that offer a variety of options, interpretable for different uses according to each person's personal needs and preferences. As a member of TEAM X and the Dutch Forum board, his work can be seen as a stance against traditional housing typologies and, more broadly, the postwar architecture and planning that have rendered cities "unliveable" (Eyck 1959). A key concept in this housing project is "polyvalence," also examined in other works in his oeuvre, such as the well-known Central Beheer office building in Apeldoorn. Going beyond "flexibility," polyvalence is the capacity not only to accommodate unforeseen applications but also to incite them (Hertzberger 2016, 7). Based on structuralism, these individual interpretations are embedded within a collective architectural form. His vision was that instead of the collective interpretation of individual life patterns, we should foster individual interpretations of the collective pattern. A "carcass" construction served as the model to achieve this, deliberately unfinished and inviting appropriation.

Another key concept is the open, fluid space of the interior. Walls, a central void, and split levels give direction to the many diagonal sightlines, the namesake of the Diagonal (diagoon) home.

This exceptional spatial quality allows daylight to reach the center of the house and also provides contact among household members, even when they are in different areas of the home. This idea of social connection extends beyond the household to the spaces between homes. The shared roof terraces were meant to foster community, viewing architecture as a form of social infrastructure.

The Diagoonwoningen exhibit a striking consistency in materiality, composed of concrete blocks and prefabricated beams, prominent in both the interior and exterior. Although concrete is the common denominator, the different components have various surface textures, sizes, and shades. Residents could choose and adapt the infill of the space plan, add rooms on the rooftop, and decide on the composition of window openings, based on the materials offered in the architects' palette: concrete and wood. The carcass is to be further customized by a kit of infill elements such as cupboards, division walls, doors, and benches (Nahmer 2021, 55).

Since 2025, the Diagoonwoningen have been designated as a municipal monument. The intactness is recognized as heritage significant, as well as the elaboration of architectural concepts and their place in the architect's oeuvre. The intended adaptability of an unfinished carcass challenges heritage practices. New regulations will apply regarding maintenance and alterations, such as permission for expansions, provided they are made in accordance with the original design concept.

3.2. Koepeltjesbuurt

The residential neighborhood Koepeltjesbuurt was designed by architect Benno Stegeman. This suburban neighbourhood is part of the district Meerzicht in the new town Zoetermeer and was completed in 1972 (**Fig. 2**). It consists of 116 houses, including 99 houses with an orange dome (*koepel* in Dutch) atop the staircase, and seventeen dwellings with a tent-shaped roof. The cube-shaped houses are constructed from white sand-lime brick and are arranged in scattered, amorphous groups of various compositions around small quadrangles and green spaces along winding streets within a woonerf urban layout (Mooij 2010, 30).

The playful imagery signifies a turn away from the earlier Zoetermeer image of gallery flats. Architect Benno Stegeman regarded housing as a form of human expression. In the Koepeltjesbuurt, he formulated his response to postwar modernist uniformity. Also, other housing complexes in Stegeman's oeuvre, like the Krekenbuurt in Zwolle and the Bergenbuurt in Capelle aan den IJssel, reflect a break from standardization through domes, varied heights, and contrasting forms, demonstrating his commitment to spatial experimentation, individuality, and user-centred design within the everyday living environment.

The Koepeltjesbuurt in Zoetermeer was designed as a green, car-free neighbourhood where public space structures daily life. Pedestrian paths, shared gardens, and open sightlines promote social interaction and a park-like experience. Cars are not parked in front of the house, but placed in four collective semi-underground garages, each containing 40 compact parking spaces. The paving and greenery of the public realm continues into the private realm of individual home entrances, which open directly onto the *woonerf*-streets, creating an ambiguity between public and private space. This expresses Stegeman's belief in shared free space, founded on respecting each other's privacy as an active gesture (Mooij 2010).

The houses form interlocking ensembles with staggered horizontal and vertical volumes, blending public and private realms through layered entrances, balconies, and gardens. The variation in size and height of individual homes creates an intimate and diverse "space between." Also on the upper levels, terraces and windows of neighboring homes provide oblique views over the public area and surrounding houses.

The iconic orange domes above the stairwells bring in natural light, enhancing spatial quality. The white sand-lime brick facades add visual cohesion, though their porous texture has weathered over time, leaving visible traces that reflect the neighborhood's age and evolution. The architecture exemplified a mid-twentieth-century experimental material palette: white limestone bricks, two-toned timber window and door frames, timber fascia, and ceiling panelling, along with the iconic PVC orange domes.

Since 2006, the Koepeltjesbuurt has been designated as a protected townscape. Key aspects of its heritage significance include the coherence between urban design, greenery, and architecture, the strong identity conveyed by the striking orange domes, and the fact that it is an intact example of 1970s design principles (Zoetermeer 2006).

4. FINDINGS

This paper explores the evaluation of the significance of late-modern housing projects as recent heritage, while simultaneously appreciating them as lived-in architecture that accommodates current and future housing needs. Our analysis shows that the two cases examined, Diagoonwoningen by Herman Hertzberger and Koepeltjesbuurt by Benno Stegeman, exemplify different points on the spectrum between heritage and everyday housing. Moreover, this difference has resulted in slightly different translations of the 'Graphic Anatomy' narrative drawing concept, aiming to capture the significant attributes that show the dynamics relevant for the specific case.

4.1. Between heritage and everyday

The Diagoonwoningen were designed as a "blank canvas" to accommodate residents' appropriation. As adaptation is part of the initial concept, the recent municipal report, which formulates the heritage significance of this new governmental monument, describes all alterations per dwelling (Delft 2025). All homes feature replaced window frames and the introduction of one or more interior dividing walls. Some repurposed the garage as a room or extended the entrance. However, most of the changes had already been made in the 1970s, either as an option in the construction in 1971 or shortly after completion. In 1981, one house added an extra room on the rooftop, which was included as an option in the design. Overall, the municipal report notes a high level of preservation. The block structure and texture of the B2 walls and prefab elements are still visible. The results of the WijkWijzer survey show that current inhabitants have made few or no modifications to the house. Although they raise concerns about energy performance and practical issues, they also express strong appreciation for the architecture, seeing this as a reason to live in such a unique home.

The main appropriation lies in the purpose, specific use, and stories of inhabitants. This became clear from the neighbor stories told in the guided tour and also documented in various publications. Especially the open spaces around the central void, preserved in all homes, encourage residents to various uses, such as a bar, study areas, or a home library (Nahmer 2021). The dwelling practices appear to be more dynamic than the change in tangible attributes, which can be interpreted as evidence of polyvalence. This reveals that although the purposes of spaces have evolved over time and vary per household, residents highly value Hertzberger's design and tend to adapt their dwelling practices to the architecture, not vice versa.

In the other case, the housing of Koepeltjesbuurt, Stegeman designed a wide variety of types and irregular forms to allow for individual expression and appropriation. On-site observations and testimonies from the WijkWijzer research reveal a broad range of changes. The housing ensembles, while remaining largely intact, have been subtly appropriated and adapted by successive generations of inhabitants. Inside, residents replaced non–load-bearing walls and repositioned the kitchen, modifying the spatial layout to suit their needs. Furthermore, the irregular, cube-like shapes encouraged residents to add building volumes such as winter gardens, storage spaces, and kitchen extensions. Many residents have made changes to the material, replaced building components such as window frames, altered the original color schemes and made technical modifications to accommodate each household's specific needs. Additionally, many changes to the collective urban and natural spaces are observed, often as acts of appropriation. These include reprogramming for a playground, self-management of flowerbeds, and the introduction of sheds, hedges, and fences. Residents enclosed their gardens, breaking up the spatial continuity and reducing the original vision of a collectively shared and connected public realm.

The results from the WijkWijzer survey indicate that both residents and professionals are critical of many of the changes in the collective urban space. They believe that the fencing and privatization of collective space conflict with the neighborhood concept of fluid, natural space and shared use. This critique aligns with the architect's original intention of creating free, shared space. Interestingly, this evaluation does not apply to the architectural changes. Although the appearance and spatial quality of the dwellings are appreciated as unique and coherent, alterations such as the facade insulation, plastic window frames, and additional rooms are generally regarded as improvements. This reveals that respondents associate the collective urban space with its original intentions and the desire to safeguard it. The

architecture, on the other hand, seems to be regarded as "special," but everyday functional needs take priority over historical heritage value.

Comparing the case studies, the results indicate that dwelling practices are dynamic in both cases but vary due to their position between heritage and everyday architecture. In the Diagoonwoningen, where the monumental status is more apparent, the intended dynamic ultimately became static. In contrast, the housing in Koepeltjesbuurt, which is considered special but less monumental, continues to adapt dynamically to current needs. The Koepeltjesbuurt tends to be more about everyday, lived-in architecture, whereas the heritage status of Diagoonwoningen appears to be more deeply felt by the users.

4.2. Capturing dynamics in a drawing

The varying balance between heritage and everyday was translated into different approaches to the narrative drawing. In Koepeltjesbuurt, the findings reveal perceptions, needs, and adaptations by today's inhabitants. Its significance is reflected in the neighborhood's value for easy everyday use and adaptability. The essence of Koepeltjesbuurt as "lived-in architecture" is captured in the daily 24-hour rhythm of a typical single-family home. The narrative drawing set presents the 9 a.m. morning rush, noon family activities, 3 p.m. afternoon reverie, the evening falls at 7 p.m., and 9 p.m. summer night. Each drawing illustrates how architectural qualities support daily life, such as children playing in the stairwell beneath the orange dome or parents retreating to the roof terrace after putting the children to bed. These attributes are depicted graphically through scenes or supplemented with textual annotations, highlighting positive, negative, neutral and technical aspects (**Fig. 3**).

In the case of Diagoonwoningen, the findings relate to a broader timeframe. The adaptations to architecture and the stories of various dwelling practices date back to previous generations. These family stories and collective histories are told and published, adding to the significance of the architectural complex. Although the eight houses serve as residences, one of them, which is almost entirely preserved in its original condition, also functions as a museum, offering visitors a guided tour that includes lively explanations and variations of past living situations. The essence of Diagoonwoningen, as valued heritage, is therefore captured by integrating the cumulative residential legacy of past generations who inhabited the house. The narrative drawing set combines anecdotal scenes from various time periods, including current stories, as well as previous living situations from the early years and subsequent decades. Additionally, attributes are depicted as living scenes illustrating specific uses. The textual annotations include explanations about attributes of observed uses, past practices, technical attributes and opinions of residents, but also other stakeholders, derived from the WijkWijzer research (**Fig. 4**).

In summary, the narrative drawings capture the significance of each case by presenting different time cycles. Diagoonwoningen integrates the cumulative residential legacy of past generations who inhabited the house, while the Koepeltjesbuurt house reflects the contemporary 24-hour dynamics of a single family. Heritage significance can also strengthen identity on various scale levels, such as our home, neighborhood, town, or at national or international scales (Howard 2003, 147). Integrating time span and geographic scope, significance may relate to a long-term collective interest (Diagoonwoningen) or a contemporary, local, and family-level identification (Koepeltjesbuurt).

5. CONCLUSION

This paper aims to share and discuss issues of perception, evaluation, documentation, and preservation of recent and everyday heritage with other educators, researchers and practitioners engaged in late-twentieth-century housing. It also emphasizes the importance of developing evaluation methods that integrate planned architectural design with patterns of daily use, social interaction, and perceptions. Lastly, it addresses the involvement and education of the next generation of professionals in this vital topic.

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Biography

Lidwine Spoormans (1977) is an assistant professor in Heritage and Architecture, trained as an architect and architectural engineer at Delft University of Technology. After working in architecture practice on designing new construction and renovation of mainly large-scale housing projects, she returned to TU Delft in 2010. Her expertise includes housing renovation, building systems, participatory methods, and recent heritage. In 2017, she initiated the platform www.love80sarchitecture.nl. She is member of ISC/Registers of Docomomo International. Her PhD thesis, "Everyday Heritage," reveals new knowledge on recent heritage and stakeholder involvement. Her current research aims to bridge the gap between listed heritage and everyday architecture.



Figure 1. Architectural design by architect Herman Hertzberger, Housing project Diagoonwoningen, Delft, The Netherlands, built in 1971. © photo: TU Delft, MSc2 studio, 2025.



Figure 2. Architectural design by architect Benno Stegeman, Housing project Koepeltjesbuurt, Zoetermeer, The Netherlands, built in 1972. © photo: TU Delft, MSc2 studio, 2025.

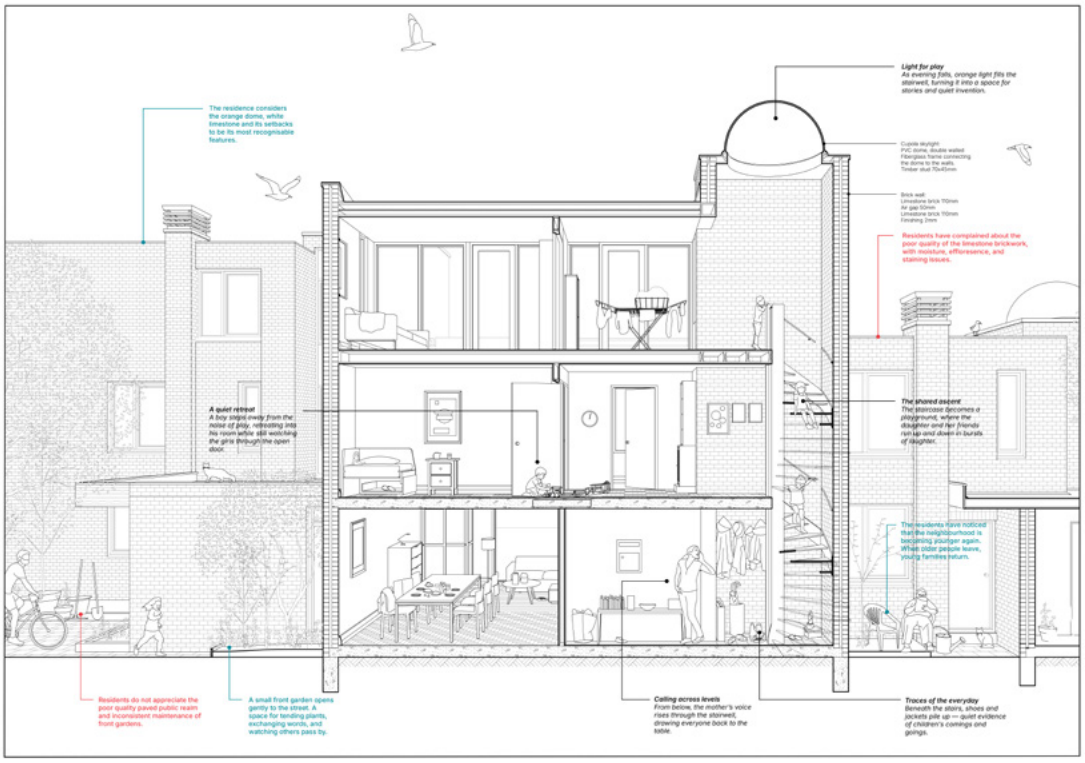


Figure 3. Narrative drawing, long section of Koepeltjesbuurt.
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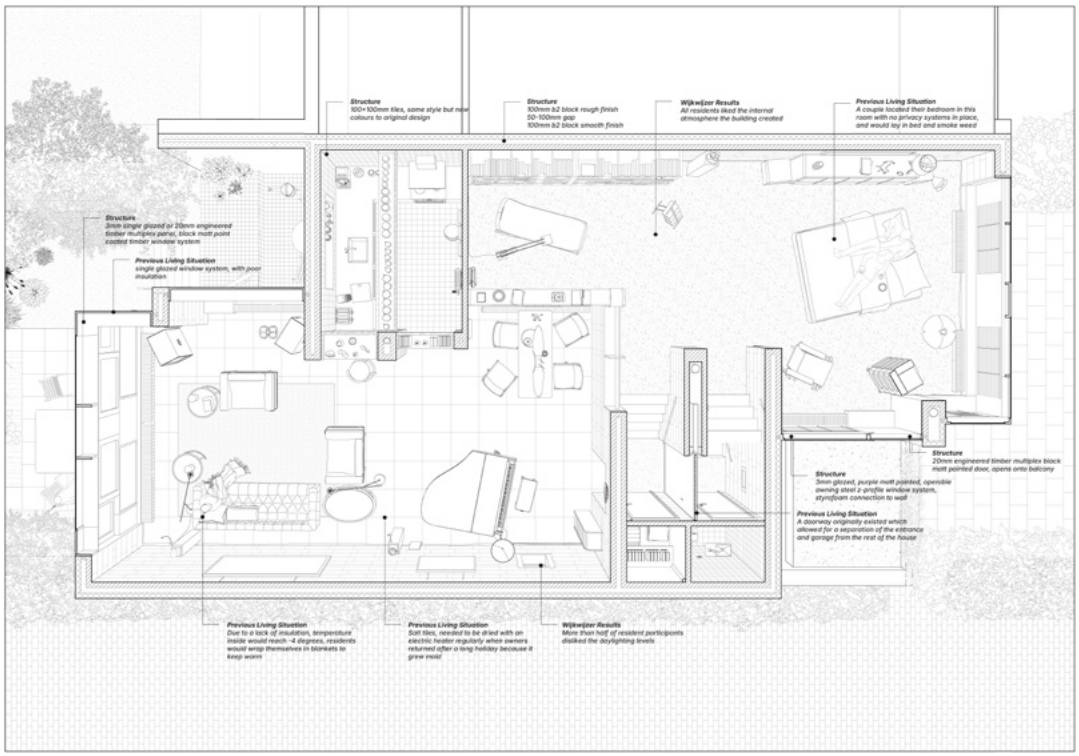


Figure 4. Narrative drawing, first floor (split-level) of Diagoonwoningen.
© drawing: TU Delft, MSc2 studio, 2025.