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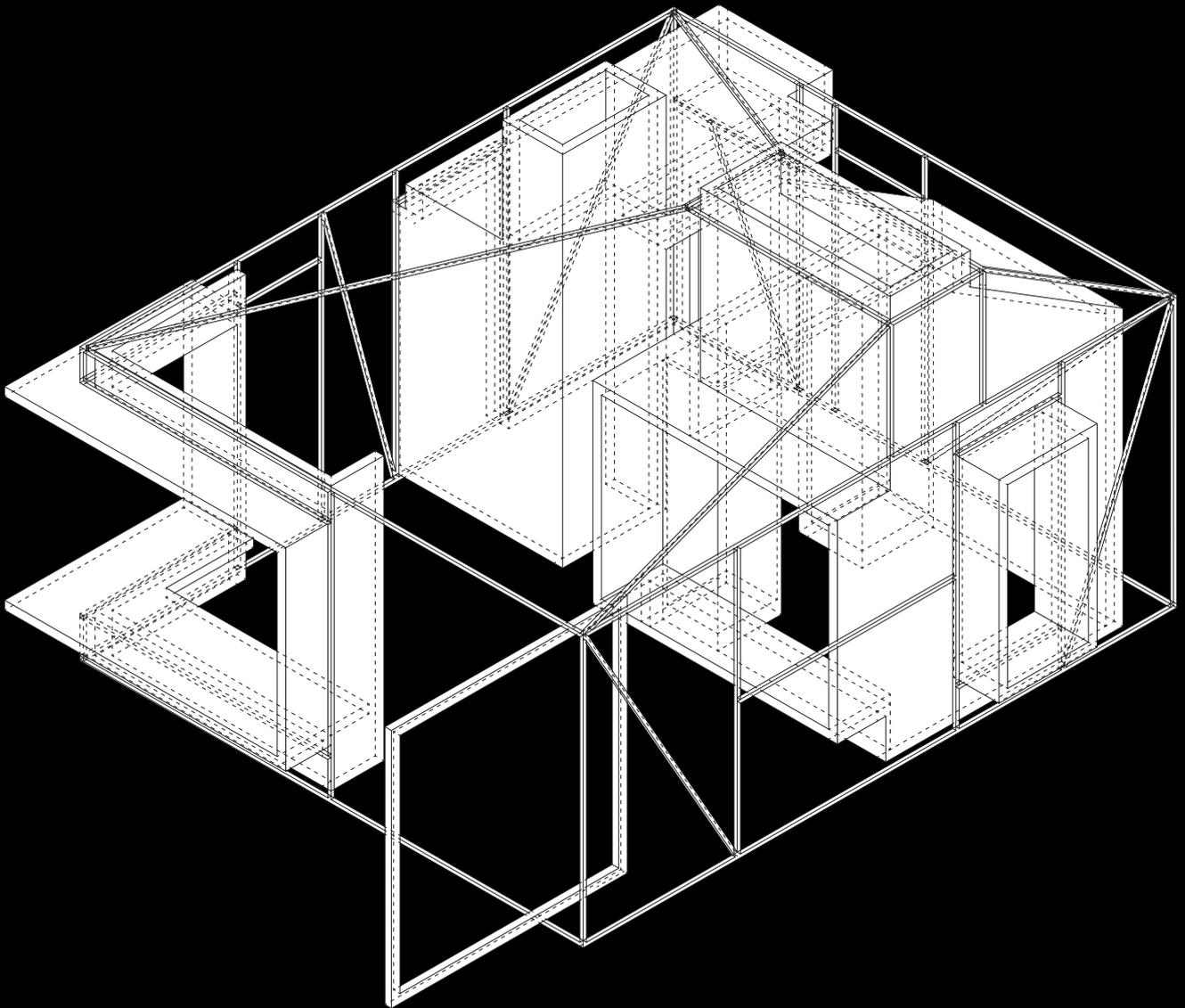
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DWELLSCAPE



Nicholas Thomas Lee
PhD Dissertation
The Royal Danish Academy of Fine Arts,
Schools of Architecture, Design and Conservation
Institute of Architecture & Design (IBD)

In memory of John Lawson Lee

DWELLSCAPE

The Contemporary Dwelling Interior as a Domestic Landscape

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0. PREFACE

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Nicholas Thomas Lee, Copenhagen, 2019

0.2 ABSTRACT (ENGLISH)

This Ph.D. dissertation engages in an architectural discourse on the spatial organisation of the contemporary dwelling interior, which plays a central role in our lives by supporting and shaping our human relationships, behaviour and daily routines. Despite the importance of this built environment, current architectural praxis continues to be informed by functionalist principles that are propagated by building standards, planning codes and entrenched design methods involved in the production of housing leading to a 'crisis' in domestic architecture.

As a point of departure for this project the following question has been posited, In the midst of the current 'crisis' in domestic architecture brought about by a positivistic approach to the application of functionalist spatial planning principles, which results in deterministic forms of inhabitation through the abstraction of the lived reality of the built environment into definite 'functions', 'users' and Cartesian 'space', how might the architect re-conceptualise the spatial organisation of the contemporary dwelling interior?

A 'research by design' method provides a systematic framework for this enquiry. A simultaneous 'two-fold movement' occurs between retrospective analysis of case study projects and formative theory including traditional Japanese spatial praxis, the picturesque movement and 'post-functionalist' architectural ideas, which are then synthesised together through the development of three prospective design enquiries. These enquiries result in the production of 'epistemic artefacts' that take the form of physical models. Qualitative analysis of these proposals enables the extraction of embodied knowledge, which in turn influences the retrospective research concurrently. Knowledge produced over the course of the research enquiries are disseminated through the written monograph and its accompanying 'epistemic artefacts'.

Through a reconceptualisation of the contemporary dwelling interior as a 'domestic landscape' the notion of 'Dwellscape' is proposed as a productive spatial organisation strategy. A 'Dwellscape' is defined as a continuous 'domestic landscape' composed of a relational field-configuration of distinct

architectural elements, which define ‘places’ that accommodate specific activities, as well as, delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways. Three important constituent aspects of ‘Dwellscape’ emerge from the research, which includes an approach to spatial organisation based upon a ‘relational field-configuration’, the value of ‘threshold’ places and finally, a focus on providing opportunities for inhabitant ‘appropriation’.

It is the position of this dissertation that the ‘Dwellscape’ concept can be utilised as a formative approach to the spatial organisation of the domestic interior, which productively challenges functionalist planning strategies that continue to inform contemporary architectural praxis. Over the course of this project, the research by design enquiries show practical manifestations of the ‘Dwellscape’ concept. Through emphasis on the use of physical models, ‘pictorial planning’ has emerged as a productive counter-point to the dominance of a planimetric approach to spatial organisation. It is intended that the findings of this research project make a valuable contribution to a critical discourse on the spatial organisation of the contemporary dwelling interior.

0.3 ABSTRACT (DANISH)

Denne ph.d.-afhandling er et bidrag til en arkitektonisk diskurs for rumlig organisering af den moderne bolig. Boligen spiller en væsentlig rolle som ramme for dagligdagen og i udformningen af vores sociale relationer. Til trods for dette baseres nuværende arkitektonisk praksis overvejende på funktionalistiske logikker, som implementeres via standarder, bygge Lovgivning og designprincipper. Det er afhandlingens tese, at der eksisterer et misforhold i udformningen af planer og rumlig organisering af den moderne bolig som følge af en ukritisk anvendelse af funktionalistiske planløsningsprincipper, der bevirker en deterministisk udformning baseret på en abstrakt opdeling af boligens levede virkelighed i funktion, bruger og Kartesiansk "rum".

Afhandlingen tager afsæt i følgende forskningsspørgsmål: Hvordan kan arkitekten rekonceptualisere planen for den moderne bolig som reaktion på det nuværende misforhold i boligens rumlige organisering?

"Research by design"-metoden udgør den systematiske struktur for undersøgelsen af ovenstående forskningsspørgsmål. Herudover, vil afhandlingen benytte en "dualistisk bevægelse" mellem retrospektiv analyse af casestudier og formativ teori, som omfatter traditionel rumlig praksis i Japan, den pittoreske bevægelse og post-funktionalistiske principper, som sammenfattes i tre designundersøgelser. Undersøgelserne udarbejdes via "epistemiske objekter", og udformes som fysiske modeller, der underkastes en kvalitativ analyse. Dette muliggør et udtræk af modellernes implicite viden, der sideløbende vil informere den retrospektive forskning. Forskningsprojektets opnåede viden formidles igennem en skriftlig monografi, som ledsages af de "epistemiske objekter".

Gennem en rekonceptualisering af boligens plan som et "domesticeret landskab" fremsættes "Dwellscape" som en produktiv strategi for rumlig organisering. "Dwellscape" defineres som et domesticeret, landskabeligt forløb bestående af relationelle felt-konfigurationer af klare arkitektoniske elementer og "steder", der dels fordrer bestemte aktiviteter og dels formår at tegne interstitielle og ambivalente rum, til fri fortolkning og appropriering

efter beboerens varierende behov. Forskningsprojektet formulerer de tre centrale bestanddele for "Dwellsapes", som omfatter en tilgang til rumlig organisering baseret på relationelle "felt-konfigurationer", vigtigheden af overgange, tærskler og "placemaking" og endelig, et øget fokus på beboerens muligheder for appropriering og tilpasning.

Afhandlingens hypotese omhandler anvendelsen af "Dwellscape" princippet, som en formativ tilgang til den rumlige organisering af boligens plan som en aktiv udfordring af de nuværende, funktionalistiske planløsningsprincipper. Henover projektforløbet repræsenterer "research by design" -undersøgelserne den fysiske manifestation af "Dwellscape" princippet. Derudover fostres begrebet "den pittoreske plan" gennem anvendelsen af den fysiske model som et konstruktivt kontrapunkt til den planimetrisk, rumlige organisering. Det tilsigtes, at forskningsprojektets fund vil udgøre et væsentligt bidrag til en kritisk diskurs på boligens plan og rumlige organisering.

1. INTRODUCTION

“Man still breathes both in and out. When is architecture going to do the same?”

(Eyck et al., 2008, p. 50)

1.1 MOTIVATION & AIM

The contemporary dwelling interior has great significance given the central position that it plays in our lives by supporting and shaping our human relationships, behaviour and daily routines through its spatial organisation. In spite of the importance of this built environment, functionalist spatial planning principles, which began to emerge in Britain during the mid 19th century and that were later refined in Germany at the start of the 20th century, continue to dominate contemporary building practices and influence architectural engagement with the dwelling interior, with very little critical discussion. “Often approached as a matter of function, lifestyle or personal taste, the configuration and interior architecture of the home is rarely treated as a serious design challenge.” (Bose, Self, & Williams, 2016, p. vii) In the book, “Papers 3” (2016), Sergison & Bates Architects make an analogous conclusion to the earlier writings of Robin Evans (1997), claiming that this functionalist logic is now embedded in, and propagated by building regulations, planning codes, design methods and rules-of-thumb that are involved in the day-to-day production of contemporary housing. The ‘Home Economics’ exhibition in the British Pavilion at the 15th International Architecture Exhibition, La Biennale di Venezia in 2016 and its associated publication “Home Economics” (2016) have increased awareness internationally of the current architectural engagement with the contemporary dwelling interior and the immediacy of this ‘crisis’¹ in domestic architecture, highlighting the need for greater discourse within the profession, to which this Ph.D. will contribute.

The point of departure for this PhD project is the prevalence of a positivistic² approach to the application of functionalist spatial planning principles within the contemporary dwelling interior, which reinforces dichotomies and absolutes by abstracting human behaviour into definite ‘functions’, ‘place’ into Cartesian ‘space’ and inhabitants into ‘users’, thereby reducing the spatio-visual reality of the built environment into those aspects that are represented most effectually in a plan drawing. This planimetric approach to spatial organisation results in the abstraction of the ‘real’ into ‘logico-mathematical space’, or what Henri Lefebvre would refer to as ‘dominated space’ (Lefebvre, 2016, p. 287). The spatial organisation of the domestic interior is defined by the positioning of every surface, wall, floor, ceiling

1. This ‘crisis’ in domestic architecture has been highlighted by Shumi Bose, Jack Self and Finn Williams in their publication and associated ‘Home Economics’ Exhibition at La Biennale di Venezia in summer 2016 (Bose et al., 2016).

2. Positivistic here is used in the literal sense to refer to the definitive application of functionalist planning logic without questioning its broader consequences.



Figure 1.01 Rooms Without Function, Home Economics Exhibition, Venice, Hesselbrand, 2016

and opening, which determines qualities and characteristics that influence and contribute to the opportunities for inhabitation inherent within the dwelling. Functionalist planning principles by their very definition prioritise the utilitarian optimisation of the buildings' plan layout above all other spatial considerations. Certain concrete consequences of this have been mono-functional and multi-functional spaces that foster deterministic forms of inhabitation, as well as 'neutral' space, perhaps illustrated best by the ubiquitous 'open-plan' layout which is intended to have functional flexibility but that typically lacks definition as to how one may appropriate it, through the removal of spatial articulation and threshold places. The Dutch architect and academic, Bernard Leupen eloquently states, "a successful dwelling is more than a programme of requirements translated into material form." (Leupen, Mooij, & Uytengaak, 2011, p. 82) It would be naïve and frankly misguided to make a blanket critique of functionalism, and in doing so, ignore important work that has been undertaken with the best of intentions, namely improving the standard of living conditions. However, this research project rejects a prescribed, causal relationship between the domestic built environment and the use of space by its inhabitants that has long been propagated by functionalist logic and the absolutes that it adheres to. These principles continue to inform contemporary architectural praxis and its approach to the spatial organisation of the dwelling interior.³ This Ph.D. thesis seeks to reconceptualise the contemporary dwelling interior as a 'domestic landscape',⁴ a 'Dwellscape',⁵ in order to explore formative approaches to the spatial organisation of this critical built environment with the motivation of contributing to a necessitous critical discourse on the subject.

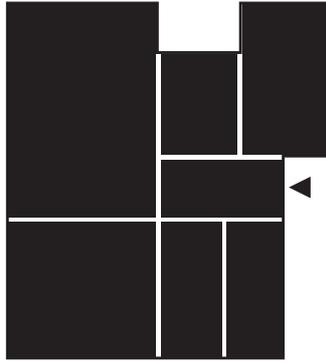
3. This subject is discussed at greater length in chapter 2: "The Functionalist Dwelling."

4. The term 'domestic landscape' is introduced and strongly promoted by the Swedish academic, architect and designer, Lars Lerup as a reconceptualisation of the dwelling interior in his publication, "Building the Unfinished" (1977).

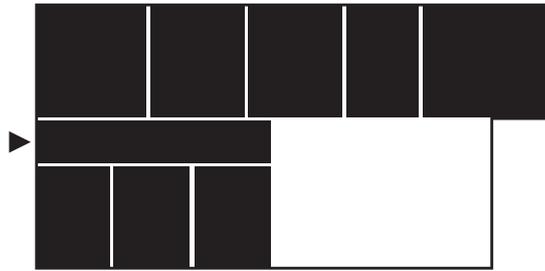
5. In chapter 5: "Defining the Dwellscape", a 'Dwellscape' is defined as a continuous 'domestic landscape' composed of a relational field-configuration of distinct architectural elements, which define 'places' that accommodate specific activities as well as delineating ambiguous interstitial 'places' that can support inhabitant appropriation in a multitude of ways.

1.2 THESIS STATEMENT

The central aim of this research project is to challenge a positivistic approach to the application of functionalist spatial planning principles, particularly within the contemporary dwelling interior through a re-conceptualisation of this built environment as a domestic landscape in order to contribute to and encourage greater critical discussion from the profession. In the midst of the current 'crisis' in domestic architecture brought about by a positivistic approach to the application of functionalist spatial planning principles, which results in deterministic forms of inhabitation through the abstraction of the lived reality of the built environment into definite 'functions', 'users' and Cartesian 'space', how might the architect re-conceptualise the spatial organisation of the contemporary dwelling interior?



1. FUNCTIONALIST DWELLING PLAN (FUNCTION)



2. TYPICAL CONTEMPORARY DWELLING PLAN (FUNCTION + NEUTRALITY)



3. DWELLSCAPE CONCEPT PLAN (SPECIFICITY + AMBIGUITY)

Figure 1.02 Dwellscape concept diagram, Nicholas Thomas Lee, 2019

1.3 THEORETICAL & METHODOLOGICAL FRAMEWORKS

This research project initially explores the genesis of functionalism through a study of proto-functionalist theorists, in particular Robert Kerr (1864), and eventually arrives at key protagonists of functionalist theory such as Margarete Schütte-Lihotzky (1926-1927), Alexander Klein (1934) and Ernst Neufert (2015; 1936), whose logic continues to influence the spatial organisation of dwellings today. Two leading proponents of the Modern Movement and their associated theories, namely Le Corbusier's 'promenade architecturale' (1987; 1923) and Josef Frank's "Das Haus als Weg und Platz" (The House as Path and Place) (1931) are also studied in detail as approaches to the spatial organisation of the dwelling interior based upon 'pictorial planning'. The core theoretical framework for this research project involves the synthesis of three groups of theory, namely traditional Japanese spatial theory, picturesque theory & post-functionalist theory. These three seemingly independent and unrelated groups of theory have all explored the notion of the dwelling interior as domestic landscape and also reject a prescribed, causal relationship between the domestic built environment and the use of space by its inhabitants. Traditional Japanese spatial theory related to the organisation of the dwelling interior from Kiyoyuki Nishihara (1968), Fumihiko Maki (2008), Yoshiharu Tsukamoto (2010), Momoya Kaijima (2013) & Eva Blau (2011) is explored in order to unfold complex phenomena such as 'Oku', 'Ma' & 'Hachō'.⁶ Early picturesque texts from William Gilpin (1768), Edmund Burke (1756), Sir Uvedale Price (1794), Humphry Repton (1795), Richard Payne Knight (1805) are revisited and elaborated upon with more contemporary reflections on the movement and its legacy from David Watkin (1982) & Caroline Constant (1990) in particular. The final theoretical group have been classified as post-functionalist⁷ and this refers to architects and philosophers with a more anthropological approach to the planning of the built environment that were active between the late 1950s and 1970s as a direct response to dogmatic functionalism, namely Alison & Peter Smithson (1994), Aldo van Eyck (2008), Henri Lefebvre (2016; 1974) and Lars Lerup (1977). Over the course of this research project retrospective analysis of these three groups of theory are assimilated together with prospective design projects in order to establish, define and develop the 'Dwellscape' concept as a formative approach to the spatial organisation of the contemporary dwelling interior.

6. Traditional Japanese spatial phenomena such as 'Oku', 'Ma' & 'Hachō' are comprehensively discussed and defined in the book, "Japanese Houses: Patterns for Living" (1968), written by Kiyoyuki Nishihara.

7. At this juncture it is useful to differentiate between 'post-functionalist' theory and 'post-modern' architects such as Robert Venturi & Denise Scott Brown with their advocacy of semantics (1972), Charles Moore with his focus on historical formalism (1976) and Kenneth Frampton and his call for a critical regionalism (1983). The architects and philosophers that have been classified as post-functionalist share a common critical position on functionalism, as well as, an advocacy of a more anthropological approach to the spatial organisation of the built environment.

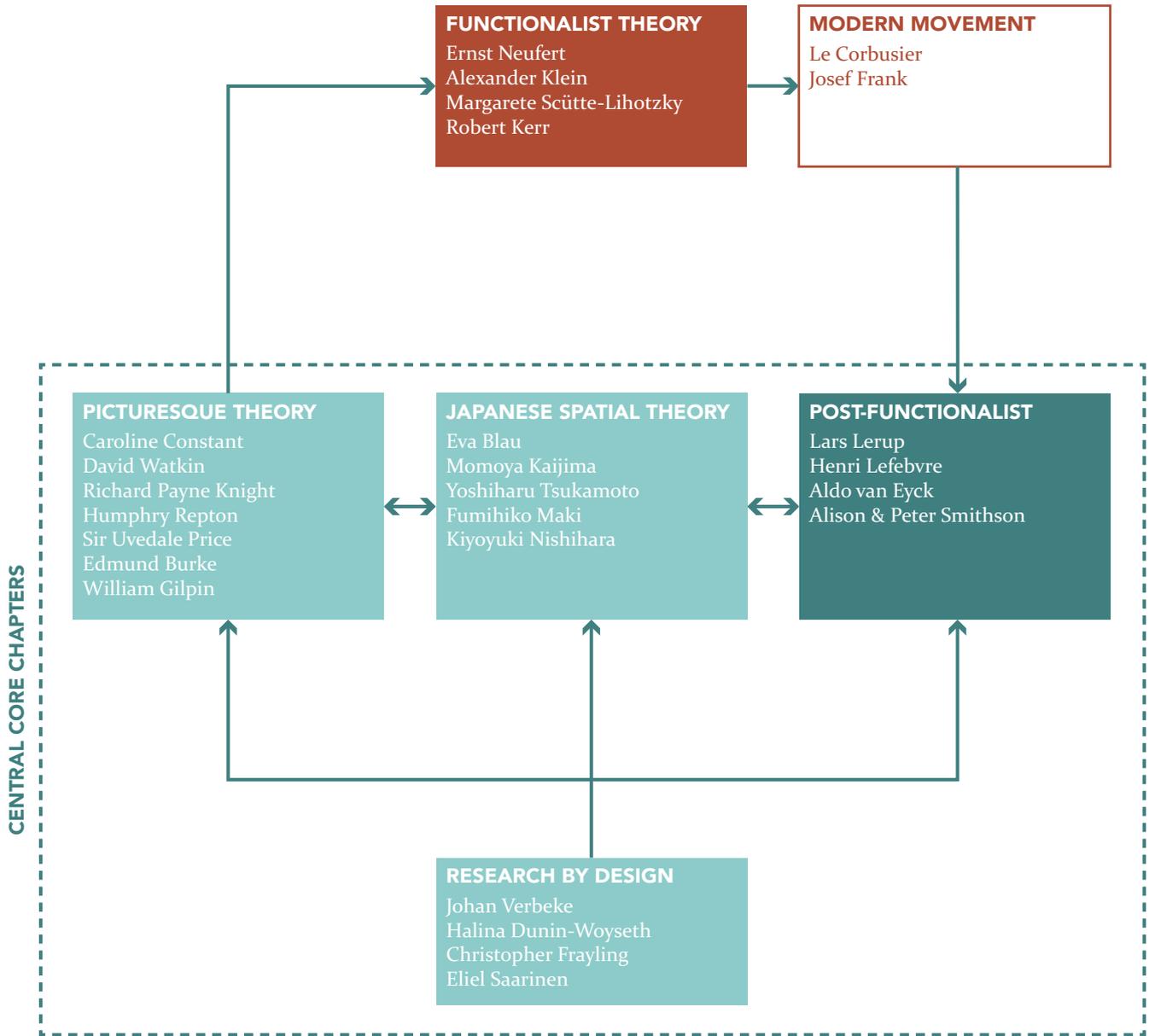


Figure 1.03 Theoretical framework diagram, Nicholas Thomas Lee, 2019



Figure 1.04 Epistemic Artefacts, 1/20 'Scale Model Fragments', Nicholas Thomas Lee, 2019

The intention is that this contributes to and encourages greater critical discussion from the architectural profession on this important subject.

The methodological framework for this PhD project is centred upon the established ‘research by design’ (Verbeke, 2014) method that provides a systematic structure for the research enquiry. A simultaneous ‘two-fold movement’ (Saarinen, 1943) occurs between retrospective analysis of relevant theory and example projects which is then synthesised together through the development of three prospective design projects. These three projects enable the production of ‘epistemic artefacts’ (Hansen, 2009), that take the form of physical architectural models which influence the research enquiries through synthesis.⁸ The three prospective design projects include, a workshop with students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK) entitled “Inbetweeness: The Architectural Model as Epistemic Artefact”, the development of a design for a 25m² micro dwelling that takes advantage of new planning legislation in Sweden and finally a 250m² villa with a specific program and context based in Ordrup Næs, Sjælland, Denmark. Qualitative analysis of the work produced during the three design projects will be carried out in order to enable the extraction of embodied knowledge. These ‘epistemic artefacts’ are generators of insight, understanding and knowledge and they are viewed as part of the intellectual work and are complementary to the processes of reflection and knowledge creation. Knowledge produced by the Ph.D. research will be disseminated through this written monograph, together with the exhibition of its associated ‘epistemic artefacts’.

1.4 OVERVIEW OF THE PHD THESIS

Although this PhD dissertation has been written as a monograph, it is intended that the three central chapters 05, 06, 07 entitled, “Defining the Dwellscape”, “Inhabiting the In-Between Realm” & “A Picturesque Dwelling” can be read coherently as independent meditations. Chapter 02 entitled, “The Functionalist Dwelling” provides a comprehensive background to this research enquiry tracing the emergence and proliferation of functionalist spatial planning within the domestic interior through the important works

8. This is discussed at greater length in chapter 3: “A Methodological Framework.”

and writings of Robert Kerr (1864), Hermann Muthesius (1904), Margarete Schütte-Lihotzky (1926-1927), Alexander Klein (1934) and Ernst Neufert (2015; 1936). Chapter 04 entitled, “The Architectural Model as Epistemic Artefact” explores the complex domain of the architectural model and its potential to be utilised as an ‘epistemic artefact’ within the field of academic research.

In chapter 05, “Defining the Dwellscape”, architectural theory from Le Corbusier (1987; 1923), Josef Frank (1931), Aldo van Eyck (2008) and Lars Lerup (1977) relating to the spatial organisation of the domestic interior is explored and interrogated through the comparative analysis of House Vandenhoute-Kiebooms (1967) designed by the Belgium architect Juliaan Lampens and Moriyama House (2005) designed by the Japanese architect Ryue Nishizawa in order to develop the notion of the ‘domestic landscape’ and to arrive at a definition for the ‘Dwellscape’ concept. In this chapter the following question is posited, through a reconceptualisation of the dwelling interior as a ‘domestic landscape’ what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform contemporary architectural praxis?

In chapter 06, “Inhabiting the In-Between Realm”, architectural theory from Peter & Alison Smithson (1994), Aldo van Eyck (2008), Kiyoyuki Nishihara (1968), Fumihiko Maki (2008) and Atelier Bow Wow (2010) relating to spatial organisation and in particular thresholds within the contemporary dwelling interior and how they are subsequently inhabited is synthesised together with prospective ‘research by design’ investigations based upon the use of large-scale physical models in order to develop proposals for a 25m² micro dwelling. This chapter posits the following question, through a reconsideration of threshold space within the contemporary dwelling interior what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis?

In chapter 07, “A Picturesque Dwelling”, original writings from William Gilpin (1768), Edmund Burke (1756), Sir Uvedale Price (1794), Humphry Repton (1795), Richard Payne Knight (1805) relating to the picturesque movement

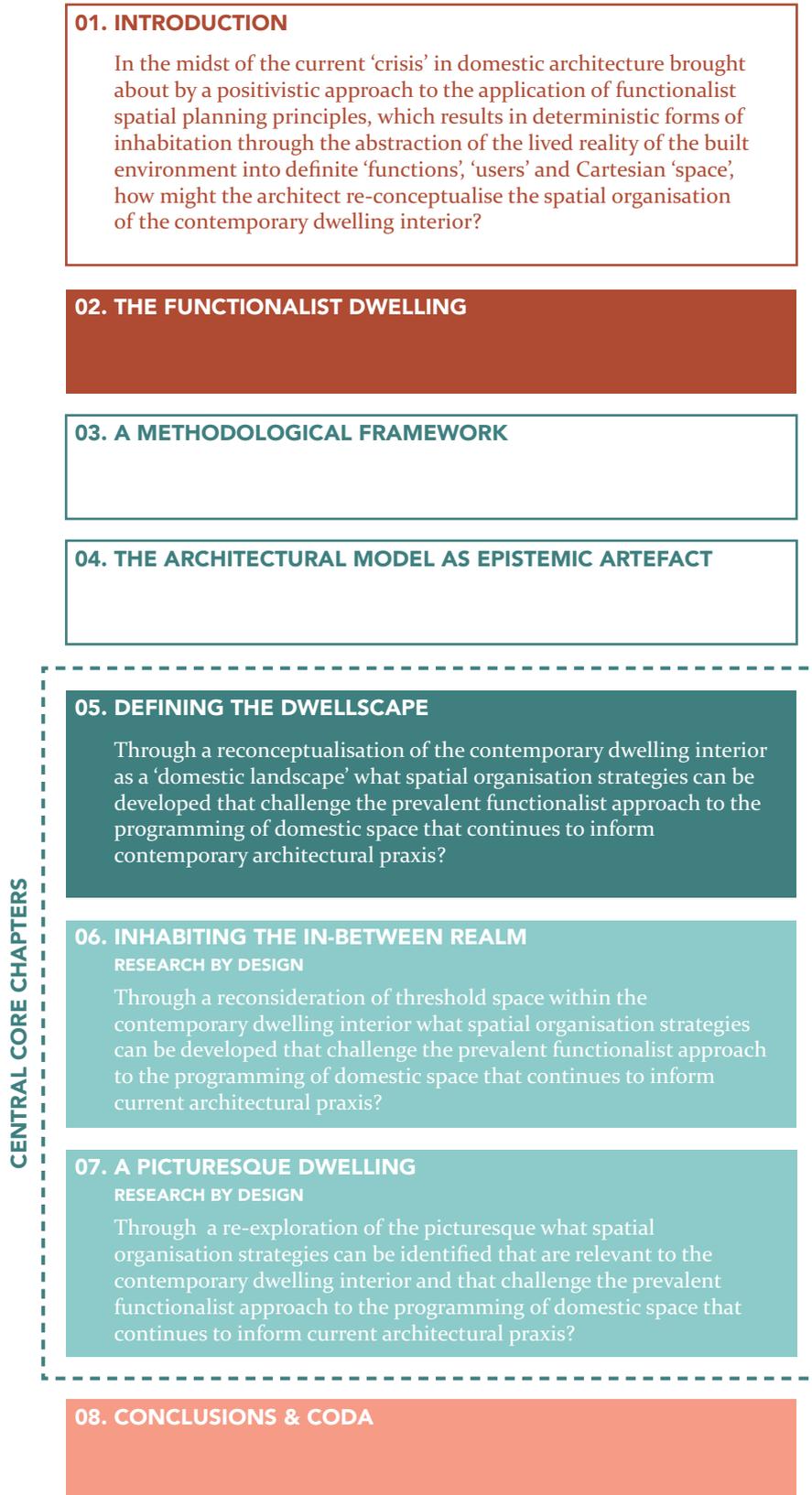


Figure 1.05 Ph.D. Chapter structure diagram, Nicholas Thomas Lee, 2019

have been revisited in order to establish foundational theory. At the same time more contemporary reflections upon the picturesque from Christopher Hussey (1927), Nikolaus Pevsner (1955), David Watkin (1982), Caroline Constant (1990) and John Macarthur (2007) have been synthesised together with prospective ‘research by design’ experiments focused on developing a proposal for a 250m² villa in order to identify distinct traits within the movement that can be productive agents for the spatial organisation of the contemporary dwelling interior. In this chapter the following question is posited, through a re-exploration of the picturesque what spatial organisation strategies can be identified that are relevant to the contemporary dwelling interior and that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis?

It is intended, that through the re-conceptualisation of the contemporary dwelling interior as ‘Dwellscape’, it will serve as a productive catalyst for reflection and discourse upon, and in developing alternative approaches for, the spatial organisation of this important built environment. Through an exploration of the ‘Dwellscape’ concept this research project aims to develop strategies that productively challenge a functionalist approach to the spatial organisation of the domestic landscape. This functionalist approach, where a dwelling is considered to be formed from an aggregate of isolated cellular spaces that accommodate specific functions while advocating for the removal of threshold places under the guise of utilitarian efficiency abstracts the complexity and richness of human behaviour into prescribed activities. Aldo van Eyck eloquently writes, “Man still breathes both in and out. When is architecture going to do the same?” (Eyck et al., 2008, p. 50) This Ph.D. thesis takes the form of an assemblage of explorative enquiries, with the collective aim of formatively challenging the predominance of functionalist planning principles within the contemporary dwelling interior, rather than serving as a polemic that seeks to replace the status quo with yet another dogma.

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2. THE FUNCTIONALIST DWELLING

“It is often forgotten that the domestication of animals included the domestication of humans.”

(Bose, Self, & Williams, 2016, p. 39)

2.1 INTRODUCTION

This chapter traces the emergence and proliferation of functionalist spatial planning within the domestic environment through the important works and writings of Robert Kerr (1864), Hermann Muthesius (1904), Margarete Schütte-Lihotzky (1926-1927), Alexander Klein (1934) and Ernst Neufert (2015; 1936). These principles continue to be promoted and propagated, often unconsciously through the functionalist logic that is embedded in planning guides, building regulations, codes, design methods, rules-of-thumb and standard house types that are utilised in the production of contemporary housing. It would be naïve and frankly misguided to make a blanket critique of functionalism, and in doing so ignore important work that has been undertaken with the best of intentions, namely improving the standard of living conditions. However, this research project is critical of a positivistic¹ approach to the application of functionalist planning principles that continues to inform architectural praxis and its approach to the spatial organisation of the contemporary dwelling interior. Over the course of this chapter a variety of consequences are discussed that result from this approach to spatial planning. Functionalism in spatial planning terms reinforces dichotomies and absolutes by abstracting human behaviour into definite ‘functions’, ‘place’ into Cartesian ‘space’ and inhabitants into ‘users’, thereby reducing the reality of the built environment into those aspects that are represented most effectually in a plan drawing.² This planimetric approach to spatial organisation results in the abstraction of the ‘real’ into ‘logico-mathematical space’, or what Henri Lefebvre would refer to as ‘dominated space’. Mono-functional and multi-functional spaces encourage deterministic forms of inhabitation, whilst ‘neutral’ space, illustrated best by the ubiquitous ‘open-plan’ layout that is intended to have functional flexibility, typically lacks definition as to how one may appropriate it through the removal of any spatial articulation. The contemporary writings of Robin Evans (1997), Bernard Leupen (2006) & (2011), Stephen Bates (2016) and most recently, Shumi Bose, Jack Self and Finn Williams (2016) and their contributions to the ‘Home Economics’ Exhibition at La Biennale di Venezia in summer 2016, have highlighted this continuing ‘crisis’ in domestic architecture and the need for debate from within the architectural profession.

1. Positivistic here is used in the literal sense to refer to the definitive application of functionalist planning logic without questioning its broader consequences.

2. In the chapter, “From Absolute Space to Abstract Space” from the book, “The Production of Space” (2016; 1974), the French philosopher and sociologist, Henri Lefebvre writes extensively on the abstraction of the lived reality of the ‘real’ into ‘functions’, ‘Euclidean’ space & ‘users’ through the utilisation of architectural forms of representation, in particular the plan drawing.

2.2 A TOPICAL DISCOURSE

The British Council presented the exhibition 'Home Economics' (2016) in the British Pavilion at the 15th International Architecture Exhibition, La Biennale di Venezia in summer 2016 in order to challenge what they described as a 'crisis' in domestic architecture. The curators, Shumi Bose, Jack Self and Finn Williams commissioned five architectural propositions that challenge the status quo of housing and propose new models for the home. These dwelling proposals have been designed around incremental amounts of time relating to the duration of occupancy: Hours, Days, Months, Years and Decades, rather than pre-scribed programmatic functions. Five groups of designers were selected to design a spatial proposition for each of the time scales, Hours by Shumi Bose, Jack Self and Finn Williams, Days by Åyr, Months by Dogma & Black Square, Years by Julia King & Decades by Hesselbrand. The central ambition of the curators has been to overturn what they see as the prevalence of functionalist planning principles and their influence on the spatial organisation of the contemporary dwelling interior with the premise that, "The Western tradition of architecture has for the last century been trying to apply ideas of industrial ergonomic efficiency into the design of the home." (Bose et al., 2016, p. 12) These installations were realised inside the British pavilion at La Biennale di Venezia 2016 as full-scale prototypes that could be inhabited, allowing visitors to experience the places first hand rather than having to interpret them through architectural floor plans or drawings. Of particular interest to this research project is the 'Decades' pavilion designed by the architectural practice, Hesselbrand. This proposition manifests itself as a dwelling defined by 'spatial conditions' rather than by specific functions or predetermined activities. The proposal provides a variety of places with different qualities of light, levels of enclosure, levels of privacy and a variety of material finishes. As with the 'Home Economics' exhibition, the central aim of this PhD project is to challenge a positivistic approach to the application of functionalist spatial planning principles within the contemporary dwelling interior. Where the curators of the 'Home Economics' pavilion have chosen to engage with the temporal, this research project focuses on the spatio-visual qualities of the domestic interior.



Figure 2.01 Decades Pavilion, Home Economics Exhibition, Venice, Hesselbrand, 2016

The British Pavilion from La Biennale di Venezia, highlights a ‘crisis’ in the spatial organisation of contemporary housing, which the British academic Robin Evans wrote about almost 40 years earlier, highlighting that his words still have great resonance today. Evans wrote the essay, “Figures, Doors and Passages” back in 1978, which would eventually be included in his seminal book, “Translations from Drawing to Building and Other Essays” (1997). In the text he challenges the conventional spatial arrangement of the contemporary house, where canalised circulation space links compartmentalised terminal rooms that are intended for distinct functions, governing social interactions, which he argues has become so commonplace that we never think to challenge it. He writes, “at first it is difficult to see in the conventional layout of a contemporary house anything but the crystallization of cold reason, necessity and the obvious, and because of this we are easily led into thinking that a commodity so transparently unexceptional must have been wrought directly from the stuff of basic human needs.” (Evans, 1997, p. 56) Evans refers back to example dwellings from the 16th century that exhibit a spatial arrangement based upon a matrix of discrete, yet thoroughly connected rooms and then goes on to trace the emergence of the corridor and the ‘terminal’³ room over the last 200 years. He concludes that this transition in approach to spatial organisation was a presumptuous response towards a puritanical approach to privacy, which was then reaffirmed by the early modernists during the 20th century. As with the ‘Home Economics’ installation, Evans’s purpose is to make the reader question the commonplace, customary organisation of domestic space that continues to be dominated by functionalist planning principles.

2.3 ARCHITECTONIC PATTERNS FOR LIVING

At this juncture, it is useful to state that this research project is approached from the perspective of a practicing architect.⁴ With this in mind, we will briefly discuss the role, or perhaps better described as, the responsibility of the architect when composing the spatial arrangement of the dwelling interior. As the organisation of a house is defined, places emerge that offer opportunities for inhabitant appropriation which support certain forms of dwelling and that hinder others. The completed design places constraints,

3. A ‘terminal’ room has a single strategically placed door that allows the space to be used for a specific activity without unwanted intrusion. Typically, ‘terminal’ rooms are connected to other parts of the building by a circulation space, such as a corridor.

4. Research, teaching & practice have a synergism in the daily working routine of the author. In addition to the author’s academic commitments, he continues to work on architectural competitions with colleagues at KADK and building projects together with the Stockholm based office, Berg Thornton Arkitekter.

whether intentionally or not, on the daily lives and indeed everyday practices of those who inhabit the domestic built environment. The positioning and sizing of every wall, floor, ceiling and opening define spatial qualities that influence and contribute to the opportunities for appropriation that are inherent within the dwelling. Robin Evans notes the significance of the architectural plan and the consequence that it has on human interaction, and not just on the forms of dwelling supported within. “If anything is described by an architectural plan, it is the nature of human relationships, since the elements whose trace it records – walls, doors, windows and stairs – are employed first to divide and then selectively to re-unite inhabited space.” (Evans, 1997, p. 56) Evans underlines the influence that the architect has on the social behaviour of those that inhabit the houses that they design, based upon their interior spatial organisation.

One of the primary, and indeed, fundamental purposes of a dwelling is to create a separation between an uncertain environment outside and a controllable domestic setting within. A dwelling creates conditions for the diverse habitual routines of its inhabitants, which are influenced by their historical, cultural, societal, political, economic, geographical and climatic context. Typically, these everyday routines are organised into definite activities which are in turn spatially situated in relation to one another in order to form a dwelling. Certain demands are then placed on the spatial organisation of the dwelling and upon the individual spaces needed to accommodate each purpose. Despite certain ubiquitous requirements, the contextual differences discussed above have led to a huge variation in the spatial organisation of dwellings throughout history. It is important at this stage to challenge our pre-conceptions about the spatial interior of the dwelling within a European context. Seemingly ubiquitous spatial devices such as the corridor, the mono-functional room, the ‘terminal’ room and neutral ‘open plan’ spaces have all emerged within the last 150 years with the premise of improving the functionality of the domestic interior.

The conventions used to name and describe specific spaces within the home can also have a great consequence as to how one appropriates the domestic built environment. As architectural practitioners, it also greatly influences ones’ approach to spatial organisation when designing housing. Given its rich

architectural heritage, many academics⁵ have made productive comparisons between Japanese and Western traditions of spatial organisation, particularly in relation to the domestic interior. In the book, “Japanese Houses: Patterns for Living” (1968), the Japanese architect and academic, Kiyoyuki Nishihara contrasts what he refers to as the Western tradition of differentiating spaces within the dwelling based upon singular prescribed functions with the traditional Japanese home where the room nomenclature reflects their distinguishing spatial qualities and relationship to one another. The names, ‘Zashiki’ (main room), ‘Naka-no-ma’ (middle room) and ‘Tsugi-no-ma’ (the room next to the big room) help to describe the spatial organisation of the house, while at the same time leaving the programmatic function of each space open to interpretation by its inhabitants. Nishihara writes, “The West operates on the idea that each function has its own space. The very names bedroom, dining room, bathroom, clearly show the attitude that one function should have one designated room shut off from the other spaces by four walls.” (Nishihara & Gage, 1968, p. 108) The traditional Japanese dwelling, on the other hand, is composed from a relational field-configuration of ‘ma’, which Nishihara interestingly decides to translate to ‘place’ rather than ‘room’ or ‘space’, that can accommodate a wide variety of temporal activities, both daily and seasonally. Interestingly, through a process of abstraction, Nishihara establishes six recognisable activities that are supported by both the Japanese and Western nomenclature systems, which are, sleeping, family get-together, eating, cooking, washing/evacuation & working that identify common behaviours in dwelling across cultures. The Japanese naming system also points towards a fundamental difference in spatial perception as discussed by the British academic Barrie Shelton in his book, “Learning from the Japanese City” (2012). Shelton starts by reflecting upon the Japanese child, who learns to write by positioning individual geometric characters within a square grid and compares this to the western child, who learns to write by placing linear strings of letters on horizontal lines from left to right. He then goes on to compare the Japanese city comprised of decentralised blocs each with their own centre with the western city that is typically focused around a single centre. In the two Japanese examples, spatial entities are simultaneously considered as independent elements, while at the same time always in consideration to their position within a greater constellation. The same phenomena can be observed in the spatial nomenclature of spaces

5. In addition to Kiyoyuki Nishihara (1968) & Barrie Shelton (2012), other notable academics that have made productive comparisons between Japanese and Western traditions of spatial organisation within the dwelling include, Fumihiko Maki (2008), Florian Idenburg (2010), Cathelijne Nuijsink (2012) & Pippo Ciorra (2017).

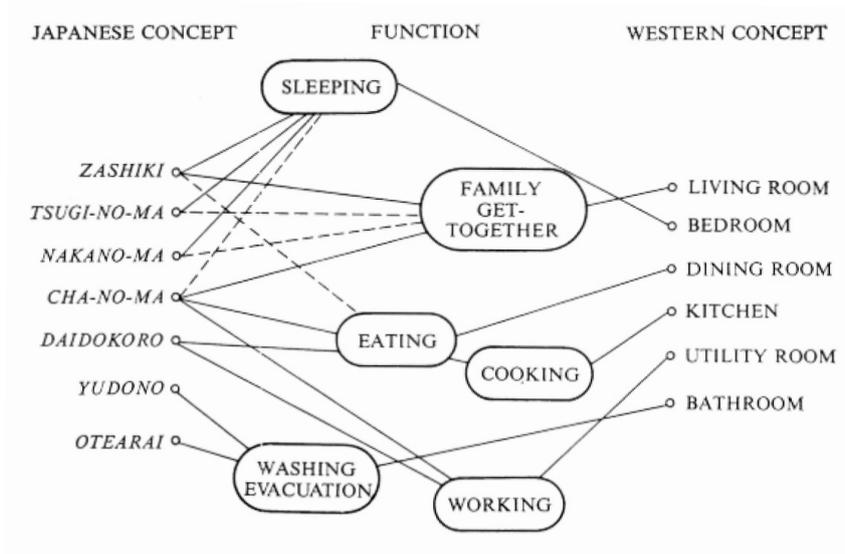


Figure 2.02 Comparisons between the functional approaches to spaces in the West and in Japan, Kiyoyuki Nishihara, 1968

within a traditional Japanese house. Nishihara proclaims, “The idea that, when all of the unit spaces needed to satisfy the needs of a family are brought together, that aggregate is a house, is the Western concept of residential architecture.” (Nishihara & Gage, 1968, p. 80) His critique of this form of spatial organisation centres on the notion that when a house is comprised from an aggregate of cellular spaces with prescribed functions, flexibility in use and its inherent opportunities for inhabitant appropriation are limited.

2.4 THE EMERGENCE & MATURATION OF THE FUNCTIONALIST DWELLING INTERIOR

The following section of the chapter focuses on the emergence and maturation of the functionalist dwelling interior and how its spatial planning principles are now engrained in the everyday production of housing. One of the challenges that one encounters when discussing ‘function’ or ‘functionalism’ within an architectural context is the confusion that can arise from the multiple interpretations of the term. The British academic Adrian Forty, gives a comprehensive account of the emergence of the term ‘function’ and its use in relation to architectural theory in his excellent book, “Words and Buildings: A Vocabulary of Modern Architecture” (2012c). Forty starts by looking back to the Vitruvian term ‘commodity’, which essentially refers to the suitability of a building to its intended use, and then moves onto the 18th century French term ‘convenance’, which can effectively be understood as the suitability of a built environment to accommodate a purpose comfortably, eventually arriving at the late 20th century ‘form-function paradigm’. Of particular interest to this discussion are the problems that can arise when the English word ‘function’ is used as a direct translation of complex terms originating in Italian, French and German. This is particularly acute in German since the language has three different words, ‘sachlich’, ‘zweckmässig’ and ‘funktionell’ that are all related to ‘function’ or ‘functional’ but whose individual nuances and conceptual depth are lost when simply translated directly to ‘function’. ‘Sachlichkeit’ for example could be loosely translated as the rational expression of construction, whereas ‘Zweckmässigkeit’ typically refers to the expression of purpose or utility (Forty, 2012b, p. 180).

A particularly interesting example of the potential for miss-communication in the nuances between ‘Sachlichkeit’ and ‘Zwehmässigkeit’ can be found in the writings of Mies van der Rohe. In the text, “Building Art and the Will of the Epoch”, written in 1924, Mies van der Rohe states that, “The function (Zwech) of a building is its actual meaning.” (Neumeyer & Mies van der Rohe, 1991, p. 246) This is representative of his promotion of the importance of ‘Zwehmässigkeit’ within architecture during the early 1920s. However, by the 1930s, he distances himself from this position, in the text “Build Beautifully and Practically! Stop This Cold Functionality (Zwehmässigkeit)” (1930) he takes a more moderate line and criticises the ‘function-proclaiming’ (zweckbehaftet) trend that he saw in contemporary architecture of the time. In the text, he acknowledges that while an attention to purpose is a precondition of beauty, it is not itself the means to achieve it. While his position on ‘Zwehmässigkeit’ changed between the 1920s and the 1930s, his ardent support of ‘Sachlichkeit’ never faltered. The nuances of Mies van der Rohe’s changing theoretical position are lost when the two German expressions, with their differing meanings, are both simply translated as function. This is significant given the number of English-speaking modernist architects that were inspired by the writings of Mies van der Rohe.

We will now explore the emergence of functionalist spatial planning within the domestic environment, which emerged long before 20th century modernism. In order to trace the emergence of functionalist planning one must, perhaps unexpectedly, look back to the picturesque movement in 18th century England. From the late 18th century, until the mid 19th century, a great number of ‘pattern books’ containing fictitious building designs, which were communicated through perspective and accompanying plan drawings, were produced by British architects. Publications such as, Nathaniel Kent’s “Hints to Gentlemen of Landed Property” (1775), James Malton’s, “An Essay on British Cottage Architecture: Being an Attempt to Perpetuate on Principle, that Peculiar Mode of Building, which was originally the Effect of Chance” (1798) and William Fuller Pocock’s “Architectural Designs for Rustic Cottages, Picturesque Dwellings, Villas etc.” (1807) promoted picturesque planning principles, often with the intention of improving the interior ‘convenience’⁶ of a dwelling’s layout. What can be seen as the most definitive and widely distributed of the pattern books arrived in the form of John Claudius Loudon’s

6. Picturesque ‘convenience’ can effectively be understood as the suitability of a built-environment to accommodate a purpose comfortably. This notion is discussed by Christopher Hussey (Hussey, 1927, p. 209), David Watkin (Watkin, 1982, p. 96) and John Macarthur, who notes its influence on the development of the notion of the functional appropriateness of a buildings spatial organisation (Macarthur, 2007, p. 159).

“An Encyclopaedia of Cottage, Farm and Villa Architecture and Furniture” (1833) eventually reprinted in an expanded form in 1842. With the original ambition of improving the architectural standards of agricultural workers cottages, albeit with a focus on disseminating picturesque aesthetics, these ‘pattern books’ can be seen as a precursor⁷ to the ubiquitous planning guides that emerged during the 20th century, such as Ernst Neufert’s “Architects’ Data” (2015; 1936), and that greatly proliferated functionalist planning principles. It is important to note at this stage the primacy of ‘pictorial planning’ within the picturesque, and while one can acknowledge the influence of the ‘pattern books’ on functionalist ‘planning guides’ it would be misleading to equate the two. What makes the picturesque ‘pattern books’ distinctive is their combination of perspective illustrations with nominal plan drawings, thus coupling pictorial and planimetric approaches to spatial planning.⁸

A key bridging text between the picturesque ‘pattern books’ and the proto-modernist architects is “The Gentleman’s House: Or, How to Plan English Residences, from the Parsonage to the Palace” (1864), written by the Scottish architect Robert Kerr. It is considered as one of the first comprehensive books on architectural planning and can be viewed as explicitly communicating ideas that were only ever implicit in the earlier picturesque ‘pattern books.’ Kerr’s writing forms a key treatise on domestic planning with a focus on the spatial organisation of dwellings along utilitarian lines, and it has arguably had a great influence on the spatial organisation of the contemporary dwelling interior. The author is particularly critical of domestic plan layouts that contain ‘thoroughfare rooms’, which have multiple doors leading to an interconnected matrix of rooms. A domestic plan layout based upon a matrix of rooms was common at the time and was inspired by 16th century Italian architecture. Instead, Kerr advocates the use of ‘terminal’ rooms that have a single strategically placed door allowing the different spaces to be used for specific functions by individuals affording privacy without unwanted intrusion. For Kerr, privacy was related to the separation of the family and servants’ location, activity and movements through the house for the mutual benefit of both ‘communities.’ Kerr writes, “Whatever may be their mutual regard and confidence as dwellers under the same roof, each class is entitled to shut its door upon the other and be alone.” (Kerr, 1864, p. 68) In the text,

7. In the chapter “Irregularity”, from the book “The Picturesque: Architecture, Disgust and other Irregularities” (2007), John Macarthur notes the influence that picturesque ‘pattern books’ published in the late 18th & early 19th century, with their focus on improving the interior ‘convenience’ of buildings, had on proto-functionalist architects such as Robert Kerr (1864) and Hermann Muthesius (1904).

8. The picturesque and its spatial planning principles will be discussed in greater depth in chapter 07, “A Picturesque Dwelling”.

Kerr also makes a key distinction between route or ‘trajectory’ and destination or ‘position’, effectively introducing a differentiation between circulation space and terminal ‘function’ spaces and promoting a technique of ‘room and corridor’ planning. A consequence of this was the abandonment of the matrix of rooms layout that supported movement through filtration in favour of the canalisation of the domestic interior based upon utilitarian rationale, where specific functions are distributed into discrete rooms. “If we forget for a moment that what is being organized is the bizarre social engine of the English country house, Kerr seems rigorously rational and functionalist.” (Macarthur, 2007, p. 154) Kerr’s writings had notable influence on a new generation of German spatial practitioners that were active towards the end of the 19th century through influential publications such as “Das Englische Haus” (1904), written by the German architect Hermann Muthesius.

At the start of the 20th century, one begins to see an industrialisation of domestic space with the objective of improving efficiency, utility and living conditions, particularly for the working classes.⁹ Inspiration was taken from public buildings, such as factories and offices, that exemplified functionalism, optimisation and efficiency, which was then applied to the dwelling interior. Peter Behrens’s design for an archetypal ‘Dining Room’ for the Wertheim department store in Berlin (1901-1902) is an early note-worthy example of this approach to domestic planning which, “helped establish a model of architectural micro-management over the home that remains a misleading ideal for the profession.” (Bose et al., 2016, p. 52) Another well-known example from this period is Margarete Schütte-Lihotzky and her work on the ‘Frankfurt Kitchen’ (1926-1927), which embraced the idea of optimisation of utility and the principles of standardisation by taking inspiration from ships’ galleys and railroad dinning-car kitchens. Emphasis was placed on minimising the number of steps taken between the various ‘work’ stations within the kitchen and the position of stored goods in order to reduce the time and space required for the processing of food. As discussed by the British academic and Professor of Design History, Penny Sparke, these ideals were, “proposed as a solution to the problem of the ‘minimum dwelling’, that is to the possibility of low income families being able to live their lives in a basic, utilitarian environment.” (Sparke, 2010, p. 157) Once applied to the domestic interior these aspirations placed emphasis on the utilitarian features of the

9. In the chapter, “The Mass-produced Interior” from the book, “The Modern Interior” (2010), the British academic and Professor of Design History, Penny Sparke discusses the notion of the ‘minimum dwelling’ with its objective of improving efficiency, utility and living conditions for low income families.



Figure 2.03 Frankfurt Kitchen Elevation, Margarete Schütte-Lihotzky, 1926-1927

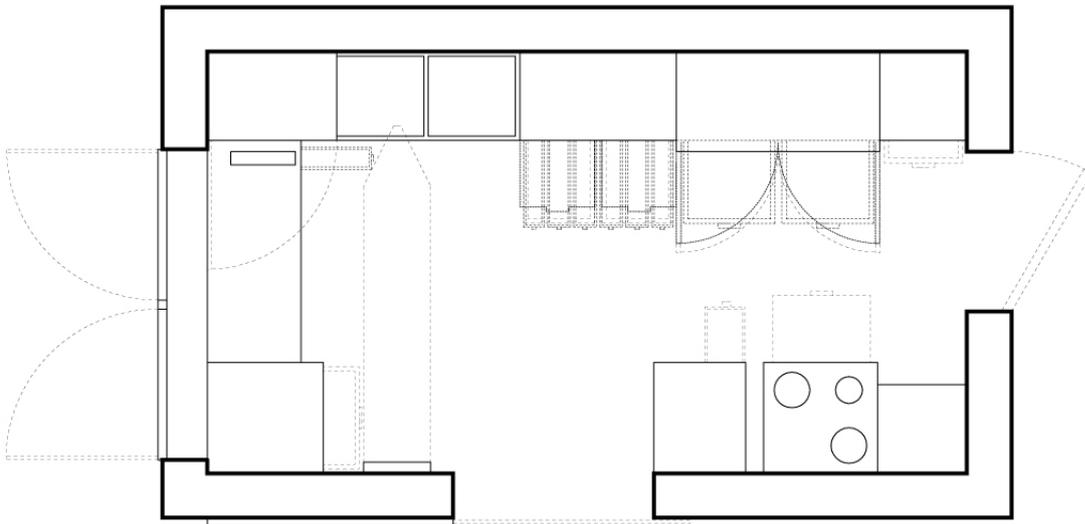


Figure 2.04 Frankfurt Kitchen Plan, Margarete Schütte-Lihotzky, 1926-1927

dwelling and the efficiency of the functional processes undertaken within. The consequence of this in spatial terms was to place merit on a reductionist approach to planning where space that was deemed to lack purpose was removed and that this could be qualified under the guise of functional optimisation.

During the 1920s, functionalist theorists and practitioners based in Continental Europe and in particular the German speaking countries moved their attention from individual programmatic parts of the dwelling to the complete spatial organisation of the domestic interior. In 1928, the Russian born architect Alexander Klein published his text, “The Functional House for Frictionless Living” (Bauer, 1934), which documented the results of research that was carried out for a German housing agency, where he introduced and advocated the concept of the ‘functional’ dwelling layout. The spatial arrangement of the ‘functional’ dwelling removed ‘unnecessary’ circulation space and consigned specific functions to individual rooms that were then sized and proportioned accordingly. Flow-lines were utilised on comparative floor plans to show the ‘functional superiority’ of Klein’s spatial organisation over a ‘typical’ 19th century dwelling layout. Of particular note, is the reduction of the central entrance room in size until it becomes no more than a circulation corridor that enables the complete segregation of the ‘necessary movements’ of the dwellings inhabitants. This strategy of removing the central room failed to acknowledge that it was not simply just a hallway, but due to its size it could be inhabited as a room in its own right. “The justification for Klein’s plan was the metaphor hidden in its title, which implied that all accidental encounters caused friction and therefore threatened the smooth running of the domestic machine.” (Evans, 1997, p. 85) Klein’s text was widely distributed and his methods and conclusions were greatly praised by the American public housing advocate Catherine Baur, who then went on to promote them in her influential book, “Modern Housing” (1934).

Building upon the earlier work of Alexander Klein, yet arguably of greater, and certainly longer lasting influence is the German architect Ernst Neufert. He was an assistant to Walter Gropius and authored the seminal compendium “Architects’ Data” (2015; 1936), which was published for the first time in 1936

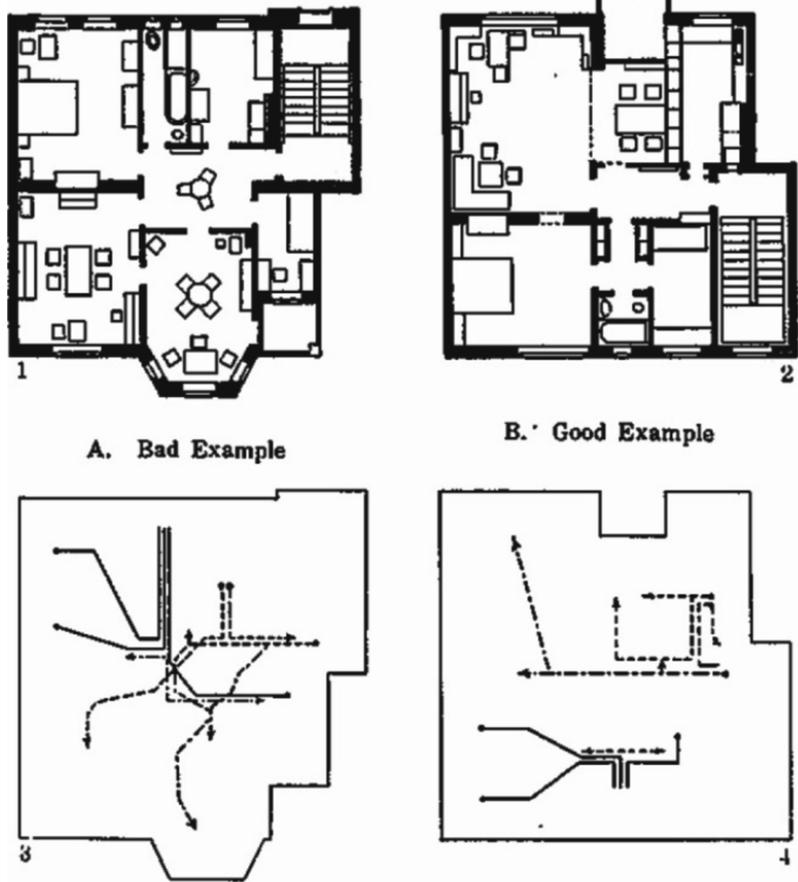


Figure 2.05 The Functional House for Frictionless Living, Alexander Klein, 1928

with the intention of introducing ‘standards’ into architectural planning based upon building typologies and their functional requirements, thereby encouraging the translation of program into form. “It reimagined the ‘art of building’ (Vitruvius) as a system for organising and arranging dimensional norms, which interpolated the architect as a kind of ‘computer’ – that is, as someone who calculates, computes and organises.” (Vossoughian, 2014, p. 49) Organised along typological lines, the book is comprised from a vast catalogue of schematic interior layouts that are mediated through ‘planimetric’ drawings. These plan layouts indicate minimum size guidelines based upon programmatic ‘standards’ that in turn promote a Cartesian understanding of space. The book effectively serves as a reference library for architects, with extensive ‘data’ for the efficient planning of dwellings it propagates an approach to the spatial organisation of the domestic interior based upon functionalist principles. The book, “remains a first port-of-call for most designers who rely on the metric system.” (Vossoughian, 2014, p. 36) It continues to be updated and published widely today, influencing architectural practitioners and policy makers alike. The functionalist logic promoted by Neufert’s “Architects’ Data” is now “embedded in the regulations, codes, design methods and rules-of-thumb which account for the current day-to-day production of contemporary housing.” (Sergison & Bates, 2016, p. 112) Neufert’s “Architects’ Data” is so widely used and referenced within architectural practice today that it is no longer associated with the original functionalist agenda that it was written with, back in the 1930s. Neufert’s “Architects’ Data” and other associated planning guides, such as “Architect’s Pocket Book” (1997) and “Metric Handbook: Planning and Design Data” (2012) contribute to the propagation of a ‘planimetric’ approach to spatial organisation based upon functionalist planning principles.

Over the course of the 20th century functionalism matured and adapted, often in response to criticism from within the architectural profession, while continuing to be propagated throughout the building industry. The notion of functional ‘flexibility’ within modernist architecture emerged in the latter half of the 20th century with the aim of redeeming functionalism from its deterministic tendencies. The assumption was, that programmatic ‘flexibility’ would allow functionalist architecture to accommodate unforeseen changes to its inhabitants’ needs by providing multifunctional spaces that were

adaptable. As noted by Adrian Forty (2012a), ‘flexibility’ through architectural means is usually achieved in one of the following two ways, flexibility by ‘redundancy’ or flexibility by ‘technical means’. Flexibility through ‘redundancy’, as explained by Rem Koolhaas in ‘S,M,X,XL’ (1999), requires an excess in capacity of space that enables the architecture to accommodate multiple functions. Flexibility by ‘technical means’, on the other hand, relies upon transformability through moving parts, such as sliding walls and partitions or adaptable construction systems.¹⁰ From the 1950s onwards, experimentation with functional ‘flexibility’ through architectural means has largely continued to promote the presumption that all parts of a building should be destined for specific functions based upon abstract ‘activities’. There was strong criticism during the 1960s to the kind of indeterminate architecture that resulted from functional ‘flexibility’, specifically from the Dutch architects that were associated with Team X, in particular Herman Hertzberger and Aldo van Eyck.¹¹ Hertzberger’s critique of ‘flexibility’ can also be seen as a wider critique of ‘functionalism’ in general, and the spaces that resulted from its implementation. He writes, “even if living and working or eating and sleeping could justifiably be termed activities, that still does not mean that they make specific demands on the space in which they are to take place – it is the people who make specific demands because they wish to interpret one and the same function in their own specific ways.” (Hertzberger, 1962, p. 117) Hertzberger’s comments are strikingly similar to Nishihara’s observations on functionalism, as discussed earlier.

In 1974, the French philosopher and sociologist, Henri Lefebvre wrote his seminal book “The Production of Space” (1974). The book is worthy of mention here since Lefebvre makes some pertinent observations about functionalism and some of the consequences that it had spatially. In “The Production of Space”, one of Lefebvre’s central critiques is focused upon capitalism’s propagation of ‘abstract space’ and the role of architecture as an intellectual discipline within the process of its production. Lefebvre claims that when the complex lived reality of space, which he refers to as ‘social space’ is approached simply as ‘logico-mathematical space’ it becomes an abstraction, which he refers to as ‘abstract space’. He argues that architects tend to approach space as a ‘neutral’ quantifiable substance that is defined by Euclidean geometry, but that this *modus operandi* completely ignores the

10. Gerrit Rietveld’s Schröder House, Utrecht, Netherlands, built in 1924 is regarded by many as the architectural prototype of interior spatial flexibility by ‘technical means’.

11. Team X formed as a reaction to the uncompromising functionalism being propagated by The Congrès Internationaux d’Architecture Moderne (CIAM), which reached its climax in 1959, with its focus now firmly on the notion ‘The Functionalist City’. Team X took inspiration from the writings of the French Anthropologist Claude Lévi-Strauss and were characterised by a more anthropological approach to the forming of the built environment.

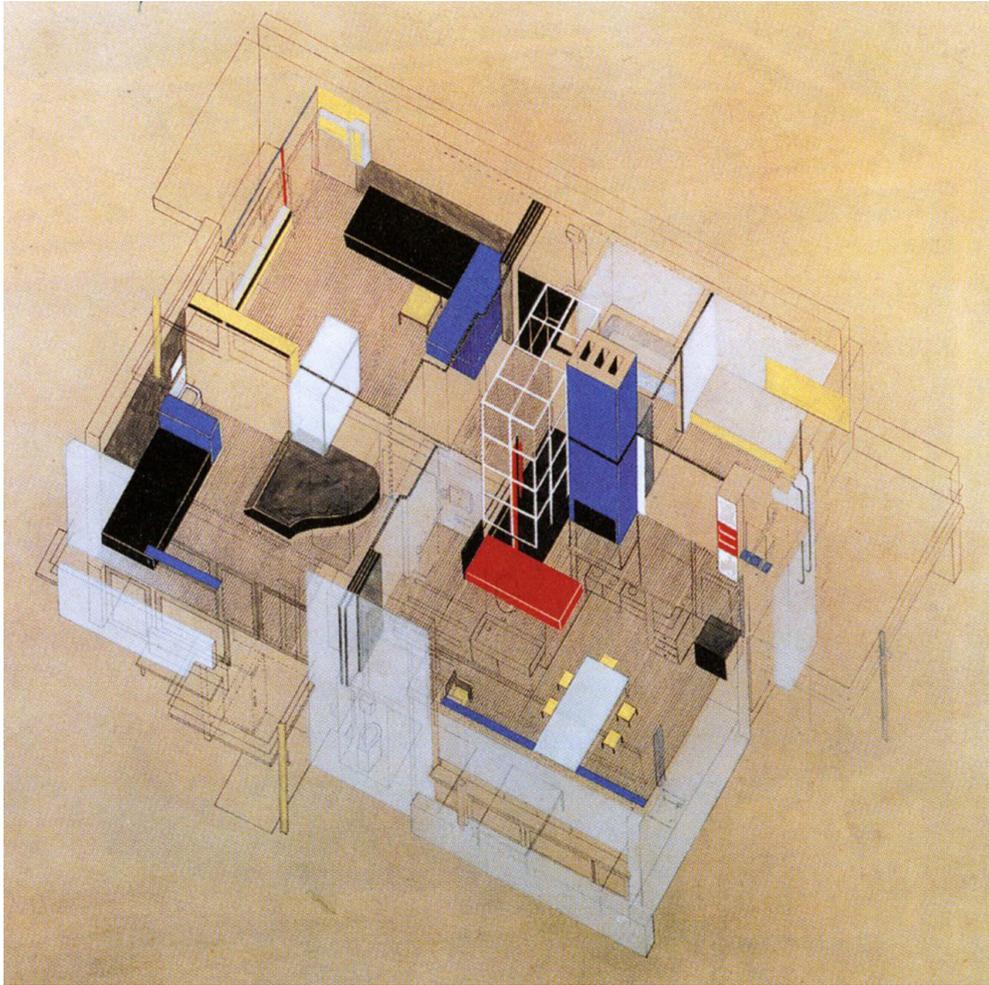


Figure 2.06 Schröder House Axonometric, Utrecht, Netherlands, Gerrit Rietveld, 1924

complexity of ‘social space’. Lefebvre refers to the ‘space of architects’, which can effectively be thought of as the professions manipulation of ‘social space’ into ‘abstract space’ through both a particular approach to spatial organisation as well as a common means of representation. These forms of architectural representation, in particular the plan drawing with its translation of the lived reality of space into two dimensions, contribute greatly to the abstraction of ‘social space’ into ‘abstract space’. With more than a passing critique of the Modern Movement and in particular the ‘dogma’ which he sees as being inherent within ‘functionalism’, Lefebvre criticises “the reduction of the ‘real’ ... to a ‘plan’ existing in a void and endowed with no other qualities.” (Lefebvre, 2016, p. 287) For example, when spaces within dwellings are defined as ‘rooms’ with specific functions, it enforces a particular use for that space by its inhabitants which are then in turn abstracted into ‘users’. Lefebvre is particularly critical of what he refers to as ‘dominant space’, which he argues results from architects imposing functional categories upon ‘abstract’ space. He writes, “Functionalism stresses function to the point where, because each function has a specially assigned place within dominated space, the very possibility of multifunctionality is eliminated.” (Lefebvre, 2016, p. 369) Lefebvre’s critique of ‘dominated’ space and his advocacy of programmatic flexibility through supporting inhabitant appropriation echoes the earlier sentiments of Herman Hertzberger and Aldo van Eyck, who both place emphasis on the design of built environments that support interpretative inhabitation.

Another spatial legacy of functionalism, and in particular of architecture that strives for functional ‘flexibility’ through redundancy, has been the emergence of ‘neutral’ space. ‘Neutral’ space within the domestic landscape is perhaps best represented by ‘open-plan’ areas that are intended to be multi-functional, but that lack character or definition as to how one may appropriate them. In his 1962 text, “Steps Towards a Configurative Discipline”, Aldo van Eyck is highly critical of, “the tendency to desire great neutrality for the sake of extreme transmutability.” He continues, “We must beware of the glove that fits all hands, and therefore becomes no hand. Beware of false neutrality.” (Eyck, Ligtelijn, & Strauven, 2008, p. 341) For Aldo van Eyck, the main issue with ‘open plan’ is the emphasis that it places on the concept, or ‘sickness’ of spatial continuity and the removal of any articulation between places (Eyck et al.,

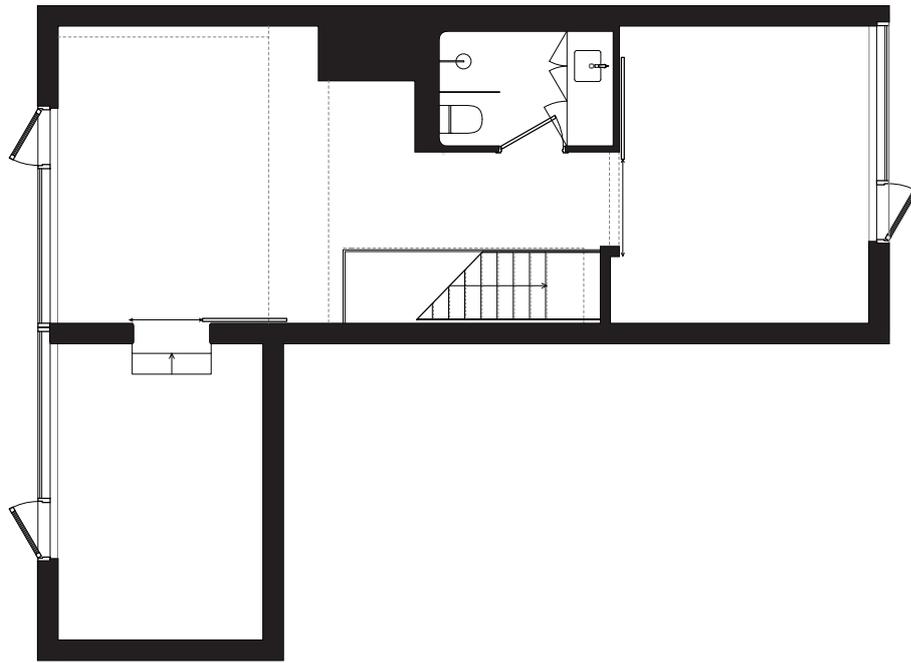
2008, p. 319). In the chapter, “An open plan of rooms” from the book “Papers 3: Sergison Bates Architects” (2016), the architect Stephen Bates is critical of both ‘mono-functional’ rooms, as well as the current trend for neutral ‘open-plan’ spaces in domestic architecture. He argues that ‘neutral’ open-plan space ignores the inhabitant’s need to be able to actively appropriate a variety of distinct ‘rooms’ that have a diversity in character, and yet form a coherent spatial whole.

2.5 THE FUNCTIONALIST DWELLING INTERIOR TODAY

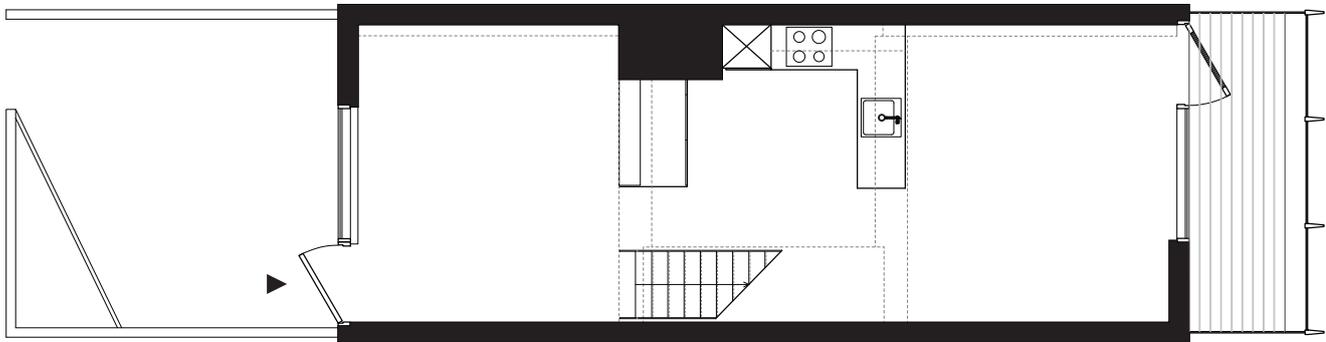
The following section of the chapter refers to two contemporary examples of dwelling interiors from a Danish context that are indicative of the legacy of functionalism and its technocratic approach to spatial planning. These two dwellings are intended to be representative of how functionalism continues to manifest itself today, often unintentionally, and the effects that it can have on the spatial arrangement of the dwelling interior. The first example is ‘8tallet’ (2010), commonly known as ‘8 House’ located in Vestamager, Copenhagen and designed and completed by Bjarke Ingels Group (BIG) in 2010. ‘8tallet’ has been chosen as an example here because it has won several prestigious awards for its design, and is therefore representative of the building industries current values or aims in relation to domestic architecture. The project has been highly acclaimed on completion, receiving the Best Housing Award at the World Architecture Festival in 2011 and being recognised by the American Institute of Architects with the Architects Honour Award for Architecture, 2012. The project is a large mixed used development consisting of 61,000m² of residential housing combined together with 10,000m² of retail premises and offices. ‘8tallet’ is archetypal of BIG’s ‘diagrammatic formalism’,¹² deriving its title from the figure of eight form of the building as it wraps around two public courtyard spaces. An elevated ramping promenade weaves around the figure of eight and provides access to the ‘row-house’ type dwellings with the intention of fostering a sense of community by encouraging social interactions between neighbours. The primary focus of the architects has been on the exterior form of the building and the interweaving outdoor communal ‘streets’ and courtyard spaces. Arguably, the interior spatial organisation of the individual apartments, on the other hand, emerge as a

12. In the chapter, “Image-Building” from the book, “The Art-Architecture Complex” (2011), the American Professor of Art and Archaeology, Hal Foster refers to the architecture of Rem Koolhaas as ‘diagrammatic formalism’, which also seems appropriate to describe the work of BIG given their similarities and shared history.

2. THE FUNCTIONALIST DWELLING



FIRST FLOOR



GROUND FLOOR

Figure 2.07 '8tallet' Row House, Typical Floor Plans 1/100, Ørestad, Copenhagen, BIG Architects, 2012

consequence of the exterior form of the building and its resulting public spaces rather than as a primary motivation for the design of the building.

The spatial organisation of a typical ‘row-house’ apartment from ‘8stallet’ could largely be described as ‘open-plan’ with a utilitarian approach to the distribution of functions. A services core with sanitary pipework, electrics and digital utilities passes vertically between the floors. On the ground floor, the kitchen is functionally planned with a ubiquitous triangular configuration between the fridge, oven/cooker and wash basin and on the first floor a modest shower room is planned to minimal functional spatial requirements. On the first floor, two ‘terminal’ rooms, each with a single means of access via a sliding door provide obvious spaces for bedrooms. On entering the apartment, one immediately notices the lack of any articulation between the outside and the inside as the front door opens directly into the ‘open-plan’ living area. The second space that is particularly worthy of scrutiny is the large ‘open-plan’ area on the first floor, located in between the bathroom and the smaller bedroom. This ‘neutral’ space merges with the landing at the top of the staircase and lacks any definition or character as to how one may appropriate it. The fact that this space functions as a thoroughfare to the smaller bedroom, the low-level window lintel and a distinct lack of privacy makes it unsuitable for many domestic activities.

While the apartment building typology is commonplace in the cities, single-family detached dwellings account for 42% of the housing market in Denmark, making them by far the most common house type. “Everything seems to indicate that single-family houses will remain the most popular type of housing in Denmark ... It is also likely that many new single-family houses will be built.” (Kristensen, 2007, p. 29) Denmark will require 130000 new houses by 2030.¹³ Although there is a nationwide tendency for migration to the larger cities in Denmark, Copenhagen’s net migration is lower than expected, as many families with children decide to move out of the city, typically into single-family houses. (Bro, Rosenberg Bendsen, Bo Jensen, & Levinsen, 2017, p. 16) Therefore, the second dwelling example chosen is a ubiquitous single-family ‘type’ house that is common in Denmark. Danish companies such as Lind & Risør and HusCompagniet offer pre-designed single-family houses that can be purchased online as a complete design &

13. In the chapter, “Owner-occupied, detached and semi-detached single-family houses” from the book, “Housing in Denmark” (2007), the Head of Centre for Housing and Welfare at Realdania Research, Hans Kristensen discusses in detail the future requirements for housing in Denmark.

build service. What is noticeable about these standardised type houses is that they have rigid plan configurations that are clearly the result of a functionalist approach to spatial planning. Customers can select a plan layout based upon their desired floor area in m² and their preference for the overall shape of the dwelling, for example, rectangular, L-shaped, staggered or even H-shaped.¹⁴ These floor plan layouts are typified by mono-functional terminal rooms that are optimised by being designed to the minimal spatial requirements for specific activities, together with open-plan areas that epitomise the notion of functionalist flexibility through redundancy. These ‘type’ houses represent the contemporary manifestation of the functionalist principles laid down almost a century ago by spatial practitioners such as, Margarete Schütte-Lihotzky (1926-1927), Alexander Klein (1934) and Ernst Neufert (2015; 1936).

The example dwellings discussed above are also indicative of two phenomena within the production of contemporary housing that are worth noting here. Firstly, companies such as Lind & Risør and HusCompagniet are representative of standardised house-types where it is no longer necessary to involve an architect in the design process. Within a European context, “it is estimated, that less than 5 percent of houses built, are built with the involvement of an architect.” (Vogler, 2015, p. x) Now while this may not necessarily be a negative phenomenon it certainly restricts the architectural professions ability to realise innovative dwelling forms that can contribute to a productive discussion about the spatial organisation of the domestic environment. Secondly, when architects are involved in the production of housing, their input is often limited to the formal expression of the exterior envelope. The British architect Finn Williams notes that functionalist planning principles, which are fostered by technical, legislative and economic pressures, often result “in the practice of ‘jacketing’ – using architects to design facades for readymade standard house-types to secure planning permission.” (Bose et al., 2016, p. 52) With this in mind, this Ph.D. research project places its focus directly on the spatial organisation of the contemporary dwelling interior in order to contribute to an under represented realm of the built environment within the architectural profession.

14. A comprehensive collection of ‘type’ house plan layouts from HusCompagniet can be viewed at, <https://www.huscompagniet.dk/> (accessed 10th May 2019) and from Lind & Risør can be viewed at, <https://www.lr-hus.dk/> (accessed 10th May 2019).

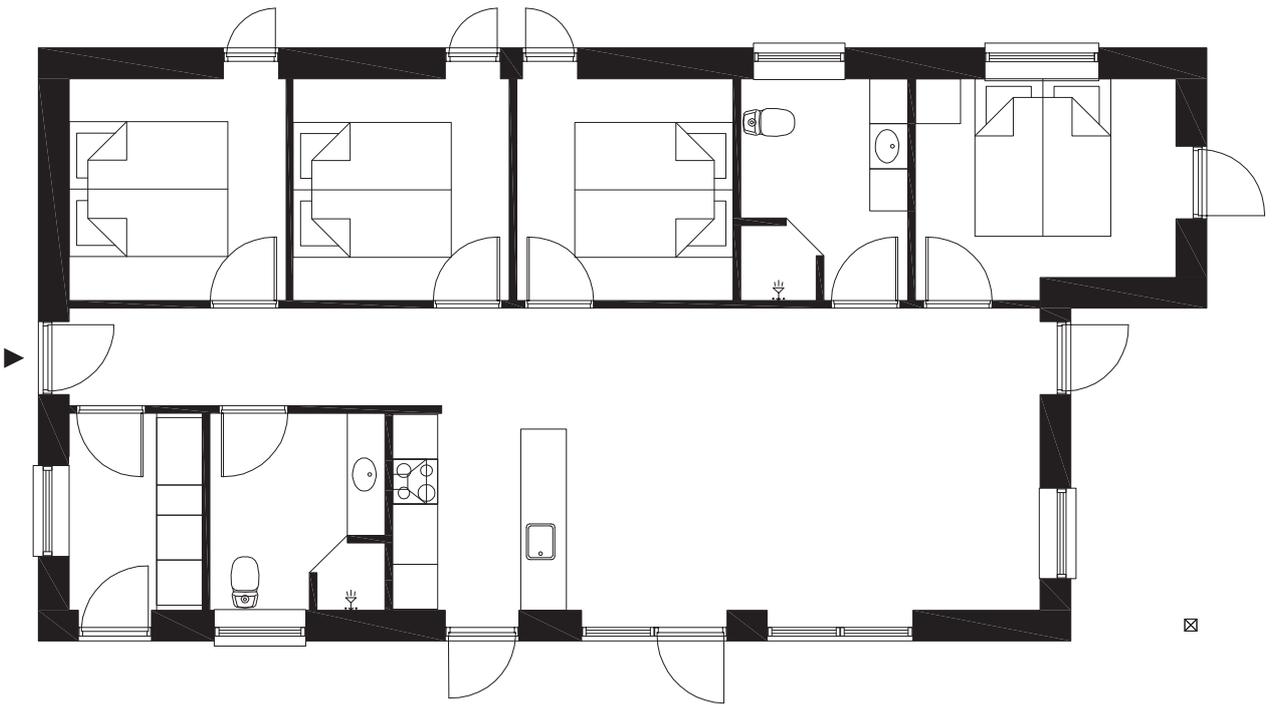


Figure 2.08 Længehus 114m² villa, HusCompagniet, 2019

2.6 THE SPATIAL LEGACY OF FUNCTIONALISM

In this chapter, we have traced the emergence of functionalist spatial planning within the domestic environment back to late 18th century England and the publishing of picturesque ‘pattern books’ that promoted principles intended to improve the interior ‘convenience’ of dwellings. Through the subsequent writings of Robert Kerr (1864), which can be considered as one of the first comprehensive books on architectural planning, a key distinction was made between circulation space and terminal ‘function’ spaces. From the latter half of the 19th century onwards we begin to see an industrialisation of domestic space with the objective of improving efficiency, utility and living conditions, particularly for the working classes, perhaps epitomised best in the work of Margarete Schütte-Lihotzky on her ‘Frankfurt Kitchen’ (1926-1927). In subsequent influential publications from Alexander Klein (1934) and Ernst Neufert (2015; 1936) functionalist planning principles were applied, not only to individual programmatic parts of the domestic environment, but instead to the complete spatial organisation of the dwelling interior. These principles continue to be promoted and propagated, often unconsciously through a functionalist logic which is embedded in planning guides, building regulation, codes, design methods, rules-of-thumb and readymade standard house types that are utilised in the production of contemporary housing. In the article, “Standardization Reconsidered: Normierung in and after Ernst Neufert’s Bauentwurfslehre” (2014), the architectural historian Nader Vossoughian proclaims the legacy of this functionalist thinking, “it subordinated design to the exigencies of program, privileged the empirical over the psychological, and planimetric representation over perspectival rendering.” (Vossoughian, 2014, p. 41) A prerequisite of these functionalist planning principles is the acceptance that peoples’ everyday social behaviour and routines can be abstracted into a set of definite functions and that these functions can then be consigned to specific spaces that satisfy certain ergonomic requirements. These specific spaces should then be arranged together in a way that minimises unnecessary ‘circulation’ space under the guise of utilitarian efficiency. As observed by Kiyoyuki Nishihara, from a functionalist mindset it is then assumed that the aggregate of this planning exercise results in a dwelling.

Over the course of this chapter, we have discussed a variety of consequences that result from a positivistic approach to the application of functionalist planning principles on the spatial organisation of the contemporary dwelling interior. Functionalism in spatial planning terms reinforces dichotomies and absolutes by abstracting human behaviour into definite ‘functions’, ‘place’ into Cartesian ‘space’ and inhabitants into ‘users’, thereby reducing the reality of the built environment into those aspects that can be represented in a plan drawing. This ‘planimetric’ approach to spatial organisation results in the abstraction of the ‘real’ into ‘logico-mathematical space’, or what Lefebvre would refer to as ‘dominated space’. Mono-functional and multi-functional spaces enforce the presumption that domestic areas should be destined for specific functions or activities and continue to encourage deterministic forms of inhabitation by a buildings’ inhabitants. ‘Neutral’ space, has emerged from the desire to create functional flexibility through redundancy, but it typically lacks definition or character as to how one may appropriate it. This phenomenon is particularly apparent in the domestic interior where ‘open-plan’ spaces are created through the removal of spatial articulation or thresholds, with the intention of providing spatial continuity and functional flexibility. When applied to the dwelling as a whole, functionalist principles place merit on a reductionist approach to planning where space that is deemed to lack purpose is removed and that this can be justified as functional optimisation. Under the guise of utilitarian efficiency, circulation space is minimised to allow for ‘necessary movements’ only. Any areas seemingly without function are purged from the plan, which has resulted in the removal of many thresholds spaces from within the contemporary dwelling interior.

It would be naïve and frankly misguided to make a blanket critique of functionalist principles and in doing so, ignore the important work of practitioners such as Margarete Schütte-Lihotzky and Alexander Klein to name but a few, who commenced with the best of intentions, namely improving living conditions for the working classes. I am instead, critical of a positivistic approach to the application of functionalist spatial planning principles, particularly within the contemporary dwelling interior. As Bernard Leupen eloquently states, “a successful dwelling is more than a programme of requirements translated into material form.” (Leupen et al., 2011, p. 82) The contemporary writings of Robin Evans (1997), Bernard Leupen (2006)

& (2011), Stephen Bates (2016) and most recently Shumi Bose, Jack Self and Finn Williams (2016) have highlighted the continuing legacy of functionalist planning principles on the spatial organisation of the contemporary dwelling interior and that this remains a topical and pressing subject matter. The 'Home Economics' Exhibition in the British Pavilion at the 15th International Architecture Exhibition, La Biennale di Venezia in summer 2016 has drawn international focus once again to this continuing 'crisis' in domestic architecture, highlighting the need for debate from within the architectural profession, to which this research project will contribute.

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3. A METHODOLOGICAL FRAMEWORK

“Design is the creation of the world. It comes into being at the point at which theory and practice collide. But these do not cancel each other out. They both find ways of developing... The design transcends theory and practice and not only opens up a new reality, but new insights.”

Otl Aicher, co-founder and lecturer at the Ulm School of Design
(Aicher, 1994, p. 189)

3.1 INTRODUCTION

The following chapter outlines the methodological framework utilised during the 'Dwellscape' Ph.D. project and should be read in conjunction with the associated text, chapter 4: "The Architectural Model as Epistemic Artefact." Initially a discussion is undertaken on the relationship between the practice of design and the activity of scholarly research within the field of architecture. Distinctions are made between the various forms, or modes of knowledge that can be produced through architectural research, in order to understand their particular challenges and opportunities. Donald Schön's seminal notion of 'reflection in action' is explored, whereby tacit knowledge can be made explicit through an important symbiosis of architectural practice and cognitive reflection. Through a discourse on Christopher Frayling's models of 'research *into*', 'research *through*' and 'research *for*' art and design and the subsequent work of Henk Borgdorff (2011), Johan Verbeke (2014) and Birger Sevaldson (2010), a definition of 'research by design'¹ method is arrived upon and subsequently utilised as a systematic framework for this research enquiry. With reference to Ranulph Glanville (2005) and Eliel Saarinen (1943), the notion of a 'two-fold movement'² within the research project is explored and developed, whereby the analytical and the explorative are utilised simultaneously through a synthesis of retrospective analysis and prospective design enquiries.

A 'research by design' method provides a systematic methodological framework for the prospective design enquires undertaken as part of this Ph.D. research project. A simultaneous 'two-fold movement' occurs between retrospective analysis of 'influential'³ case study projects, together with formative theory including traditional Japanese spatial praxis, the picturesque movement and 'post-functionalist' architectural ideas, which are then synthesised together through the development of three prospective design projects. The three design projects include, a workshop with students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK) entitled 'Inbetweeness: The Architectural Model as Epistemic Artefact', the development of a design for a 25m² micro dwelling that takes advantage of new planning legislation in Sweden and finally a 250m² villa with a specific program and context based in

1. The Norwegian academic and current chairman of The OCEAN Design Research Association, Birger Sevaldson defines the 'research by design' method as, "a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry." (Sevaldson, 2010, p. 11).
2. In the book "The City: Its Growth, its Decay, its Future" (1943), the Finnish architect and urbanist, Eliel Saarinen describes design research as being a 'two-fold movement' which is based upon the idea of two layers working in different directions and temporalities. In this model, ideas and research are projected both forwards (present to the future) and backwards (future to the present) simultaneously.
3. In the article, "Case Selection Techniques in Case Study Research" (2008), 'influential' case studies are defined as, "Cases (one or more) with influential configurations of the independent variables." (Seawright & Gerring, 2008, pp. 294-308)

Ordrup Næs, Sjælland, Denmark. These enquiries result in the production of ‘epistemic artefacts’,⁴ which take the form of physical architectural models. Qualitative analysis of these proposals enables the extraction of embodied knowledge, which in turn influences the retrospective research concurrently. These ‘epistemic artefacts’ are generators of insight, understanding and knowledge. They are viewed as part of the intellectual work and are complementary to the processes of reflection and knowledge creation. Knowledge produced by this Ph.D. research project will be disseminated through this written monograph, together with the exhibition of its associated ‘epistemic artefacts’, that are employed as mediating devices during the defence of its thesis.

3.2 THE SCHOLAR & THE PRACTITIONER

The discipline of architecture is difficult to define, it can hardly be described as a purely artistic, technological or scientific practice. The challenge of navigating this landscape can become even more acute within an academic environment, where scholarly and practical activities can quickly become delineated into separate domains. In 1999, the European Ministers of Education signed the Bologna Declaration,⁵ with the aim of standardising higher education across Europe into a 3 year Bachelors, a 2 year Masters and a 3 year Ph.D. program. As a result of this standardisation, Bachelors & Masters degrees in architecture are typically comprised of 50% Theoretical Components & 50% Practice-based design components (Verbeke, 2014, p. 138). Johan Verbeke goes onto note, that at Ph.D. level, this balance of theoretical and practical components quickly disappears within architectural education. This is perhaps in part to do with the rigorous scholarly requirements demanded of the academic researcher in order to be awarded a Ph.D.⁶ One could also say that, this is indicative of the architectural profession’s anxiety within the academic community of the scientific validity of knowledge produced through design. The title of one of the first international academic conferences on ‘research by design’, ‘The Unthinkable Doctorate’ in Brussels, Belgium, in 2005 is testament to this perceived insecurity.

4. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7)

5. The Bologna Declaration, signed on the 19th June 1999 by the European Ministers of Education is viewable at http://www.ehea.info/media.ehea.info/file/Ministerial_conferences/02/8/1999_Bologna_Declaration_English_553028.pdf (accessed 7th May 2019).

6. Detailed rules on the requirements that must be met in order to be awarded with a Ph.D. are contained within the “Ministerial Order on the PhD Programme at the Universities and Certain Higher Artistic Educational Institutions (PhD Order).” Viewable at <https://intranet.kadk.dk/institutter/Ph.d.-skole/Documents/Ministerial%20order%20on%20the%20PhD%20programme.pdf> (accessed 7th May 2019) See also “Guidelines for the PhD programme at the Royal Danish Academy of Fine Arts Schools of Architecture, Design and Conservation (KADK), Rev. August 2018.” Viewable at <https://intranet.kadk.dk/institutter/Ph.d.-skole/Documents/Guidelines%20for%20the%20PhD%20programme%20at%20KADK.pdf> (accessed 7th May 2019)

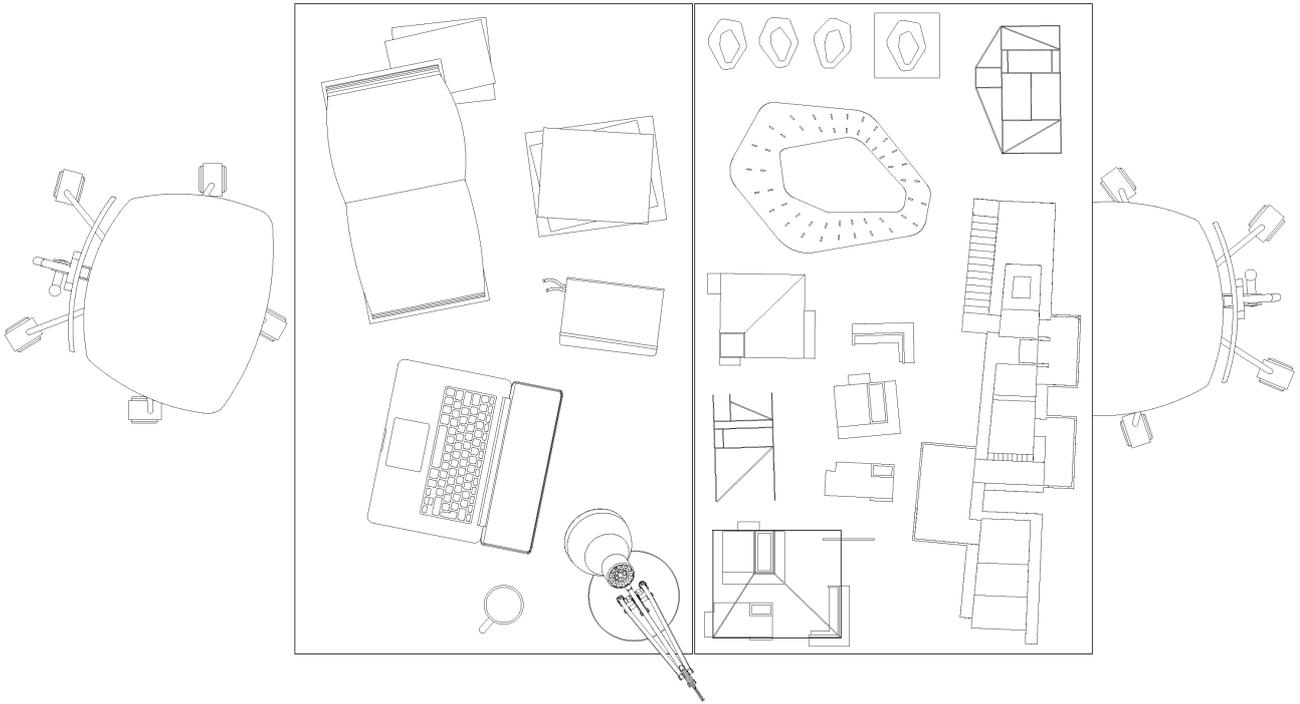


Figure 3.01 The Scholar & The Practitioner Desk Study, Nicholas Thomas Lee, 2019

Architecture lies on the threshold between the arts and the sciences, a capricious domain ever since the divergence of the two fields during the 1800s (Frayling, 1993, p. 4). In particular, when discussing the production of knowledge, there exists an underlying insecurity within the field of architecture that a dichotomy remains between the practice of design and the activity of scholarly research. Jacob Bronkowsky writes, “it has been one of the most destructive modern prejudices that art and science are different and somehow incompatible interests.” (Bronowski, 1951, p. 2) Throughout history, there have been numerous architects that have combined theoretical research with design practice and who believe that it is fundamental trait of our profession. We can see this as far back as Vitruvius and his call for ‘scientific training’ in the activity of creating architecture, Ungers’s discussion on design as the ‘imaginative process of thinking’ and even Koolhaas who considers the practice of architecture to fundamentally be an ‘intellectual discipline.’⁷ Over the last 15 years, a variety of academic research methods that incorporate design practices have emerged and continue to be developed, often within specific fields of design and architecture, such as ‘Research through Design/RTD’, ‘Artistic Research’, ‘Practice Based Research’ and ‘Research by Design’. Within the context of this architectural research enquiry, it is the maturing field of ‘research by design’ that has revealed the potential opportunities of incorporating practical design enquiries within academic research.

We move onto a discussion regarding the fundamental relationship that exists between the activity of research and the practice of design. One could make the argument that research inherently involves design, while at the same time design inherently involves research. In the text “Researching Design and Designing Research” (1999), Ranulph Glanville makes the point that the methodological framework for any research enquiry has to be designed by the researcher. At the same time every design inquiry entails some form of scientific investigation, for example in the process of developing contextual knowledge in order to address the given problem. In other words, one could say that, the practice of design automatically contains the activity of research. With these two observations in mind, it would seem that the activities of research and design are in fact inextricably linked. Having established this fundamental relationship, a more pertinent discussion might be had on the types, or forms of knowledge that result from combining the practices of research and design.

7. In the chapter, “Design Or Research in Doing” from the book “Research by Design, EAAE 2015” (2015), Holger Schurk makes a thorough historical study of architects who have combined theoretical research with design practice. (Schurk, 2015, p. 31)

3.3 FORMS OF KNOWLEDGE

In order to be awarded a Ph.D. one must make an original and significant contribution to ‘knowledge’ within one’s professional field.⁸ I place the emphasis here on *knowledge*, in order to embark upon a discussion on the types, or modes of knowledge, and their position within architectural research. While reflecting upon the various forms of knowledge, Johan Verbeke makes the point that knowledge can be both explicit, where it is easily communicated without ambiguity, and implicit, where it is less direct and requires interpretation. Scientific knowledge tends to be explicit since it relies on repeatability by peers as a form of validation. However, the field of architecture, and in particular the practice of design, relies upon a great deal of tacit knowledge, which is crucial but often very difficult to communicate precisely because of its implicit nature. Herein lies a challenge as to how one can harness this tacit knowledge within the field of academic research through an understanding of its challenges and opportunities?

In his seminal book, “The Reflective Practitioner” (1983), the learning theorist Donald Schön postulates that the practitioner, in our case, the architect exhibits a kind of ‘knowing-in-practice’, most of which is tacit. Through this ‘reflection-in-action’, tacit knowledge can be revealed and interrogated allowing the implicit to be made explicit. Instead of merely ‘problem solving’, Schön emphasises the value of ‘problem setting’ where, “we name the things to which we will attend and frame the context in which we will attend to them.” (Schön, 2003, p. 40) He argues that through ‘reflection-in-action’ the practitioner becomes ‘a researcher’ within the practice context. According to Schön, experimentation forms a necessary constituent of ‘reflection-in-action’ as the act of experimenting is at once exploratory, move testing and hypothesis testing. When viewed in this way, one can argue that a design inquiry can be both generative, critical, and most importantly contribute to the production of knowledge.

Over the last few decades, a number of academics have interrogated and defined a variety of knowledge types. In the text, “The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies” (1994), Michael Gibbons and his colleagues make an influential

8. In the chapter, “This is Research by Design” from the book, “Design Research in Architecture: An Overview” (2014), Johan Verbeke writes, “The principle criterion for awarding the degree of Doctor of Philosophy is whether a project represents an original and significant contribution to knowledge.” (Verbeke, 2014, p. 139)

distinction between two different types of knowledge, which they refer to as 'Mode 1' and 'Mode 2'. 'Mode 1' knowledge is defined as, "The complex of ideas, methods, values and norms that has grown up to control the diffusion of the Newtonian model of science to more and more fields of enquiry and ensure its compliance with what is considered sound scientific practice." (Gibbons, 1994, p. 2) On the other hand, 'Mode 2' is defined as, "Knowledge production carried out in the context of application and marked by its transdisciplinary, heterogeneity, organisational hierarchy and transience; social accountability and reflexivity." (Gibbons, 1994, p. 2) 'Mode 1' describes forms of knowledge that tend to be explicit, having been developed through normalised and universally accepted scientific methods. On the other hand, 'Mode 2' encompasses the types of tacit knowledge developed by architects during the design process. The two modes of knowledge are not mutually exclusive and a good understanding of 'Mode 1' processes is usually required in order to fully utilise 'Mode 2'. Gibbons's text and its argument for the validity of knowledge developed through practice has been important to, and influential upon, the development of the 'research by design' method.

The architectural theorist Ranulph Glanville makes a distinction between scientists, who search for 'knowledge of' some existing phenomena, and designers, who search to find 'knowledge for' changing a phenomenon. He is critical of the fact that, particularly within academia, science has become a word used to mean knowledge.⁹ Within the field of architectural research, we require a broader understanding of knowledge that goes beyond the traditional scholarly scientific understanding of explicit written down knowledge. In the book, "Designerly Ways of Knowing" (2006), the design theorist Nigel Cross argues that there are forms of knowledge that are distinct to the ways in which designers and architects think and work, he refers to these as 'designerly ways of knowing' or 'designerly thinking'. He identifies design cognition as a particular, and fundamental form of human intelligence that differs from scholarly, or scientific activity. Cross places emphasis on the value of combining synthesis with analysis, rather than undertaking analysis alone. The philosopher Vilèm Flusser describes the knowledge gained from research through doing, in our case design, as being 'less objective', while at the same time displaying greater potential by being 'more revealing', when compared with purely scholarly or scientific methods. (Flusser & Roth, 2014, pp. 149-159)

9. In the keynote paper, "Design Propositions" (2005), Ranulph Glanville elaborates upon the meaning of knowledge within academic research and is critical of the fact that, science has become a word used to mean knowledge. (Glanville, 2005, pp. 122-123)

3.4 RESEARCH BY DESIGN METHOD

The following section of the text engages in a discussion relating to a variety of research forms within the arts, eventually arriving at a definition for ‘research by design’ method. In his widely distributed paper, “Research in Art and Design” (1993), the academic Christopher Frayling argues for three distinctions that relate to research methods within the fields of art and design. The text was written just before Frayling was appointed as Rector of the Royal College of Art (RCA) in London and can be seen as somewhat of a manifesto outlining his intentions for the research environment at the prestigious college. Within the paper, Frayling aims to challenge the damaging dichotomy that he sees between the arts, when viewed as occupying a purely ‘expressive’ idiom, and the sciences, when viewed as occupying a purely ‘cognitive’ idiom. He believes that this dichotomy gets reinforced through three ubiquitous stereotypes of the artist, as ‘expressive autobiographer’, the designer, as ‘imagineer’ and the scientist, as ‘critical rationalist’. He argues, that research within the different fields is a much less diffuse, much more convergent activity than the contemporary debate, which Frayling sees as being informed by the stereotypes discussed above, would suggest. Frayling’s argument was particularly directed at Sir John Major’s Conservative Government, which was in power in the UK at the time, with the aim of validating and securing funding for higher education research in the fields of art and design. Frayling also advocates respecting heterogeneity in research methods both within and between disciplines. “There is a lot of common ground. There is also a lot of private territory.” (Frayling, 1993, p. 4)

Building upon earlier work from Herbert Read (1943), Frayling goes on to define three categories of research within the fields of art and design, “Research *into* art and design, Research *through* art and design & Research *for* art and design.” (Frayling, 1993, p. 5) Research *into* art and design, which is by far the most common and straightforward category to define, refers to research carried out on a specific subject, for example historic, aesthetic or perceptual research. In this category, the researcher is almost always viewing the subject that is being investigated externally. Research *through* art and design, involves carrying out tangible experiments and the production of supporting documents that contextualise and communicate results. In this

category, any objects produced during the research process are typically presented as constituent components of the research outcome. The third category, research *for* art and design, is described as, “research where the end product is an artefact – where the thinking is, so to speak, embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or iconic or imagistic communication.” (Frayling, 1993, p. 5) In this category, which is closest to the domain of the conventional artist, the artefact(s) produced, are themselves the end product of the research.¹⁰

Knowledge developed by both the ‘research *into*’ and ‘research *through*’ methods is typically ‘explicit’, and therefore easily disseminated to peers. On the other hand, the embodied knowledge developed by the ‘research *for*’ method can often be ‘tacit’ and therefore difficult to communicate. Despite this challenge, Frayling views this final category as being the most fertile ground for future research in the fields of art and design, if the cognitive tradition in fine art “a tradition which stands outside the artefact at the same time as standing within it” (Frayling, 1993, p. 5) is acknowledged. Rather than considering the embodied ‘tacit’ knowledge within the artefact as being something to be understood only by an elitist few, Frayling instead points to the fine arts tradition where the interpretive powers of the individual observer are unequivocally demanded. To summarise, Frayling’s issue occurs when art and design are viewed as autonomous practices, where focus is placed solely on the artefact itself as object, rather than engaging with its associated cognitive processes, with the aim of informing science.

In the article, “The Production of Knowledge in Artistic Research” (2011), the philosopher and music theorist, Henk Borgdorff develops upon the ideas of Frayling through a discussion of the characteristics and indeed benefits of artistic research within the arts. According to Borgdorff, with artistic research it is the creative process itself that forms the pathway through which new insights, understanding and knowledge can be generated. In other words, from a methodological stand-point, the artistic process is central to the research itself. One could say that research through artistic practice is not so much ‘hypothesis-led’ that is based upon a pre-conceived result that needs to be proved, but rather, ‘discovery-led’ by being built on explorations

10. In the text, “Research in Art and Design” (1993), Christopher Frayling refers to the work of Pablo Picasso as an archetypal example of ‘research *for* art and design’. He writes, “Yes, he (Picasso) had the spirit of research in him. But that was not his objective. Research to the painter, he said, equals visual intention.” (Frayling, 1993, p. 2)

and experimentation. In research, the act of designing refers to a form of production that must reveal certain knowledge before the aim of production can be fully defined. A balance must be achieved between a rigorously defined ‘problem setting’, while at the same time allowing the ‘designerly ways of knowing’ through the practice of design to inform and refine the research enquiry. This returns nicely to the emphasis that Nigel Cross places on combining both analysis and synthesis within the field of design research. In order to avoid the danger of a tautological enquiry, a number of academics have developed upon the earlier distinctions made by Frayling in order to arrive at systematic methods that productively utilise the explorative, generative and innovative aspects of design within architectural research.

One of the most interesting emerging architectural research methods is ‘research by design’, as promoted by academics such as Halina Dunin-Woyseth, Leon Van Schaik and Johan Verbeke. Birger Sevaldson defines the ‘research by design’ method as, “a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry.” (Sevaldson, 2010, p. 11) To use Frayling’s definitions, the method lies somewhere between ‘research *through*’ and ‘research *for*’ design, that one could effectively describe as research within the medium of architecture. Crucially, ‘research by design’ is a systematic approach that still allows the ‘designerly ways of knowing’ to emerge through the practice of design, which is the primary means to develop understanding and new knowledge. Artefacts produced during the research process are not merely empirical input to be analysed but rather form and inform the actual outcomes and methods of the research through a process of synthesis. Within the context of the ‘Dwellscape’ Ph.D. project, these artefacts, which are understood as having the primary purpose of generating knowledge will take the form of physical architectural models.¹¹ In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7) The architectural models produced during the three ‘research by design’ enquiries that form this Ph.D. project will be considered and interrogated as ‘epistemic artefacts.’¹²

11. This subject is discussed at length in chapter 4: “The Physical Model as Epistemic Artefact.”

12. In the chapter, “Design (Research) Practice”, from the book “Practice Based Design Research” (2017), Thomas Binder and Eva Brandt explore the experimental nature of the ‘epistemic artefact’ and its productive nature within academic research in greater detail. (Vaughan, 2017, pp. 102-104)

3.5 A TWO-FOLD MOVEMENT

The practice of design research can hardly be described as a simple linear process. One could find more productive propositions in Le Corbusier's notion of the process of research as a spiral or to Donald Schön's model, based upon a sequence of iterative loops. It is at this stage, however, it is useful to look to the dialectical model described by Eliel Saarinen in his book "The City: Its Growth, its Decay, its Future" (1943) as being most pertinent to this research project. Saarinen describes design research as being a 'two-fold movement' which is based upon the idea of two layers working in different directions and temporalities. In this model, ideas and research are projected both forwards, from the past to the prospective and backwards, from the prospective to the past, simultaneously. In other words, a layer of research begins from the present, or even past, and moves forwards, while at the same time prospective design proposals map their way backwards influencing the design process, and indeed research 'problem setting' through synthesis. The design research model described by Saarinen accommodates Schön's 'reflective conversation with a situation', Glanville's emphasis on synthesis and Borgdorff's call for a discovery-led, rather than a hypothesis-led research process. In the article, "Navigating in Heterogeneity: Architectural Thinking and Art Based Research" (2011), Catharina Dyrssen echoes the sentiments of Saarinen by emphasising the need for movement between the analytical and the suggestive within 'research by design' where the practice of 'doing' becomes a way of seeing the 'problem'.

The methodological framework for the Ph.D. is centred upon the established 'research by design' method that provides a systematic structure for the research enquiries. A simultaneous 'two-fold movement' occurs between retrospective analysis of appropriate theory and 'influential' architectural projects, which is then synthesised together through the development of three prospective design projects. These prospective investigations take the form of three design projects that result in the production of 'epistemic artefacts', which influence the research enquiries through synthesis. The framework for the three prospective design projects involves, a workshop with students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK) entitled 'Inbetweeness: The

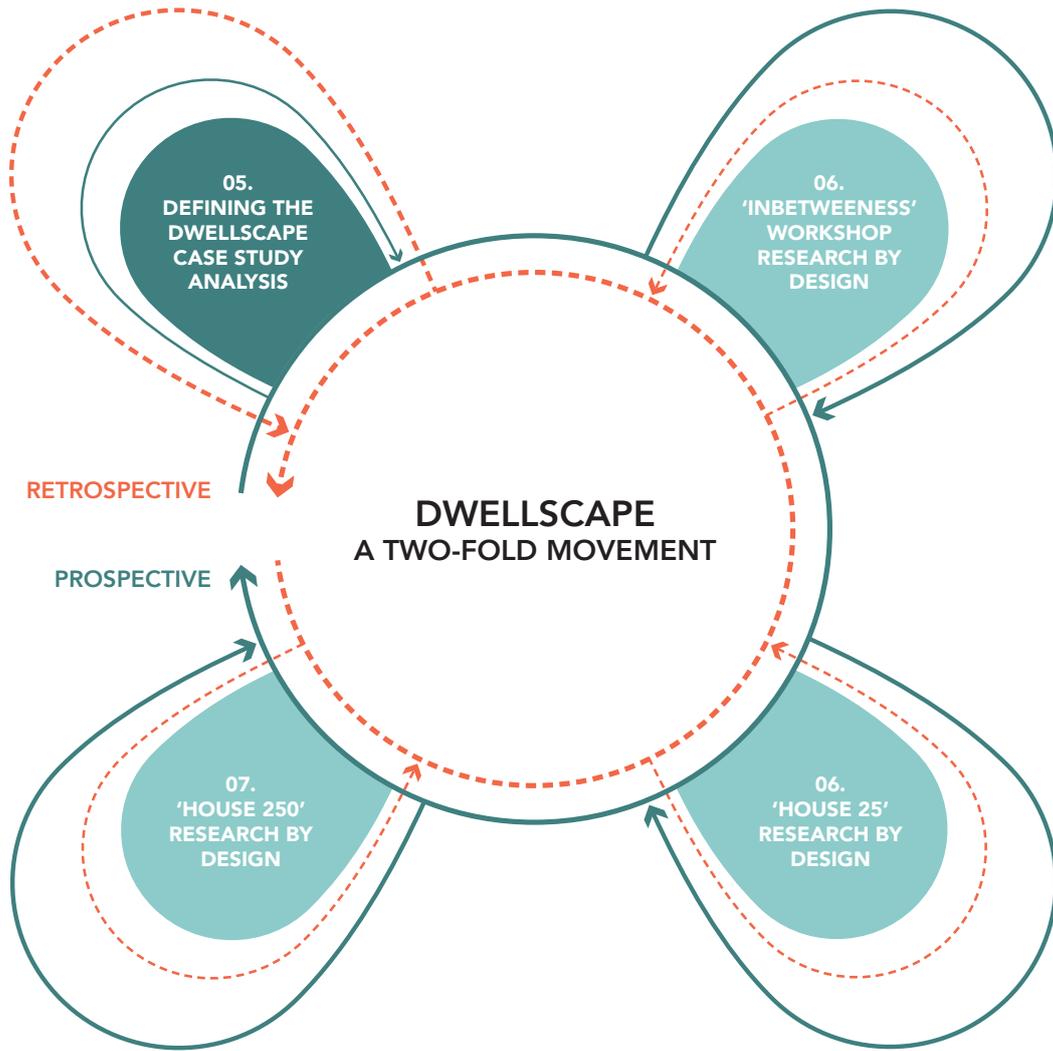


Figure 3.02 Dwellscape 'Two-fold Movement', Nicholas Thomas Lee, 2019

Architectural Model as Epistemic Artefact', the development of a design for a 25m² micro dwelling that takes advantage of new planning legislation in Sweden and finally a 250m² villa with a specific program and context based in Ordrup Næs, Sjælland, Denmark. Qualitative analysis of the work produced during the three design projects will be carried out to enable the extraction of embodied knowledge. These 'epistemic artefacts' are generators of insight, understanding and knowledge and they are viewed as part of the intellectual work and are complementary to the processes of reflection and knowledge creation. Knowledge produced during this Ph.D. research project will be disseminated through this written monograph, together with the exhibition of its associated 'epistemic artefacts'.

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4. THE ARCHITECTURAL MODEL AS EPISTEMIC ARTEFACT

“If architecture can structure our sense of reality, models can loosen and disrupt that structure – revealing the freedom that we have. On the horizon of reality lies a skyline of paper volumes, cardboard coulisses and canvas cathedrals: everything reality does not yet believe in.”

Milicia Topalovic

(Holtrop, Princen, Teerds, Floris, & de Koning, 2011, p. 23)

4.1 INTRODUCTION

The following text will discuss various attributes of the architectural model and will investigate how they can be utilised within the field of architectural research, as an instrument for the production of knowledge. In the methodological framework chapter, a simultaneous ‘two-fold movement’¹ of retrospective analytical investigations that are combined together with prospective design experiments through a ‘research by design’² method, has been outlined. This ‘research by design’ method provides a systematic structure for the prospective design enquiries undertaken as part of this research project. These prospective design experiments result in the production and accumulation of ‘epistemic artefacts’,³ which take the form of physical architectonic models. The aim of this chapter is to develop a greater understanding of the architectural model and the various levels on which they operate. Within the context of this Ph.D. project, there is a particular focus on the role of the physical model in the representation of the architectural interior, as a means for exploring the spatial organisation of the ‘domestic landscape’.⁴ Over the course of this chapter, it is shown that the architectural model productively lies on the border between representation and actuality by possessing both the freedom to imagine beyond the limits of any actual building, as well as, the attribute of physical authenticity. By sharing the three-dimensional attributes of architecture, the corporeality of the physical model results in both an immediacy as a mediating tool and a potency as an instrument for empirical investigation that can facilitate the production of knowledge within the field of architectural research.

1. In the book, “The City: Its Growth, its Decay, its Future” (1943) the Finnish architect and urbanist, Eliel Saarinen describes design research as being a ‘two-fold movement’ which is based upon the idea of two layers working in different directions and temporalities. In this model, ideas and research are projected both forwards (present to the future) and backwards (future to the present) simultaneously.

2. The Norwegian academic and current chairman of The OCEAN Design Research Association, Birger Sevaldson defines the ‘research by design’ method as, “a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry.” (Sevaldson, 2010, p. 11). The ‘research by design’ method utilised in this research project is discussed at length in chapter 3: “A Methodological Framework.”

3. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7)

4. The term ‘domestic landscape’ is introduced and strongly promoted by the Swedish academic, architect and designer, Lars Lerup as a reconceptualisation of the dwelling interior in his publication, “Building the Unfinished” (1977).



Figure 4.01 'Firetruck', Tonka toy at full-scale, Whitney Museum, Charles Ray, 1993

4.2 DEFINING THE ARCHITECTURAL MODEL

The architectural model has been defined as many things, a means of representation, object, instrument, mediating tool, experiment, sculpture, a surrogate for the building, a simulacrum, a medium for the imaginary to operate in, a memorial to abandoned projects, an element of seduction and even a fetish.⁵ This difficulty in finding a clear definition is perhaps in part due to the multitude of levels on which the architectural model can operate and the wide variety of ways in which they are utilised by architects, artists, curators, property developers, politicians etc. The intended representational qualities of a particular model will also be markedly influenced by the desired audience.

Within the field of architecture, physical models are often categorised into two types, those used for study and those used for communication.⁶ Study models are generally utilised by the architect as a working tool to test ideas and to experiment with adjustments to a particular design. Communication models are typically used to represent a scheme to a particular intended audience at a specific point during the design process, often at the end of a project. This simplistic differentiation between the two categories is of limited value given that study models can clearly communicate information and communication models can be used as tools for study. A more complex understanding of the architectural model and the various levels on which they can operate is conducive for this research project.

5. The list of definitions for the architectural model is an amalgamation of descriptions from several texts that include, "The Ruins of Representation' Revisited" (Hubert, 2011), "On the History of the Architectural Model in the 20th Century" (Elser, 2012), "Modelling Messages, The Architect and the Model" (Moon, 2005), "Exposed Experiments: Herzog and de Meuron's Models" (Ursprung, 2012) & "Miniature Temptations: A Conversation with CCA Curator Howard Shubert on Collecting and Exhibiting Architectural Models" (Patteeuw, 2011).

6. In the chapter "The Model Defined", from the book "Modelling Messages, The Architect and the Model" (2005), Karen Moon discusses at length the tendency of the architectural profession to separate physical models into two categories, those utilised for study and those intended for communication. (Moon, 2005, p. 14)

The physical model is an undeniably effective mediating tool for both the architect and the designer. Architectural drawings and sketches can be difficult to read, particularly for a lay audience, if one does not have literacy with the medium. “Architectural drawings are specialised, professional forms of communication – not everyone can read a plan.” (Bose, Self, & Williams, 2016, p. 15) This is particularly problematic with the prevalence of a planimetric approach to spatial planning within contemporary architectural praxis, which is a consequence of the functionalist planning logic that is now embedded in, and propagated by current building regulations, codes, design methods and rules-of-thumb.⁷ The physical model, on the other hand, can be easily interrogated in three dimensions by the viewer giving it an immediacy as a mediating tool. It allows a conceptual idea to be experienced rather than merely serving as an illustration. Its abstraction from the reality of full-scale construction allows it to be both a representational object, as well as, a mediating device that is able to generate ideas.

Of the many forms of architectural representation, it is only the medium of the model that shares the physical, three dimensional attributes of the building being represented. When constructing a physical model, decisions need to be made regarding materiality, tectonics, structure and the detailing of junctions, just as one must make when realising a full-scale architectural project. While the materials and construction choices may differ, the fabrication of the architectural model can be seen as a surrogate for the act of building, which serves to explicate the potential contained within the two-dimensional architectural drawings by translating them into three-dimensional form. This act of model making concretises the ontic condition of a concept into a tangible object that can be interrogated physically. It is this corporeality of the architectural model that makes it such a valuable instrument for spatial practitioners.

7. The continuing influence of functionalist planning logic on contemporary architectural practice has been discussed extensively in the writings of Robin Evans (1997), Bernard Leupen (2006) & (2011), Stephen Bates (2016) and most recently, Shumi Bose, Jack Self and Finn Williams (2016). This subject is also unfolded in a lengthy discourse in chapter 2: “The Functionalist Dwelling.”

The architectural model allows architects to work and experiment physically in three dimensions. One can argue that there is a physical authenticity with the architectural model that other forms of architectural representation do not always possess. Digital models and visualisation tools can be manipulated and distorted because they are not situated in reality. When one cuts windows into the card façade of a study model there will be immediate physical consequences relating to the visual permeability of the building. Caruso St John Architects work extensively with physical models in their practice and reflect upon their role in the development of Brick House (2001-2005). “We studied a range of lighting situations in different parts of the house. You can only get a feeling for this through a kind of empirical investigation. Trial and error, investigating again and again how light falls in the model. With Photoshop and drawing you just can lie. There is no cause and effect.” (Floris & Teerds, 2011, p. 129) It is this ‘empirical’ authenticity that Caruso St John Architects identify in the physical model that makes it such an effective design tool for the architect.

4.3 DUALITY OF THE ARCHITECTURAL MODEL

One could say that the domain of the architectural model lies on the border between representation and actuality. There is a duality between the architectural image that the model portrays and the actual physical reality of the model as an object. When making an architectural model, decisions are made about how to best represent the intention of the building relating to material choices and fabrication techniques. These decisions can lead to a great divergence between the representation and the actuality. A good example of this might be a comparison between the model and the built reality of Mies van der Rohe’s Crown Hall (1955), Chicago. The model itself shows the aspiration of a transparent box with a lower level of lightly frosted white panels, while the photograph of the actual building shows the reality of the reflective glass together with a thick dark grey band of opaque panels below. In a 1975 catalogue essay, Arthur Drexler, the curator of architecture at New York’s Museum of Modern Art, summarised this duality best by writing, “The model generated its own truth.” (Drexler, 1977, p. 15)



Figure 4.02 Crown Hall Model, Chicago, Mies van der Rohe, 1955
Figure 4.03 Crown Hall as built, Chicago, Mies van der Rohe, 1955

The Serbian architect and academic, Milicia Topalovic develops upon the notion of the model lying between representation and actuality, “A model can neither be purely real nor pure imagination; there is always a dialectic.” (Topalovic, 2011, p. 38) An architectural model is always a representation of something else, an entity that it can never exactly replicate. This liberates the model from many restraints that actualisation imposes when a building is built in reality such as structural requirements, contextual conditions and financial limitations. The three-dimensional physicality of the medium does however, impose limits to the freedom enjoyed by the architects’ imagination. Gravity, statics, tectonics, material properties, environmental conditions and natural lighting all have to be considered during the fabrication of an architectural model. In spite of this, the act of modelling offers the architect and designer the opportunity to imagine, and thus can be seen as a manifestation of freedom from the reality of the built-environment. Milicia Topalovic continues, “If architecture can structure our sense of reality, models can loosen and disrupt that structure – revealing the freedom that we have.” (Topalovic, 2011, p. 38)

There are many architects, particularly theoretically focused practitioners who view the architectural model as a building in its own right. Whether due to economic conditions at the time or the lack of opportunities to realise actual projects, practitioners such as, Peter Eisenman, John Hejduk, Anne Holtrop (2011) and Petra Gipp (2018) have all favoured the architectural model as a medium for disseminating knowledge. The art historian Karen Moon writes, “Eisenman does not draw any distinction, except in terms of scale, between the model and the built object. He sees the model as an object deprived of the need to be lived in.” (Moon, 2005, p. 16) Even as far back as the 1950s, the architectural historian, Jane Jacobs exclaimed in an essay entitled “The Miniature Boom” (1958), that architectural models “can hardly be considered as simply imitations of buildings. They are buildings.” (Elser, 2012, p. 17) By considering the architectural model as a building in its own right, all be it at a smaller scale, one can begin to understand the potency of the medium with regards to the expeditious production of knowledge when compared to the laborious process of the realisation of actual built projects.

In 1976, Peter Eisenman curated an exhibition entitled 'Idea as Model' at New York's Institute for Architecture and Urban Studies. The aim of this exhibition was to present architectural models with an artistic or conceptual existence of their own that was independent of the projects that they represented. This was one of the first times that the architectural model, in isolation from realised architecture, had been the primary focus of an exhibition. Emphasis was placed on the model as a physical representation of an idea or concept that was autonomous from any actual building. This event underlined the physical models' independent validity at communicating architectural ideas and theories and introduced the notion of the medium as worthy of both exhibition and study.

4.4 THE MODEL AS BOTH OBJECT & PROCESS

For many architects, physical models are an intrinsic part of the design process rather than simply being the end product, as a means of representation for an architectural project. Since the 1990s, Herzog & de Meuron have been leading proponents of the architectural model as both object and process. In 2002, an exhibition entitled, Herzog & de Meuron: Archaeology of the Mind was held at the Canadian Centre for Architecture where the architects presented a collection of process models, many of which were from projects that were yet to be realised. These physical models were no longer seen as 'accumulated waste'⁸ but rather as a tangible part of the design process that represented a genuine part of the reality of architecture. This notion of the process being a legitimate piece of the resulting work of architecture was explored further by Herzog & de Meuron in their publication "Herzog & de Meuron: Natural History" (2002). In the book, their models are treated as artefacts that can be examined with the same scrutiny as their realised buildings.

Through their writings, Herzog & de Meuron discuss the latent potentiality that they see in their accumulated process models. "For us, the artefacts were neither neutral descriptors of the design concept, nor were they simply way stations en-route to the ultimate goal; they were rather artistic exhibits in their own right, each bearing within it the potential of the entire project."

8. Herzog & de Meuron have ironically referred to their process models as 'accumulated waste' on many occasions, often celebrating this perception of the medium within praxis, most notably in the exhibition of their architectural models entitled, 'Beauty and Waste in the Architecture of Herzog & de Meuron' at the Netherlands Architecture Institute in Rotterdam (22 January – 8th May 2005).



Figure 4.04 Herzog & de Meuron Model Archive, Zurich, Herzog & de Meuron, 2017

(Ursprung, 2012, p. 53) Experimentation and fortuitous misadventures during the model making process can have a great influence on the development of the final design. The Prada store in Aoyama, Tokyo (2001-2003) is a noteworthy example of this occurrence, which Herzog & de Meuron reflect upon in their publication, “Herzog & de Meuron: Natural History” (2003). A crucial moment occurred during the modelling process when a soldering iron heated up the surface of a model to the point at which it began to blister and deform unexpectedly. The phenomenal effects of the resulting model were regarded so highly by the architects that convex glass windows were eventually used in the façade of the final design, ultimately becoming somewhat of a signature for the actual building. The accidental deformation of the process model revealed an unexpected potentiality in the design, which could be formatively realised in the eventual architecture.

Through Herzog & de Meuron’s collected artefacts and their corresponding written reflections on the role of this ‘accumulated waste’ within the design process, we can see an emphasis on the generative quality of these process models on the final design. Peter Eisenmann affirms this observation in writing that the architectural model “could have an almost unconscious, unpremeditated, even generative, effect on the design process.” (Eisenman, 1981, p. 1) Once the physical model is viewed as an experimental instrument within the design process, the burden of producing a finished object is removed allowing for the production of explorative ideas through trial and error. By defining the process of making an architectural model as experiment one can begin to see the potential for the medium as a tool for the production of knowledge within the field of architectural research.

4.5 THE MODEL AS EPISTEMIC ARTEFACT

With the emergence of ‘research by design’ methods within the field of architectural research, many researchers are starting to embrace the physical artefact as a means for knowledge production. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the

experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7) Given this notion, ‘epistemic artefacts’ are understood to be characterised by having the primary purpose, as tools within research, of generating knowledge.⁹ Within this definition, one can start to use the term ‘epistemic artefact’ to refer to physical models that are utilised within architectural research, as a means for the production of knowledge. The EAAE Charter on Architectural Research that was approved by the EAAE General Assembly in 2012 also acknowledges a wide variety of ‘epistemic artefacts’ within Ph.D. research that, “includes installations, experimental projects, design proposals, models and actual buildings.” (EAAE, 2015, p. 82) Within the context of the ‘Dwellscape’ Ph.D. project, physical models produced during the ‘research by design’ experiments will be considered and interrogated as ‘epistemic artefacts’.

4.6 INHABITING THE ARCHITECTURAL MODEL

Through the act of objectification, the architectural model achieves an autonomy from both the project that it represents, as well as, the role of ‘instrument’ that it fulfils during the design process. Perhaps this is particularly apparent when an architectural model is exhibited as in the case of the ‘Idea as Model’ (1976) exhibition or Herzog and de Meuron and their ‘Archaeology of the Mind’ (2002) exhibition. An autonomous reality is achieved by the model when viewed as an object, much like a painting or sculpture that evoke association, interpretation and imagination. It would seem appropriate at this juncture to identify the characteristic attribute of scale, between the physical model and the architecture that it represents, as a defining contributor to the autonomy of the medium. Although an architectural model can claim ‘objecthood’¹⁰ it will always possess an inherent scale or potential scale(s). With this in mind, the scale model, even when viewed as an autonomous object, continues to invite inhabitation by the viewer through association, interpretation and imagination.

9. In the chapter, “Design (Research) Practice”, from the book “Practice Based Design Research” (2017), Thomas Binder and Eva Brandt explore the experimental nature of the ‘epistemic artefact’ and its productive nature within academic research in greater detail. (Vaughan, 2017, pp. 102-104)

10. In the chapter, “‘The Ruins of Representation’ Revisited”, from the journal, “OASE #84: Models / Maquettes”, Christian Hubert discusses the play between the properties of representation and objecthood in relation to the architectural model. (Hubert, 2011, p. 14)

One can claim that the architectural model acts as a form of surrogate for the building that it represents. It allows the architect and designer to communicate and refine ideas without the need to start any actual construction work. Unlike the actual building, the scale model cannot be physically inhabited by the viewer. The architectural model requires imaginative inhabitation in order for one to attempt to simulate the experience of appropriating the actual built architecture. This cognitive operation intrinsic to viewing a model is known as ‘mimesis’. “Drawing on Freudian psychoanalysis, mimesis operates through the medium of the idea, allowing us to imagine ourselves as someone or something else – as we would when reading a novel or observing a painting. In the case of the architectural model, it allows us to mentally project ourselves onto the design, and to identify with the narrative or concept set out by the designer.” (Vervoort, 2011, p. 79)

4.7 THE INTERIORITY OF THE ARCHITECTURAL MODEL

A central focus of the ‘Dwellscape’ project is the exploration of methods for the representation of the contemporary dwelling interior through the use of physical models. Caruso St John Architects, based in London, are one of a number of practices where physical models are the main ‘instrument’ utilised during the design process. They typically focus on the production of models that represent interior fragments of buildings and mediate the experience of these spaces. The architects’ write, “We concentrate on the interior and on specific parts of the building, where the building can be affecting. In that sense, our architecture is a form of pastiche, in a 19th century sense. We try to bring things together. Or call it ‘picturesque’, a word we like to use in the office... We have learnt a lot from the picturesque tradition in English landscape, the way it engages with social mores, which for us is also the task of the architectural project: giving weight to the social and the physical as appropriate to different situations.” (Floris & Teerds, 2011, p. 131) This focus on the design of built environments that are based upon the creation of interior places with distinct characteristics is a reaction to what Caruso St John Architects consider to be a tendency with a lot of contemporary architects to ignore the ‘question of the interior’. This disengagement of the architectural



Figure 4.05 25m² Micro dwelling concept model, Nicholas Thomas Lee, 2017

profession from the ‘question of the interior’ is especially acute within the housing typology, particularly across Europe where “it is estimated, that less than 5 percent of houses built, are built with the involvement of an architect.” (Vogler, 2015, p. x) Even when architects are involved in the production of housing, their input is often limited to the formal expression of the exterior envelope, which results in the practice of ‘jacketing’.¹¹

Caruso St John Architects utilise photography of their process models as a way of getting closer to the image of the architecture that they envision. The resulting images then form the basis of a working tool for the architects as they develop a project from the perspective of an actual inhabitant. This approach to the forming of the built-environment draws striking similarities to ‘pictorial planning’¹² methods pioneered by the picturesque, which is perhaps unsurprising given the architects’ own admission of their admiration for the movement. If one only ever utilises a working model by viewing it externally and from above then emphasis is placed on what the building looks like when viewed from distance. Once again, the subject of scale enters into the discussion, if one approaches the model primarily as a sculptural object then it is difficult to avoid a formalistic outcome when it is realised at full-scale. What is interesting about photographs of architectural models is that the images produced can exhibit an ambiguity in scale. They can become scale-less or even appear to represent the design at full-scale making it easier for the viewer to imagine inhabiting the architecture.

While discussing the subject of ‘pictorial planning’ through the use of large-scale physical models, which can be adjusted and re-configured based upon simulating the spatio-visual experience of inhabiting the architecture, the working methods of Mies van der Rohe are worthy of examination. In the article, “The Barcelona Pavilion as Landscape Garden: Modernity and The Picturesque” (1990), the British academic Caroline Constant, notes Mies van der Rohe’s extensive use of a large-scale physical model during the design of the Barcelona Pavilion (1929). This model consisted of a plasticine base upon which planes of cardboard, celluloid and Japanese paper could be placed and rearranged in order to simulate the pavilion’s perceptual qualities. By prioritising the physical model as a design tool over other means of architectural representation, in particular the plan drawing, “Mies accorded

11. The British architect Finn Williams notes that functionalist planning principles, which are fostered by technical, legislative and economic pressures, often result “in the practice of ‘jacketing’ – using architects to design facades for readymade standard house-types to secure planning permission.” (Bose et al., 2016, p. 52)

12. ‘Pictorial planning’ methods are discussed at length in chapter 7: “A Picturesque Dwelling.”

primacy to the temporal experience in three dimensions, rather than to any unified conception of the building.” (Constant, 1990, p. 47) As part of her argument for the picturesque qualities of his work, Constant refers to Mies van der Rohe’s adjustable physical model as representing a pictorial approach to the spatial organisation of the pavilion, which allowed for the exploration and interrogation of the building’s spatial sequences.

During the 1950’s, the Italian architect Luigi Moretti experimented extensively with the use of physical models as a way to represent the spatial qualities of the architectural interior. In the essay, “Structures and Sequences of Spaces” (1952), he asserts the importance of the spatial composition of the internal ‘empty space’ within buildings and he argues that its recognition is central to understanding the full impact of the architectural experience. Moretti argues for a conceptual solidification of the internal ‘empty space’ of architecture in order to appreciate the concrete presence of the ‘structures and sequences’ of the interior volumes that coalesce to form a building. While discussing the building interior and the full appreciation of its spatial richness, Moretti introduces the important notion of ‘spatial sequences’.¹³ He defines these spatial sequences as, “spatial unities formed by interior volumes that are composed in a certain order and that constitute, in their succession with changing perspectival effects and in relation to the courses and times necessary and possible for viewing them, a true sequence in the actual meaning of the term.” (Moretti, 1952, p. 178) Within the essay, Moretti uses examples of renaissance and baroque architecture to identify spatial sequences and structures, which he mediates through plaster models of the interior spaces. Through this solidification of the interior, ‘empty space’ can be considered as ‘real’ with a plasticity of its own. Moretti’s utilisation of figure-ground reversal models is reminiscent of Giambattista Nolli’s figure-ground maps of Rome from the 18th century.¹⁴ A more recent example of this ‘negative’ modelling technique can be found in the work of the architect and academic, Peter L. Wong (2016). As part of a broader research project, he has produced a series of physical models representing the inverted volumetric imprints of a series of houses designed by Adolf Loos and Sou Fujimoto, in order to forge an alternative reading of architectural space that is reminiscent of Moretti’s earlier work. Arguably Wong’s work is of greater relevance to this research project given his focus on the spatial organisation of the dwelling, rather than grand examples of ecclesiastical architecture.

13. The notions of ‘spatial sequences’ and associated sequential spatio-visual planning strategies are discussed at length in chapter 7: “A Picturesque Dwelling.”

14. Giambattista Nolli’s iconic map of Rome, produced in 1748, was revolutionary in its development upon the traditional figure-ground map by highlighting enclosed public spaces as well as open civic spaces. A result of this figure-ground reversal technique, was that one could now appreciate the interstitial spaces in between the buildings as much as the spaces enclosed within the buildings.

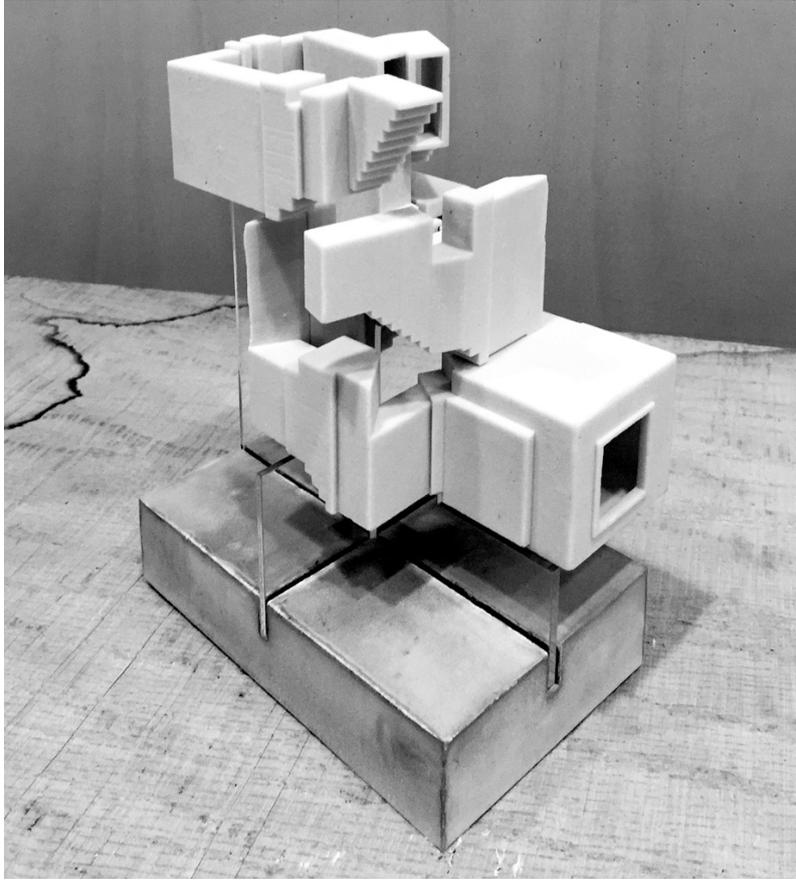


Figure 4.06 Sou Fujimoto's House H Negative Model, Ian McIver & Rafael Lopez, 2016

4.8 REFLECTIONS & CODA

Over the course of the text we have seen the difficulty in finding a single clear definition for the architectural model given the multitude of levels at which they can operate. Making a differentiation between those for study and those for communication is of limited value as one gains a greater understanding of the full potentiality inherent within the medium. Acknowledging the dialectic quality of the physical model, which lies on the border between representation and actuality would seem like a more productive observation. The corporeality of the physical model results in both an immediacy as a mediating tool and an ‘empirical’ authenticity as an instrument of experimentation that has the ability to generate ideas. Through the work of Herzog & de Meuron and Caruso St John Architects we can observe the latent potentiality present in architectural models that form part of the design process. When viewed as both object and process, the model can achieve an autonomy that is independent from the project that it represents. Once architectural models are considered as buildings in their own right, they can attain the same level of validity with regards to the production of knowledge as that of actual built projects. Through the definition introduced by Flemming Tvede Hansen of the term ‘epistemic artefact’ the physical model is no longer seen as just a disseminating device but rather as an instrument, which has the potential for the production of knowledge within the field of architectural research.

The physical model has formed the primary instrument of exploration over the course of the ‘Dwellscape’ research project. During the first year of the Ph.D. project, a series of 1/20 scale ‘fragment’ models were produced as a way to explore threshold spaces within the dwelling interior. The influence of these simplistic, yet scenographic card models can be seen on the design of ‘House 25’¹⁵ and the ‘House 250’,¹⁶ particularly in relation to the creation of inhabitable places within the facades of the two dwellings. These early explorative ‘fragment’ models, although lacking the methodological framework of the latter research by design experiments, nevertheless convey their physical authenticity and productive nature, particularly in relation to a study on spatial depth and layering. As part of the “Inhabiting the In-between Realm” chapter, a one-week long workshop entitled ‘Inbetweenness:

15. An extensive discussion on the development of a design proposal for ‘House 25’ is undertaken in chapter 6: “Inhabiting the In-between Realm.”

16. An extensive discussion on the role of the physical model in the development of a design proposal for the ‘House 250’ is undertaken in chapter 7: “A Picturesque Dwelling.”

The Architectural Model as Epistemic Artefact' was undertaken with students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK) in September 2017. In particular, this workshop has highlighted the productive nature of combining the analytical, in the form of historic architectural theory and references together with the suggestive, in the form of prospective 1/20 scale physical model experiments. As the students embraced the dogma of designing only using physical scale models, the mediums corporality, immediacy as a mediating tool and physical authenticity were revealed as highly productive aspects of the research investigations, particularly given the limited timescale of the workshop. It is difficult to imagine that the spatial complexity present in the designs of 'Dwelling No.06' & 'Dwelling No. 12' in particular, could result from such a brief workshop without placing emphasis on the primacy of the physical model over other forms architectural representation as the medium for design.

From its inception, 'House 25' has been considered as an amalgamation of architectural elements that coalesce to form the dwelling. The exterior façade of 'House 25' has been intentionally omitted from the outset of the investigations in order to focus attention on the spatial organisation of the 'domestic landscape'. This also represents the ability of the dwelling concept to adapt to a wide variety of contextual conditions. The individual architectural elements have been studied in physical model form both independently and as a whole. The tectonic language of the model emphasises the significance of the distinct architectural elements within the dwelling interior as adaptable entities that can be rearranged in any number of configurations resulting in a wide variety of spatial compositions. Through the use of large-scale physical models, together with the artificial sky and heliodon in the light laboratory at KADK, there has been a strong focus on the lighting conditions within the individual architectural elements resulting in an articulation of both the roof surfaces and the facades.



Figure 4.07 'Dwelling No. 12', Maomei Chan, Kristoffer Fahlgren, Josephine Howard & Christine Hoff, 2017

In conjunction with the “A Picturesque Dwelling” chapter, a series of large-scale physical models have been utilised during the development of an explorative proposal for a 250m² villa located at Næsgården, Ordrup Næs, on the west coast of Sjælland. Over the course of this research enquiry, priority has been placed on ‘pictorial planning’ through physical models as the primary means of composing and studying the spatio-visual character of the dwelling. In response to an initial site visit, the first ‘epistemic artefact’ produced took the form of a 1/50 scale ‘view-field’ model, which identifies both favourable views, as well as aspects that require greater levels of privacy. As a direct reaction to this ‘view-field’ model, a 1/50 scale massing model has been utilised to interrogate and develop the spatio-visual composition of the various places that constitute ‘House 250’. Following these studies, an adjustable 1/50 scale sketch model has been utilised as the primary design tool during the development of the dwelling. This working model, constructed from card has been continually re-built and re-configured based upon pictorial views captured through photographs, taken at a scaled eye-level¹⁷ from within the model. In conjunction with this, and by taking inspiration from the writings of Luigi Moretti and Peter L. Wong, a number of 1/50 scale negative cast models have been produced in order to solidify and interrogate the composition of the interior interstitial spaces contained within the architectural envelope. Ultimately, a 1/20 scale massing model has been used to explore the articulation of the roof with a variety of different apertures. Through the use of the various physical models, emphasis has been placed on actual perspectival spatio-visual experience, which has been used in the composition and adjustment of the dwelling interior. Only at the end of this explorative process has an architectural plan drawing been produced from the ‘epistemic artefacts’.

17. An ‘eye-level’ for the lens of the camera was established to be 34mm high from the floor level of the model at 1/50 scale and 85mm at 1/20 scale, respectively.

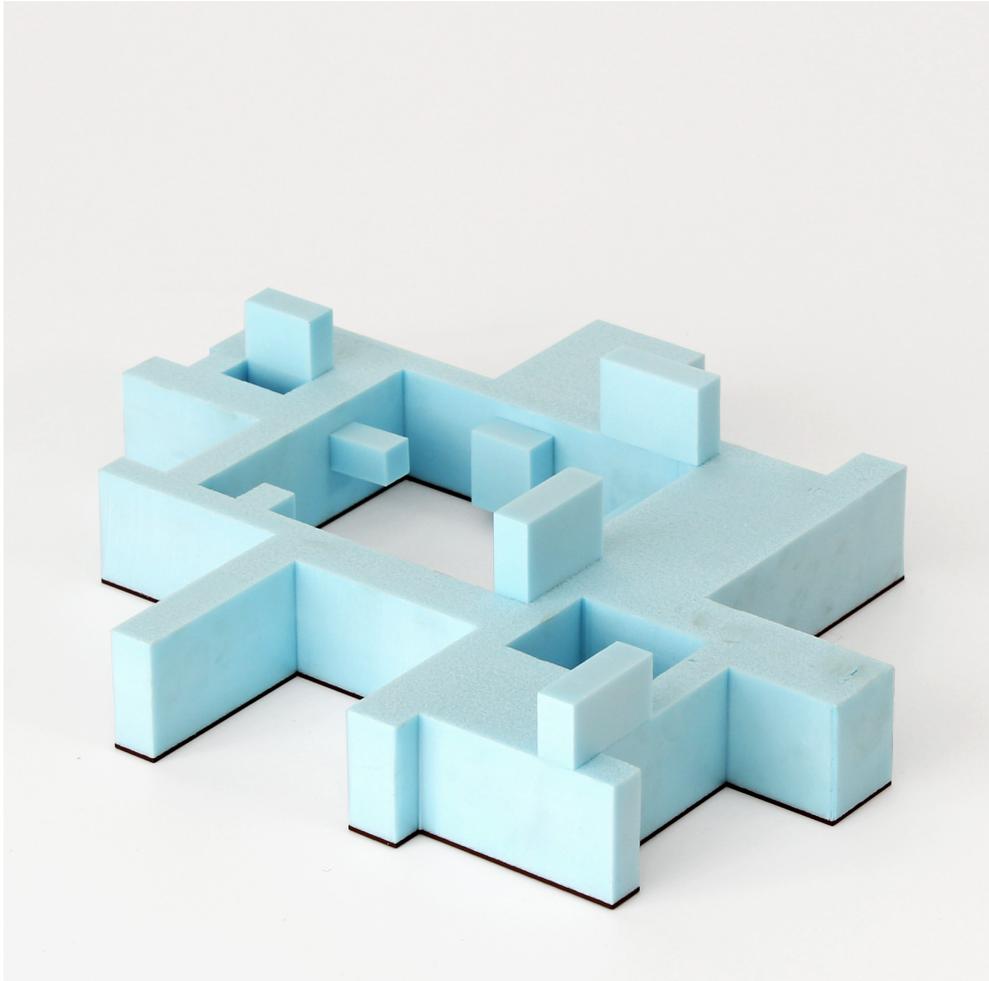


Figure 4.08 'House 250' Negative cast model, Nicholas Thomas Lee, 2017

Over the course of this chapter, various attributes of the physical model have been explored and discussed, leading to an understanding as to how the medium can be utilised as an instrument for the production of knowledge within the field of architectural research. Given the multitude of levels on which the physical model can operate, the limitations of a simplistic differentiation between those used for study and those used for communication is clearly apparent. The architectural model productively lies on the border between representation and actuality by possessing both the attributes of physical authenticity, as well as, the freedom to imagine beyond the limits of full-scale architecture. By sharing the three-dimensional attributes of architecture, the corporeality of the physical model results in both an immediacy as a mediating tool and potency as an instrument for empirical investigations that can facilitate the production of knowledge within the field of architectural research. The 'epistemic artefacts' produced during research investigations are not merely empirical input to be analysed but rather generators of insight, understanding and knowledge. Through the use of the various physical models over the course of the 'Dwellscape' project, emphasis has been placed on the actual perspectival spatio-visual experience of inhabiting the 'domestic landscape'. Through a productive 'reflection-in-action' during the 'research by design' method, the resulting design proposals exhibit a sophistication in their spatio-visual composition that is a direct result of a design process based upon the primacy of large-scale physical models.

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5. DEFINING THE DWELLSCAPE

“The landscape streams into the house, very briefly resides there in a moment of rest, and then smoothly streams back out.”

(Van Den Berghe, 2014, p. 39)

5.1 INTRODUCTION

The domestic interior has great significance given the central position that it plays in our lives regardless of cultural, geographical, or economic differences by supporting and shaping our everyday rituals and daily routines. Despite the importance of this built environment, functionalist spatial planning principles, which began to emerge in Britain during the mid 19th century and that were later refined in Germany at the start of the 20th century, continue to dominate architectural engagement with the dwelling interior, with very little critical discussion.¹ This technocratic approach to the spatial organisation of the ‘domestic landscape’² is “now buried in the regulations, codes, design methods and rules-of-thumb which account for the day-to-day production of contemporary housing.” (Evans, 1997, p. 86) This chapter undertakes a discourse on the spatial organisation of the contemporary dwelling interior through a comparative analysis of two single-family houses that challenge these common methods of engaging with the programming of interior space.

The point of departure for this investigation is the prevalence of a positivistic³ approach to the application of functionalist spatial planning principles within the contemporary dwelling interior which results in the deterministic appropriation of what Henri Lefebvre would refer to as ‘dominated space’ by its inhabitants. In this chapter the following question is posited, through a reconceptualisation of the contemporary dwelling interior as a ‘domestic landscape’ what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform contemporary architectural praxis? Architectural theory from Le Corbusier (1987; 1923), Josef Frank (1931), Aldo van Eyck (2008) and Lars Lerup (1977) relating to the spatial organisation of the domestic interior is explored and developed through a comparative analysis of the two case study projects. Over the course of this chapter, the notion of ‘Dwellscape’ is developed and defined as a formative approach to the spatial organisation of the contemporary dwelling interior.

1. The current lack of critical discussion and architectural engagement with the spatial organisation of the contemporary dwelling interior has been identified and written about by Nader Vossoughian (2014), Stephen Bates (2016), Shumi Bose, Jack Self and Finn Williams (2016). A more in-depth discussion on this subject can be found in chapter 2, “The Functionalist Dwelling.”

2. The term ‘domestic landscape’ is introduced and strongly promoted by the Swedish academic, architect and designer, Lars Lerup as a reconceptualisation of the dwelling interior in his publication, “Building the Unfinished” (1977).

3. Positivistic here is used in the literal sense to refer to the definitive application of functionalist planning logic without questioning its broader consequences.

A 'Dwellscape' is ultimately defined as, a continuous 'domestic landscape' composed of a relational field-configuration of distinct architectural elements, which define 'places' that accommodate specific activities, as well as, delineating ambiguous interstitial 'places' that can support inhabitant appropriation in a multitude of ways.

The methodological framework for this chapter involves a comparative analysis of House Vandenhoute-Kiebooms (1967) by the Belgium architect Juliaan Lampens and Moriyama House (2005) by the Japanese architect Ryue Nishizawa. As a criteria for their selection I categorise the two dwellings as 'influential'⁴ case studies, by using the definitions developed by Jason Seawright and John Gerring in the article "Case Selection Techniques in Case Study Research" (2008). This is justified by the two projects' substantial deviation from normative functionalist spatial planning principles based upon their domestic landscape like qualities. Secondly, the two houses have both been internationally published and thereby recognized by the architectural community as noteworthy examples of single-family dwellings. It has been intentional to select the two projects from different time periods, cultural backgrounds, and typo-morphological contexts in order to identify shared qualities present in the spatial organisation of the two houses that transcend these contextual parameters. I refer to written, photographic and film documentation of the two case study houses, my own architectural drawings, and published interviews with the multiple parties involved in the realisation of the two dwellings. The theoretical framework, which is developed in detail below, for the analysis of the two projects is centred on the notion of the contemporary dwelling interior as a 'domestic landscape'.

4. In the article, "Case Selection Techniques in Case Study Research" (Seawright & Gerring, 2008), 'influential' case studies are defined as, "Cases (one or more) with influential configurations of the independent variables." (Seawright & Gerring, 2008, pp. 294-308)

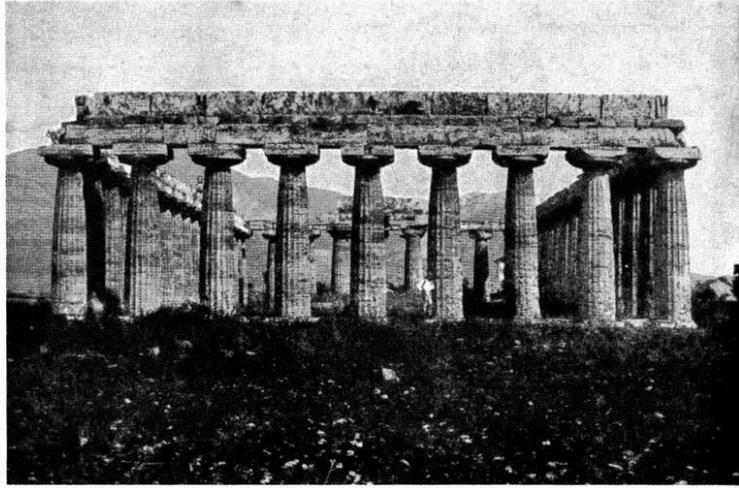
5.2 A THEORETICAL FRAMEWORK FOR THE DWELLSCAPE

“A house is a machine for living in” (Le Corbusier & Etchells, 1987, p. 95), declared the Swiss-French architect Le Corbusier in his seminal treatise on modernism, “Vers une architecture”, first published in 1923. For a whole generation of modernist architects, this single proclamation made the lasting connection between the domestic built environment and the functionalism of industry, and in doing so, propagated the ‘form-function’ paradigm. As discussed by the architectural historian, William J.R. Curtis, Le Corbusier’s iconic statement is one of the most quoted, yet least understood within the Modern Movement’s cannon. Curtis takes the position that, Le Corbusier was simply advocating a process of continual refinement of the domestic environment by making a comparison to the perpetual innovation one finds in the automotive industry for example (Curtis, 2015).⁵ Of far greater relevance to our discussion on the dwelling interior as domestic landscape is Le Corbusier’s spatial theory of the ‘promenade architecturale’, which itself owes a debt to the picturesque landscape garden.⁶ This, together with Josef Frank’s “House as Path & Place” (1931), which takes its cues from the ‘organic’ structure of the town-scape, Aldo van Eyck’s ‘city house reciprocity’ and Lars Lerup’s ‘domestic landscape’ with its ‘environmental fortuna’ are explored and synthesised. This is then used as a theoretical framework for the analysis of House Vandenhoute and Moriyama House in order to arrive at, develop and define the ‘Dwellscape’ concept as a practically applicable architectural approach to the spatial organisation of the contemporary dwelling interior.

Le Corbusier’s concept of the ‘promenade architecturale’, owes a large debt to the picturesque landscape garden and its technique of pictorial planning, based upon point-of-view and sequential visual experience, as noted by the Australian academic John Macarthur (Macarthur, 2007, pp. 16-18). Le Corbusier first outlined this approach to interior spatial organisation, which can be described as the cinematic sequencing of spaces, while discussing his design for Villa Savoye (1931) at Poissy in 1928. “You enter: the architectural spectacle at once offers itself to the eye. You follow an itinerary and the perspectives develop with great variety, developing a play of light on the walls or making pools of shadow.” (Benton, 2007, p. 4) This was the “Le Corbusier of multiple asides, cerebral references and complicated scherzo” (Rowe &

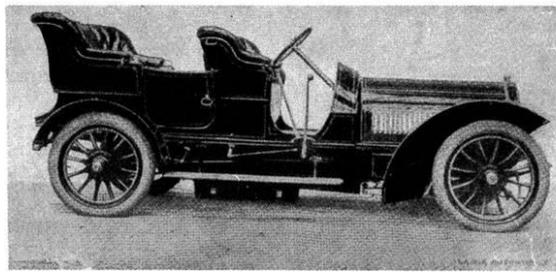
5. William J.R. Curtis reiterated this position at a lecture that accompanied his book entitled “Le Corbusier: Ideas and Forms” (2015), which was given at The Royal Danish Academy of Fine Arts, School of Architecture (KADK) on 21st January 2016.

6. The influence of the picturesque movement on Le Corbusier and his development of the ‘promenade architecturale’ has been asserted by Christopher Hussey (1927), Nikolaus Pevsner (1955), John Macarthur (2007) and Flora Samuel (2010). The connection between Le Corbusier and the picturesque movement is discussed in detail in chapter 8: “Conclusions & Coda.”



PAESTUM, 600-550 B.C.

When once a standard is established, competition comes at once and violently into play. It is a fight; in order to win you must do better than your rival *in every minute point*, in



HUMBER, 1907

Figure 5.01 Vers une Architecture, p.134, Le Corbusier, 1923

Koetter, 1978, p. 95). Le Corbusier's 'promenade architecturale', which took its point of departure from the picturesque landscape, conveyed a far more sophisticated approach to the design of the dwelling interior than that of the 'form-function'⁷ paradigm. Le Corbusier was not the only Modern Movement architect to develop spatial theory applicable to the contemporary dwelling interior that was influenced by the picturesque movement and its pictorial planning techniques.

The Austrian-born architect Josef Frank, who was a contemporary of Le Corbusier, took inspiration from the contingency and diversity in spaces that he found in the 'organic' formation of towns and cities in order to develop a design strategy for the spatial organisation of the dwelling interior. In the essay, "Das Haus als Weg und Platz" (The House as Path and Place) (1931), he outlines his claim that a dwelling should be composed of 'paths' and 'places' in the same way as a city is composed of 'streets' and 'squares'. Josef Frank takes inspiration from the Austrian architect and urban planner, Camillo Sitte's "Der Städtebau nach seinen künstlerischen Grundsätzen" (City Building According to Artistic Principles) (1889) in order to reimagine the Loosian notion of the 'Raumplan'⁸ in a more liveable and relaxed fashion, by using his own design for Villa Beer in the Wenzgasse (1930) as an archetypal case study. Camillo Sitte, was himself inspired by the picturesque movement in Britain and its romantic sentiments towards old towns and their urban forms, which was based upon pictorial planning. In turn, Sitte's text and its 'picturesque' understanding of the city-scape provided inspiration for Josef Frank's notion of a dwelling structured as a town-scape. In the text, Frank unfolds the notion of composing a dwelling by utilising 'paths' to link a series of inhabitable 'places' based upon a consideration for the inhabitants' perspectival experience and opportunities for appropriation. He believed that, a dwelling interior should feel intuitive to navigate and yet recall the intriguing feeling of exploring an unfamiliar town's streets and piazzas. With Villa Beer, Josef Frank's re-imagination of the Loosian 'Raumplan' via Camillo Sitte's reflections on building the city-scape results in what could be called a dwelling interior as "architectural landscape." (Frank, Bergquist, Michelsen, & Nettleton, 2016, p. 75) An important distinction between Le Corbusier's earlier 'promenade architecturale' and Josef Frank's notion of 'the house as path and place' is that the former points towards a single prescribed route while the

7. The 'form-function' paradigm is discussed at length by Adrian Forty in the chapter, "Function" from his seminal book, "Words and Buildings" (2012) in which he attributes the coining of the phrase 'form follows function' to the American architect Louis Sullivan sometime during the 1890s.

8. The Moravian architect and long-time collaborator of Adolf Loos, Heinrich Kulka first coined the term 'Raumplan' in his publication "Adolf Loos: Das Werk des Architekten" (1931), while discussing Adolf Loos's design for Strasser House (1919). On 'Raumplan' he writes, "Adolf Loos brought a fundamentally new and higher conception of space into the world: free thinking in space, the planning of spaces that lie at different levels without being bound to a single floor level, the composition of mutually related spaces into harmonious, indivisible wholes and space-saving configurations."

latter advocates a landscape based upon a relational field-configuration of places to explore.

During the 1960s, the Dutch architect and theorist, Aldo van Eyck arrived at a strikingly analogous notion of spatial planning to that of Josef Frank, but this time in response to the unrelenting application of functionalist planning principles at an urban scale. In his book entitled, “The Child, the City and the Artist” (1962), he demands a more anthropological approach to architecture, from an urban planning perspective all the way down to the domestic interior scale. He emphasises the importance of creating ‘place’ rather than ‘space’ and on designing architecture that provides the opportunity for ‘occasion’ rather than merely existing in ‘time’. He writes, “space has no room, time not a moment for man ... Whatever space and time mean, place and occasion mean more ... For space in the image of man is place and time in the image of man is occasion.” (Eyck et al., 2008, p. 50) Aldo van Eyck believes that the architectural elements of the dwelling interior, such as windows and doorways, provide opportunities for the architect to create ‘place’ and ‘occasion’. When discussing these architectural gestures, he states, “make of each a place; a bunch of places of each house and each city, for a house is a tiny city, a city a huge house.” (Eyck et al., 2008, p. 50) Aldo van Eyck claims that there is a fundamental reciprocity between the house and the city and the way in which the two habitats are structured, echoing the earlier sentiments of Josef Frank. Aldo van Eyck proclaims that we must conceive architecture ‘urbanistically’ and engage in urbanism ‘architecturally’ in order to arrive at ‘the singular through plurality’. He views both the house and the city as being comprised from a ‘bunch’ of relational ‘places’ in a field-configuration. As well as advocating a reciprocity between the spatial structures of the dwelling and city, Aldo van Eyck also emphasises the continuity that he sees between the domestic landscape and the city-scape.

We now move onto a discussion relating to the early writings of the Swedish academic, architect and designer, Lars Lerup, in which he introduces and strongly promotes the notion of the dwelling interior as ‘domestic landscape’. In the chapter, “People & Things” from the book, “Building the Unfinished” (1977), Lerup is explicit in advocating the design of ‘domestic landscapes’ that support both the ‘anonymous’ practical requirements of a dwelling while at

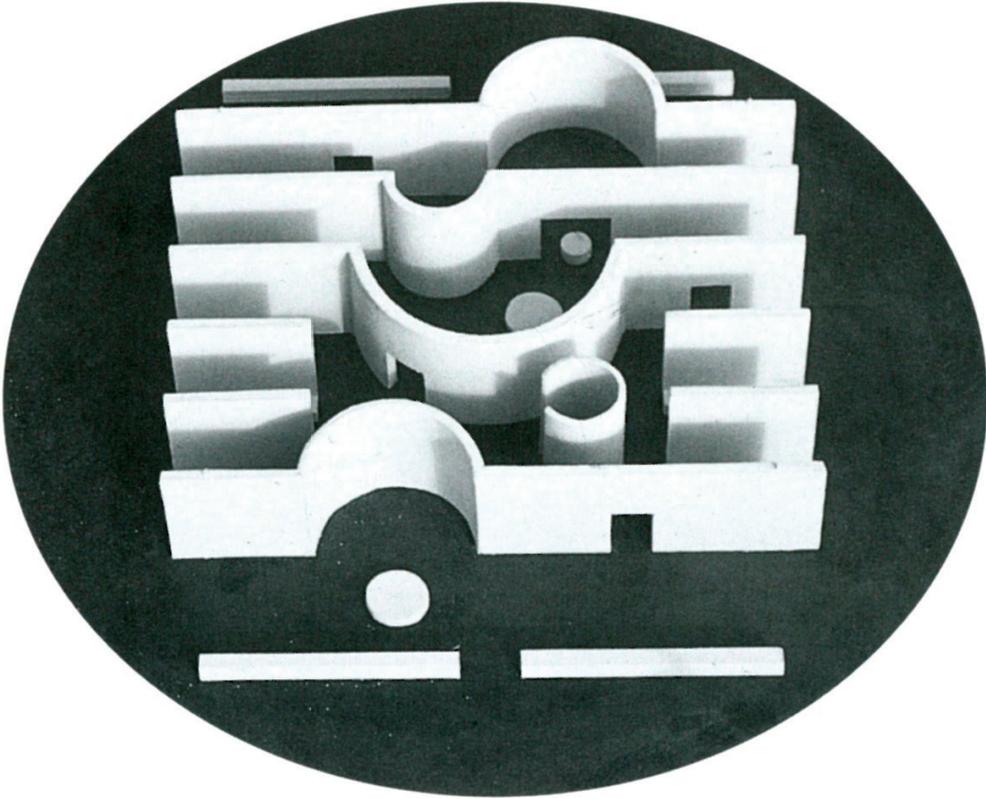


Figure 5.02 Sonsbeek Pavilion concept model, Arnhem, Holland, Aldo van Eyck, 1965-1966

the same time offering opportunities for active appropriation of architectural 'objects' that he refers to as 'environmental fortuna'. Lerup writes, "for to discover the possible many-sidedness of an object is to reveal its opportunity – what I call environmental fortuna." (Lerup, 1977, p. 129) The author uses several examples of dwelling inhabitants and their creative appropriation of 'environmental fortuna' within the domestic landscape, which he uses to question, what is referred to as the four architectural stereotypes of the Western home: the kitchen, the bathroom, the bedroom and the living room. Lerup's intention is to challenge functionalism and its ardent search for efficiency, which he argues promotes a deterministic approach to the spatial organisation of the contemporary dwelling interior. What sets Lerup aside from both Josef Frank and Aldo van Eyck is his introduction of intentionally ambiguous architectural elements within the domestic landscape, in the form of 'environmental fortuna'.

I will now briefly summarise some of the key notions from the architectural theory above, in order to arrive at a notion of the contemporary dwelling interior as a domestic landscape, which can be utilised as a formative approach to the spatial organisation of the domestic built-environment. Of particular interest with Le Corbusier's concept of the 'promenade architecturale' is designing with an appreciation for an inhabitant's point-of-view and sequential visual experience, rather than simply positioning functions on a plan drawing and thus contributing to the abstraction of 'social space' into 'abstract space', to use terms from Henri Lefebvre. Josef Frank introduces the notion of the dwelling interior composed as a townscape, with paths connecting places that offer contingency and diversity in terms of inhabitable spaces. Frank's concept suffers from the risk of the dwelling arrangement becoming an arbitrary imitation of a seemingly unconnected structure. This is something that he attempted to address in his later concept of 'accidentism'. "With the idea of 'accidentism' Frank does not mean to propose arbitrariness or giving free rein to chance but to create as if something had occurred by chance." (Frank et al., 2016, p. 105) Regardless, Frank makes the important contribution of connecting the composition of the dwelling interior with the complexity and potential richness of the townscape. Aldo van Eyck effectively avoids the issue of arbitrary imitation by underlining the reciprocity between the spatial structures of the house and

the city by viewing them both as a continual 'bunch' of relational 'places', in other words a relational field-configuration. With this he places emphasis on the continuity between the domestic landscape and the city-scape. Lars Lerup explicitly promotes the conceptual idea of the dwelling interior as 'domestic landscape'. Although both Josef Frank and Aldo van Eyck place value on supporting creative appropriation by inhabitants, it is Lars Lerup who advocates the design of intentionally ambiguous architectural elements within the domestic landscape in the form of 'environmental fortuna'. The theories discussed above, which all in some shape or form relate to the notion of the contemporary dwelling interior as a 'domestic landscape', will be synthesised through an analysis of House Vandenhoute-Kiebooms (1967) and Moriyama House (2005) in order to develop a practically applicable architectural approach to the spatial organisation of the contemporary dwelling interior.

5.3 DWELLING AS ARCHIPELAGO

We now turn our attention to the analysis of the first of two case study dwellings. House Vandenhaute-Kiebooms was designed by Juliaan Lampens in 1964, and built between 1966 and 1967 for Gerard Vandenhaute and his family, who continue to inhabit the dwelling to this day. Lampens was born in 1926 in De Pinte, close to Ghent in the Flemish region of Belgium. After studying at the Higher Institute for Art and Vocational Training of the Sint-Lucas School of Architecture in Gent, he founded his own architectural practice in Eke, in 1950. Alongside his architectural office, Lampens taught at the Sint-Lucas School of Architecture, holding the position of professor between 1985 and 1991. House Vandenhaute-Kiebooms is located in the village of Huise, Belgium, on a strip of land sandwiched between a quiet country lane and a vast cornfield, in a predominantly rural context. Lampens designed the interior of the house within a square footprint of 14 x 14 metres, which was laid 1.5 metres below the level of the road and that is accessible by foot, via a winding path. The dwelling is defined by its completely open-plan living space that is contained under a continuous concrete roof slab, referred to as a baldachin.⁹ Two staggered solid concrete walls running east to west delimit the private dwelling from the public road. The remaining three facades of the house are dominated by full-height glazing with recessed frames, which allows the surrounding landscape to flow directly into the interior of the dwelling uninterrupted.

Regarding the spatial organisation of House Vandenhaute-Kiebooms, the interior can essentially be described as one continuous open-plan 'archipelago'¹⁰ where geometric elements suggest the potential usage of space. A combination of fixed 'anchors', which take the form of distinct architectural elements that demarcate necessitous activities in the form of the toilet, bathing and cooking areas, together with moveable furniture elements are used to delineate both static and flexible programmatic areas of the house. Two concrete cylinders, the first 1,5m in diameter with a polished finish and the second 3,2m in diameter with an exposed timber shuttering finish, rise from the concrete floor to a height of 1,9m in order to provide visual privacy to the sanitary areas. As a way to define the cooking area, suspended concrete planes drop down from the ceiling to just below eye-level forming a skylight

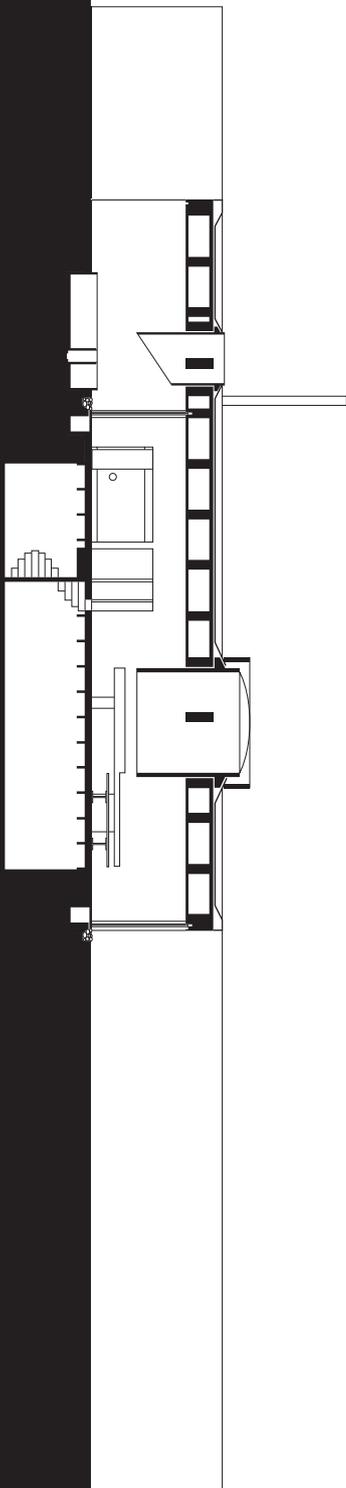
9. A baldachin refers to a ceremonial canopy of stone, metal, or fabric. It is used by Jo Van Den Berghe to describe the roof element of House Vandenhaute-Kiebooms with the aim of associating its design to that of the tent typology, with its nomadic properties (Van Den Berghe, 2014, p. 39).

10. The spatial organisation of House Vandenhaute-Kiebooms is described by Joseph Grima as an archipelago of semi-enclosed cubicles within a larger open space (Lampens & Campens, 2011, p. 59).



Figure 5.03 House Vandenhoute-Kiebooms entrance, Juliaan Lampens, 1967

5. DEFINING THE DWELLSCAPE



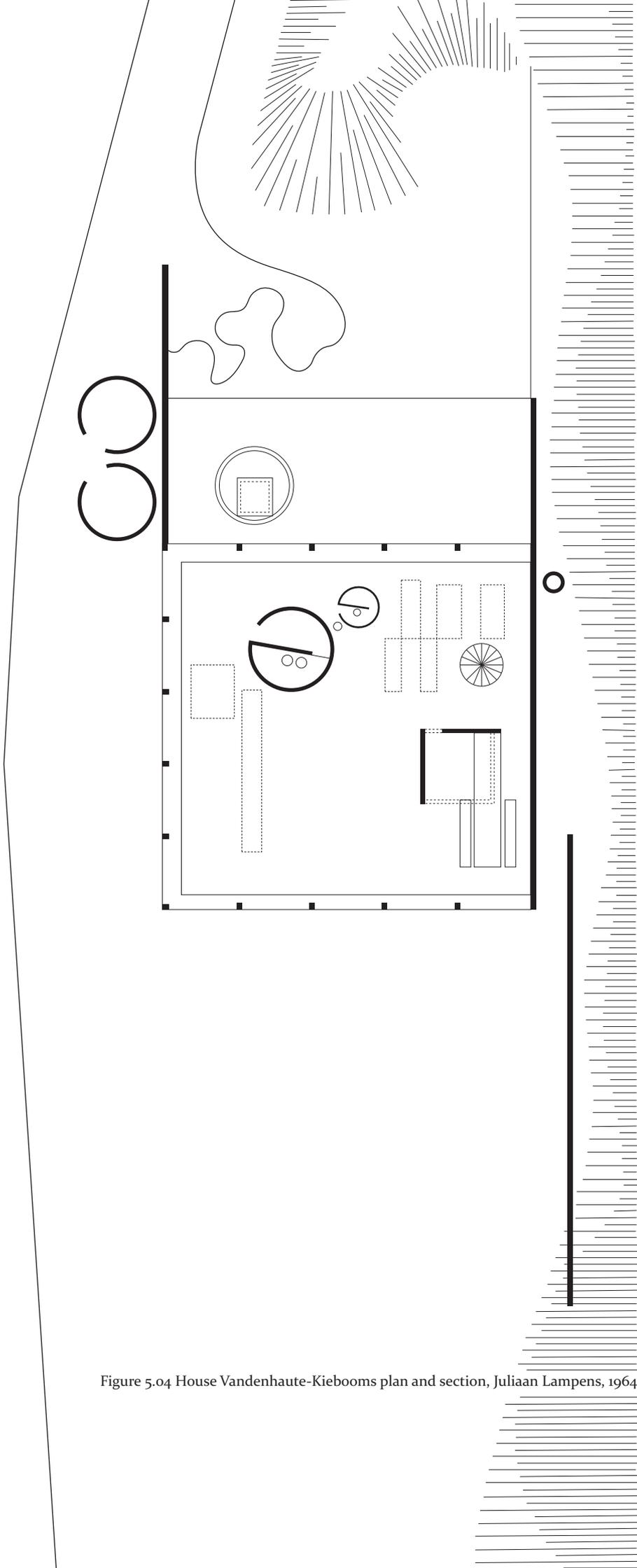


Figure 5.04 House Vandenhaute-Kiebooms plan and section, Juliaan Lampens, 1964



Figure 5.05 House Vandenhoute-Kiebooms cooking area, Juliaan Lampens, 1967

and a 'baffle' to help contain and extract foul air. Moveable wooden furniture elements form 'sleep hutches', work stations, and seating areas that can be arranged in several locations around the house to define territories for the individual family members, within the dwelling interior.

The interior of House Vandenhoute-Kiebooms can be considered as a landscape in its own right, where the various fixed and flexible elements define inhabitable territories within an archipelago. The spatial organisation of the dwelling challenges, what Lars Lerup refers to as, "the four pillars of the Western home: the kitchen, the bathroom, the bedroom and the living-room." (Lerup, 1977, p. 145) Even though there are defined places such as the toilet, a place to bath and a place to cook, they are continuations of the surrounding space. The result of this is that the entire floorplan of the building can effectively be considered as a living room. This continuous archipelago of inhabitable objects and interstitial living spaces is a concrete representation of Lerup's notion of the 'domestic landscape'. One of Lars Lerup's central criteria for the success of architecture is its ability to provide opportunities for 'creative' inhabitation. "This is a process of 'identification through appropriation,' where they see themselves, more or less clearly, in the built setting." (Lerup, 1977, p. 166) The appropriation of space within House Vandenhoute-Kiebooms is largely self-curated through the inhabitants' utilisation of the moveable furniture elements within the interstitial places, located between the three fixed 'anchors.' These geometric 'anchors' serve as 'landmarks' within the open-plan layout that require a certain level of interpretation with respect to how one may appropriate them. The moveable 'sleep hutches' also require 'creative' appropriation given their potential to be placed in several territories within the house that results in differing dwelling experiences for a variety of occasions over time.

At this juncture, it is productive to make a distinction between ambiguity and neutrality in relation to spatial programming, in particular when one discusses the open-plan layout of House Vandenhoute-Kiebooms. Ambiguity is the quality of being open to more than one interpretation, neutrality, on the other hand can be understood as a lack of engagement. In spatial programmatic terms, one could argue that ambiguity suggests an active engagement with the inhabitant, where distinct spaces are interpreted

and subsequently appropriated actively, in a variety of ways. Neutrality, on the other hand, suggests a passive engagement with the inhabitant, where indistinct space can become difficult to appropriate due to a lack of programmatic intimation. The vague ‘open-plan’ spaces that Stephen Bates criticises in the chapter, “An open plan of rooms” from the book, “Papers 3: Sergison Bates Architects” (2016), can be thought of as archetypal examples of neutral space, within the context of the domestic interior. In contrast, the open-plan layout of House Vandenhaute-Kiebooms with its characteristic fixed ‘anchors’ and moveable furniture elements that intimate interpretive appropriation, within the intentionally composed interstitial spaces, exemplifies an ambiguous open-plan domestic landscape.

The importance of landscape cannot be overstated when it comes to the architecture of Julian Lampens and in particular the design of House Vandenhaute-Kiebooms. The architect has stated that, “the Landscape is the first commissioner and the last operator” (Van Den Berghe, 2014, p. 20), of each and every project. House Vandenhaute-Kiebooms becomes part of its surrounding environment through its integration into the slope of the site, seamless full-height glazing, and the choice of materials which patinate to become part of its natural context. A blurring in the threshold between interior and exterior space is also encouraged through the use of geometric elements on the outside that mirror those inside to delimit programmatic activities in the landscape surrounding the house. “The landscape streams into the house, very briefly resides there in a moment of rest, and then smoothly streams back out.” (Van Den Berghe, 2014, p. 39) The positioning of the structural walls in long linear lines together with the regular rhythm of the window frames initially suggest an ordered configuration to the dwelling. However, the asymmetry in the composition of the fixed ‘anchors’ throughout the dwelling breaks any perceived geometric order. The distribution of these landmarks within the archipelago draws comparisons with the picturesque and the importance that it places on the connections between a relational field-configuration of objects. The layout of House Vandenhaute-Kiebooms also recalls the picturesque found in Josef Frank’s relational field-configuration of places to explore, as opposed to the prescribed processional sequencing of Le Corbusier’s ‘promenade architecturale.’¹¹

11. An in-depth comparison between Le Corbusier’s ‘promenade architecturale’ and Josef Frank’s ‘house as path and place’ is undertaken in chapter 7: “A Picturesque Dwelling.”



Figure 5.06 House Vandenhoute-Kiebooms exterior, Juliaan Lampens, 1967

Through the radical spatial organization adopted for House Vandenhaute-Kiebooms, thresholds between private and communal spaces within the house have been diminished or removed completely. There is almost no acoustic or olfactory privacy between the bathing area, the toilet, and the moveable ‘sleep hutches’ within the dwelling. The architect has been strongly defensive of this decision, which was made in close collaboration with Mr Vandenhaute during the development of the design. “Living together is something rational. If a couple decides to live together, that’s a rational decision. Agreements are made. So it is with an open-plan house. The residents make clear arrangements as to whom, what and when. In that way, father, mother and children can each lead their own lives and can do so together under one suspended roof.” (Lampens & Campens, 2011, p. 13) House Vandenhaute-Kiebooms takes on the form of a settlement, where the family can be viewed as a community, in which private territory has to be established through the appropriation of objects within a communal domestic landscape. For example, it has been observed that the moveable furniture elements are utilised to form temporary spatial divisions that establish places which can provide a greater level of privacy within the dwelling.

In terms of adaptability, Lampens has created a dwelling which allows for both adjustability in the day-to-day life of the inhabitants, as well as, programmatic flexibility over a longer period of time that can respond to changing lifestyles. “The human scene that unfolds under the baldachin is variable over time, thus nomadic by nature.” (Van Den Berghe, 2014, p. 39) The wooden cupboards, for instance, have been moved over time, following the changes in domestic life of the Vandenhaute family. House Vandenhaute-Kiebooms’s spatial organisation, with its fixed and moveable objects that facilitate temporal partitioning creating momentary ‘places’ in which to dwell, is quite radical when compared to the archetypal house from the functionalist cannon, where specific activities are consigned to individual rooms that are sized and proportioned accordingly and separated from one another with partition walls, corridors, and hallways. Jo Van Den Berghe writes of House Vandenhaute-Kiebooms, “The house is nomadic in its outer appearance and in the inner experience of its daily use.” (Van Den Berghe, 2014, p. 39) From this perspective, House Vandenhaute-Kiebooms is considered as nomadic architecture due to its ‘absent presence’ in the landscape, while of greater

significance to this discourse, its inhabitants are themselves considered as nomads that are able to establish a multitude of territories within the dwelling over time.

House Vandenhaute-Kiebooms could well be described as an archetypal example of Brutalist architecture, while also taking strong cues from the Second World War bunker aesthetic typified on the northern coast of Belgium. The sparse material palette used in the house is restricted to exposed concrete, with two differing surface finishes, wooden furniture, black painted metal window frames, and simple off-white curtains. The exposed concrete finish on the exterior walls and roof eaves has absorbed the surrounding landscape and nature through a patina of moss and lichen. One could argue that the Brutalist aesthetic is rooted in both the immediate geographical and historical context in which House Vandenhaute-Kiebooms was designed and built. Juliaan Lampens has spoken about his interest in the architecture of the remnants of the Second World War defences, which are scattered around Belgium. “The bunkers of the Atlantic coast are for Lampens the most beautiful examples of brutalism: ‘the integration with the sea and nature is just perfect.’” (Lampens & Campens, 2011, p. 6) House Vandenhaute-Kiebooms also represents a literal bunker from the anxiety of the outside world, which was present during the period. At some level, the dwelling is also characteristic and symbolic of the post Second World War / Cold War obsession with an architecture of paranoia, yet that still strived for a Modernist utopia.

5.4 DWELLING AS CITY, CITY AS DWELLING

The discussion now moves onto an analysis of the second case study dwelling. Moriyama House was designed by the Japanese architect Ryue Nishizawa for Yasuo Moriyama and the building was completed in 2005. Ryue Nishizawa is also co-founder, together with Kazuyo Sejima, of the influential architecture office SANAA. Moriyama House is located in a suburban neighbourhood of Tokyo called Kamata, which is characterized by detached single-family houses. The mass of the dwelling is distributed across ten separate free-standing box volumes that vary in height between one and three stories. The individual buildings are all pre-fabricated from steel panels to make the walls as thin as possible, in order to maximize the interior volume of the dwelling. A network of streets or 'roji'¹² weave in between the boxes, allowing for inhabitation among the building fragments. Mr Moriyama inhabits five of the buildings, switching between the various living and dining spaces depending upon the seasons and his personal preferences. The remaining five units are currently rented out to tenants, although the building fragments can be re-established as one single-family dwelling, at any time in the future, if desired. To fully appreciate the design of Moriyama House, one must understand its cultural context and in particular the significance of 'roji' in Japan. 'Roji' are traditional gardens and public alleyways typically located in between houses that form communal territory where public interactions can take place between inhabitants. Many traditional 'roji' have disappeared since the Second World War, as the public domain has been privatised and people have become more concerned with privacy.¹³ Moriyama House is fundamentally defined by the communal territories located in between its constituent dwelling volumes, and the presence of 'roji' in the design gives rise to strong cultural significance in Japan.

12. Cathelijne Nuijsink and Ryue Nishizawa discuss at length the role of 'roji', historically, within a contemporary context and specifically, their influence on the spatial organisation of Moriyama House (Nuijsink, 2012, pp. 130-139).

13. This privatisation of the public domain, and in particular the loss of 'roji' has been expediated by the introduction of American style concrete villas after the Second World War, which typically occupy the full building plot, thereby removing traditional inhabitable interstitial places. (Nuijsink, 2012, p. 134)



Figure 5.07 Moriyama House, Exterior perspective, Ryue Nishizawa, 2005

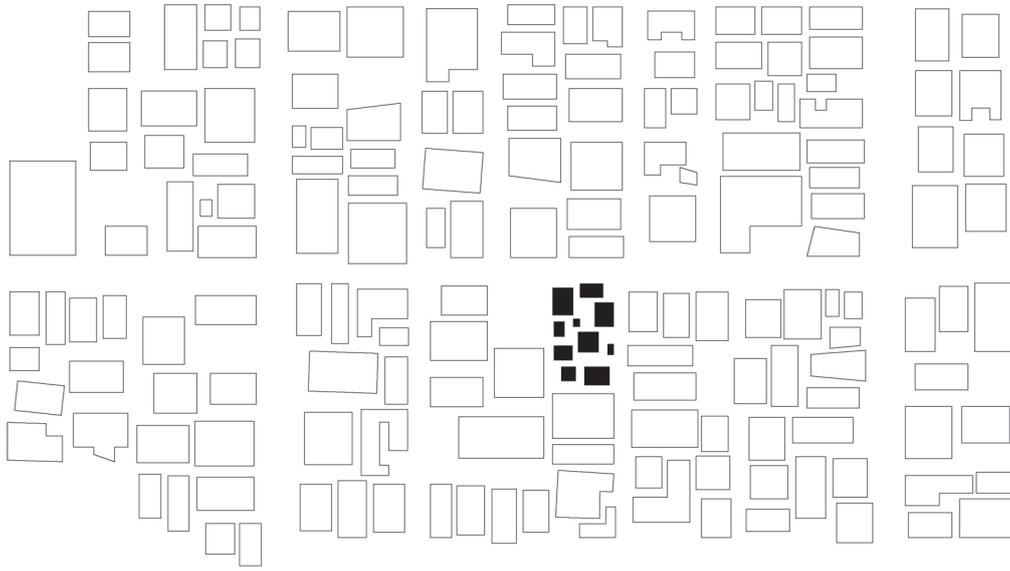


Figure 5.08 Moriyama House site plan, Ryue Nishizawa, 2005

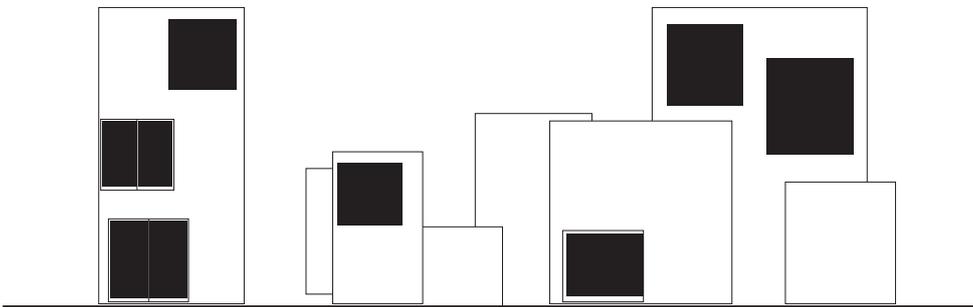
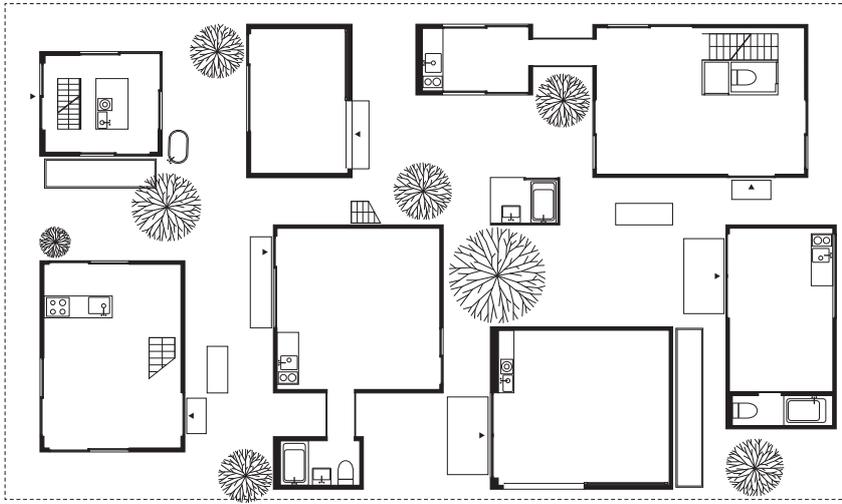


Figure 5.09 Moriyama House plan & section 1/200, Ryue Nishizawa, 2005



Figure 5.10 Moriyama House at dusk, Ryue Nishizawa, 2005

A striking feature of the spatial organisation of Moriyama House is the lack of any centric planning, or of a central core to the dwelling layout. By distributing the dwelling into separate buildings across the two adjoining plots with little or no hierarchy between the units, Ryue Nishizawa creates a series of overlapping territories that can be interpreted in a multitude of ways. “What I wanted to establish with this project is a relationship that doesn’t have any centre. Inside the plot, you can create your own centre even when you are living at the edge. In that case the edge suddenly becomes the centre.” (Nuijsink, 2012, p. 138) In the essay, “Inventing New Hierarchies”, (2011) the Swiss academic and urbanist, Eve Blau describes SANAA’s architectural projects as being ‘non-hierarchical’ structures that are composed from a relational field-configuration of independent volumes, each with their own particular characteristics, which are intricately interwoven with their neighbours through a carefully calibrated network of interstitial spaces. This approach to spatial organisation described by Blau, based upon a relational field-configuration is reminiscent of Josef Frank’s concept of composing a dwelling from ‘paths’ and ‘places’ that imitate a network of streets and squares, albeit with the caveat that a town-scape can rarely be described as a ‘non-hierarchical’ structure.¹⁴ The notion of ‘non-hierarchical’ organisation can also be found in the picturesque, as argued by the British academic Caroline Constant in her seminal article, “The Barcelona Pavilion as Landscape Garden: Modernity and The Picturesque” (1990). While reflecting upon Mies van der Rohe’s Barcelona Pavilion, Constant emphasises the importance of composition through relational connections as a principle tenet of the picturesque. She uses Alexander Pope’s design of the garden at his house in Twickenham (1727) as an archetype of the picturesque garden where it is perceived, not as an object in itself, but as a series of relationships that are gradually revealed to the moving spectator. With the picturesque, emphasis is placed on the relational connections between objects in a series, rather than on any singular standalone object or an overriding organisational hierarchy. Constant argues that, Mies van der Rohe gives priority to neither space nor constituent elements within the Barcelona Pavilion and that this can be considered as a prime example of picturesque ‘connection’, where there is no classical hierarchical treatment of architectural elements or an overriding geometric system. This notion of picturesque ‘connection’ is strikingly similar to the notion of ‘non-hierarchical’ space, as defined by Eve Blau.

14. In the chapter, “The Japanese City and Inner Space” from the book, “Nurturing Dreams: Collected Essays on Architecture and The City” (2008), the Japanese architect and academic, Fumihiko Maki notes the contrast between the ‘non-hierarchical’ structure of the Japanese village and the ubiquitous ‘centre-demarcation’ found in European town-planning, which is traditionally based upon the hierarchical placement of ecclesiastical buildings at their centre (Maki, 2008, p. 157). This same contrast in hierarchical and non-hierarchical approaches to spatial organisation is also made succinctly by the Australian urbanist Barrie Shelton in his book “Learning for The Japanese City” (Shelton, 2012, p. 36).

Due to the distribution of its plan, Moriyama House absorbs the surrounding context, in effect the house becomes part of the city and the city becomes part of the house. Ryue Nishizawa has stated that, “instead of putting up a fence around the plot, I opted for a comfortable continuity throughout the house, the garden and the roji and the city, like one gradual movement.” (Nuijsink, 2012, p. 139) Comparisons to the reciprocity that Aldo van Eyck sees between the house and the city seem wholly appropriate here, where the threshold between house and city is diminished and one can see a ‘gradual movement’, albeit clearly articulated, between the two entities. The dwelling unmistakably represents a collection of urban block houses with streets and squares reflecting the surrounding city landscape. Moriyama House is an explicit example of what Aldo van Eyck would define as architecture that has been conceived ‘urbanistically’. Aldo van Eyck writes, “A house-like city and a city-like house should, I think, be thought of as a configuration of intermediary places clearly defined.” (Eyck et al., 2008, p. 63) This reciprocity between house and city is not spatial continuity, of which Aldo van Eyck is critical, but rather an articulation of the ‘in-between realm’¹⁵ between the two entities. The integration of the surrounding landscape into the design is very important to the concept of Moriyama House. Nishizawa worked extensively with a planting strategy from the early concept model stage, integrating nature into the dwelling to arrive at what he refers to as ‘a little village in the middle of a forest’ (Bêka & Lemoine, 2017). One could describe Moriyama House as a permeable dwelling, where the interior spaces can open up and integrate with the surrounding gardens and ‘roji’ that foster impromptu interactions between tenants and passers-by.

The spatial organisation of Moriyama House blurs the threshold between public and private domains in several ways. Firstly, there is an ambiguity in ownership of the garden spaces and alleyways in between the individual building units. Neighbours can use the alleyways as shortcuts, and indeed in principle, the general public can explore and inhabit these threshold spaces without physical hindrance. Secondly, the individual tenants of Mr Moriyama’s house not only form a community but to some extent perform the function of a family unit through their close-proximity living and level of social interaction. In the film ‘Moriyama-San’ (2017) by Ila Bêka & Louise Lemoine, the daily-lives of the inhabitants of Moriyama House are

15. Aldo van Eyck conceives of the ‘In-between Realm’ as the fertile threshold between ‘twin-phenomenon’, such as urbanism / architecture, city / house & exterior / interior, which he believes have been erroneously split into absolutes by ‘deterministic one-track thinking’ (Eyck et al., 2008, pp. 53-71).



Figure 5.11 Moriyama House 'Roji' interstitial spaces, Ryue Nishizawa, 2005



Figure 5.12 Moriヤマ House 'Roji' interstitial spaces, Ryue Nishizawa, 2005

documented in great detail. The interstitial garden spaces are shown to support a surprisingly wide variety of activities that include, brushing teeth, washing, shaving, reading books on the roof-top, communal barbecues, playing music and singing together, washing and drying laundry, a fireworks' display and even the communal watching of silent films projected onto the façade of the dwelling. Ryue Nishizawa's architecture offers a variety of threshold 'places' that open up to the gardens and alleyways, which provide informal gathering opportunities and that can be used for communal social 'occasions', allowing the atmosphere of the interior and exterior spaces to flow uninterrupted. Nishizawa's carefully considered inhabitable doorways and window sills echo the sentiments of Aldo van Eyck when he writes, "make a welcome of each door and a countenance of each window." (Eyck et al., 2008, p. 50) The exterior appearance of Moriyama House is dominated by large windows that challenge traditional notions of domestic privacy. The windows are however, carefully positioned to give the impression that the apartments are very open, while at the same time their precise locations minimise overlooking from neighbours and the public.

The lack of hierarchy and the minimalist form of Moriyama House's cube units results in an ambiguity in function of the various buildings within the complex. This ambiguity can be seen as a way of encouraging individual creative appropriation of the architecture by its inhabitants. "Moriyama House doesn't want to limit the programme. It allows the freedom to start thinking about the function or programme. People coming to the house can imagine for themselves how to use the buildings. It could as easily be a kindergarten, a group home or a school." (Nuijsink, 2012, p. 131) Multiple places to cook and to bath, allow Mr Moriyama to decide for himself which fragments of the house he wants to inhabit at any one time. Programmatic possibilities of the various cubes are kept as ambiguous as possible so that the dwelling can adapt to changes in the life of its inhabitants. Ryue Nishizawa's deliberate ambiguity in the design of Moriyama House effectively turns each inhabitant into an active participant. "We use the function to create the building, but also the building creates the function. It is a very dynamic relation: the building creates the program, the program also creates the building." (Pérez Rubio, Chermayeff, Sakamoto, & Fernández-Galiano, 2007, p. 15)¹⁶ One can claim that, Moriyama House as a piece of architecture is activated by the

¹⁶. Within the context of the citation 'function' is understood to refer to the programmatic requirements of the building rather than explicitly referring to a 'functionalist' approach to its spatial organisation.

participation of its community of inhabitants due to the dwelling's lack of prescribed spatial programming. This layer of user participation is required to complete the architecture, and through appropriation the true qualities of the dwelling can be realized. Ryue Nishizawa together with Kazuyo Sejima often uses the metaphor of a park to describe their approach to architectural design, where a multitude of diverse activities can take place in a cultivated landscape through the participation of inhabitants. "In a park you can join a big group, but at the same time, somebody could be next to you alone, reading a book or just drinking some juice." (Sejima & Nishizawa, 2007, p. 23) A park has a clear infrastructure, yet it is radically open to many forms of inhabitation. In the same way, Nishizawa's architecture gives its inhabitants the agency to appropriate the dwelling as they wish through a typological indeterminacy of use of the multitude of places that form the house.

In architectural terms, the formalistic language of Moriyama House could be described as minimalist, with a uniform palette of white painted panel walls, both inside and outside, concrete and timber floors, and utilitarian grey steel frame windows. This strict material and colour palette create a strong relationship between the dwelling fragments, clearly associating them together as one entity. Through this strong uniformity in visual appearance, a large degree of diversity in the size and articulation of the individual units can occur, without compromising the unity of the house as a whole. The uniformity in colour and detail contributes to a sense of community among the residents through the removal of hierarchy. It is unclear to a passer-by which member of the community lives in which fragment of the house. The exterior envelope of the various building units has a striking uniformity with its minimal thickness. "The wall is reduced to its minimum, to eliminate the hierarchy that exists between structure and partition, in a way that the weight of materiality of each of the elements – plan, door or wall – may be the same." (Pérez Rubio et al., 2007, p. 172) Japan is located in a region with a high level of seismic activity, which not only affects the way in which architecture is constructed but also the temporality of the buildings that are realised. A purposeful shadow gap at the base of each building unit, which coalesces to form Moriyama House, intentionally dislocates the dwelling from the earth, suggesting a fleeting, temporal architecture. A constant threat of potentially destructive earthquakes and tsunamis, together with the fast pace of life in

Japan's metropolises, define attitudes towards the permanence of architecture. "Few individuals have local roots and not many buildings have a long history. It is a changing, organic, non-sentimental, and sometimes frightening entity. A seismic undertow can turn this fascinating city at any moment into a violent enemy of its inhabitants." (Idenburg, 2010, p. 52) These conditions, together with a typical lifespan for a house of only 26 years,¹⁷ make the Japanese single family dwelling a perfect typology for architectural experimentation, as can be seen with Moriyama House.

17. Cathelijne Nuijsink notes, "The short lifespan of buildings in Japan – an average of only 26 years in Tokyo – has resulted in a continual renewal of the urban setting and consequently a rapid implementation of new architectural ideas." (Nuijsink, 2012, p. 24)

5.5 THE DWELLING AS DOMESTIC LANDSCAPE

The discussion now moves onto a comparative study of House Vandenhoute-Kiebooms and Moriyama House, based upon the characteristics identified in the individual analysis of the two dwellings. Firstly, I make the claim that the two dwellings are explicit examples of ‘domestic landscapes’ with regards to their spatial organisation. The archipelago layout of House Vandenhoute-Kiebooms, with its fixed geometric ‘anchors’ and moveable furniture elements that can be utilised by the inhabitants in order to delineate territories within the dwelling, is a tangible representation of Lars Lerup’s notion of a ‘domestic landscape’. The composition of the collection of urban blocks and interstitial gardens that constitute Moriyama House, with their intersecting streets or ‘roji’, reflect the surrounding cityscape of Tokyo. It is an explicit example of what Aldo van Eyck would define as architecture that has been conceived ‘urbanistically’. The spatial arrangement of Moriyama House is also representative of Josef Frank’s concept of the dwelling interior as an ‘architectural landscape’ composed of ‘paths’ linking a series of inhabitable ‘places’ that can be explored. Nishizawa underlines the landscape qualities of Moriyama House and its opportunities for explorative inhabitation by referring to the analogy of a park when discussing its spatial organisation. (Pérez Rubio et al., 2007, p. 170)

On initial inspection, the open-plan arrangement of House Vandenhoute-Kiebooms and the fragmented building layout of Moriyama House are visually very different. Lampens removes any distinguishable circulation space from the dwelling, whereas Nishizawa celebrates circulation space through the articulation of ‘roji’ and interstitial gardens in between the individual buildings, that coalesce to form the house. However, if one considers the two buildings as continuous domestic landscapes, where both interior and exterior spaces are combined, then the approach to spatial organisation taken by the two architects is remarkably similar. Inspiration for a representational technique that can reveal these interstitial forms has been found in Giambattista Nolli’s iconic map of Rome (1748), which was revolutionary in its development upon the traditional figure-ground map by highlighting enclosed public spaces, as well as, open civic spaces. This figure-ground reversal technique meant that one could now appreciate the interstitial spaces

in between the buildings, as much as, the spaces enclosed within them. Just as the urban grain of the city became more apparent in these ‘Nolli’ maps, the full spatial composition of a dwelling can be revealed, when considered as a continuation from the interior to the exterior. The inverted drawing of House Vandenhaute-Kiebooms and Moriyama House highlights the shared spatial strategy of the two dwellings, where fixed elements provide enclosed places that can support specific functions and that define interstitial places, which can be itinerantly appropriated by their inhabitants within a continuous domestic landscape.

Juliaan Lampens and Ryue Nishizawa both utilise intentional ambiguity in the spatial organisation of House Vandenhaute-Kiebooms and Moriyama House, in order to give the inhabitants, the agency to creatively appropriate the dwellings. The radical open-plan archipelago of House Vandenhaute-Kiebooms, with its combination of fixed ‘landmarks’ that designate the sanitary and cooking areas, together with its moveable furniture that can be positioned in a multitude of ways, allows the inhabitants to constantly change the spatial layout of their built environment. The intentionally composed interstitial spaces of House Vandenhaute-Kiebooms exemplify an ambiguous open-plan layout that contains enough articulation, provided in this case by both the fixed ‘anchors’ and the moveable furniture, to loosely define territories within the domestic landscape. Ryue Nishizawa has designed Moriyama House as a relational field-configuration of simple buildings that have been reduced to minimalist white cubes, where functional requirements, such as kitchens and bathrooms have been repeated throughout the units, effectively removing any fixed hierarchy. This non-hierarchical arrangement allows Mr Moriyama to appropriate the house in a multitude of ways, deciding how many tenants he would like to share the complex with. This intentional lack of a prescribed programmatic organisation and the resulting typological indeterminacy of the interior and exterior places that constitute the domestic landscape of Moriyama House, encourages active participation from its inhabitants. “After being used by individuals, the architecture is now given the names of programs that were missing at the beginning. Each individual user guides a different program. Each program reveals a different flexibility.” (Pérez Rubio et al., 2007, p. 184) Within House Vandenhaute-Kiebooms and Moriyama House, the intentional ambiguity is spatial as opposed to the purely

object-based ambiguity that is advocated by Lars Lerup and his concept of 'environmental fortuna'. In both dwellings the inhabitants establish their own territories within a domestic landscape, thereby having the agency to creatively appropriate places as they wish.

The two dwellings have been designed as a continuation of their surrounding typo-morphological contexts. In the case of House Vandenhaute-Kiebooms, the threshold between interior and exterior is minimised through the use of full-height glazing on three facades of the house, the extension of structural walls into the surrounding landscape, the placement of corresponding geometric elements both inside and outside, as well as, the integration of the building into the slope of the site. The house is slowly weathered and absorbed into the landscape through a patination by mosses and lichens on the exposed concrete façade, which reinforces Lampens's ideology that the landscape is both the 'first commissioner' and also the 'last operator'. Ryue Nishizawa describes Moriyama House as a 'gradual movement' between the individual dwelling units, the interstitial gardens and 'roji', and the surrounding city. The building blocks absorb the surrounding context through fragmentation, in effect blurring the perimeter threshold of the house. Moriyama House is an explicit architectural manifestation of the reciprocity that Aldo van Eyck identifies between the house and the city.

Both House Vandenhaute-Kiebooms and Moriyama House owe a debt to planning principles, which were pioneered during the 18th century picturesque movement and that were later refined and propagated, through the writings of Camillo Sitte, Josef Frank and Aldo van Eyck. Firstly, the two dwellings display an approach to spatial organisation that is based upon a relational field-configuration of bodies, rather than as a standalone object. We can see this in the archipelago layout of House Vandenhaute-Kiebooms, with its composition of fixed 'landmark' anchors and the deliberate interstitial places that these elements define, and in Moriyama House, with its 'non-hierarchical' structure composed from a field-configuration of dwelling fragments intricately interwoven with their neighbours, through a carefully composed network of interstitial spaces. Secondly, both Juliaan Lampens and Ryue Nishizawa employ asymmetrical planning in the design of House Vandenhaute-Kiebooms with its composition of 'landmark' elements and

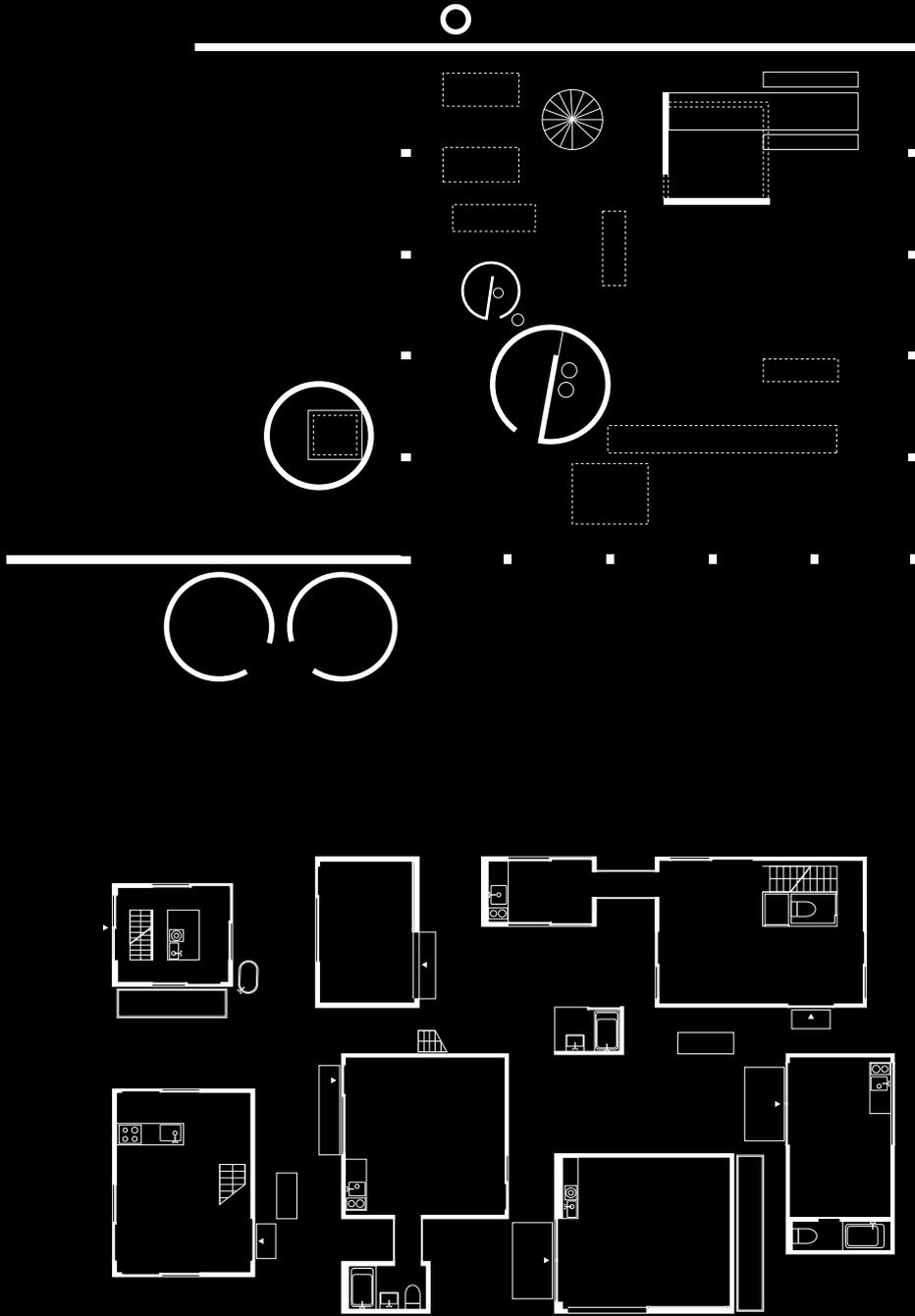


Figure 5.13 House Vandenhaute-Kiebooms + Moriyama House 'Nolli Plan', Nicholas Thomas Lee, 2016

Moriyama House with its irregular positioning of building fragments. The picturesque movement advocated asymmetrical organisation that was based upon perspectival scenes from the point-of-view of the observer and their sequential visual experience, as an alternative to abstract geometrical layouts, based upon classical systems of hierarchy. Finally, the intentional ambiguity in functional programming present in the design of the two dwellings is reminiscent of the lack of functional specificity found in the picturesque landscape garden, which instead fosters the act interpretive appropriation from its inhabitants.

In spite of the many similarities, there are also some explicit differences in the spatial organisation of House Vandenhoute-Kiebooms and Moriyama House. Firstly, the two case study dwellings have differing levels of spatial continuity between the interior and exterior. Juliaan Lampens utilises seamless full height glazing on three facades of House Vandenhoute-Kiebooms, with the aim of minimising the threshold between the interior and the landscape outside. The polished concrete floor slab of the dwelling has been designed to be flush with the exterior ground level, so as to avoid any change in height, thereby emphasising spatial continuity. Ryue Nishizawa, on the other hand, tends to articulate the threshold between the interior of the dwelling fragments and the surrounding gardens and 'roji' wherever possible. A shadow gap at the base of each building unit that constitutes Moriyama House helps to dislocate the dwelling from the earth, while doorways and window sills are designed to provide places that can be inhabited, for example, where one can sit and read a book in the breeze and dappled sunlight. This articulation between spaces recalls the writings of Aldo van Eyck;

"A house-like city and a city-like house should, I think, be thought of as a configuration of intermediary places clearly defined. This does not imply continual transition or endless postponement with respect to place and occasion. On the contrary, it implies a break away from the contemporary concept (call it sickness) of spatial continuity and the tendency to erase every articulation between spaces, i.e. between outside and inside, between one space and another. Instead I suggest articulation of transition by means of defined in-between places which induce simultaneous awareness of what is significant on either side." (Eyck et al., 2008, p. 63)

The differing approaches to the spatial articulation of threshold, taken by Juliaan Lampens and Ryue Nishizawa could be directly related to a disparity in privacy requirements between the two dwellings, based upon their immediate geographical & cultural contexts, namely, the open countryside of Belgium and the densely populated metropolis of Tokyo.

A second distinct difference between House Vandenhaute-Kiebooms and Moriyama House is the architectural style of the two dwellings. The Brutalist materiality of House Vandenhaute-Kiebooms is a clear reference to the military fortifications on the Atlantic coast of Belgium. The robust architectural language of the dwelling as a bunker also reflects the post-Second World War / Cold War zeitgeist of paranoia, which was caused by the perpetual threat of nuclear war. The massive concrete baldachin of House Vandenhaute-Kiebooms suggests a permanence and longevity akin to the monumental bunkers that Juliaan Lampens takes inspiration from. The patina of moss and lichen on the façade of House Vandenhaute-Kiebooms adds a physical layer of nature to the exposed concrete with its timber grain texture. One gets the impression that the nature of the landscape will eventually absorb the dwelling in the future. Moriyama House, on the other hand, celebrates temporality and suggests a fleeting architecture that is defined by its minimalist white building units. These constituent volumes appear to be dislocated from the ground through the use of a shadow gap, which further emphasises their ephemeral character. The uniform thinness of the walls and doors also helps to create the impression of a transient architecture to match the fast-paced life and seismic instability of the surrounding Japanese metropolis. The interstitial gardens and pathways that define the house are clearly inspired by the traditional 'roji' of the Japanese city. The architectural expression and materiality of the two buildings are radically different, yet can be explained by the individual attunement to their specific contextual phenomena. Despite these typo-morphological differences and the resulting divergence in their architectural expression, House Vandenhaute-Kiebooms and Moriyama House exhibit strikingly similar approaches to their spatial organisation.

5.6 CONCLUDING COMMENTS

The point of departure for this chapter has been the prevalence of a positivistic approach to the application of functionalist spatial planning principles that continues to inform architectural praxis and its approach to the spatial organisation of the contemporary dwelling interior, as highlighted most recently by Stephen Bates (2016), Shumi Bose, Jack Self and Finn Williams (2016).¹⁸ At the start of this chapter the following question was posited, through a reconceptualisation of the dwelling interior as a 'domestic landscape' what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform contemporary architectural praxis? Architectural theory from Le Corbusier (1987; 1923), Josef Frank (1931), Aldo van Eyck (2008) and Lars Lerup (1977) relating to the spatial organisation of the domestic interior, has been utilised as a theoretical framework for a comparative analysis of House Vandenhoute-Kiebooms (1967) designed by Juliaan Lampens and Moriyama House (2005) designed by Ryue Nishizawa.

House Vandenhoute-Kiebooms and Moriyama House share many characteristics despite the fact that the two dwellings were built almost 40 years apart in very different geographical, political and cultural contexts. Fundamentally they both challenge a positivistic approach to the application of functionalist spatial planning principles within the contemporary dwelling interior. House Vandenhoute-Kiebooms achieves this through a spatial organisation that is based upon an ambiguous open-plan archipelago, where fixed landmark anchors are used to define a landscape of overlapping territories, which can be actively appropriated, through the use of moveable furniture elements that can accommodate a wide variety of activities. Moriyama House, on the other hand, is composed from a 'non-hierarchical' landscape of building volumes and interstitial spaces that form a continuation of the surrounding city in one 'gradual movement', creating a relational field-configuration of defined interior places and flexible interstitial places, giving inhabitants the agency to appropriate the dwelling in a multitude of ways.

¹⁸. This subject is discussed at length in chapter 2: "The Functionalist Dwelling."

Although on initial inspection, the spatial organisation of the two houses appears to be very different, this chapter makes the claim that the two dwellings are explicit examples of ‘domestic landscapes’ through the use of a ‘Nolli’ type drawing, which conveys the complete spatial arrangement of the architecture by revealing the composition of interstitial space. The inverted drawing of the two dwellings highlights a shared spatial strategy, where fixed architectural elements provide defined places that can accommodate specific functions and that in turn delineate interstitial places, which can be inhabited in a multitude of ways. Juliaan Lampens and Ryue Nishizawa employ intentional ambiguity in the programmatic function of spaces within House Vandenhoute-Kiebooms and Moriyama House, in order to support flexibility in use by encouraging inhabitants to actively appropriate places within the dwellings. This appropriation of place requires the act of interpretation from the dweller, which differs to a functionalist approach to the programming of domestic space where a function is prescribed to a particular space, thereby encouraging passive inhabitation. House Vandenhoute-Kiebooms and Moriyama House both exhibit core attributes that were pioneered during the picturesque movement in 18th century England, namely an approach to spatial organisation based upon a relational field-configuration of bodies, asymmetrical planning and a focus on providing opportunities for inhabitant appropriation, based upon intentional ambiguity in the usage of space.

Through a reconceptualisation of the contemporary dwelling interior as a ‘domestic landscape’ I propose the notion of ‘Dwellscape’ as an alternative strategy to spatial organisation that challenges a purely functionalist approach to the programming of domestic space. A ‘Dwellscape’ is defined as a continuous ‘domestic landscape’ composed of a relational field-configuration of distinct architectural elements, which define ‘places’ that accommodate specific activities, as well as, delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways.

At this juncture, the theoretical genealogy of the ‘Dwellscape’ concept is explicitly unfolded. The foundation of the ‘Dwellscape’ concept lies in Lars Lerup’s conceptualisation of the contemporary dwelling interior as a ‘domestic landscape’ with its advocacy for intentional programmatic ambiguity. The central differentiation between the two, is that ‘Dwellscape’ promotes

the design of intentionally ambiguous places, whereas Lars Lerup calls for the design of ambiguous objects or ‘environmental fortuna’, in other words the former promotes spatial ambiguity while the latter advocates object-based ambiguity. Josef Frank and Aldo van Eyck both contribute to the ‘Dwellscape’ concept with their shared position that a dwelling should be composed from a ‘field-configuration’ of inhabitable ‘places’ that offers the contingency and diversity found in the town and city-scapes. Fundamentally, Lars Lerup, Aldo van Eyck and Josef Frank all consider the dwelling interior as a landscape, a ‘Dwell-scape’ that supports active, rather than prescribed, forms of appropriation by its inhabitants. As with Le Corbusier’s ‘promenade architecturale’, the notion of ‘Dwellscape’ advocates designing interior space with a consideration for the perspectival experience of its inhabitants. Perhaps unsurprisingly, given its origin in the composition of inhabitable landscapes, the picturesque emerges as a thread that weaves through the spatial theory above with its pictorial planning, consideration for the relational connection between a field of objects, advocacy of irregular planning and focus on providing opportunities for appropriation of space. However, perhaps the greatest contribution of the picturesque’ to this research project and the development of the ‘Dwellscape’ concept is that it provided the original catalyst to conceive of the domestic interior as an architectural landscape.¹⁹

Through the comparative analysis of House Vandenhaute-Kiebooms and Moriyama House, it has been shown that the spatial organisation of the two dwellings can be considered as concrete manifestations of the ‘Dwellscape’ concept. The two projects highlight the adaptability of this approach to spatial organisation to differing historical, cultural and typo-morphological contexts. The difference in the level of spatial continuity present in the two dwellings can be directly attributed to their immediate geographical contexts, namely the open countryside of Belgium and the densely populated metropolis of Tokyo, and the subsequent disparity in privacy requirements of their inhabitants. The following chapters will explore further manifestations of the ‘Dwellscape’ through a ‘research by design’ method, in order to explore formative approaches to the spatial organisation of the contemporary dwelling interior, with the motivation of contributing to a necessitous critical discourse on the subject.

19. This subject is discussed at length in chapter 7: “A Picturesque Dwelling.”

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6. INHABITING THE IN-BETWEEN REALM

“Take off your shoes and walk along a beach through the ocean’s last thin sheet of water gliding landwards and seawards.”

Aldo van Eyck
(Eyck, Ligtelijn, & Strauven, 2008a, p. 56)

6.1 INTRODUCTION

The metaphor chosen by the Dutch architect Aldo van Eyck in the preceding quote, eloquently reveals the potential for the unique character of the in-between realm, in this case a temporal place somewhere between ocean and land that supports inhabitation, based upon experiential appropriation. The visceral potency of Aldo van Eyck's metaphor lies in the ambiguous nature of the shoreline, which is never totally land, nor totally water. This atmospheric inhabitable 'in-between' place refuses to adhere to dichotomies or absolutes.¹ Functionalist thinking, on the other hand, has had the tendency to reinforce dichotomies and absolutes by abstracting human behaviour into definite 'functions', place into Cartesian 'space' and inhabitants into 'users', thereby reducing the reality of the built environment into those aspects that are represented most effectually in a plan drawing. The Modern Movement's obsession with spatial continuity together with functionalism's preoccupation with optimisation in spatial planning, where space that does not support an explicit function is purged, has resulted in the eradication of many threshold places from within the domestic interior, thereby ignoring the valuable realm of the in-between. The British architect, Stephen Bates writes, "the functional plan has dominated the nineteenth and twentieth centuries, but it is important to be critical of this tendency and to re-examine its supposed benefits." (Bates, 2010, p. 113) The point of departure for this chapter is the prevalence of a positivistic² approach to the application of functionalist principles within the contemporary dwelling interior, which proliferates absolutes within spatial planning and that has contributed to a 'crisis'³ in domestic architecture. Through a reconsideration of the relationship between the inhabitant and the built environment that they occupy, this chapter explores the potential of the 'in-between realm' within the domestic landscape.

1. Aldo van Eyck points to the tendency of functionalist thinking to split twin phenomenon into incompatible polarities, such as Part / Whole, Inside / Outside, Individual / Collective & Architecture / Urbanism. He writes, "To establish the in-between is to reconcile conflicting polarities." (Eyck et al., 2008a, p. 61).

2. Positivistic here is used in the literal sense to refer to the definitive application of functionalist planning logic without questioning its broader consequences.

3. This 'crisis' in domestic architecture has been highlighted by Shumi Bose, Jack Self and Finn Williams in their publication and associated exhibition, 'Home Economics' at La Biennale di Venezia in summer 2016. (Bose, Self, & Williams, 2016)

This chapter posits the following question, through a reconsideration of threshold space within the contemporary dwelling interior what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis?

Architectural theory from Peter & Alison Smithson (1994), Aldo van Eyck (2008a), Kiyoyuki Nishihara (1968), Fumihiko Maki (2008) and Atelier Bow Wow (2010) relating to spatial organisation and in particular thresholds within the contemporary dwelling interior has been synthesised together with prospective ‘research by design’ investigations. Over the course of these explorations the ‘in-between realm’ has emerged as a productive reconceptualisation of threshold space within the contemporary dwelling interior. The ‘in-between realm’ can manifest itself in a number of ways, both as a concrete physical approach to threshold, as well as, a theoretical approach to the programming of the built environment. Revealed is the value of spatial layering in the carefully considered composition of adjoining spaces and the articulation of transition ‘places’ on the threshold between spaces, within the contemporary dwelling interior. The ‘in-between realm’ also manifests itself in terms of use through intentional programmatic ambiguity and a rejection of false dichotomies and absolutes propagated by functionalist thinking. Emphasis here is placed on providing opportunities for inhabitant appropriation, based upon an interpretive engagement with characteristic ‘places’ that have distinct spatial qualities, rather than simply arranging prescribed functions within space. Through a reconsideration of threshold space within the contemporary dwelling interior, we arrive at the concept of a house composed from a relational field-configuration of distinct places that can accommodate a wide variety of forms of occupancy and support a multitude of temporal occasions.

6.2 RESEARCH BY DESIGN & THE ARCHITECTURAL MODEL

The methodological framework for this chapter is based upon the established field of ‘research by design’.⁴ An interlaced ‘two-fold movement’⁵ takes place between a synthesis of retrospective analysis and prospective design enquiries.

4. The Norwegian academic and current chairman of The OCEAN Design Research Association, Birger Sevaldson defines the ‘research by design’ method as, “a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry.” (Sevaldson, 2010, p. 11). The ‘research by design’ method utilised in this research project is discussed at length in chapter 3: “A Methodological Framework.”

5. In the book, “The City: Its Growth, its Decay, its Future” (1943), the Finnish architect and urbanist, Eliel Saarinen describes design research as being a ‘two-fold movement’ which is based upon the idea of two layers working in different directions and temporalities. In this model, ideas and research are projected both forwards (present to the future) and backwards (future to the present) simultaneously.

Retrospective analysis of architectural theory relating to forms of inhabitation and threshold within the domestic landscape is synthesised together with prospective investigations involving the production of ‘epistemic artefacts’,⁶ which take the form of physical architectural models. These prospective investigations have been divided into two separate projects that work with the same brief. Firstly, the development of a proposal for a 25m² micro dwelling through the use of large-scale physical models has been undertaken, by the author, as part of a broader project together with the Stockholm based architecture office Berg Thornton Arkitekter, which was initiated in April 2016.⁷ Secondly, a one-week long workshop entitled ‘Inbetweenness: The Architectural Model as Epistemic Artefact’ was undertaken with students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK), in September 2017. During this workshop, 15 groups of 4 students were tasked with designing a 25m² micro dwelling through the use of 1/20 scale physical models. Every day, each group presented a new physical model, which represented the latest iteration of their design proposal and formed the basis for the daily tutorial discussions. The 1/20 scale physical models formed both the primary instrument for exploration during the design process, as well as, the final mediating tool during the workshop. At the end of the week, each group selected 4 models that were presented in an exhibition and critique. Finally, scaled plan drawings of the 25m² micro dwellings that were based upon the final physical models, were produced and submitted at the end of the workshop.

The programmatic framework for these ‘epistemic artefacts’ is the development of a design for a 25m² micro dwelling that takes advantage of new planning legislation introduced in Sweden in 2016 (Boverket, 2016). These ‘attfallshus’ can be built without a planning permission, provided that the total gross floor area of the dwelling does not exceed 25m². The 25m² floor area can be distributed across independent volumes with a maximum permissible height, from the average ground level to the top of the roof eaves, of 4m and a maximum roof overhang of 500mm. For the purposes of this research project, it is stipulated that the 25m² micro dwelling must be able to accommodate two adults and provide the following facilities, a place to sleep, a place to prepare food, a place to eat, a place to wash that includes a

6. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7)

7. In April 2016, a joint project was initiated between the author and the Stockholm based architecture office Berg Thornton Arkitekter, founded by Johan Berg & Oliver Thornton in 2012. This project was focused on the development of ideas for a 25m² micro dwelling based upon the planning legislation recently introduced in Sweden. (Boverket, 2016) The collaboration terminated in November 2016, although the author’s contributions to the project inspired the framework for the research by design experiments contained within this chapter.

toilet and sink, a place to meet and a place to store personal belongings. The 25m² 'attefallshus' program has been selected for several reasons, firstly, the constraint of a total floor area of only 25m², together with the programmatic requirements outlined above demand a careful consideration of all available space. In such a delimited area, which would typically manifest itself as a single room, a careful consideration of threshold and the creation of spatial depth is an essential strategy for making a distinction between various inhabitable places. Secondly, since the 'attefallshus' should in principle, be able to be placed anywhere in Sweden⁸ and therefore adaptable to a wide variety of typo-morphological contexts, the primary focus of this investigation is on the interior spatial qualities of the 25m² dwelling.

I will now briefly elaborate on the primacy of the physical model as a medium for the production of knowledge within the field of architectural research. Of the many forms of architectural representation, it is only the medium of the model that shares the physical, three dimensional attributes of the architecture that is being represented. The act of making physical models concretises the ontic condition of a concept into a tangible object that can be interrogated physically and that takes advantage of the 'empirical' authenticity of the medium. For many architects and designers, physical models are an intrinsic part of the design process, rather than simply being a means of representation at the end of a project. Architectural models produced during a design project are no longer a passive representational object but can be thought of as an active, generative part of the process, each processing their own latent potentiality. "These models are autonomous objects or structures that evoke associations, interpretation and imagination. They cannot be reduced to mere instruments in the architectural process but are themselves the product of an architectural or artistic process." (Holtrop, Princen, Teerds, Floris, & de Koning, 2011, p. 20) In this way, physical models can be viewed as 'epistemic artefacts' which can contribute to the production of knowledge, both in practice and academic research.

8. During the 'Inbetweenness: The Architectural Model as Epistemic Artefact' workshop, students were permitted to choose a specific site if it provided a productive framework or gave agency to their investigations.

6.3 THE ART OF INHABITATION

Prior to the central discussion of this chapter, which is focused on the in-between realm within the contemporary dwelling interior, it is necessary to reflect upon the influence of functionalism on the relationship between the inhabitant and the built environment that they occupy. Functionalism has had the tendency to abstract human behaviour into definite ‘functions’ and inhabitants into ‘users’, while at the same time, propagating the limitations of Cartesian space, with its reduction of the reality of the built environment into those aspects that are represented most effectually in a plan drawing. Henri Lefebvre writes, “It would be inexact and reductionistic to define use solely in terms of function, as functionalism recommends.” (Lefebvre, 2016, p. 369) Lefebvre is also suspect of the term ‘user’ and its adoption by the architectural profession, as a basis for spatial planning and its subsequent implications on the human experience of the built environment that results from this way of thinking. Functionalist thinking reinforces dichotomies by abstracting both the built environment and the behaviour of its inhabitants into absolutes, thereby ignoring the productive realm of the in-between. The following section reflects upon certain architects and examples of architecture that challenge this deterministic approach to the design of habitat by considering the criteria⁹ by which we define interior places within the domestic landscape, human behaviour and how one can foster inhabitant appropriation.

In response to the deterministic functionalism that was being vehemently promoted by The Congrès Internationaux d’Architecture Moderne (CIAM) from the late 1950s onwards,¹⁰ a new generation of more anthropologically minded architects emerged who challenged these functionalist principles, which included the British couple Alison and Peter Smithson, the Dutch architect and theorist, Aldo van Eyck and the Japanese architect Fumihiko Maki. Instead of spatial planning based upon the positing of prescribed functions, they advocated an approach to the design of habitat based upon supporting inhabitant appropriation. In 1957, Alison and Peter Smithson proposed a set of experiential ‘criteria’ for defining moments within the domestic landscape, rather than merely supporting explicit programmatic functions. These ‘criteria’ consider the changing requirements of inhabitants as well as addressing their emotional needs by accommodating what the

9. In the book, “Japanese Houses: Patterns for Living” (1968), Kiyoyuki Nishihara reflects upon the influence of spatial nomenclature on inhabitants usage of space within the domestic built environment by comparing the function centric Western tradition (bedroom, bathroom, living room) together with the Japanese tradition, which is based upon the spatial characteristics of each place and their relationship to one another, for example ‘zashiki’ (main room), ‘naka-no-ma’ (middle room) and ‘tsugi-no-ma’ (the room next to the big room).

10. The Congrès Internationaux d’Architecture Moderne (CIAM) was founded in 1928 and active up until 1959, with the primary aim of spreading the principles of the Modern Movement internationally and it progressively became more vehement in its drive for rationalist functionalism, as it focused its activity towards promoting the notion of ‘The Functionalist City’, during its latter years.

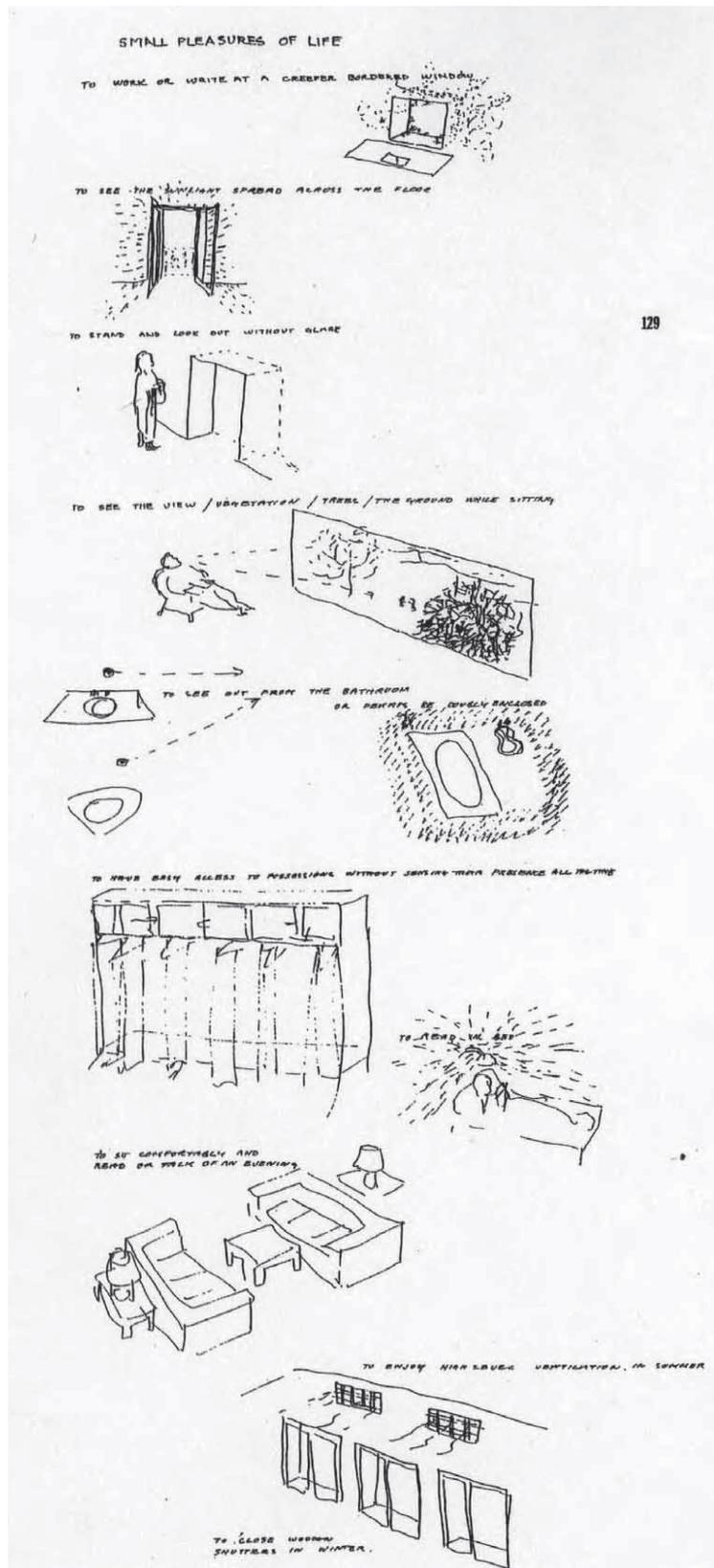


Figure 6.01 'Small Pleasures of Life', Alison & Peter Smithson, 1957

architects describe as the ‘small pleasures of life’. Emphasis is placed on the experiential qualities of spaces, such as daylight conditions, views between inside and outside, and even the ability of the dwelling to accommodate a wide variety of temporal occasions. While reflecting upon the design of their housing scheme for Robin Hood Gardens, Poplar, London (1972), the Smithsons write, “The dwellings are stated as enclosures but the exact internal use is left open to interpretation to reflect the interchangeable use of rooms that ordinary dwellings require.” (Smithson & Smithson, 1994, p. 129) Rather than a prescribed set of principles to follow, the Smithsons’ ‘criteria’ can be viewed as an attempt to challenge the dominance of functionalist planning by introducing alternative ways of describing interior spaces and the ways in which they can be inhabited.

During the 1960s, and following on from the work of the Smithsons, Aldo van Eyck advocated creating ‘place’, rather than ‘space’ and on designing architecture that provided the opportunity for ‘occasion’, rather than merely existing in ‘time’. Aldo van Eyck writes, “place and occasion imply participation in what exists, lack of place – and thus of occasion – will cause loss of identity, isolation and frustration.” (Eyck et al., 2008a, p. 61) The term occasion not only serves as a replacement for the notion of programmatic function, but it also implies appropriation of space, where the activity has a temporal dimension. Aldo van Eyck highlights the human trait to ‘tarry’, or in other words, to ‘linger in expectation’ as just one example of appropriation that does not conform to abstract functionalist terms. He believes that architecture should provide places to ‘tarry’, just as much as places to sleep, eat and bath. A place to ‘tarry’ also implies a space of transition, perhaps a threshold between two different activities.¹¹ Aldo van Eyck demands that architects provide the right place for the right occasion, between one person and another, between what is here and what is there and between one moment and another. He writes, “make a welcome of each door and a countenance of each window.” (Eyck, Ligtelijn, & Strauven, 2008b, p. 471) In Aldo van Eyck’s view, space becomes place when it acquires a direct human use and in doing so it imparts a feeling of belonging, or of being somewhere specifically, on the inhabitant.

11. A wide variety of interesting examples of intentionally designed places to tarry can be found in Aldo van Eyck’s Orphanage in Amsterdam, completed in 1960 and documented comprehensively in the book, “Aldo van Eyck Orphanage Amsterdam: Building and Playgrounds” (2018).



Figure 6.02 Places to 'Tarry', Orphanage in Amsterdam, Aldo van Eyck, 1960

We find strikingly similar spatial theory and notions of inhabitant appropriation to those conceived by the Smithsons and Aldo van Eyck in traditional Japanese architecture. In the book, “Japanese Houses: Patterns for Living” (1968), the Japanese architect and academic, Kiyoyuki Nishihara makes an analogous conclusion to Aldo van Eyck when comparing the spatial organisation of traditional Japanese dwellings with Western functionalism and its advocacy of a house that is comprised from an aggregate of cellular spaces with prescribed functions.¹² He writes of the Western house, “The rooms’ names are always carefully indicated and their functions rigidly fixed.” (Nishihara & Gage, 1968, p. 77) The traditional Japanese dwelling, on the other hand, is comprised from a relational field-configuration of zones that can accommodate a multitude of temporal activities. He continues, “Japanese space, instead of having a fixed function, suit the function to the occasion and need.” (Nishihara & Gage, 1968, p. 110) In other words, the use to which a particular zone within a traditional Japanese house accommodates varies over time, both daily and seasonally. It is also particularly interesting that there is no Japanese word that corresponds directly to the English word ‘room’. The word ‘ma’ is used instead, as a suffix to designate a specific zone within a Japanese house, which Nishihara prefers to translate to the English word ‘place’, due to the temporal qualities of ‘ma’ and its association with spatial character rather than programmatic function. Aldo van Eyck’s advocacy for spatial organisation based upon ‘place’ & ‘occasion’ would seem to be innate in traditional Japanese dwelling design.

Contemporary Japanese architects continue to discuss the spatial organisation of the domestic built environment and the consequence of this on how we inhabit dwellings. In the book, “Behaviorology” (2010), the Japanese architectural office Atelier Bow-Wow, founded by Yoshiharu Tsukamoto and Momoyo Kaijima, propose an alternative technique to the design of habitation that is based upon the study of behaviour, rather than the accommodation of prescribed functions. The three categories of behaviour that interest the architects are the behaviour of human beings, the behaviour of the natural environment and finally, the behaviour of buildings. These three classifications are seen as being wholly interrelated, whereby they exert an influence upon one another. Atelier Bow-Wow rejects any causal, mono-directional relationship between the built environment and the way in which

12. While reflecting upon the contemporary Western house, Kiyoyuki Nishihara writes, “The function of all the house’s spaces is consciously set from the very beginning. The idea that, when all of the unit spaces needed to satisfy the needs of a family are brought together, that aggregate is a house, is the Western concept of residential architecture.” (Nishihara & Gage, 1968, p. 77)

it can be appropriated. “The three behaviours outlined above are integrated into daily routines under the premise of repetition, but each carry within them specific timescales and rhythms.” (Tsukamoto et al., 2010, p. 9) The architects have been heavily influenced by ethnographic studies that were carried out by the architect Wajiro Kon and the artist Kenkichi Yoshida during the 1920s, where the impact of Japan’s modernisation on social behaviour and on forms of dwelling was documented in sketches and drawings.¹³ In their book, “Atelier Bow-Wow: Post Bubble City” (2006), Atelier Bow-Wow arrive at the notion of designing architecture that is based upon supporting ‘occupancy’ as an alternative to organising the built environment based upon programmatic functions. This notion of ‘occupancy’ leans heavily on the earlier ideas of Henri Lefebvre, in particular his advocacy of ‘appropriated space’ (Lefebvre, 2016, p. 165), together with Rem Koolhaas’s reflections on anticipating inhabitants’ eventual appropriation of a building in “Post-Occupancy” (2006). Tsukamoto and Kaijima are critical of the limitations of Cartesian space, with its tendency to reduce the reality of the built environment to those aspects that are most effectually represented in a plan drawing. Atelier Bow Wow’s concept of ‘occupancy’ promotes the design of habitat that is based upon a consideration for the making of inhabitable ‘scenes’ with distinct characteristics, as opposed to, adopting a spatial planning strategy based upon the positing of prescribed functions within delimited space on a plan layout. The potential of Atelier Bow-Wow’s notion of ‘occupancy’ as a planning tool lies in the architects’ ability to anticipate types of appropriation.

From the late 1950s onwards, more anthropologically minded¹⁴ architects that were initially associated with CIAM, such as Peter and Allison Smithson and Aldo van Eyck, began to challenge deterministic planning principles based upon the positing of prescribed functions within space that it was fervently propagating. These architects are united in rejecting a prescribed causal relationship between the inhabitant and the built environment that they occupy. Instead, they promote the notion of providing places with distinct character that can support inhabitant appropriation. Appropriation of place requires interpretive engagement, rather than passive adherence to prescribed functions within space. Interestingly, it has been shown that analogous ideas can be found in traditional Japanese domestic architecture, where

13. Yoshiharu Tsukamoto and Momoyo Kaijima (Atelier Bow-Wow) discuss the influence of the ethnographic studies, that take the form of registration sketches documenting peoples forms of behaviour inhabitation, produced by Wajiro Kon and the artist Kenkichi Yoshida in the book, “Atelier Bow-Wow: A Primer” (2013).

14. In this context, more anthropologically minded refers to architects with a greater interest in studying and having a consideration for the behaviour of inhabitants, as opposed to, referring to a specific scientific approach from within the field of anthropology.

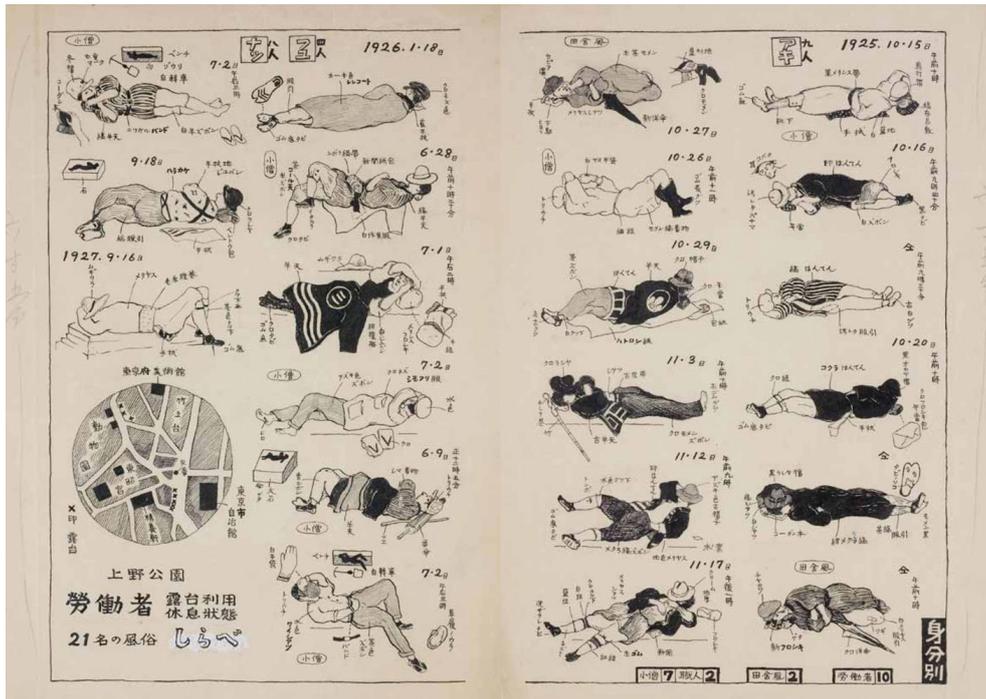


Figure 6.03 'Twenty-one Behaviors of Workers in Ueno Park: A Study', Wajiro Kon, 1925

spatial organisation is based upon a field-configuration of 'ma', or places, that can accommodate a multitude of temporal occasions. Contemporary Japanese architects, such as Yoshiharu Tsukamoto and Momoyo Kaijima, continue to reject a mono-directional relationship between the domestic built environment and the way in which inhabitants use space by supporting the notion of 'occupancy', where human behaviour influences spatial organisation, rather than the built environment dictating human behaviour. The concept of 'occupancy' as the forming of inhabitable 'scenes' with distinct characteristics that can accommodate a multitude of temporal activities is tantamount to Aldo van Eyck's advocacy of 'place' and 'occasion'. Above all, these architects point to an alternative consideration for the relationship between the built environment and its occupants, which is based upon the creation of places with distinct spatial characteristics and a consideration for inherent opportunities for appropriation within these places.

6.4 THE IN-BETWEEN REALM

The central discussion of this chapter is focused on the productive possibilities of the ‘in-between realm’ within the contemporary dwelling interior, with a particular interest placed on thresholds and the inherent opportunities for inhabitant appropriation. The modern movement’s obsession with spatial continuity¹⁵ together with functionalism’s tendency to promote absolutes within spatial planning, where space not supporting an explicit function is purged, which has resulted in the eradication of many threshold places from the contemporary dwelling interior. Early functionalist treatise such as the Scottish architect Robert Kerr’s book, “The Gentleman’s House: Or, How to Plan English Residences, from the Parsonage to the Palace” (1864), encouraged the removal of threshold spaces as a result of advocating the spatial planning of dwellings composed from transitory corridors and discrete terminal rooms, which were argued for on the grounds of privacy. At the start of the 20th century we see an ‘industrialisation’ of domestic space with the objective of improving efficiency, utility and living conditions, particularly for the working classes. In 1928, the Russian born architect Alexander Klein published his text, “The Functional House for Frictionless Living” (Bauer, 1934), which advocated the concept of the ‘functional’ dwelling layout. The spatial arrangement of Klein’s ‘functional’ dwelling removed ‘unnecessary’ circulation space and consigned specific functions to individual rooms that were then sized and proportioned accordingly. One result of this was the removal of inhabitable threshold spaces from within the dwelling interior that were deemed functionally unnecessary to the smooth running of the domestic machine. This functional logic continues to inform contemporary praxis through, “the regulations, codes, design methods and rules-of-thumb which account for the day-to-day production of contemporary housing.” (Evans, 1997, p. 86) However, by considering inhabitant appropriation rather than functional standards, spaces that had previously been viewed as functionless and therefore expandable, might now be viewed as potential inhabitable places that can support a multitude of activities. In the chapter, “The Space Between” from the book, “Papers 3. Sergison Bates Architects” (2016), the British architect Stephen Bates discusses the contemporary dwelling interior and advocates that architects should, “consider the opportunities subtle spatial thresholds between spaces provide.”

15. Aldo van Eyck refers to a contemporary obsession for ‘spatial continuity’, or what he calls a ‘sickness’ within the architectural profession. (Eyck et al., 2008a, p. 63)

(Bates, 2014, p. 142) The ‘in-between realm’ refers to an ambiguous domain between false dichotomies, which provides a highly productive agent for the following discussions, relating to the opportunities afforded by inhabitable threshold places and the creation of spatial depth, within the contemporary dwelling interior.

In the book, “The Child, the City and the Artist” (2008a), Aldo van Eyck places great emphasis on the importance of articulating threshold places, or what he refers to as the ‘The In-between Realm’. This is related to the reciprocity that he sees between ‘twin-phenomenon’, such as urbanism / architecture, city / house & exterior / interior, which he believes have been erroneously split into absolutes by the ‘deterministic one-track thinking’ propagated by functionalism. He writes that, “Architecture must extend ‘the narrow borderline’, persuade it to loop into a realm – into an articulated in-between realm.” (Eyck et al., 2008a, p. 55) Aldo van Eyck claims that the architect can provide this in-between realm by designing ‘places’ that support opportunities for ‘occasions’ where these ‘twin-phenomenon’ interact. No longer is a doorway or window merely a ‘borderline’ space dividing two entities, but rather a ‘place’ where transition can be inhabited and appropriated. This articulation of transition is quite contra to what Aldo van Eyck saw as the Modern Movement’s obsession with spatial continuity and the free-flowing plan, where the tendency was to remove any articulation of threshold between spaces.

One of the threshold places that Aldo van Eyck pays special attention to in his writing is the entrance door of the dwelling. This is understandable given that it occupies the borderline between many ‘twin-phenomenon’ that include urbanism / architecture, city / house, interior / exterior, common / individual & public / private, to name but a few. He writes, “What is a door? A flat surface with hinges and a lock, constituting a hard terrifying borderline? When you pass through a door like that are you not divided? Split into two – perhaps you no longer notice! Just think of it: a rectangle two inches thick and six feet high! What hair-raising poverty – a guillotine is kinder! Is that the reality of a door? - Well, perhaps the greater reality of a door is the localised setting for a wonderful human gesture: conscious entry and departure.” (Eyck et al., 2008a, p. 62) Aldo van Eyck believes that, the entrance door should



Figure 6.04 Hubertus Housing Scheme, Amsterdam, Aldo Van Eyck, 1976-80

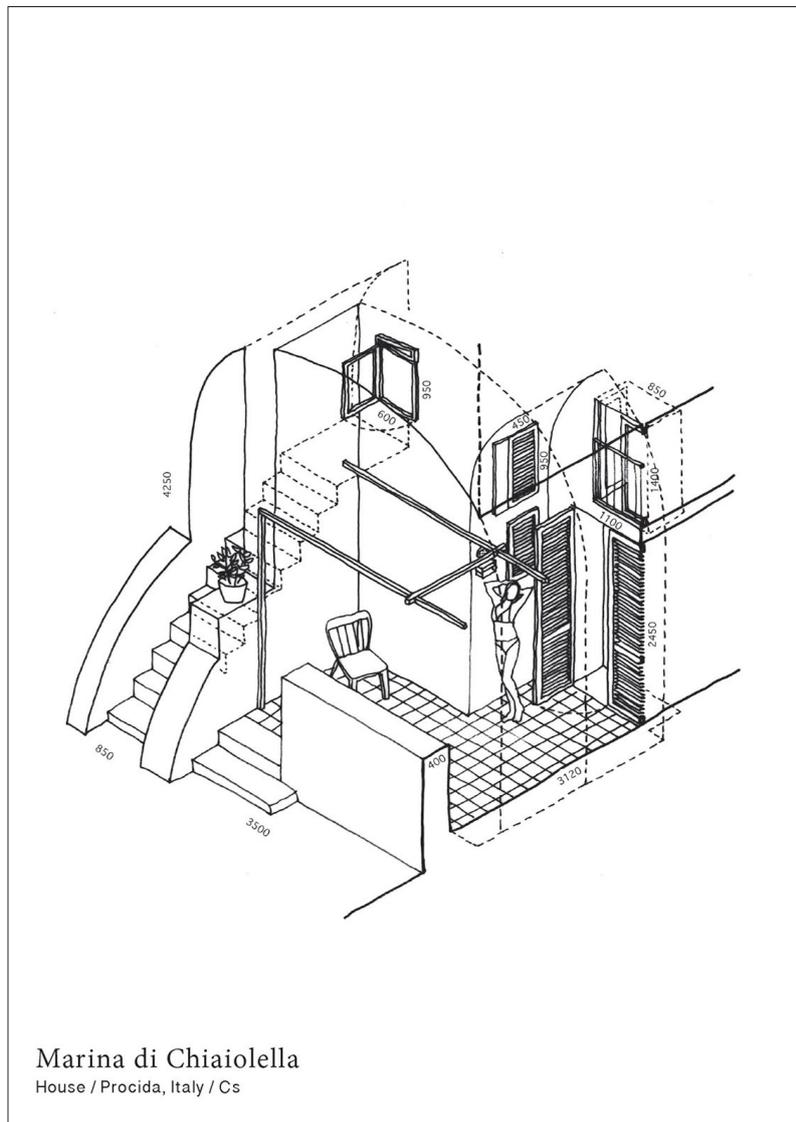


Figure 6.05 Marina di Chiaiolella 'Window Scape', p.322, Tsukamoto Laboratory, 2010

be considered as a place that frames the occasion of transition between multiple ‘twin-phenomenon’, an archetypal ‘in-between realm’ in which an inhabitant can attain a simultaneous awareness of what is significant on either side. When thought of in this way, the doorways of a dwelling can become distinctive inhabitable places affording unique opportunities to ‘tarry’ within the ‘in-between’ realm. Aldo van Eyck uses the extruded entrance gourd of a traditional house in Djenné, a sacred city in the bend of the Niger south of Timbuktu, as a conducive illustration of an inhabitable threshold.

In the same way that Aldo van Eyck explores the entrance door as an ‘in-between realm’ place, Atelier Bow-Wow focus their attention on the ‘window’ as a place of opportunity to provide an inhabitable threshold. In 2010, The Tsukamoto Laboratory at the Tokyo Institute of Technology published, “Window Scape: Window Behaviorology” (2010), followed by, “WindowScape 2” (2014) and most recently “WindowScape 3” (2016). These publications take the form of an ongoing comparative study of window thresholds from around the world, combining photographs and annotated sketches reminiscent of the earlier ethnographic studies produced by Wajiro Kon and Kenkichi Yoshida. The ‘window scape’ project also owes a clear debt to Christopher Alexander’s typological study of window places from his book, “A Pattern Language” (1977). French windows, picture windows, round windows, corner windows, windows with integrated seating, deep windows with alcoves for reading, roof windows that act as light diffusers and panoramic windows are all represented in detail, together with the associated human behaviour observed. This wide variety of ‘windowscapes’ reveal the affluency of the window as an architectural element that can provide characteristic inhabitable threshold places, with its ability to frame views between inside and outside, shape the character of light conditions, both natural and artificial & permit the transfer of air to and from the dwelling interior.

The work of Atelier Bow Wow conveys a complex understanding of threshold places, which could be attributed to traditional Japanese architecture and its associated spatial characteristics. We return once again to the writings of Kiyoyuki Nishihara in order to gain an understanding of the traditional Japanese approach to threshold within the domestic interior. Partitioning between different ‘ma’, or places within the traditional Japanese house, is

achieved through sliding ‘shōji’ or ‘fusuma’ dividing screens that make spatial enclosures and their subsequent spatial flows inherently temporal in their nature. Nishihara also identifies several characteristic ‘joint’ spaces common in traditional Japanese houses that take the form of inhabitable threshold places. The first space worthy of note is the ‘engawa’, which is effectively a raised floor that connects the dwelling interior with the surrounding garden. Nishihara writes, “In its role as a link between inside and outside it is not exterior space, but it is also not an independent room, and whether it is part of some room or a completely different kind of space remains a vague point.” (Nishihara & Gage, 1968, p. 221) Sliding ‘fusuma’ partitions allow the ‘engawa’ to be integrated into either the interior of the house as an extension of a ‘ma’ or it can be completely opened up to the exterior, effectively allowing the dwelling interior to become part of the garden. It is this ambiguity that allows the ‘engawa’ to be inhabited in a multitude of ways. A second distinctive threshold place within the traditional Japanese house is the ‘tsugi-no-ma’, which essentially performs the function of an anteroom to the larger central ‘ma’. It serves both as a corridor space, as well as, a temporal place that supports a wide variety of preparations for activities that are to be carried out in the adjacent ‘ma’. Temporal sliding partitioning, inhabitable threshold places and intentional programmatic ambiguity make the traditional Japanese house a productive source of inspiration when discussing the in-between realm within the contemporary dwelling interior.

In addition to the concrete threshold spaces identified by Kiyoyuki Nishihara above, there is a fundamental, yet elusive Japanese concept that is related to threshold and spatial organisation present in traditional Japanese architecture, which demands further exploration when discussing the in-between realm. The Japanese word ‘oku’ has a wide variety of manifestations, both physical, particularly when used to describe layering and inner depth in spatial terms and philosophically, often when used to describe obscure and profound psychological or social phenomenon. In Japanese, the word is used extensively in adjectival form including, ‘oku-dokoro’ (inner place), ‘oku-sha’ (inner shrine), ‘oku-gi’ (secret or hidden principles) or ‘oku-den’ (secret mysteries of an art). What is evident in all of these words is a tendency to recognise and esteem what is hidden, invisible or secret. Interestingly, the etymological root of ‘oku’ lies in ‘oki’, which means ‘offshore waters’ that

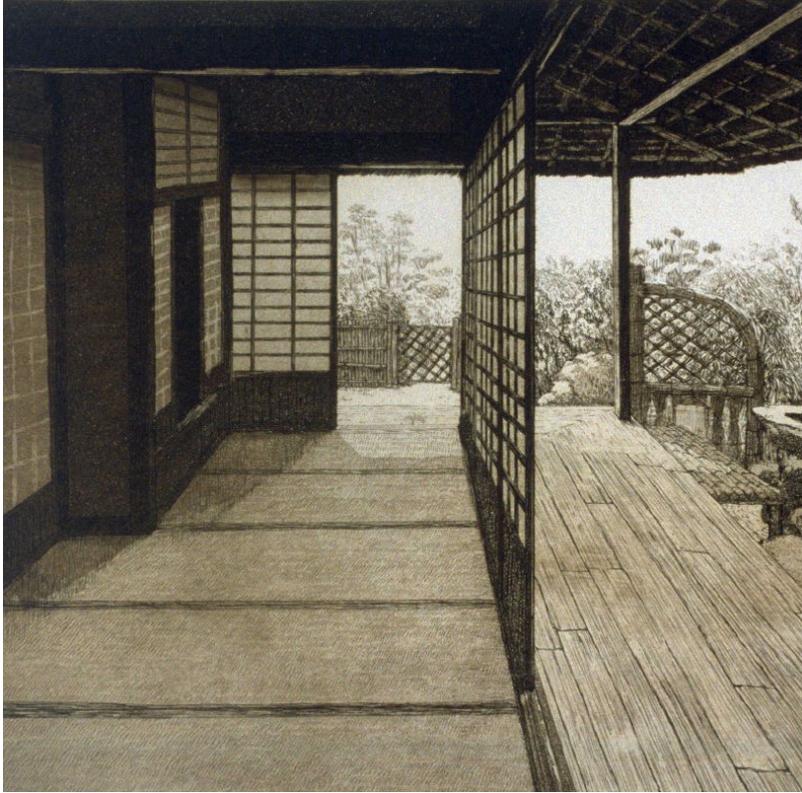


Figure 6.06 Traditional Japanese Engawa, Hiroto Norikane, 1991

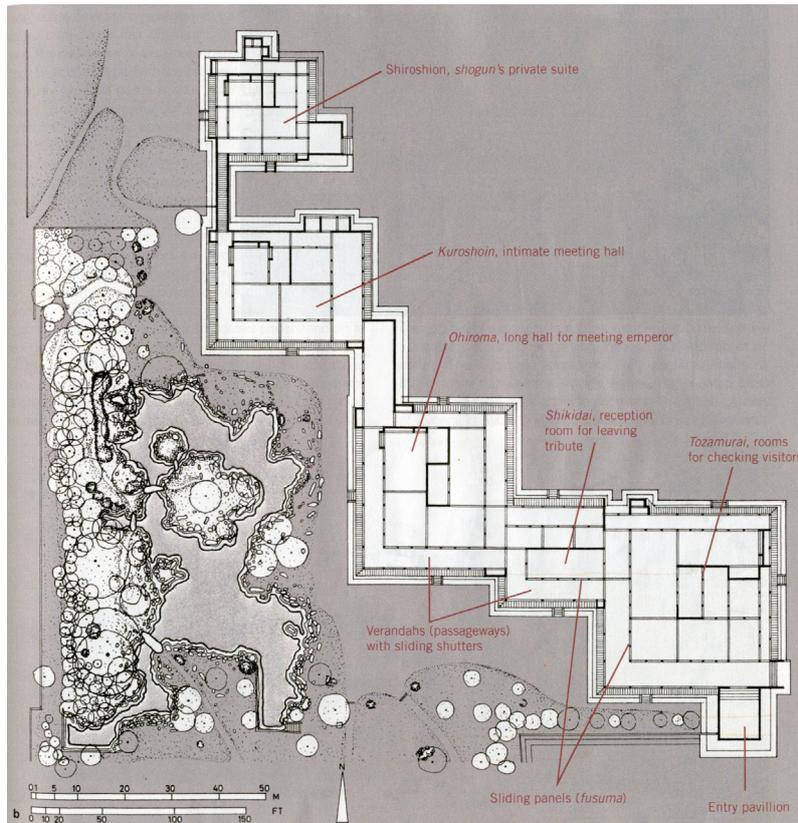


Figure 6.07 Ninomaru Palace Plan, Kyoto, Tokugawa Shogunate, 1626

pertains once again to something mysterious and yet profound. Ninomaru Palace, which was built in Kyoto in 1626 by the Tokugawa Shogunate is an archetypal example of the 'oku' concept translated into architecture.¹⁶ A complex set of social codes that define Japanese palatial architecture are directly reflected in the spatial organisation of the Palace, with its asymmetric 'flying-geese' layout of increasingly more private assembly rooms, which are systematically revealed through a complex series of staggered turns that eventually terminate in the shogun's private residence. With 'oku', space is not conceived as an abstract and infinite mathematical construct, but rather as something finite, dense and with inner-depth.

'Oku' is not just present in traditional palatial architecture, but has many spatial manifestations which permeate throughout Japanese society. In the chapter, "The Japanese City and Inner Space", from the book, "Nurturing Dreams: Collected Essays on Architecture and The City" (2008), the Japanese architect and academic, Fumihiko Maki reflects upon physical manifestations of 'oku' in both the Japanese house as well as the Japanese city. He pays particular attention to the spatial organisation of traditional Japanese 'ryokan' (guest house) and 'machiya' (merchant's townhouse), which exhibit the multi-layered structuring of space, the careful composition and orientation of places and the temporal act of revealing in order to create spatial depth, often within a delimited area. Maki recollects visiting an elderly person living in a 26m² 'machiya' in the suburbs of Tokyo and being amazed at the sophisticated spatial organisation of the dwelling, given the restricted footprint, which allowed for an entrance vestibule, a room for receiving guests, an inner room that could be used as either a kitchen or bedroom, a 'tsugi-no-ma' alcove and finally a 'shinto' shrine at the innermost place within the house. The notion of 'oku' in spatial terms places greater emphasis on the temporal experience of the journey, rather than on the significance of the final destination. "As an ultimate destination, innermost space often lacks a climactic quality. Instead, it is the process of reaching this goal that demands drama and ritual." (Maki, 2008, p. 162) This draws intriguing comparisons with the picturesque landscape garden and its arrangement based upon the relational connections between objects in a 'pictorial circuit', or perspectival spatial sequence, which relies upon one's movement and sequential acts of obscuring and revealing between a series of scenes that are arranged in relation to one another.¹⁷ Above

16. It should be noted that 'oku' is not just a spatial phenomenon found in palatial architecture, but is prevalent throughout traditional Japanese architecture, namely 'ryokan' (Japanese inns) and 'machiya' (merchant houses), as shown by Fumihiko Maki in the chapter, "The Japanese City and Inner Space" from the book, "Nurturing Dreams: Collected Essays on Architecture and The City" (2008).

17. This subject is discussed at length in chapter 7: "A Picturesque Dwelling."

all, 'oku' reveals the architectural value of spatial layering, as well as, the creation of spatial depth, particularly within a delimited area.

Manifestations of 'oku' in traditional Japanese architecture demonstrate an approach to spatial organisation based upon the careful composition of adjoining spaces with a distinct articulation of transition between inhabitable places, each with their own individual character and that accommodate a multitude of occasions. These qualities are synonymous, albeit within an alternative cultural context, with Aldo van Eyck's reflections on the 'in-between realm'. In fact, Aldo van Eyck specifically discusses the importance of spatial depth and the compositional layering of inhabitable places while reflecting upon the work of the Dutch painter Pieter de Hoogh (1629-1684), who commonly focus on the representation of interior spaces being appropriated by figures. Seemingly mundane details of everyday life are captured together with a sophisticated and delicate treatment of light within the layered spaces of the various dwelling interiors represented. Pieter de Hoogh's paintings are often populated with people inhabiting the various places layered within the interior, sometimes extending to the exterior of the dwelling as far as the house gables across the street or canal, which articulates the entire depth of the scene. Aldo van Eyck writes, "Pieter de Hoogh shows us beautifully what enclosure through openness and transparency can bring about, when he paints an open door or window and a doorway, passage or alley on a single line of view, thus allowing one to see right through several interior and exterior spaces." (Eyck et al., 2008b, p. 497) Through these paintings, Aldo van Eyck advocates a modulation of spatial depth of the perceptible distance from place to place, that relies upon the careful positioning of doors and windows together with a suitable sense of enclosure, within the domestic interior.

It was Aldo van Eyck that first coined the term, the 'in-between realm', as a way to describe the fertile threshold between 'twin-phenomenon', which he claimed had been erroneously divided into absolutes by the 'determinist one-track thinking' of functionalism. In concrete architectural terms the 'in-between realm' can manifest itself by providing distinct inhabitable 'places' that can support 'occasions' on the threshold between spaces, while at the same time raising awareness of what is significant on either side. Aldo van



Figure 6.08 'Women Beside Linen Cabinet', Pieter de Hoogh, 1663

Eyck pays particular attention to the doorway, while Atelier Bow Wow place their focus on the 'window-scape', as highly affluent thresholds spaces that can provide characteristic inhabitable 'places' within the domestic landscape. Kiyoyuki Nishihara identifies the temporal partitioning of zones, inhabitable 'joint' places and intentional programmatic ambiguity, as being characteristic of traditional Japanese house design. Nishihara's observations are wholly pertinent to the later theoretical ideas that were developed by Aldo van Eyck and Atelier Bow-Wow. The Japanese spatial phenomenon of 'oku' is examined and explored to reveal strikingly analogous spatial organisation strategies to Aldo van Eyck's reflections upon the 17th century paintings of Pieter de Hoogh. The potential of the 'in-between realm' is revealed in the modulation of spatial depth, which is achieved through the compositional layering of inhabitable places that provide a suitable sense of enclosure. Of particular interest to our discussion is Fumihiko Maki's anecdote of the spatial richness and sophistication that he observed in the traditional 'machiya' merchant's townhouse in the suburbs of Tokyo, which is approximately the same size as the micro dwellings explored in the research by design investigations within this chapter.

6.5 'HOUSE 25' ANALYSIS & REFLECTIONS

This chapter now moves onto a qualitative analysis of 'epistemic artefacts', which take the form of 1/20 scale physical models that have been utilised in the development of conceptual designs for a 25m² micro dwelling. In this section of the text we will focus on, 'House 25', which is the final iteration of a series of physical models produced by the author, as part of a broader project, together with the Stockholm based architecture office Berg Thornton Arkitekter. The following reflections are a synthesis of these prospective design enquiries, together with the architectural theory relating to forms of inhabitation and threshold within the domestic interior that was introduced earlier.

'House 25' is composed from three distinct architectural elements, a fully enclosable 'place' that provides privacy, a 'place' accommodating sanitary amenities and an inhabitable window 'place'. These three elements can accommodate specific activities such as sleeping, bathing and dining, while the resulting interstitial spaces have been composed in such a way, as to be able to support a multitude of activities through inhabitant appropriation. Rather than being a single neutral open-plan space, the interstitial areas have been articulated and layered in order to provide several characteristic places, with varying levels of enclosure and distinctive aspect views between the interior and the exterior. The spatial organisation of 'House 25' can be considered as a 'Dwellscape', which was defined in chapter 5 as a continuous domestic landscape composed of a relational field-configuration of distinct architectural elements, which define 'places' that accommodate specific activities as well as delineating ambiguous interstitial 'places' that can support inhabitant appropriation in a multitude of ways. The tectonic language of the model emphasises the significance of the distinct architectural elements within the dwelling interior as adaptable entities that can be rearranged in any number of configurations. The exterior façade of the model has intentionally been omitted in order to focus attention on the spatial organisation of the 'domestic landscape' and to hint at the ability of the dwelling interior to adapt to a wide variety of contextual conditions.

The spatial organisation of 'House 25' is defined by the composition of three, distinct architectural elements, which have distinguishable character and that provide places with particular attributes that support a wide variety of activities through the interpretative act of appropriation. Interstitial places that result from the positioning of the three architectural elements are distinct in architectural terms, relating to levels of enclosure and aspect views, yet they are ambiguous in their programmatic use. These three architectural elements comprise of a place that can be fully enclosable from the rest of the dwelling, a compact sanitary place and an inhabitable window place that offers a wide aspect view of the surroundings. The fully enclosable place includes a bed, a desk and a long seat, and can accommodate more private activities such as sleeping, dressing, resting, star-gazing, working etc. The sanitary place includes a toilet, a washbasin, a shower area, a seat and direct access to an exterior shower outside. The window place, which offers a panoramic 270° aspect view, can be used as a bench for dining, a sofa or it can be converted into a second bed. The remaining ambiguous interstitial 'places' have variation in character and can be inhabited in a multitude of ways, based upon the careful positioning of doorways, windows and the articulation of the ceiling. Rather than being formed from an aggregate of cellular spaces with prescribed functions that dictate inhabitant behaviour, 'House 25' is composed from a relational field-configuration of distinct places that can accommodate a wide variety of forms of occupancy and that support a multitude of temporal occasions.

Threshold spaces are articulated throughout 'House 25', in most cases to provide inhabitable places within these 'in-between' zones. For example, doorways and window openings have been extruded where possible in order to provide occasions for sitting, resting, working and sleeping. A deep doorway with a large single pivot glass door provides the opportunity for an 'engawa' type threshold place, where the interior interstitial space can flow out into the exterior surroundings. By setting the pivot door back into the dwelling, an external overhang is created that provides a covered exterior area to the house. The roof of the dwelling has also been articulated in order to accommodate carefully positioned sky lights, for example, above the bed and the seat in the showering area, as well as, a high-level window above the toilet. Inhabitable threshold places are provided on the transitions between the three defined

architectural elements and the interstitial areas. A niche is provided between the sanitary place and the entrance area that allows one to 'tarry', while removing footwear. There is a cupboard for outerwear, such as coats, jackets and shoes, opposite the sitting niche. A deep doorway and storage cupboard are provided on the threshold between the fully enclosable sleeping place and the entrance area. A second opening from the main sleeping place faces onto the main living space allowing for direct views from the bed through the dwelling and out to the exterior, while at the same time providing an occasion to sit down. The window place represents the archetype of a 'windowscape', as advocated by Atelier Bow-Wow, by providing an inhabitable place that frames views between inside and outside and that shapes the character of light conditions within the dwelling interior.

The 'in-between realm' manifests itself in several ways in the spatial organisation of 'House 25'. Firstly, we see the introduction of distinct inhabitable 'places' that can support a wide variety of 'occasions' on the threshold between spaces, both internally and between the interior and the exterior. Particular attention is paid to the articulation of window openings and doorways within the dwelling. Secondly, there is a modulation of spatial depth, which is achieved through the compositional layering of distinct inhabitable places that frame the ambiguous interstitial spaces. Asymmetric spatial planning, the carefully considered positioning of openings and the articulation of routes in-between the defined architectural elements, draws comparisons with the traditional Japanese notion of 'oku', as well as, Aldo van Eyck's reflections on the paintings of Pieter de Hoogh. As one moves through 'House 25', the various inhabitable 'places' that form the dwelling are revealed temporally, through the turning of corners or the sliding of partitions. Finally, we can also see that the 'in-between realm' manifests itself in the dwelling, in terms of use, through intentional programmatic ambiguity. In 'House 25' we see a combination of programmatic specificity within the three more clearly defined architectural elements, together with programmatic ambiguity, particularly within the interstitial areas and inhabitable 'places'.



Figure 6.09 'House 25' Initial Model Fragment #7, Nicholas Thomas Lee, 2019

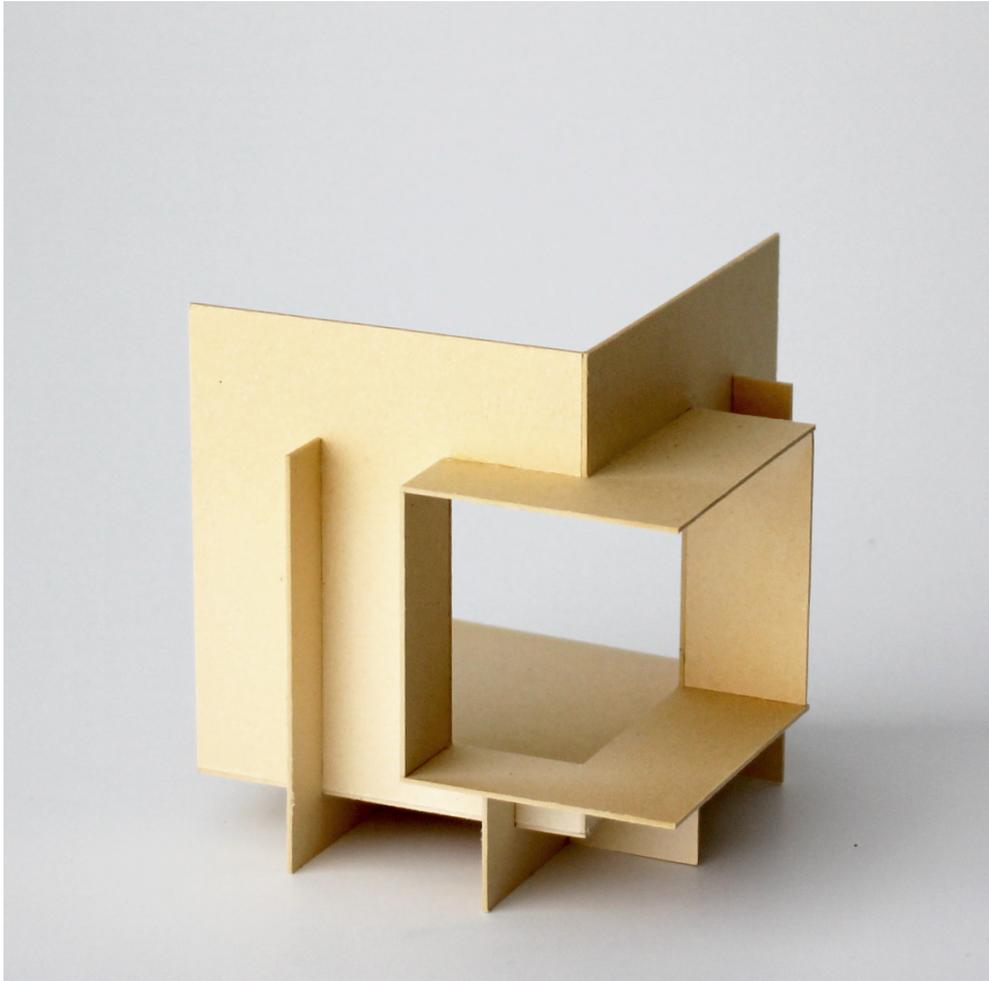


Figure 6.10 'House 25' Initial Model Fragment #11, Nicholas Thomas Lee, 2019



Figure 6.11 'House 25' Initial Model Fragment #13, Nicholas Thomas Lee, 2019



Figure 6.12 'House 25' Initial Model Fragment #17, Nicholas Thomas Lee, 2019



Figure 6.13 'House 25' Enclosable Place, Nicholas Thomas Lee, 2019



Figure 6.14 'House 25' Sanitary Place, Nicholas Thomas Lee, 2019



Figure 6.15 'House 25' Inhabitable Window Place, Nicholas Thomas Lee, 2019



Figure 6.16 'House 25' Spatial Layering, Nicholas Thomas Lee, 2019



Figure 6.17 'House 25', Nicholas Thomas Lee, 2019



Figure 6.18 'House 25', Nicholas Thomas Lee, 2019

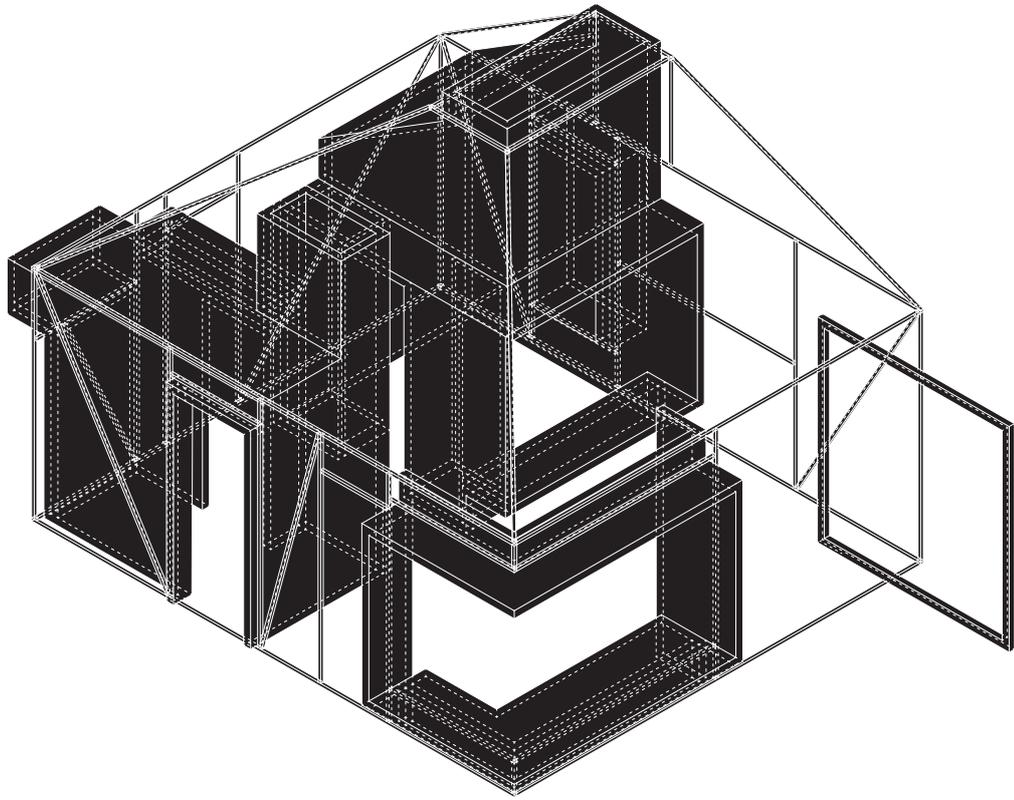


Figure 6.19 'House 25' Axonometric, Nicholas Thomas Lee, 2019

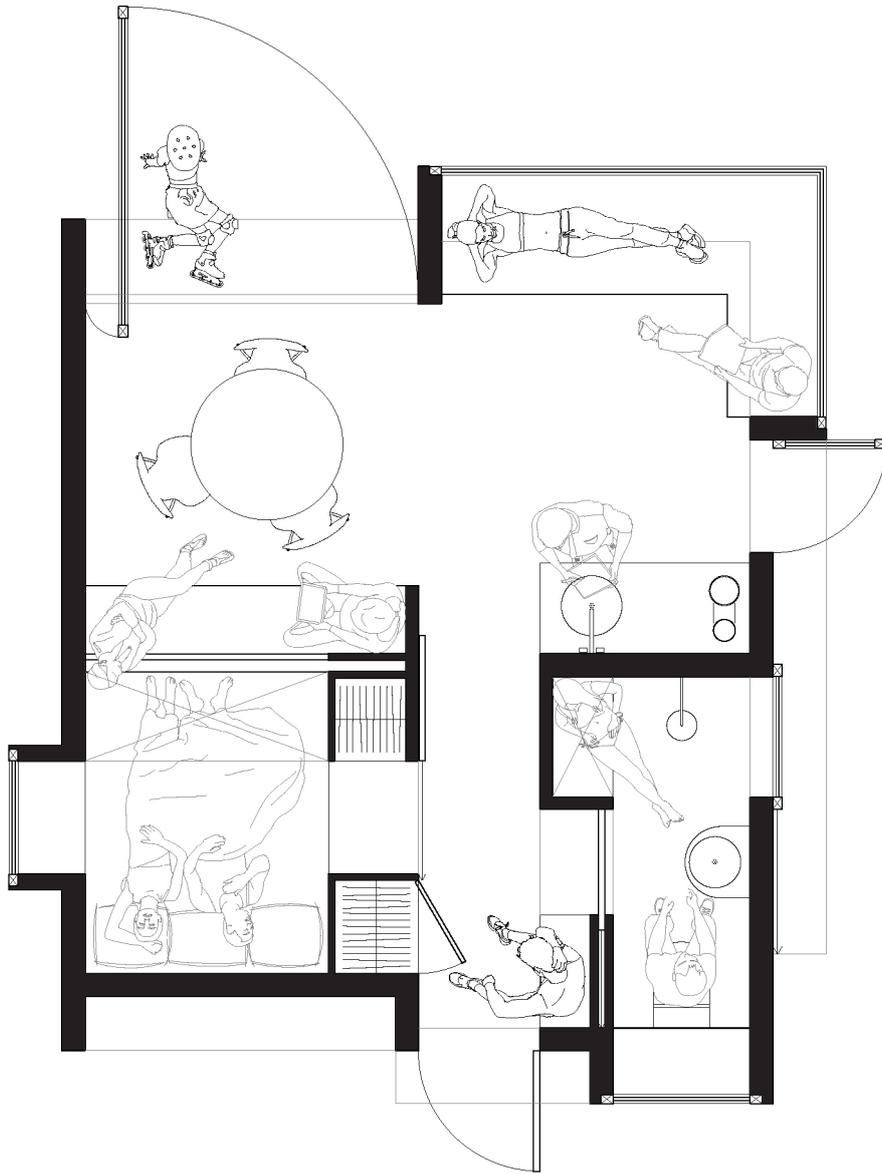


Figure 6.20 'House 25' Plan Arrangement 1/50, Nicholas Thomas Lee, 2019

6.6 'THE INBETWEENESS WORKSHOP' ANALYSIS & REFLECTIONS

In the following section, four 1/20 scale models that were produced by students from the Spatial Design MA program at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK) during the one-week long workshop entitled, 'Inbetweeness: The Architectural Model as Epistemic Artefact', will be discussed in detail based upon their epistemic qualities. The spatial organisation of 'Dwelling No.06' is defined by a thick exterior wall that encloses a small private garden at the centre of the house. Movement through the dwelling is defined by the perimeter wall, where a path through the house eventually leads to a pair of sliding doors that open out onto the private garden. Inhabitable niches, openings and a concealed staircase that lead up to a place for sleeping are positioned, with careful consideration, within the thickness of the exterior perimeter wall, which creates a series of characterful places that can accommodate a wide variety of activities. As one enters the dwelling, a wall obscures any direct views onto the private garden, although windows at high and low levels cast shadows on the ceiling, walls and floor, hinting at what might lay beyond. Carefully placed openings are utilised throughout 'Dwelling No.06', in order to create framed views and distinct lighting conditions that denote specific inhabitable places. The series of plan sections that result from the final 1/20 model are reminiscent of the American architect Louis Kahn's survey drawings of Scottish castles, with their thick inhabitable walls containing room-like places. Louis Kahn reflects, "The Scottish Castle. Thick, thick walls. Little openings to the enemy. Splayed inwardly to the occupant. A place to read, a place to sew.... Places for the bed, for the stair.... Sunlight. Fairy tale." (Brownlee & De Long, 1991, p. 68) The spatial organisation of 'Dwelling No.06' exhibits characteristics of the Japanese notion of 'oku', such as the careful composition of adjoining spaces with a distinct articulation of transition between inhabitable places, often through the act of revealing. Emphasis is placed on the temporal experience of the journey through the dwelling, however unlike 'oku', there is a climactic quality to the route. This is achieved through the deliberate positioning of a single tree, in the private garden, at the centre of the house. This singular choreographed route that ends with a distinct gesture points towards Le Corbusier's 'promenade architecturale', rather than an explorative field-configuration of places.



Figure 6.21 'Dwelling No.06' Concept Model No.02,
Rose Hermansen, Alex Barstad, Rui Cai, Dahlia Lipski, 2017

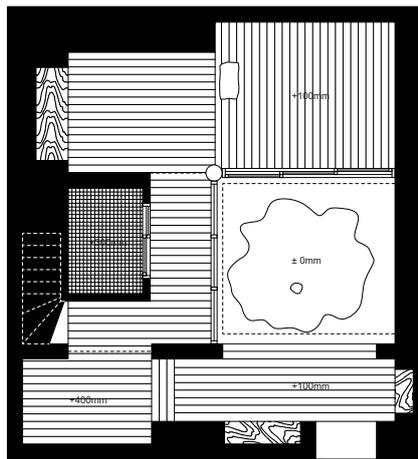
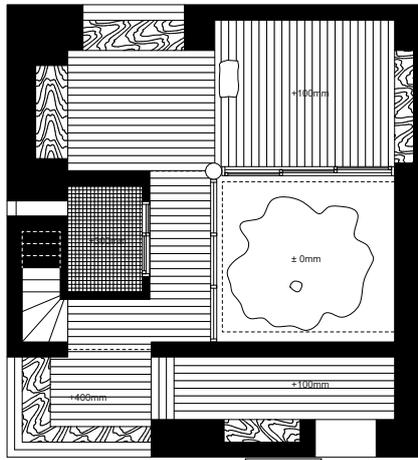
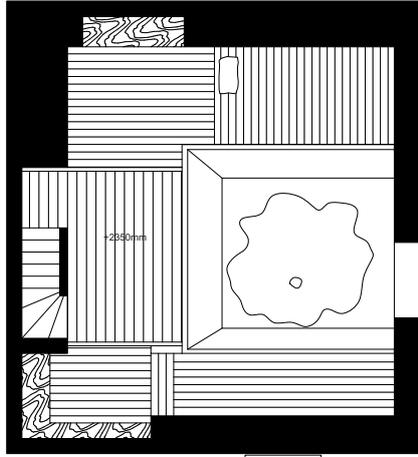


Figure 6.22 'Dwelling No.06' Horizontal Sections 1/100, Rose Hermansen, Alex Barstad, Rui Cai, Dahlia Lipski, 2017

The spatial organisation of ‘Dwelling No.07’ can be described as a relational field-configuration of separate building volumes that are located on the edge of a speculative lake in rural Sweden. The dwelling is composed from a homogeneous building system that is based upon a single m² module. This modular timber frame can be left open, clad with a polycarbonate façade panel or fully enclosed with façade and roof panels. The modules are devoid of programmatic intimation and instead provide a variety of places with distinct character based upon their relative position, orientation and level of enclosure. A uniform pitched roof gives orientation to each module, or cluster of modules, and helps to define and give character to the interstitial spaces. In programmatic terms, ‘Dwelling No.07’ can be considered as a non-hierarchical structure given its homogeneous modular construction, which is reminiscent of a volumetric interpretation of the Japanese ‘tatami’ system.¹⁸ There is a distinct level of programmatic ambiguity, as to how one appropriates the various building volumes, which recalls Kiyoyuki Nishihara reflections on the spatial organisation of the traditional Japanese house. He writes, “in terms of space, Japanese interiors are flexible and conform readily to the needs of the people living in them. Speaking from the viewpoint of function, on the other hand, since these interiors conform to a number of needs, they actually serve no fixed function at all.” (Nishihara & Gage, 1968, p. 11) In the same way, the behaviour of those inhabiting the various modules that coalesce to form ‘Dwelling No. 7’ decide the programmatic use of the architecture. It should be noted that the program of the building is so ambiguous, one could argue if the proposal can be considered as a dwelling at all when it lacks the basic requirements of a place to cook, a place to wash and even a toilet. Ambiguity also manifests itself in the porous perimeter of the building, making it unclear where the dwelling ends and the surrounding landscape starts. ‘Dwelling No.07’ in its entirety can be seen as a single continuous ‘in-between realm’ and in doing so becomes a physical manifestation of Aldo van Eyck’s shoreline metaphor.¹⁹

18. The ‘tatami’ mat is a common floor surface found in traditional Japanese architecture, consisting of a thin mat of tightly woven rushes on top of a coarser mat made from straw tightly bound by cords, and its standard sizing is approximately 90 x 180 x 5 cm. Ordinary room sizes were defined by the dimensions of the tatami mat and could be, three, four and one half, six or eight mats in size. Tatami mats and the corresponding floor patterns are discussed in detail in the book, “Japanese Houses: Patterns for Living” (Nishihara & Gage, 1968, p. 162)

19. Just as Aldo van Eyck’s shoreline metaphor lies in the ambiguous realm in-between land and sea, ‘Dwelling No.7’ lies somewhere in-between building and landscape.



Figure 6.23 'Dwelling No.07', Barbara Sniezynska, Bertrand Van Dorp, Signe Jakobsen, 2017

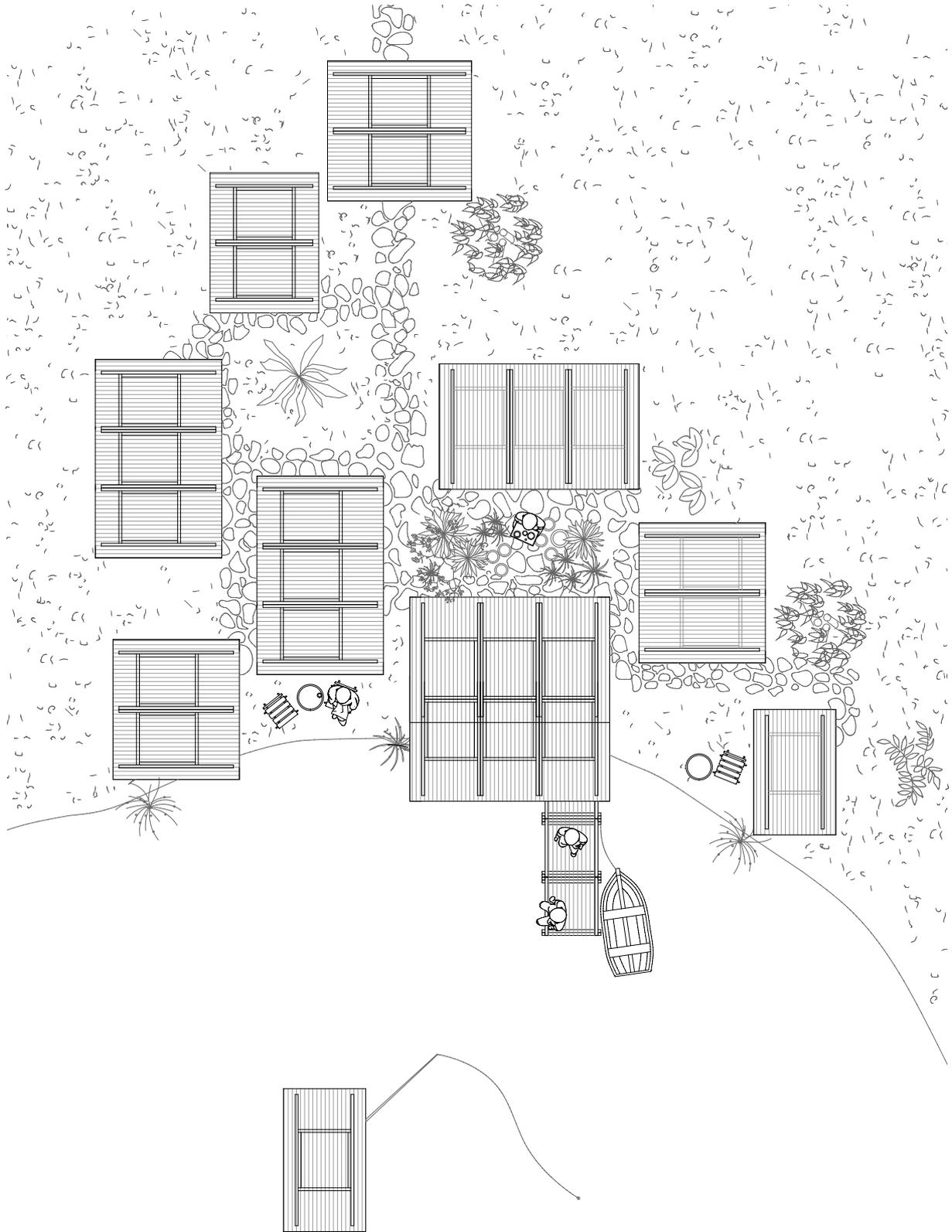


Figure 6.24 'Dwelling No.07' Plan 1/100, Barbara Sniezyska, Bertrand Van Dorp, Signe Jakobsen, 2017

The spatial organisation of 'Dwelling No.09' with its ambiguous thresholds, asymmetric arrangement and subtle level changes in order to foster where certain activities can take place, appears to be heavily influenced by traditional Japanese architecture. A secluded place for reading, a place for meditation with views out over the surrounding context and a place to sleep are raised up above the central living area, while a sunken zone at the centre of the plan creates a natural place to sit, dine and socialise. The various inhabitable places are layered outwards from the central space and are temporally revealed through a careful consideration of their orientation and the asymmetric positioning of openings. Although these are unmistakable traits of 'oku', one does however see the creation of 'outer-depth' rather than the traditional 'inner-depth', which is typically associated with the Japanese spatial phenomenon. In this way, 'Dwelling No.09' is reminiscent of an early unbuilt proposal from Atelier Bow-Wow, entitled 'House Without Oku' (1994), which effectively takes the form of a reversal of the conventional spatial principles of 'oku'. This is achieved by making the space concealed most deeply within the dwelling, as the sole place that is directly accessible from the exterior. "The arrangement of the various spaces, their relative proportions, and the degree to which they are open or closed to one another nevertheless remain pivotal to the overall design" (Stalder, Escher, Komura, & Washida, 2013, p. 11). Just as 'House Without Oku' maintains key principles of 'oku', so too does 'Dwelling No.09', with its carefully orientated places, spatial layering and depth. A notable divergence from traditional Japanese architecture, with its tendency for 'inner-space envelopment', is the centrifugal hierarchy that exists in 'Dwelling No.09', where the social gathering place is positioned at the centre of the house, while the more private places are located on the periphery. This clear demarcation between the centre and the periphery is a spatial phenomenon that Fumihiko Maki reflects upon in the chapter, "The Japanese City and Inner Space", from the book, "Nurturing Dreams: Collected Essays on Architecture and The City" (2008). Fumihiko Maki writes, "In Japan, instead of a fixed centre, territorial integrity was based on something indeterminate, and enveloping or enfolding this basic 'something' (oku) was the operational principle of territorial formation. In contrast to active demarcation, enveloping implies passivity as well as flexibility – that is, a capacity to adapt the envelope to the form of what is to be enveloped." (Maki, 2008, p. 165) For Maki, 'centre-demarcation', for

which he uses the example of the European tradition for placing a church with a spire at the centre of the village, as 'axis mundi', points to an understanding of space as being something infinite, abstract and formless. In contrast, the Japanese tradition for 'inner space-envelopment' points to an understanding of space as something finite and dense, for which Maki uses the example of 'oku' found within the traditional Japanese village that developed, not as a community clustered around an absolute, but rather, as numerous territories, each safeguarding their own inner space.



Figure 6.25 'Dwelling No.09' Model, Wai Yan Li, Christopher Arnold, Stine Holme, 2017

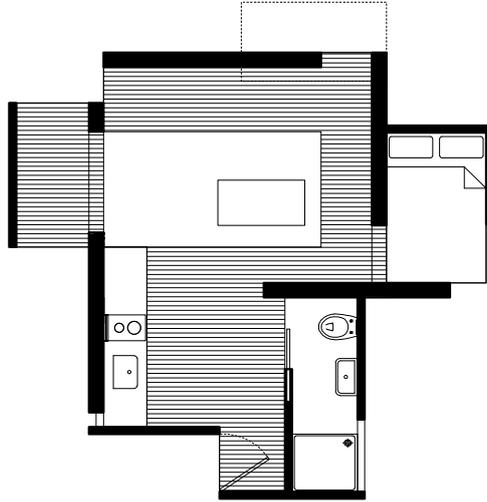


Figure 6.26 'Dwelling No.09' Plan 1/100, Wai Yan Li, Christopher Arnold, Stine Holme, 2017

'Dwelling No.12' can effectively be considered as a singular inhabitable threshold, which takes the form of a series of interconnected places that weave in between two load bearing walls. The spatial arrangement of the dwelling is based upon a curated journey, where focus is placed on the relational distance, composition, orientation and articulation of the various places that form the route through the building. The individual, clearly defined places have distinct volumetric qualities, which are in turn connected by distinctive 'joint spaces',²⁰ such as corridors and deep doorways, where particular attention is placed on the articulation of transition. An open courtyard space is introduced in the middle of 'Dwelling No.12', however, this is merely another place on the journey through the house, rather than functioning as a climax to a route. The large variation in character of the various places that coalesce to form the dwelling is achieved through the sophisticated use of carefully placed windows and openings, which control light and views in and out of the building. A wide variety of window types are utilised in the design that include large panoramic windows, portrait windows for orientation, vertical slit windows for dynamic views into the internal courtyard, roof windows to designate places of importance and small pinpoint openings to create distinctive lighting effects within the dwelling. The spatial organisation of 'Dwelling No.12' places emphasis on the sequential perspectival experience of the inhabitant, through the temporal revealing of adjacent places as one traverses the dwelling, that recalls both the Japanese notion of 'oku', as well as, the picturesque landscape. The plan layout of 'Dwelling No.12' exhibits labyrinthian-like qualities with its meandering network of places to explore, together with its spatial layering. In the text, "Meiro no oku" (The Inner Labyrinth) (1975), the Japanese painter and essayist, Eiji Usami reflects upon 'oku' and the sense of inwardness in Japanese architecture that results from the multi-layered structuring of space, the careful composition and orientation of places and the temporal act of revealing. While remarking on the maze-like structures of traditional Japanese 'ryokan' (guest houses), Usami interestingly identifies what he views as a Japanese propensity for labyrinths, which he believes is inherently connected with 'oku'. As with the traditional Japanese house based upon the principles of 'oku', 'Dwelling No.12' lacks a climactic ending. Instead, one exits the interior onto a platform with a view over the surrounding context and an ambiguous staircase that leads up to the roof. This curated journey that

20. In the book, "Japanese Houses: Patterns for Living" (1968), Kiyoyuki Nishihara identifies a number of 'joint spaces' that he claims are distinctive to traditional Japanese architecture.

lacks a distinct climactic gesture points more towards the spatially relational field-configuration of 'places' advocated by Aldo van Eyck, rather than Le Corbusier's prescribed 'promenade architecturale'. In the spatial organisation of 'Dwelling No.12' one can see a literal physical manifestation of Aldo van Eyck's 'in-between realm', as a single architectural gesture.



Figure 4.27 'Dwelling No. 12', Maomei Chan, Kristoffer Fahlgren, Josephine Howard & Christine Hoff, 2017

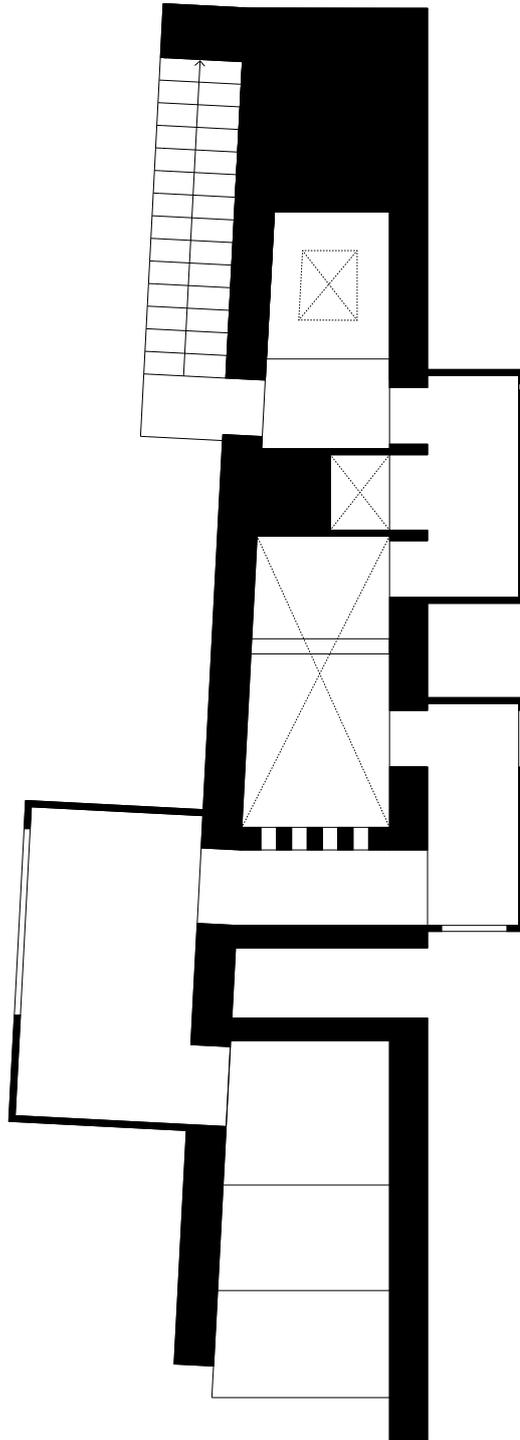


Figure 4.28 'Dwelling No. 12' Plan 1/100, Maomei Chan, Kristoffer Fahlgren, Josephine Howard & Christine Hoff, 2017

6.7 CONCLUDING COMMENTS

The point of departure for this chapter has been the prevalence of a positivistic approach to the application of functionalist planning principles within the contemporary dwelling interior, which reinforces dichotomies by abstracting phenomenon into absolutes, such as human behaviour into definite 'functions', inhabitants into 'users' and space into 'public' and 'private' or 'interior' and 'exterior', thereby ignoring the fertile realm of the in-between. Early functionalist treatise from architects, such as Robert Kerr (1864) and Alexander Klein (1934) propagated an approach to spatial planning, where space that did not support an explicit function was purged from the plan, resulting in the eradication of many threshold places from the domestic landscape. This functionalist approach to spatial planning continues to inform contemporary architectural praxis through the regulations, building codes, design methods and rules-of-thumb that account for the day-to-day production of contemporary housing. In this chapter the following question has been posited, through a reconsideration of threshold space within the contemporary dwelling interior what spatial organisation strategies can be developed that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis? For this phase of the project, a 'research by design' method has been utilised where a 'two-fold movement' of retrospective theoretical analysis has been synthesised together with prospective design enquiries that involve the production of 'epistemic artefacts', in the form of physical architectural models. The programmatic framework for these investigations has been the development of a design for a 25m² micro dwelling that takes advantage of new planning legislation recently introduced in Sweden (Boverket, 2016).

This chapter started with a brief discussion on the art of inhabitation, where theory from more anthropologically minded architects that oppose functionalist planning principles has been compared with traditional Japanese approaches to the spatial organisation of domestic interior. These architects are united in rejecting a prescribed causal relationship between the built environment and the use of space by its inhabitants, which has been propagated by functionalism and the absolutes that it adheres to.

Through a reflection on these writings, we arrive at an alternative approach to the relationship between the inhabitant and the built environment, which is focused on the act of appropriation instead. This thesis proposes the notion of the 'Dwellscape', where a consideration of the opportunities for inhabitant 'appropriation' inform the spatial organisation of a relational field-configuration of 'places', with distinct characteristics that can accommodate a multitude of temporal 'occasions.' Appropriation of 'place' requires interpretive engagement, rather than passive adherence to prescribed functions within space. Atelier Bow-Wow arrive at their concept of 'occupancy', which can be understood as designing intentional scenes²¹ that foster inhabitant appropriation, which is strikingly analogous to Aldo van Eyck's notion of 'place' and 'occasion'. Atelier Bow-Wow writes, "An inhabitant is bonded with the space, has responsibility to maintain it, and the specific behaviours of the space emerge. Architects can help this process by sorting spaces into the scenes, giving spaces certain characteristics." (Bow-Wow, 2006, p. 271) The spatial arrangement of 'House 25' gives concrete suggestions as to how these ideas can be applied practically. Rather than being formed from an aggregate of cellular spaces with prescribed functions that dictate inhabitant behaviour, 'House 25' is composed from a relational field-configuration of distinct 'places' that can accommodate a wide variety of forms of occupancy. The spatial organisation of 'House 25' is defined by the composition of three architectural elements that have distinctive character, creating defined 'places' with particular attributes that support a wide variety of activities through the interpretative act of inhabitant appropriation. The remaining ambiguous interstitial 'places' that can be inhabited in a multitude of ways, also have a variation in character that is based upon the careful positioning of doorways, windows and the articulation of the ceiling.

The central discussion of this chapter has been focused on 'the in-between realm', a term originally coined by Aldo van Eyck. The 'in-between realm' refers to an ambiguous domain between false dichotomies of twin phenomenon that provides a highly productive agent for our discussions relating to the opportunities afforded by inhabitable threshold places within the contemporary dwelling interior. In concrete architectural terms the 'in-between realm' can manifest itself by providing distinct inhabitable 'places' that can support 'occasions' on the threshold between spaces, while

21. In the book, "Atelier Bow-Wow: A Primer" (2013), Atelier Bow-Wow discuss their notion of 'occupancy' and the creation of characteristic scenes by referring to, "the use of intense colour, for example, as in the Juicy House project - or through the precise deployment of structural components designed to facilitate or even to form the users' activities - such as the bookstands and sleeping niches in the Ikushima Library or the suspended step-plate stair articulating the staggered "landing levels" in the House Tower." (Stalder et al., 2013, p. 69)

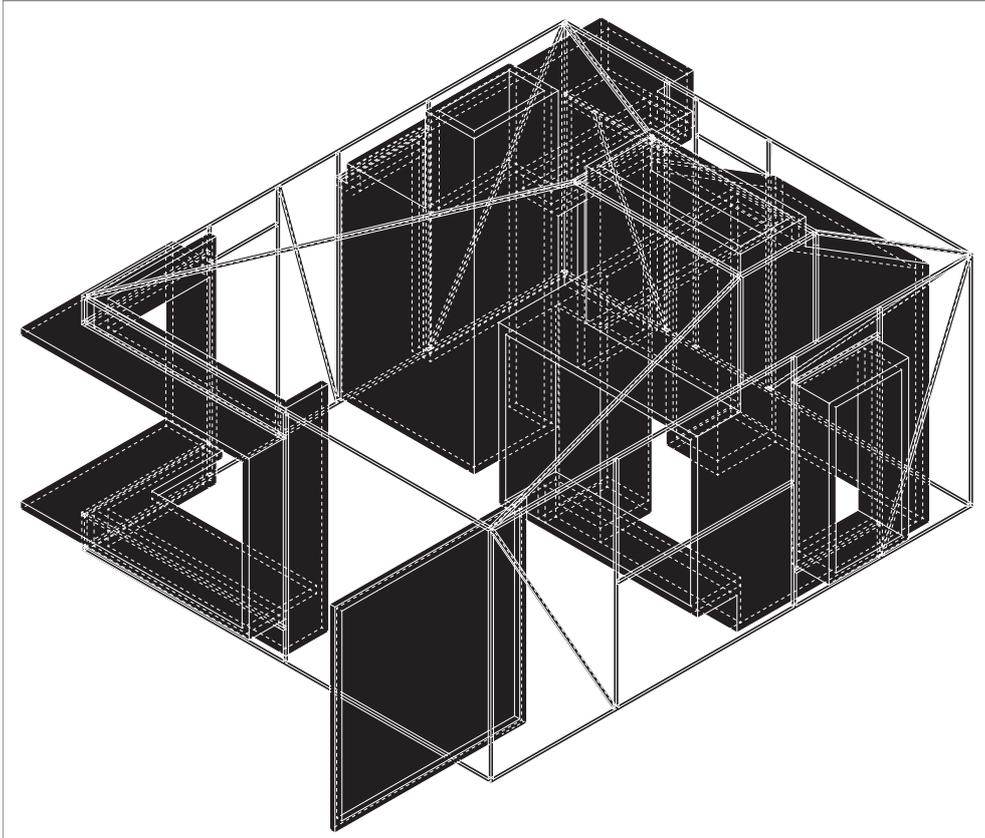


Figure 6.29 'House 25' Axonometric, Nicholas Thomas Lee, 2019

at the same time raising awareness of what is significant on either side. The traditional Japanese house has proved a valuable source of inspiration while discussing the in-between realm, with its tendency for temporal sliding partitioning, inhabitable threshold places and intentional programmatic ambiguity. Aldo van Eyck's reflections on the door threshold, together with Atelier Bow-Wow's research into the 'window-scape' have revealed the affluency of the two architectural elements at providing characteristic inhabitable 'places', within the 'in-between realm'. The British architect, Stephen Bates emphasises the continued importance of threshold spaces within the domestic built environment, "we need strong empathy with the occupants to think beyond the functional. We need spatial devices that offer the potential for comfort – a loose configuration of rooms with less defined uses, for example, or tangible thresholds which create a 'space between' domestic activities." (Bates, 2016, p. 62) In the spatial organisation of 'House 25' we see physical manifestations of the 'in-between realm', particularly in the articulation of window openings and doorways, which create distinct inhabitable 'places' that can support a wide variety of 'occasions', on the threshold between spaces.

This discourse on the 'in-between realm' has also revealed the value of spatial layering within the contemporary dwelling interior. Aldo van Eyck utilises 17th century paintings by Pieter de Hoogh in order to demonstrate the importance of modulating spatial depth within the domestic interior, through the purposeful positioning of doors and windows, the carefully considered composition of adjoining spaces and the distinct articulation of transition between inhabitable places. Strikingly similar ideas can be found in spatial manifestations of the Japanese notion 'oku', which include the multi-layered structuring of space, the careful composition and orientation of places and the temporal act of revealing in order to create spatial depth. 'Oku' reveals a uniquely Japanese understanding of space, where it is not conceived as an abstract and infinite mathematical construct as with functionalist thinking, but rather as something finite, dense and with inner-depth.²² In the spatial organisation of 'House 25' one can see a modulation of spatial depth through the compositional layering of distinct inhabitable places that frame the ambiguous interstitial spaces. Its asymmetric spatial organisation, the carefully considered positioning of openings and the articulation of routes

22. In the chapter, "The Japanese City and Inner Space" from the book, "Nurturing Dreams: Collected Essays on Architecture and The City" (2008), Fumihiko Maki identifies the creation of 'inner-depth' as being central to the concept of 'oku'.

in-between the defined architectural elements also draw comparisons with the traditional Japanese notion of 'oku', as well as, Aldo van Eyck's reflections on the paintings of Pieter de Hoogh. While exploring the ideas above and in particular 'oku' one can see intriguing similarities with the picturesque landscape garden and its arrangement based upon the relational connections between objects in a 'pictorial circuit', which relies upon one's movement and sequential acts of obscuring and revealing between a series of scenes that are arranged in relation to one another.²³

Through the investigations above it has become apparent that ambiguity is inherent within the 'in-between realm'. The 'in-between realm' in concrete terms, manifests itself as a spatial threshold between two physical places, where an inhabitant can attain a simultaneous awareness of what is significant on either side. This requires an active engagement by the inhabitant, where the various places are interpreted and subsequently appropriated in a variety of ways. It is this quality of being open to more than one interpretation that points to programmatic ambiguity, rather than specificity or neutrality.²⁴ The characteristic 'joint' spaces in the traditional Japanese house, such as 'engawa' and 'tsugi-no-ma' can be inhabited in a multitude of ways and are archetypal examples of the ambiguity that is inherent within the 'in-between realm'. The 'in-between realm' can also manifest itself in terms of programmatic use through a rejection of false dichotomies and absolutes. For example, in 'House 25' we see a combination of programmatic specificity within the three more clearly defined architectural elements, together with programmatic ambiguity, particularly within the interstitial spaces. In this case, the 'in-between realm' can be seen as a rejection of dichotomies and absolutes, by instead advocating engagement with the productive ambiguous realm that lies in-between phenomenon. While discussing the 'in-between realm', the contemporary work of the Japanese architect Sou Fujimoto comes to mind, with his frequent use of ambiguous delineating boundaries, particularly within his early designs for single-family houses. While reflecting upon 'House NA' (2007-2011), Fujimoto writes, "This house has no real exterior, and no real interior. The whole area is just 'in-between'. In this concept there is no city, there is no house, just graduations of 'betweenness'". (Fujimoto, Ito, & Warrall, 2009, p. 15)

23. This subject is discussed at length in chapter 7: "A Picturesque Dwelling."

24. This subject is discussed at length in chapter 2: "The Functionalist Dwelling."



Figure 6.30 'House NA', Sou Fujimoto, 2007-2011

Over the course of this chapter the ‘in-between realm’ has emerged as a productive reconceptualisation of threshold space within the contemporary dwelling interior. In physical terms the ‘in-between realm’ can manifest itself within the ‘dwellscape’ through spatial layering, the carefully considered composition of adjoining spaces and the articulation of transition ‘places’ on the threshold between spaces. The ‘in-between realm’ can also manifest itself in terms of use, through an advocacy of programmatic ambiguity and a rejection of the false dichotomies and absolutes that have been propagated by functionalist logic. Emphasis is placed instead, on providing opportunities for inhabitant appropriation based upon an interpretive engagement with characteristic ‘places’ that can accommodate a wide variety of forms of ‘occupancy’ and that can support a multitude of temporal ‘occasions’. With regards to the methodological framework, the ‘Inbetweenness: The Architectural Model as Epistemic Artefact’ workshop in particular, has highlighted the productive nature of combining the analytical, in the form of historic architectural theory and building references, together with the suggestive, in the form of prospective 1/20 scale physical model experiments.²⁵ As the students embraced the dogma of designing only using physical scale models, the mediums corporality, immediacy as a mediating tool and physical authenticity were revealed as highly productive aspects of the research by design enquiries, particularly given the limited timescale of the workshop.

25. The brief for the ‘Inbetweenness: The Architectural Model as Epistemic Artefact’ workshop included theoretical writings from Peter & Alison Smithson (1994), Aldo van Eyck (2008a), Kiyoyuki Nishihara (1968) and Atelier Bow Wow (2010).

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7. A PICTURESQUE DWELLING

“Rather than conceive of a landscape as an extension of architecture, the Picturesque provided the inspiration to conceive of architecture as landscape”

(Constant, 1990, p. 54)

7.1 INTRODUCTION

The point of departure for this chapter is the prevalence of a planimetric approach to the spatial organisation of the contemporary dwelling interior, which is a consequence of the functionalist planning logic that is now embedded in, and propagated by current building regulations, codes, design methods and rules-of-thumb that continue to inform architectural praxis and the day-to-day production of housing.¹ The picturesque movement that matured in Britain during the 19th century is viewed as a formative counterpoint to a planimetric approach to the spatial organisation of the built-environment, due to its focus on the spatio-visual experience of the viewer and its role in the development of pictorial planning methods. Within this framework, it would be naïve and frankly misguided to make a blanket critique of functionalist planning principles with their antecedent ideals of improving the standard of living conditions, particularly when one must acknowledge the complex relationship that the picturesque movement has with functionalism.² However, for the purposes of this research enquiry, focus is placed on exploring characteristics of the picturesque that productively challenge functionalist logic and its planimetric approach to the spatial organisation of the domestic interior. The term, picturesque emerged in Britain in the early 18th century and was initially used to describe an aesthetical view of nature, which then matured into a pictorial planning method for English landscape gardens, buildings and eventually even the domestic interior, before seemingly disappearing as a movement by the mid 19th century. The picturesque can seem an elusive conceptual construct given the movements stylistic pluralism, associations with naïve taste, the lack of a definitive definition and the discrepancies that can arise from the term's etymological origins in painting. Regardless of these challenges, the British academic David Watkin maintains that, “the theory and practice of the Picturesque constitute the major English contribution to European aesthetics.” (Watkin, 1982, p. vii) Its influence has been noted in the work and writings of Hermann Muthesius (1904), Karl Friedrich Schinkel, Heinrich Wölfflin, Camillo Sitte (1889), Le Corbusier (1987; 1923), Josef Frank (1931), Alison & Peter Smithson, Gordon Cullen (1961) and Jonathan Woolf to name but a few. It is the aim of this chapter to explore spatial organisation principles relevant to the contemporary dwelling found within, and that have been

1. The continuing influence of functionalist planning logic on contemporary architectural practice has been discussed extensively in the writings of Robin Evans (1997), Bernard Leupen (2006) & (2011), Stephen Bates (2016) and most recently, Shumi Bose, Jack Self and Finn Williams (2016). This subject is also unfolded in a lengthy discourse in chapter 2: “The Functionalist Dwelling.”

2. In the chapter, “Irregularity” from the book, “The Picturesque: Architecture, Disgust and other Irregularities” (2007), John Macarthur notes the influence that picturesque ‘pattern books’, published in the late 18th & early 19th century, with their focus on improving the interior ‘convenience’ of buildings, had on proto-functionalist architects, such as Robert Kerr (1864) and Hermann Muthesius (1904). The complex relationship between the picturesque movement and functionalism is also discussed in chapter 2: “The Functionalist Dwelling.”

inspired by, the picturesque movement, in particular the treatment of the domestic interior as an architectural landscape, through the development of an explorative proposal for a 250m² villa utilising a ‘research by design’ method.³

This chapter posits the following question, through a re-exploration of the picturesque what spatial organisation strategies can be identified that are relevant to the contemporary dwelling interior and that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis?

Inaugural writings from William Gilpin (1768), Edmund Burke (1756), Sir Uvedale Price (1794), Humphry Repton (1795), Richard Payne Knight (1805) relating to the picturesque movement have been revisited in order to establish foundational theory. At the same time, more contemporary reflections upon the picturesque from Christopher Hussey (1927), Nikolaus Pevsner (1955), David Watkin (1982), Caroline Constant (1990) and John Macarthur (2007) have been interrogated. The approach taken by this research project differs from previous scholars that have written about the picturesque, by utilising a ‘two-fold movement’,⁴ where retrospective analysis of the theory discussed above is synthesised together with prospective ‘research by design’ investigations. Importantly, it is through the design of these prospective ‘epistemic artefacts’⁵ that new knowledge can be contributed to a discourse on the spatial organisation of the contemporary dwelling interior. Through this research enquiry, four distinct traits have been identified within the picturesque that have been shown to be formative agents in the spatial organisation of the dwelling interior and that productively challenge a planimetric approach to the composition of the domestic built environment. The picturesque movement has been responsible for the development of pictorial planning methods related to perspectival spatial experience, an approach to the spatial organisation of the built environment based upon sequential spatio-visual experience, an appreciation for irregularity and a focus on providing opportunities for inhabitant appropriation through imaginative interpretation. However, the greatest contribution of the picturesque movement to this research project is that it has provided a catalyst to conceive of the domestic interior as an architectural landscape.

3. The Norwegian academic and current chairman of The OCEAN Design Research Association, Birger Sevaldson defines the ‘research by design’ method as, “a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry.” (Sevaldson, 2010, p. 11). The ‘research by design’ method utilised in this research project is discussed at length in chapter 3: “A Methodological Framework.”

4. In the book, “The City: Its Growth, its Decay, its Future” (1943) the Finnish architect and urbanist, Eiel Saarinen describes design research as being a ‘two-fold movement’ which is based upon the idea of two layers working in different directions and temporalities. In this model, ideas and research are projected both forwards (present to the future) and backwards (future to the present) simultaneously.

5. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7)



Figure 7.01 'The Gothik Temple', Stowe, Leonard Rosoman, 1971

7.2 PICTURESQUE SPATIAL THEORY

It is likely that the word ‘picturesque’ derived from either the Italian ‘pittresco’ or the French ‘pittoresque’, literally meaning ‘in the manner of painters’. The term was initially used to describe an aesthetical view of nature, particularly in relation to the act of painting scenes and in particular landscape painting. The English clergyman, headmaster and landscape painter, William Gilpin is often cited as being responsible for developing and popularising the idea of the picturesque within the public psyche. While touring Britain he would draw and paint landscapes in order to capture ‘picturesque beauty’, which culminated in the publication of, “An Essay Upon Prints” (1768), where he gives a definition of, “picturesque: a term expressive of that particular kind of beauty, which is agreeable in a picture.” (Gilpin, 1768, p. 1) Another early key text, that is not only important to the formation of the picturesque, but arguable one of the foundations of modern aesthetics⁶ is Edmund Burke’s “A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and the Beautiful” (1756). During the first half of the 18th century, the term ‘picturesque’ became synonymous with the English landscape garden, which celebrated natural irregularity over geometrical order. This new style of picturesque gardening can be viewed as a direct reaction to rationalist principles of spatial organisation. ‘Jardin à la française’, or the French formal garden, emerged in the 17th century and is perhaps epitomised best by the ‘Gardens of the Palace of Versailles’, designed by the French royal gardener, André Le Nôtre. ‘Jardin à la française’ was an influential style of garden based upon a rigorous geometrical plan layout, visual symmetry and the principle of imposing order on nature. The English garden, as it was later known, emerged at the start of the 18th century in England and was based upon the composition of a landscape where trees and plants were allowed to grow in their natural manner. Geometrical layouts with linear perspectives extending into the distance were explicitly rejected in favour of irregular organisation, based upon perspectival scenes from the point-of-view of the observer and their sequential visual experience. However, the use of picturesque planning principles was not limited to the design of landscape gardens and towards the end of the 18th century, they began to be used as an approach to the spatial organisation of architecture and in particular dwellings. The picturesque can be an elusive conceptual construct given its lack of a definitive definition

6. The contribution of Edmund Burke to the development of modern aesthetics has been noted by both, David Watkin (Watkin, 1982, p. vii) and John Macarthur (Macarthur, 2007, p. 5).

and the discrepancies that can arise from the term's etymological origins in painting. "There are few words, whose meaning has been less accurately determined than that of the word picturesque." (Price, 1810, p. 37) It is however, precisely this ambiguity in interpretation that gives the movement such richness and that makes it worthy of further study.

The period of 1780-1830 can be viewed as the apotheosis of the picturesque movement, with the decade at the turn of the century being particularly significant in the development of written theory, with the publication of several key texts. In 1794, Sir Uvedale Price published his, "Essay on the Picturesque" (1794) which would later be more widely distributed in its expanded form as, "Essays on the Picturesque" (1810). In 1795, the English landscape designer and skilful watercolourist, Humphry Repton published his seminal book, "Sketches and Hints on the Theory and Practice of Landscape Gardening" (1795). A decade later, Richard Payne Knight published "An Analytical Inquiry into the Principles of Taste" (1805). These three central figures became entangled in an intellectual exchange on the picturesque that would facilitate its transition from a word to describe an aesthetical view of nature into a complex approach to the spatial organisation of landscape gardens and eventually buildings. "The Picturesque had by now become so deeply embedded that it coloured most architectural practice for the remainder of the century. There is thus a sense in which a vast quantity of Victorian architecture is incidentally Picturesque." (Watkin, 1982, p. 131) During the latter half of the 18th century, a plethora of architectural styles developed across England, which included the 'Old English' style, the 'Queen Anne' movement, the 'Domestic Revival' and the 'Free School'. During the first half of the 19th century, knowledge grew of these styles and the principles of picturesque theory became increasingly subordinated to 'stylistic accuracy'.⁷ The English art critic and theorist John Ruskin's evangelical advocacy of the Gothic over the picturesque, which he described as 'parasitic sublimity' in his hugely influential book "The Seven Lamps of Architecture" (1849) seemingly brought an end to the picturesque movement. However, while the term became unpopular, it was far from the end of the picturesque movement's influence.

7. In the chapter, "Irregularity" from the book, "The Picturesque: Architecture, Disgust and other Irregularities" (2007), John Macarthur gives an extensive account of the plethora of architectural styles that developed across England during the late 18th and early 19th century and the effect that this had on the picturesque movement.

Interestingly, and perhaps in part due to the movement's stylistic pluralism, we see very little in the way of written contributions to picturesque theory from 1810 onwards, until the publication of Christopher Hussey's "The Picturesque, Studies in a Point of View" (1927), which can be seen as a historical primer on the subject. In addition to giving an historical account of the picturesque, Hussey also argued for its influence upon, and connection to the Modern Movement in Europe, despite its associations with historicism. The British academic Patricia Wheaton notes that Hussey exhibited, "a determination to adapt to the contemporary world, to utilise Modernism's redeeming qualities in order to discover a modern aesthetic for the nation and to move its architecture forward. Connections with the past were made in order not to lose sight of the traditional aesthetic values of place and context that had provided a sure haven for design throughout British history." (Wheaton, 2018, p. 45) Starting during the 1940s, and lasting for almost three decades, the German born British scholar, Nikolaus Pevsner utilised the *Architectural Review*⁸ as a vehicle to reignite interest in the picturesque through an extensive number of articles that eventually culminated in the publication of, "The Englishness of English Art" (1955). Pevsner's intentions were two-fold, firstly he argued that the picturesque, which was seen as being quintessentially English, was inherently connected to the Modern Movement, as Hussey had previously claimed, but this time with the intention of galvanizing post-war patriotism into accepting Modernist architecture and urbanism. Secondly, he argued for the application of picturesque principles to urban planning in order to address the problem of post-war reconstruction in Britain, which ultimately resulted in the 'Townscape' movement, most accessibly described in Gordon Cullen's "The Concise Townscape" (1961) and most thought provokingly represented in Ivor de Wolfe's "Civilia: The End of Sub Urban Man: A Challenge to Semidetsia" (1971). A decade later, David Watkin published, "The English Vision: The Picturesque in Architecture, Landscape and Garden Design" (1982) which can be viewed as a supplementary publication to Christopher Hussey's earlier book, but this time with a greater focus on architectural manifestations of the picturesque. Most recently, we see a renewed interest in the picturesque following the publication of John Macarthur's book, "The Picturesque: Architecture, Disgust and other Irregularities" (2007). Despite the fact that the term 'picturesque' continues to be, "used as a synonym for aesthetic failure, trivial

8. The *Architectural Review* is monthly international architectural magazine first published by The Architectural Press in London in 1896. Nikolaus Pevsner was acting editor from 1943 to 1945 and was a member of the editorial board from 1945 until 1970.

cultural products and naïve tastes” (Macarthur, 2007, p. 1), these publications have continued the legacy of the picturesque and have successfully shown its influence upon, its connection to, and its relevance for contemporary architecture.

7.3 A METHODOLOGICAL FRAMEWORK

The methodological framework for this chapter is based upon the established field of research by design. An interlaced two-fold movement takes place between retrospective analysis and prospective design enquiries. Retrospective analysis of picturesque theory and built projects, which are representative of the movement and that are relevant to a discourse on the spatial organisation of the contemporary dwelling interior, are synthesised together with prospective investigations, involving the production of ‘epistemic artefacts’. These prospective ‘epistemic artefacts’ take the form of large-scale physical models that are utilised in the development of a proposal for a 250m² villa. Only at the end of these prospective investigations, will an architectural plan drawing be produced of the final proposal for the 250m² villa, emphasising the primacy of the physical model during the design process.

Of the many forms of architectural representation, it is only the medium of the model that shares the physical, three dimensional attributes of the architecture that is being represented. In the article, “The Barcelona Pavilion as Landscape Garden: Modernity and The Picturesque” (1990), the British academic Caroline Constant notes Mies van der Rohe’s extensive use of a large-scale physical model during the design of the Barcelona Pavilion (1929). This model consisted of a plasticine base upon which planes of cardboard, celluloid and Japanese paper could be placed and rearranged in order to simulate the pavilion’s material perceptual qualities. By prioritising the physical model as a design tool over other means of architectural representation, in particular the plan drawing, “Mies accorded primacy to the temporal experience in three dimensions.” (Constant, 1990, p. 47) As part of her argument for the picturesque qualities of his work, Constant refers to Mies van der Rohe’s adjustable physical model as representing a pictorial

approach to the spatial organisation of the pavilion, which allowed for the exploration and interrogation of the building's spatial sequences. When one constructs a physical model, decisions have to be made regarding materiality, the play of light, tectonics, statics and the detailing of connections, just as one must make when realising architecture at full-scale. The act of making physical models concretises the ontic condition of a concept into a tangible object, which can be interrogated physically and that takes advantage of the physical authenticity of the medium. Through Constant's reflections on the relationship between the picturesque and the physical model as a design tool, the aptness of the medium for exploring pictorial planning methods within this research enquiry has been revealed.

The programmatic framework for the production of a series of large-scale physical models or 'epistemic artefacts' is the development of a proposal for a 250m² villa located at Næsgården, Ordrup Næs, on the west coast of Sjælland. The dwelling is planned for a family of four and is required to accommodate the following spatial program, a kitchen, a dining / living space, 3 bedrooms (1 en-suite), a guest bedroom / office, a family bathroom, a cloakroom / guest bathroom, an entrance area and a garage that can accommodate two cars. The proposal is to be located on a plot of land connected to Næsgården at Næsvej, 4540 Fårevejle. The open countryside plot is defined by two ancient burial mounds on the southern boundary and the coastline on the northern boundary of the site, which allows for magnificent views of Sejerøbugten and Nekseløbugten. Planning restrictions stipulate that the ground cannot be altered within 40m of the burial mounds and it is advised that one should not build within 100m of the historic monuments. The maximum height of the dwelling must not exceed 5m from the existing ground level and any roof space must not be used as accommodation.⁹ The 'epistemic artefacts' produced during the project will adhere to the programmatic framework above, however it is expected that the physical models will remain at a conceptual level, rather than representing a completed building in order to fully utilise the explorative nature of the research by design method.

9. The programmatic framework for the 250m² Villa at Næsgården, Ordrupnæs has been taken from the brief for an architectural competition entitled, 'En Bolig I Landskabet', which was organised by Professor, Arkitekt m.a.a. Halldor Gunnløgssons Fund in collaboration with Mette Lange Arkitekter in January 2017.

7.4 PICTORIAL PLANNING

A common misconception with the picturesque movement is that it involved the appropriation of compositional techniques from painting, such as the manipulation of surface and depth relations and then applied them directly to the design of landscape gardens and architecture. However, “what was adopted was not so much the schemas by which painting were arranged as the very possibility of visual arrangement.” (Macarthur, 2007, p. 21) William Gilpin’s early definition of the picturesque refers to a pictorial quality that he found in the natural landscapes that he painted while touring the British countryside. Unlike the ‘grand tour’ of classical sites on the continent that was popular at the time, this domestic tourism was an innovative re-appropriation of the ordinary and familiar. Sir Uvedale Price also developed a strong connection between pictorial composition and the compositional design of picturesque landscape gardens and buildings, which he described as ‘improvements’ to natural scenes. Both Gilpin and Price emphasise the primacy of the pictorial and contribute to the development of the picturesque technique of planning for point-of-view and sequential visual experience. I will trace the development of planning for perspectival spatial experience from one of the original practitioners of the picturesque, namely Humphry Repton, through to Le Corbusier’s ‘promenade architecturale’, eventually arriving at the paramount development of the ‘Townscape’ movement, in the form of Ivor de Wofle’s ‘Civilia’ (1971) project.

We turn our attention to the practical application of picturesque principles in the planning of the built environment through the work of Humphry Repton, who designed from points and sequences of views rather than using plan drawings. As a source of pleasure, Repton described ‘Picturesque Effect’ as, “this head, which has been so fully and ably considered by Mr. Price, furnishes the gardener with breadth of light and shade, forms of groups, outline, colouring, balance of composition, and occasional advantage from roughness and decay, the effect of time and age.” (Repton, 1795, p. 59) Repton became famous for presenting his designs to clients in a pair of overlaid, before and after perspectival water colour scenes that he referred to as ‘slides’ due to the reveal of the proposed as the existing picture is lifted back. These ‘red books’ became highly sought after, with many wealthy land



Figure 7.02 Sunning Hill 'Red Book', Berkshire, Humphry Repton, 1790

owners commissioning him to develop a proposal with no actual intention of executing the design. Many of these 'slides' were reproduced and included in Repton's comprehensive publication, "Sketches and Hints on the Theory and Practice of Landscape Gardening" (1795). "There is no doubt that Repton designed in phenomenal space using pictorial tools, and that he understood and presented the merit of his work in terms of how much a picture of the landscape improved with his alterations." (Macarthur, 2007, p. 49) Of particular interest is Repton's collaboration with the British architect John Nash on the design of Luscombe House (1796-1800) in Devon, which can be considered as a model house for the entire picturesque movement. Its asymmetrical plan configuration was determined by views to and from the house, as well as, 'convenience' in servicing.¹⁰ A more explicit reference to the use of point-of-view perspectival tools in the spatial organisation of architecture can be found in the obituary for the Scottish architect David Bryce (1803-76), who was responsible for the design of Ballikinrain Castle, Langton House & Kinnaird Castle. "He worked like a painter at a canvas, rubbing out and altering his compositions until the grouping was perfect." (Watkin, 1982, p. 135) The picturesque notion of planning for perspectival spatial experience went on to influence early Modern Movement architects, via the work and writings of Hermann Muthesius (1904), Karl Friedrich Schinkel, Heinrich Wölfflin and perhaps most importantly, Camillo Sitte (1889).

Although, Christopher Hussey, Nikolaus Pevsner and John Macarthur have all asserted that the picturesque movement greatly influenced Le Corbusier, it is perhaps the British academic Flora Samuel who has been most explicit about this connection. She writes, "Le Corbusier's late work is intensely picturesque" and goes on to exclaim that his buildings, "share in those flights of memory, imagination and movement that is so often associated with the picturesque, a word that he uses with no disdain." (Samuel, 2010, p. 71) Le Corbusier's interest in perspectival spatial experience is clearly displayed in his seminal publication, "Towards a New Architecture" (1923), where the architect reflects upon the complex asymmetrical composition of the Acropolis, in both perspectival view and plan drawing. He writes about the Parthenon, the Erechtheum, and the statue of Athena in front of the Propylea, "the whole thing being out of square, provides richly varied vistas of a subtle kind; the

10. Picturesque 'convenience' can effectively be understood as the suitability of a built environment to accommodate a purpose comfortably. This notion is discussed by Christopher Hussey (Hussey, 1927, p. 209), David Watkin (Watkin, 1982, p. 96) and John Macarthur, in particular, who writes about its influence on the development of the notion of the functional appropriateness of a buildings' spatial organisation (Macarthur, 2007, p. 159).

different masses of the buildings, being asymmetrically arranged, create an intense rhythm.” (Corbusier & Etchells, 1987; 1923, p.43) Le Corbusier developed his own technique of experientialist point-of-view planning in the form of his ‘promenade architecturale’. The Catalan architect Ignasi de Solà-Morales, who is best known for the reconstruction of Mies van der Rohe’s Barcelona Pavilion, describes Le Corbusier’s ‘promenade architecturale’ as being, “time organised from the linear viewpoint.” (Solà-Morales & Whiting, 1997, p. 68) During the design process, Le Corbusier would utilise perspectival sketches at designated positions along a defined route within the proposed building, coupled together with directional arrows and markers on plan drawings and axonometric diagrams. During lectures, Le Corbusier often presented the ‘promenade architecturale’ of his built projects through a rapid succession of perspectival views in the form of projected slides, often numbering in the hundreds, which he referred to as ‘films’, a subject that we will return to later on in this chapter.¹¹

The concept of planning based upon an appreciation of perspectival spatial experience is inherently connected with the ‘Townscape’ movement, which has a direct lineage back to the writings of Sir Uvedale Price and Richard Payne Knight via Nikolaus Pevsner. Townscape prescribed a form of urban planning based upon actual views and sequences of views rather than functionalist principles. Gordon Cullen’s book, “The Concise Townscape” (1961) is almost entirely comprised from perspectival hand sketches, photographs and ‘serial drawings’, which are used to introduce the idea of planning from point-of-view, through the concept of ‘Serial Vision’. Cullen writes, “the even progress of travel is illuminated by a series of sudden contrasts and so an impact is made on the eye, bringing the plan to life... Note that the slightest deviation in alignment and quite small variations in projections or setbacks on plan have a disproportionately powerful effect in the third dimension.” (1961, p. 17) This placed an emphasis on the primacy of perspectival experience as a tool for the design of the urban built-environment, over the organisation of space in plan. The quote from Cullen also draws comparisons with Le Corbusier’s reflections upon the Acropolis and the perspectival consequences of its asymmetric planning. “The Concise Townscape” was criticised for being overly nostalgic and distinctly historicist in its representation, particularly by the British architectural historian and

11. In the chapter, “Ordering Initiation” from the book, “Le Corbusier and the Architectural Promenade” (2010), Flora Samuel discusses Le Corbusier’s mode of presenting his projects through a rapid succession of still frame views as projected slides, which he referred to as ‘films’, sometimes containing hundreds of images (Samuel, 2010, p. 69).

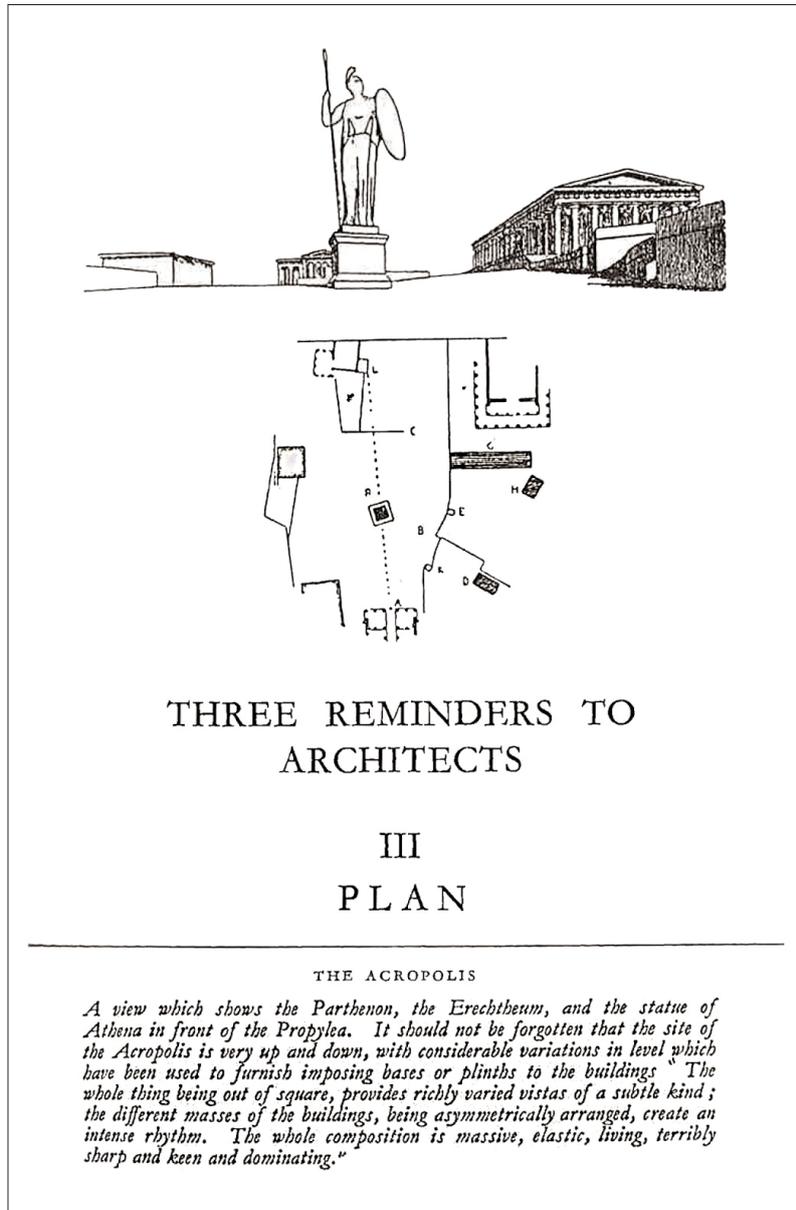


Figure 7.03 Three Reminders to Architects, Le Corbusier, 1923

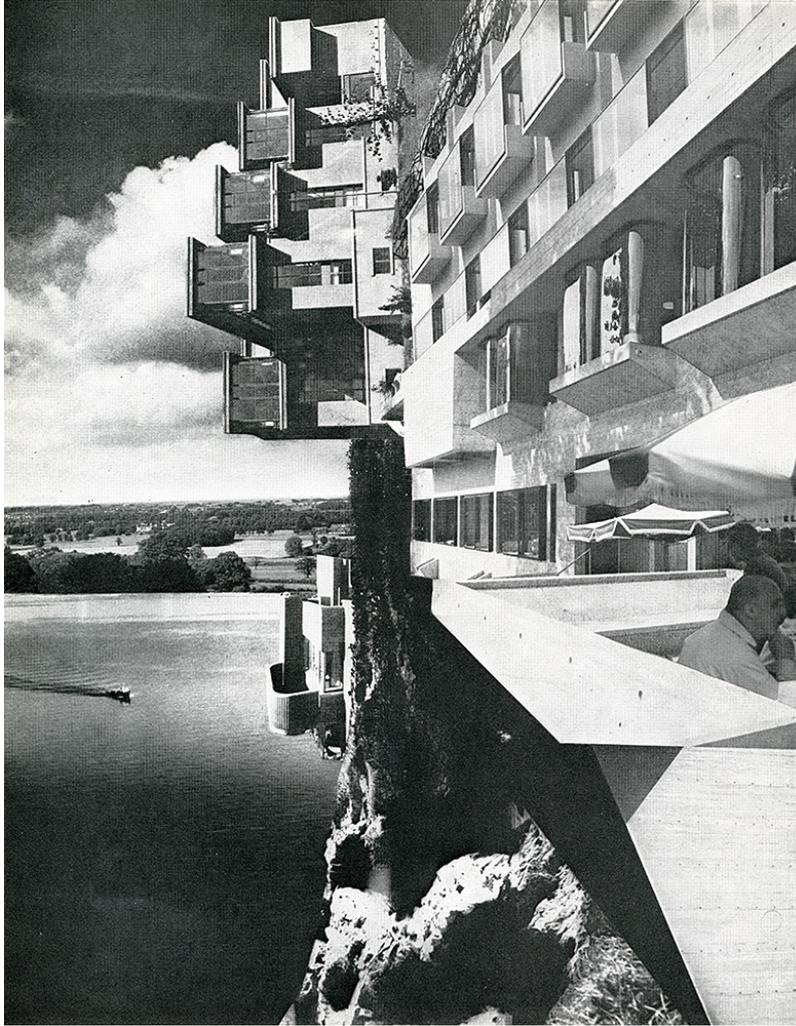


Figure 7.04 Perspective Collage Image of Civilia, Priscilla Baschieri-Salvadori & Kenneth Browne, 1971

urbanist, Colin Rowe in the hugely influential, “Collage City” (1978). What can be considered as the ultimate development in written form of the ‘Townscape’ movement is Ivor de Wofle’s book, “Civilia: The End of Sub Urban Man: A Challenge to Semidetsia” (1971), which was published by The Architectural Press. Ivor de Wofle is a pseudonym, albeit misspelled, for Kenneth Browne and Priscilla Baschieri-Salvadori, who envisaged a hypothetical high-density city, Civilia, on the site of a disused quarry in the heart of the Midlands in the United Kingdom, as a model for addressing suburban sprawl. Aside from its radical approach to urbanism, what is so thought provoking about the publication is the chosen mode of representation for Civilia, which is entirely pictorial. A large number of collaged perspective photographs are used to represent the buildings, urban layout and indeed the quotidian public life of Civilia, in place of traditional planimetric means of representation.

The picturesque movement contributed to and developed the possibilities for the spatial organisation of the built environment based upon an appreciation of pictorial composition. Early contributors to picturesque theory, such as William Gilpin, Sir Uvedale Price and Humphry Repton explored planning for point-of-view and sequential visual experience of landscape gardens and buildings. “It is not incorrect to think of many eighteenth-century gardens as a succession of pictures, but it is wrong to think that the stilling and flattening of phenomenal visual experience was the aim. Rather the picture was, and still functions as, a prompt to spatial imagination.” (Macarthur, 2007, p. 51) By taking inspiration from the picturesque writings of proto-modernist architects and urban planners, together with an appreciation of classical visual planning, Le Corbusier developed his own form of experiential point-of-view planning under the guise of the ‘promenade architecturale’. During the latter half of the 20th century, direct re-readings of original ‘picturesque’ publications led to the ‘Townscape’ movement, which advocated the primacy of pictorial planning for perspectival spatial experience over planimetric organisation. With the publication of Colin Rowe’s “Collage City” (1978) and its emphasis on the figure ground plan and looking at the city from above, the ‘Townscape’ movement, with its associations of historicism, largely fell out of favour. In more recent years, however, writers such as Caroline Constant (1990), Yve-Alain Bois (1987) and John Macarthur (2007) have once again begun to argue for the relevance of the picturesque and its pictorial planning based upon perspectival composition.

7.5 SEQUENTIAL SPATIO-VISUAL EXPERIENCE

A focus on the pictorial might suggest a static character where composition is considered from a singular point, but rather, the picturesque places emphasis on the temporal, where landscape and architecture are both understood to be experienced in duration and through movement. A picturesque landscape or building is always composed from a ‘grouping’ of objects that are carefully considered in relation to one another, rather than as a singular standalone presence. The way in which these objects are connected and traversed is carefully curated through a perspectival spatial circuit or sequence. “A picturesque stroll forms by virtue of the sequence of what is seen; it has form in the sense that music has form in sequence and duration.” (Macarthur, 2007, p. 156) It is this picturesque notion of planning based upon sequential spatio-visual experience, as it develops from a tool for the layout of landscape gardens into an approach to the spatial organisation of the dwelling interior, which we will explore in the following section. We will trace its progression from the landscape gardens of Alexander Pope, through to the dwelling layouts of Sir John Soane & Ernest William Gimson, eventually discussing its influence on the spatio-visual planning approaches of Modern Movement architects, such as Le Corbusier and Josef Frank.

In her influential article, “The Barcelona Pavilion as Landscape Garden: Modernity and The Picturesque” (1990), the British academic Caroline Constant explores the 18th century notion of the ‘pictorial circuit’ that was used as a tool in the planning of picturesque landscape gardens. The ‘pictorial circuit’ can be considered as a perspectival spatial sequence, where its picturesque effect relies upon ones’ movement between a series of scenes that are arranged in relation to one another. Constant uses Alexander Pope’s design for the grounds at his residence in Twickenham (1727) as an archetype representation of the picturesque garden, where it is perceived not as an object in itself, but as a series of relationships that are gradually revealed to the moving spectator. She argues that a principle tenet of the picturesque is for an approach to spatial organisation, based upon the relational connections between objects in a sequence or field-configuration. The ‘pictorial circuit’ relies upon duration, movement and the sequential acts of obscuring and revealing. “Picturesque ‘connection’ is always in the

process of being discovered.” (Robinson, 1988, p. 80) This focus on spatial sequencing and durational experience through movement is not unsurprising given that the picturesque was developed in its formative years through the design of landscape gardens. During the 1760s, the landscape gardener and poet, William Shenstone wrote on the composition of picturesque gardens, “The foot should never travel to the object by the same path which the eye has travelled over before. Lose the object, and draw nigh obliquely.” (Shenstone et al., 1764, pp. 94-110) Interestingly, Caroline Constant identifies the ‘labyrinthian’ layout of Mies van der Rohe’s Barcelona Pavilion, with its interior ‘spatial sequencing’, as being wholly comparable to a picturesque landscape garden, where its spatial organisation is based upon a ‘pictorial circuit’.

As the ‘pictorial circuit’, with its perspectival spatial sequencing, developed from a landscape gardening tool into an approach to spatial organisation, which could be applied to architecture, the notion of interior scenography and even the interior as an architectural landscape emerged. During the late 18th century, British architects such as John Nash and Sir John Soane, “realized that not only the views out but the views from space to space within the building could determine its overall plan figure; that the plan could be an internal landscape.” (Macarthur, 2007, p. 157) Sir John Soane’s Lincoln’s Inn Fields (1792-1824) is a notable reference, with its complex maze-like architectural landscape of interlocking rooms and passage ways, each with their own distinct spatial characteristics. Carefully positioned windows, mirrors and optical devices are distributed throughout the dwelling, contributing greatly to the perspectival spatio-visual experience as one traverses the building. A later note-worthy example of a picturesque interior is Stoneywell Cottage (1898-99), Leicestershire, designed by the British architect and furniture designer, Ernest William Gimson. Stoneywell Cottage exhibits interior scenography that is almost cinematic in its determination of visual experience. David Watkin in his comprehensive book, “The English Vision: The Picturesque in Architecture, Landscape and Garden Design” (1982), considers one of the greatest contributions of the picturesque movement to be the application of painterly and landscape principles to architecture and in particular the pictorial planning of the dwelling interior.

We return to Le Corbusier's 'promenade architecturale' and a discussion about its relationship to picturesque spatial sequencing and movement. While discussing his interest in designing spaces that can be appreciated while in motion, Le Corbusier writes, "it is while walking, moving from one place to another, that one sees how the arrangements of the architecture develop." (Corbusier, Jeanneret, & Boesiger, 1935b, p. 29) The 'promenade architecturale' can be viewed as the theoretical manifestation of this interest, which advocated the planning of architecture based upon perspectival spatio-visual experience in duration. On describing the 'promenade architecturale' at Villa La Roche, Le Corbusier writes, "you enter: the architectural spectacle offers itself successively to your view: you follow an itinerary and the perspectives develop with a great variety; we play with the afflux of light illuminating the walls or creating shadows." (Corbusier, Jeanneret, & Boesiger, 1935a, p. 60) Since its emergence in the 1920s, the origins of the 'promenade architecturale' have been attributed to Baroque architecture, the Beaux-Arts principle of the 'marche',¹² Le Corbusier's interest in cinematography, and in particular the film maker Sergei Eisenstein and his theory of montage. However, according to Yve-Alain Bois (1987), John Macarthur (2007) and Flora Samuel (2010) its clearest precedent can be found in the picturesque. Indeed, the combination of perspectival composition and planning based upon sequential spatial experience, involving durational concealing and revealing, within the 'promenade architecturale' have a clear precedent in the picturesque landscape garden and its 'pictorial circuit'. Le Corbusier's particular interest in concealing and revealing can also be observed in many of his buildings, where he utilises meandering paths for experiential effect, such as in the square spiral arrangements that he explored in the designs for a number of unrealised museums, most notably 'Le Musée Mondiale' (1929). There is one significant aspect where the 'promenade architecturale' and the picturesque differ, and that is related to processional chronology. As identified by Flora Samuel, the 'promenade architecturale' has a prescribed chronology that typically starts at the entrance door and terminates at the roof, following the 'Jacob's Ladder' topos of a singular route from earth to sky.¹³ The 'pictorial circuit' of the picturesque certainly has curated movement and duration but it does not adhere to a particular chronology, encouraging the dweller to explore and discover instead. The montage nature of the 'promenade architecturale', perhaps represented best in Le Corbusier's sketches for a proposed dwelling

12. In the chapter, "Irregularity" from the book, "The Picturesque: Architecture, Disgust and other Irregularities" (2007), John Macarthur makes the connection between the 'promenade architecturale' and the Beaux-Arts principle of the 'marche', or walk. He writes, "Just as in the practice of the marche, Le Corbusier drew human movement patterns around which the architectural plan and the scenography of the promenade grew." (Macarthur, 2007, p. 167)

13. In the chapter, "The Jacob's Ladder Type Promenade" from the book, "Le Corbusier and the Architectural Promenade" (2010), Flora Samuel explores the connection between the 'promenade architecturale' and the 'Jacob's Ladder' topos in detail. Samuel writes, "Le Corbusier's promenades are plays upon this original topos (Jacob's ladder), a single processional route from earth to sky repeated." (Samuel, 2010, p. 103)

contained within a letter to Madame Meyer, reminds one that he was also heavily influenced by cinema with its linear procession.

Le Corbusier's 'promenade architecturale' is considered by many to be the paramount development of the picturesque 'pictorial circuit', at least with regards to the spatial organisation of interior architecture. However, the often prescribed nature of its high-art spatial choreography, "has come to look a little didactic, carrying overtones of instructed feeling and compelled sentiment." (Macarthur, 2007, p. 55) It is at this juncture that spatio-visual planning theory from the Austrian architect Josef Frank is introduced as a more appropriate interpretation of the 'pictorial circuit' with respect to the contemporary dwelling interior. In the essay, "Das Haus als Weg und Platz" (The House as Path and Place) (1931), the architect Josef Frank, outlines his claim that a dwelling should be composed of 'paths' and 'places' in the same way as a city is composed of streets and squares. Frank takes inspiration from Camillo Sitte's "Der Städtebau nach seinen künstlerischen Grundsätzen" (City Building, According to Artistic Principles) (1889) to reimagine the Loosian notion of the 'Raumplan'¹⁴ in a more liveable and relaxed fashion, by using his own design for Villa Beer in the Wensgasse (1930), as an archetypal case study. Frank introduces the notion of composing a dwelling that strives for a harmonious equilibrium of form and contents, by utilising a 'path' to link a series of inhabitable 'places', which should feel intuitive to navigate and yet recall the intriguing feeling of exploring an unfamiliar town's streets and piazzas. There is a strong emphasis on the compositional relationship between places and the perspectival spatio-visual experience afforded to the inhabitant as they move through the dwelling. Although Frank takes clear inspiration from Adolf Loos's 'Raumplan' he is also critical of the 'dreary tedium' of domestic planning based upon functionalist principles. In perhaps the most direct reference to the English picturesque movement, Frank advocates providing contingencies and diversities in the spatial planning of dwellings by calling upon modernist architects to rediscover the traditional form of the English house. "Villa Beer is one of the most conclusive examples of how Frank links rooms and spaces at different levels in an intricate spatial puzzle and makes the interior into a kind of architectural landscape." (Frank, Bergquist, Michélsen, & Nettleton, 2016, p. 75)

14. The Moravian architect and long-time collaborator of Adolf Loos, Heinrich Kulka first coined the term 'Raumplan' in his publication, "Adolf Loos: Das Werk des Architekten" (1931), while discussing Adolf Loos's design for Strasser House, built in 1919. On 'Raumplan' he writes "Adolf Loos brought a fundamentally new and higher conception of space into the world: free thinking in space, the planning of spaces that lie at different levels without being bound to a single floor level, the composition of mutually related spaces into harmonious, indivisible wholes and space-saving configurations."

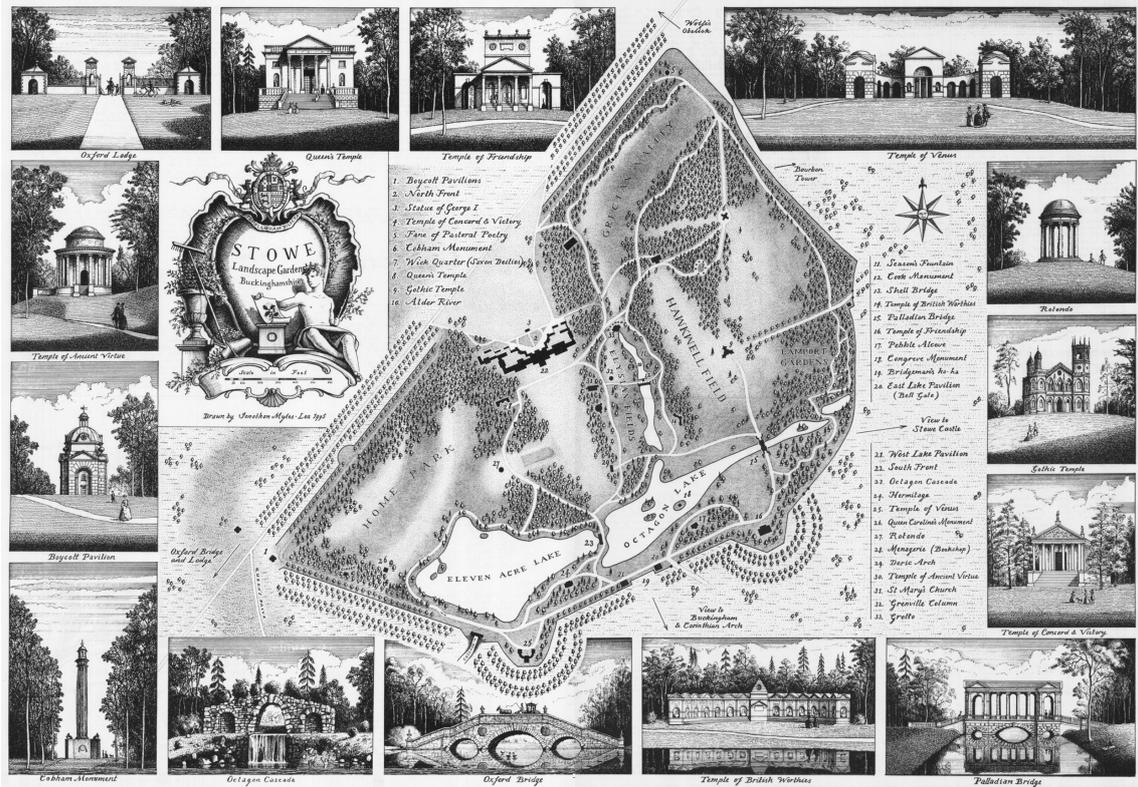


Figure 7.05 Stowe 'Pictorial Circuit' by Jonathan Myles Lea, Sir John Vanbrugh, 1720-1726

In this section, we have traced the emergence of picturesque planning based upon sequential spatio-visual experience from the landscape gardens of Alexander Pope, to the country houses of Sir John Soane & Ernest William Gimson with their interior scenography, through to its maturation as a spatial organisation technique for the contemporary dwelling interior. The picturesque places emphasis on the temporal, where the dwelling interior is understood as an ‘architectural landscape’, to be experienced in duration through the movement of its inhabitants. Picturesque planning involves the compositional ‘grouping’ of objects that are carefully considered in relation to one another through an appreciation of the viewers’ experiential path. We can see the influence of the picturesque on later spatio-visual explorations, such as Townscape’s ‘Serial Vision’ (1961), the intriguing ‘Space-Motion and View’ diagrams from Donald Appleyard, Kevin Lynch & John R. Myer’s “The View From the Road” (1964), as well as, Alison Smithson’s “AS in DS: An Eye on the Road” (1983).¹⁵ However, with regards to the contemporary dwelling interior, it is Le Corbusier’s ‘promenade architecturale’ and Josef Frank’s ‘House as Path and Place’, which can be considered as the most developed interpretations of picturesque spatio-visual planning theory. I have also identified a crucial difference in the approach of these two architects that stems from the great influence that cinema and in particular, Sergei Eisenstein’s theory of montage, has had on the development of Le Corbusier’s spatio-visual planning philosophy. We can see this in the prescribed linear chronology of the ‘promenade architecturale’, which is in contrast to the explorative relational field-configuration advocated by Josef Frank.¹⁶

15. Alison Smithson’s “AS in DS: An Eye on the Road” (1983), documents a car journey in duration, in the form of time-lapse photographs taken from the perspective of the driver, in this case Alison Smithson, while driving her Citroen DS19 from the Smithson’s London office to their ‘Solar Pavilion’ house in Wiltshire.

16. This subject is discussed at length in chapter 5: “Defining the Dwellscape.”

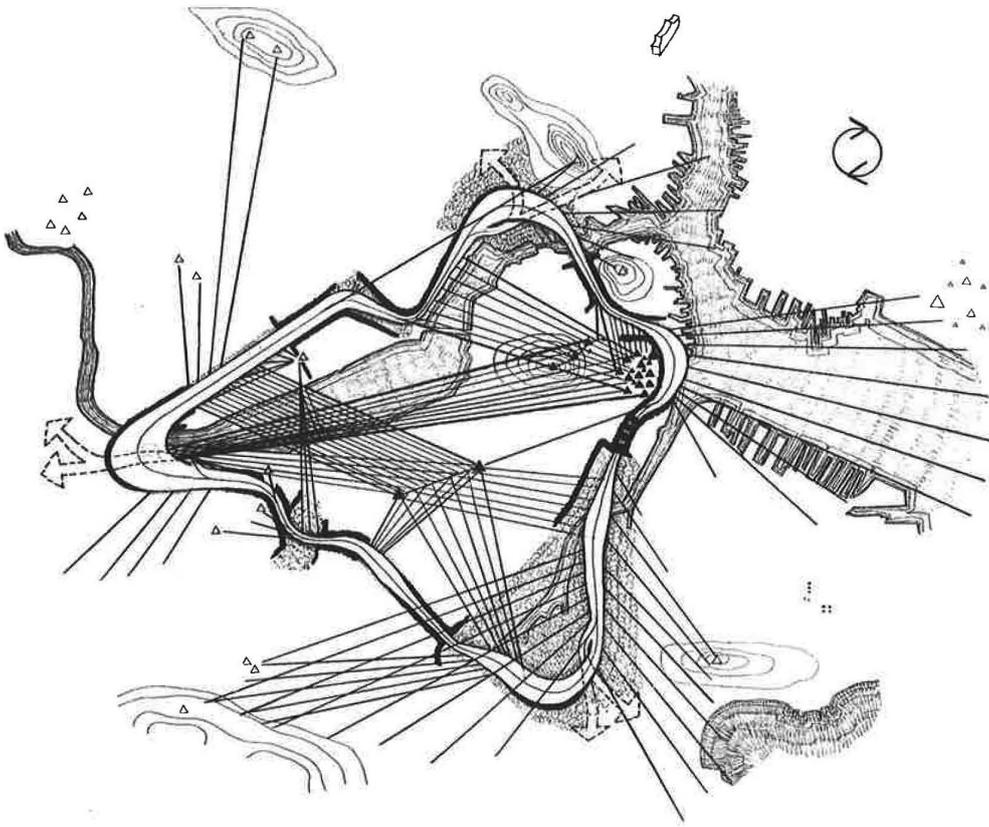


Figure 7.07 Space Motion & View Diagram, The View from the Road p.25, Kevin Lynch, 1964

7.6 IRREGULARITY

Irregularity is identified as a foundational quality of the picturesque by many writers on the subject from William Gilpin (1768), Sir Uvedale Price (1794), Richard Payne Knight (1805), Christopher Hussey (1927) through to John Macarthur (2007). Historically, the picturesque was associated with pictorial views of the ordinary agricultural countryside of England, which aestheticized quotidian existence, rather than grand themes that were associated with other painting styles.¹⁷ William Gilpin identifies ‘roughness’ as a distinguishing feature of the picturesque, writing that it, “forms the most essential point of difference between the beautiful and the picturesque.” (Gilpin, 1792, p. 6) He notes that picturesque landscape painters preferred to paint cart-horses, cattle or asses into their scenes, rather than the more beautiful forms of thoroughbred horses. As the picturesque began to influence the composition of English landscape gardens, this characteristic of roughness was translated into irregular spatial planning. This ‘natural’ irregularity replaced the geometrical order and classical symmetry of the ‘Jardin à la française’ garden style that was popular across Europe at the time. In the following section we will trace the emergence of irregular planning in picturesque landscape gardens, as it matured into a spatial organisation strategy for the layout of dwellings that was based upon asymmetry.

The influence of the traditional ‘Chinese Garden’ on the irregular planning of the 18th century picturesque landscape gardens in England has been noted by numerous writers on the picturesque, notably Sir Nikolaus Pevsner (1944), David Watkin (1982) and most recently John Macarthur (2007). It is largely accepted that during the 17th century travelling Jesuit missionaries began to spread accounts across Europe of Chinese landscape gardens with their grottoes, temples, ponds and wilderness. These writings were adopted and elaborated upon in order to argue for the merits of irregular planning in the English landscape garden, most notable by the British politician Sir William Temple in his book, “Upon the Gardens of Epicurus” published in 1692. In the text, he refers to an anglicised Chinese word ‘Sharawadgi’, possibly derived from the Mandarin syllables ‘Sa-ro-kwai-chi’, in order to describe the Chinese fondness for irregular arrangement and composition, particularly in landscape gardens. This idea was perpetuated by later figures in the picturesque

17. In the chapter, “Pictures” from the book, “The Picturesque: Architecture, Disgust and other Irregularities” (2007), John Macarthur compares the themes typically associated with a variety of painting styles, noting that the picturesque aestheticized quotidian existence, in the form of views of the ordinary agricultural countryside of England, rather than grand themes that were associated with other painting styles. (Macarthur, 2007, pp. 19-20)



Figure 7.08 'The Hay Wain', John Constable, 1821

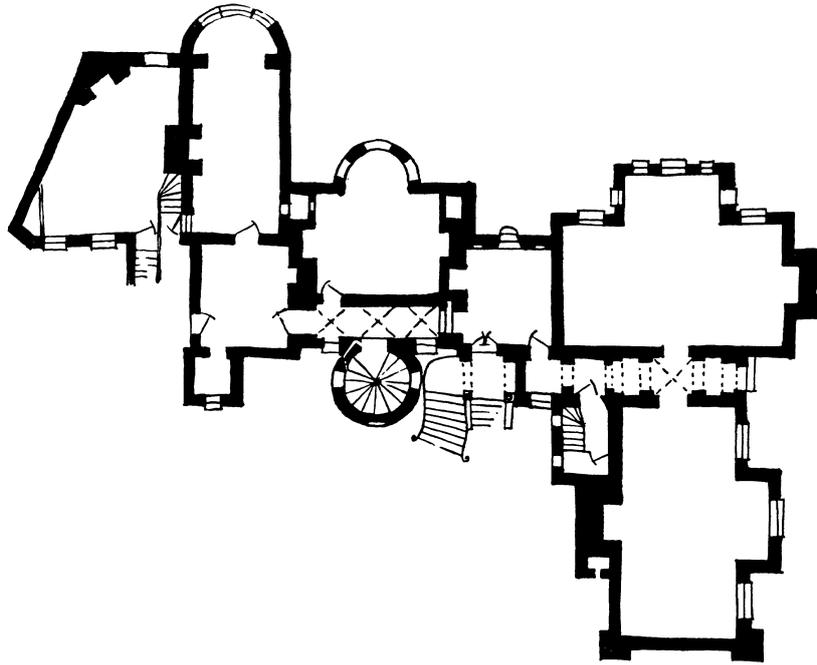


Figure 7.09 Vanbrugh Castle, Blackheath, Sir John Vanbrugh, 1717

movement, such as the British politician and art historian, Horace Walpole who referred to the ‘Sharawaggi’ as a justification for ‘charming irregularities’ and asymmetry in the spatial organisation of buildings, as well as, their surrounding gardens, most notably employed by him in the design of ‘Strawberry Hill’ (1749-1776), albeit in a Gothic style.

We turn now to early architectural manifestations of the picturesque movement that adopted irregularity in building layout and form. John Macarthur claims that, “architecture was, as a rule, symmetrical until the picturesque.” (Macarthur, 2007, p. 114) Castle Vanbrugh, located in Greenwich, designed by the English architect Sir John Vanbrugh in 1717, was initially a symmetrical turreted villa until it was later extended asymmetrically with a new wing, making it one of the first examples of irregularly planned domestic architecture.¹⁸ Vanbrugh is seen as one of the earliest picturesque architects, and his irregularly planned architecture greatly influenced Horace Walpole’s ‘Strawberry Hill’ (1749-1776), as well as Richard Payne Knight’s ‘Downton Castle’ (1772-1778). These two dwellings were conceived from the start as irregularly planned buildings that could grow and develop over time through the addition of asymmetrical architectural extensions. Richard Payne Knight, who was one of the most vigorous champions of irregularity wrote of his design for Downton Castle, “it has, however, the advantage of being capable of receiving alterations and additions in almost any direction, without injury to its genuine and original character.” (Knight, 1805, p. 223) The adaptability offered through intentional irregular planning exhibited in Castle Vanbrugh, Strawberry Hill and Downton Castle clearly influenced the later writings of Sir Uvedale Price.

A central figure in the emergence of picturesque theory, Sir Uvedale Price identifies roughness, variation and in particular irregularity as causes for picturesqueness. “Among the various causes of the picturesqueness of ruins compared with entire buildings, the destruction of symmetry is by no means the least powerful.” (Price, 1810, p. 53) Price was central to the development of asymmetric domestic architecture, based upon pictorial planning for outlook as an alternative rationale to classical symmetry. His notion of asymmetry is based upon variation and irregularity in the composition of the architectural elements that coalesce to form a building. Price continues, “nothing

18. In the chapter, “Irregularity” from the book, “The Picturesque: Architecture, Disgust and other Irregularities” (2007), John Macarthur discusses at length the originality of the asymmetrical planning of Castle Vanbrugh, designed by the English architect Sir John Vanbrugh in 1717. (Macarthur, 2007, p. 126)

contributes so much to give both variety and consequence to the principle building, as the accompaniment, and, as it were, the attendance of the inferior parts in their different graduations.” (Price, 1810, p. 180) He also identifies irregular planning as an approach that gives rise to architecture that is open to contingency, which reiterates the earlier sentiments of Payne Knight.

The emergence of architectural ‘pattern books’ towards the end of the 18th century contributed greatly to the propagation of picturesque planning principles, namely irregularity in both building layout and outline. Many of the early ‘pattern books’ were initiated with the intention of promoting agricultural reform by taking their point of departure in the quotidian English cottage as the primal picturesque dwelling. Publications such as, Nathaniel Kent’s “Hints to Gentlemen of Landed Property” (1775), James Malton’s, “An Essay on British Cottage Architecture: Being an Attempt to Perpetuate on Principle, that Peculiar Mode of Building, which was originally the Effect of Chance” (1798) and William Fuller Pocock’s “Architectural Designs for Rustic Cottages, Picturesque Dwellings, Villas etc.” (1807) promoted irregular planning, often with the intention of improving the interior ‘convenience’ of a dwelling, rather than explicitly championing the picturesque. Regardless of their individual pretensions, these ‘pattern books’ contributed greatly to the spread of asymmetrically planned domestic architecture across Britain. What can be seen as the most definitive and widely distributed of the pattern books arrived in the form of John Claudius Loudon’s “An Encyclopaedia of Cottage, Farm and Villa Architecture and Furniture” (1833), eventually reprinted in an expanded form in 1842. Loudon was aware of the influence of the picturesque on the ‘pattern books’ and wrote that the movement was, “characterized by roughness, abruptness and irregularity, either in outline, form, disposition or colour.” (Hussey, 1927, p. 222) These pattern books also contributed greatly to the stylistic pluralism of 19th century architecture in England, showing that picturesque planning principles could be appropriated by a wide variety of period styles. On the one hand, this revealed the movements robust flexibility to adapt to disparate formal styles, while on the other hand, it perpetuated a damaging relationship between the picturesque and historicism that would eventually contribute to its decline in popularity. Ubiquitous architectural elements such as the ‘bow-window’, or ‘bay-window’, were popularised by the ‘pattern books’ and were viewed as useful tools to aid successful irregular

planning. By the mid 19th century, the English architect Augustus Pugin, “had reached the view that picturesqueness should not be understood as a value or aim in design, but rather as the symptom of successful irregular planning.” (Macarthur, 2007, p. 153) This underlined the detachment of picturesque planning principles from any one particular formal style in architecture.

By the late Victorian period, irregular planning principles had become so deeply embedded in architecture that it was no longer considered as a trait that emerged from the picturesque movement. It was not until the publication of Christopher Hussey’s “The Picturesque, Studies in a Point of View” (1927) that the connection between the picturesque and irregularity was explicitly made once again. Hussey dedicates a whole chapter to ‘irregularity’ in the book and he defines the qualities of the picturesque in the following way, “irregularity best summarizes these qualities. Irregularity of plan; the union of different styles in one building; irregularity of elevation – produced by breaking the skyline, variegating the windows, and contriving bastion-like projections and shady recesses; - these factors in design came to be regarded as ends in themselves.” (Hussey, 1927, p. 218) Aside from the prevalence of asymmetric planning today, John Macarthur makes the claim that some progressive contemporary architects such as Atelier Bow-Wow and Lacaton & Vassal, who are interested in the every-day, mundane and banal, through their documentation of non-architectural uses of space, can be traced back to the picturesque movement’s obsession with the quotidian irregularity of the English agricultural landscape. Another contemporary reference that is worthy of note at this point is ‘Painted House’ (2010) designed by Jonathan Woolf Architects, in collaboration with Bharat Patel. The asymmetrical massing and plan arrangement of the house, with its scenographic interior layout, its variegated fenestration, the intentional banality of the façade characterised by its rough textured brickwork and delicately framed openings, are all qualities that make the dwelling profoundly picturesque. During the maturation of the picturesque movement, the notion of irregularity transitioned from an appreciation of the quotidian ‘roughness’ inherent within the English landscape to a spatial organisation strategy for the design of buildings, and in particular dwellings, which is based upon asymmetrical planning and irregular massing.



Figure 7.10 Painted House, Jonathan Woolf Architects & Bharat Patel, 2010



Figure 7.11 Painted House Sketch Model, Jonathan Woolf Architects, 2010

7.7 PICTURESQUE APPROPRIATION

The final quality of the picturesque that we will explore is its most elusive, and yet one that contributes greatly to its cognitive depth. The notion of appropriation is ubiquitous with the movement, from the pictorial treatment of nature within landscape painting, to the illusionary qualities inherent within the picturesque landscape garden, which would eventually lead to the scenographic treatment of the dwelling interior that provided the inhabitant with opportunities for interpretative forms of use. The theoretical writings of Edmund Burke (1756) and Humphry Repton (1795) will serve as a point of departure, as we examine built works from Alexander Pope's landscape garden and grotto at Twickenham (1727), Sir John Soane's Lincoln Inn Fields (1792-1824) eventually arriving at early Modern Movement works, such as Mies van der Rohe's Barcelona Pavilion (1929) and Josef Frank's Villa Beer (1930), which all demonstrate illusionary qualities inspired by, and present within the picturesque movement.

Caroline Constant argues that, "the Picturesque landscape depended for its meaning on the interpretive powers of the individual imagination." (Constant, 1990, p. 46) Constant uses Alexander Pope's design for the landscape garden and in particular the grotto at his house in Twickenham (1727) as an archetypal example of the picturesque, where its effects are conveyed primarily through an appeal to the individuals' imagination. Pope's grotto incorporated an elaborate display of the poet's extensive collection of mineral specimens, which was described by visitors as a cabinet of curiosities comparable to the 'Wunderkammer'.¹⁹ The English landscape historian, John Dixon Hunt writes that Pope's vision was distinguished by "this very awareness of what could not be achieved, except in the mind's eye." (Hunt, 1996, p. 200) The picturesque landscape garden and its associated grotto both signify a world apart from reality, while at the same time they act as a mirror to the world. It is this combination of reality and imagery, which demands imaginative interpretation from the inhabitant and in doing so contributes to the cognitive depth of the picturesque. Edmund Burke in his revolutionary book, "A Philosophical Enquiry into the Origin of our Ideas of the Sublime and the Beautiful" (1756), touches on the notion of imaginative interpretation being inherent in the picturesque, through his theory of

19. The German word 'Wunderkammer' directly translates into English as a chamber of wonder, or more commonly referred to as a cabinet of curiosities. These rooms, or literal cabinets that emerged across Europe during the 16th century contained collections of fascinating objects often from the realms of natural history, geology, ethnography, archaeology, works of art and antiques.

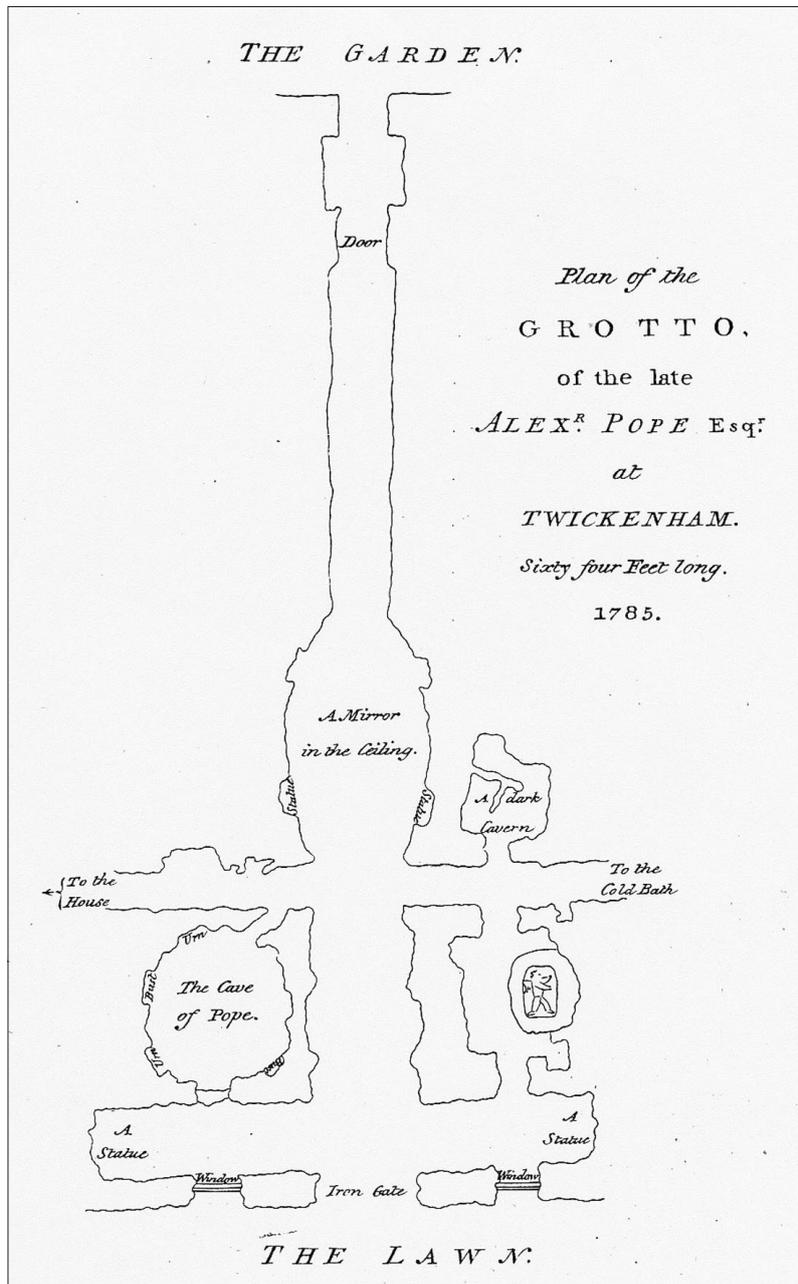


Figure 7.12 Alexander Pope's Grotto, Twickenham, Samuel Lewis, 1785

'Association'. "His emphasis on passion and emotion rather than reason encouraged the theory of 'Association' by which, for example, architectural forms were adopted not for their beauty or functional appropriateness, but for what ideas they suggested." (Watkin, 1982, p. ix) Burke's notion of 'Association' would seem wholly comparable to imaginative interpretation and its associated act of inhabitant appropriation. For Humphry Repton, appropriation was an essential aspect of the picturesque landscape that drew upon, "a natural propensity to enjoy looking at what one owns, and imagining ownership of what one looks at." (Macarthur, 2007, p. 177) At the time of the emergence of the picturesque, the size of ones' English countryside estate was a status symbol that represented ones' wealth, importance and social position amongst the landed gentry. The picturesque effectively subverted this by introducing the notion of perceived ownership, through imagined appropriation of views beyond the limits of ones' own property. One can also find the same opportunities for appropriation in the landscape paintings that originally inspired the picturesque movement, where one would have three, or more well marked distances separated by unseen space, where ones' imagination could wonder.

The picturesque is steeped with illusionary qualities that, in order to be appropriated by the viewer, require imaginative interpretation. An embodiment of this illusionary effect can be found in the 'Claude Glass', which was a darkened, slightly convex mirror that was used by landscape painters to reduce a natural scene into the palm of ones' hand. In terms of architectural manifestations, it is at this juncture that we return to Sir John Soane's Lincoln's Inn Fields (1792-1824), as an archetypal example of a picturesque dwelling interior that has a great many illusionary qualities. Firstly, the poetical maze of interlocking spaces that forms the dwelling contains a vast collection of antique architectural fragments, sculptures, vases and cinerary urns, English 18th and early 19th century paintings and watercolours, architectural drawings, models, engravings, as well as, a comprehensive architectural library. Comparisons can be made between Lincoln's Inn Fields and the picturesque landscape grotto, which can fittingly be seen as an antecedent to the modern museum. Secondly, the dwelling has a wide variety of domed and vaulted ceilings, as well as, articulated roof lights with diverse diaphanous lighting effects that give movement and surprise



Figure 7.13 General View of Longleat from the Prospect Hill, Humphry Repton, 1816

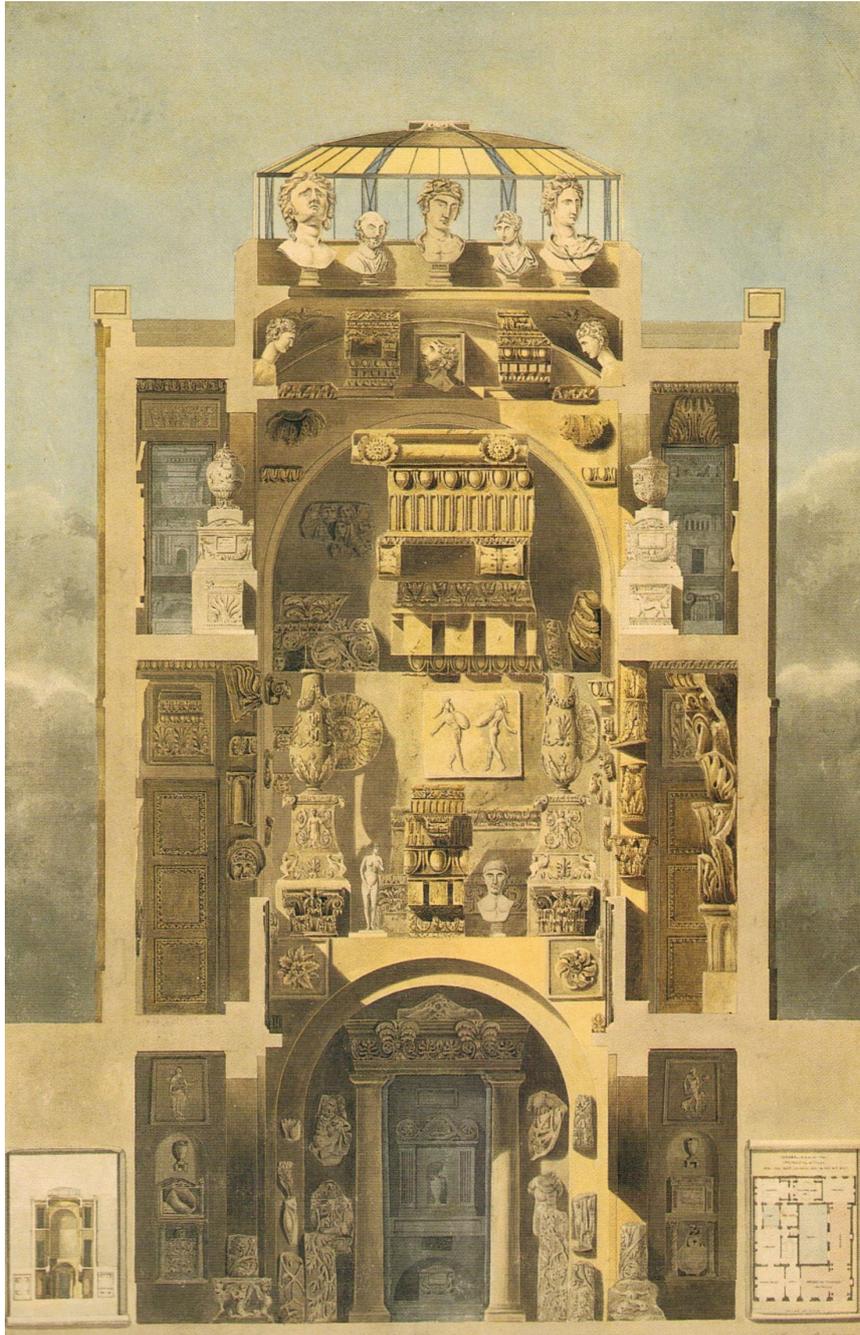


Figure 7.14 Lincoln's Inn Fields Section, Sir John Soane, 1792-1824

to the spatial composition, together with many coloured glass windows and a great number of precisely positioned ‘Claude Glass’ type mirrors. These carefully placed experiential devices are distributed throughout Lincoln’s Inn Fields, contributing greatly to the spatio-visual experience one receives, while traversing the house. Last, but not least, the greatest illusionary quality of Lincoln’s Inn Fields is that the complex rabbit-warren of interlocking rooms and passage ways, with their distinct spatial characteristics, allows its architecture to imitate landscape. In “The English Vision” (1982) David Watkin writes, “the Picturesque represents the triumph of illusion in which architecture resembles scenery, gardens resemble paintings, and the natural landscape is assessed and criticised, by William Gilpin for example, as though it had been devised by a painter.” (Watkin, 1982, p. viii)

In her seminal text, “The Barcelona Pavilion as Landscape Garden: Modernity and the Picturesque” (1990), Caroline Constant makes the claim that Mies van der Rohe conceived of his German Pavilion for the 1929 Barcelona International Exposition as an architectural landscape, whose conceptual foundation owes a debt to the picturesque. She discusses Mies van der Rohe’s focus on the sensual and temporal experience of the spectator within the Barcelona Pavilion. Constant claims that the inhabitant experiences a distancing from the physicality of the pavilion through immersion and that such contradictions were nascent in the picturesque. Architectural devices such as, the inaccessible light courtyard at the centre of the pavilion, the onyx dorée wall with its horizontal seam at eye-level, the two shallow reflection pools, one of which contains George Kolbe’s statue, ‘Morning’, and the many reflective surfaces of tinted glass, are all utilised for their phenomenal qualities. Of particular interest are the spaces that Mies van der Rohe has intentionally designed to resist physical inhabitation, such as the luminous courtyard volume and the shallow reflection pools, which can be appropriated but only in the inhabitants’ imagination. The role of the spectator is fleeting and transitory through the pavilion, where one is immersed in natural phenomena while at the same time being physically distanced, recalling the pictorial treatment of nature within the picturesque landscape garden. “For Mies the contemplation of nature from afar was superior to experiencing it directly: ‘When you see nature through the glass walls of the Farnsworth House, it gets a deeper meaning than from outside. More is asked for from

nature, because it becomes a part of a larger whole.” (Constant, 1990, p. 53) We can see similar picturesque qualities in the work of other pioneering modern movement architects, such as Le Corbusier and Josef Frank.

The illusionary spatial antics of the ‘promenade architecturale’, together with the careful positioning of mirrors and optical devices to trigger the interpretative powers of the inhabitants’ imagination, are well documented in the built work of Le Corbusier. In Villa Church (1929) for example, mirrors are placed between walls and windows, in order to extend space beyond the boundaries of the architectural envelope. “Such highly Symbolist gestures invite questions, continually reminding the reader of the implications of space and its meaning.” (Samuel, 2010, p. 47) We also see the notable use of illusionary optical devices in Villa La Roche (1923-1924), where a sliver of mirror is carefully placed underneath the steep circulation ramp, in order to create an inaccessible illusory space, or in his Penthouse Flat, 24 Rue Nungesser et Coli (1933), where a window made of concave glass lenses gave Le Corbusier a fantastical view over Paris, while he worked at his desk. Josef Frank also utilised illusionary devices reminiscent of the picturesque in his architecture, most notably demonstrated in his design for Villa Beer (1930). Aside from his focus on the inhabitants’ sequential spatio-visual experience in the composition of the dwelling’s interior, which imitates landscape through the composition of dynamically moulded architectural elements, such as the central staircase with its multiple turns and projections, we also see the intentional use of illusionary devices. The façades of Villa Beer are defined by large glazed apertures, of particular note is the round window, which is reminiscent of a lens, above the main entrance that faces onto Wenzgasse. On the façade that faces onto the garden, the dining room, hallway and living room all have large fixed ‘picture’ windows that prevent egress into the garden. “As a result, the outside appears as if framed like a painting, and it seems as if one cannot move readily between the inside and outside.” (Frank et al., 2016, p. 77) Of particular interest is the two-storey high bay-window, with full height glazing and a deep sill, with integrated seating that allows the garden outside to visually become part of interior, while at the same time preventing direct physical access. These fixed picture windows curiously provide a simultaneous immersion and yet distancing from the natural views outside by preventing physically contact with the visual scenes beyond, which one could argue is reminiscent of the picturesque ‘prospect’.²⁰

20. A ‘prospect’ refers to an extensive view from a high place. Within the context of the picturesque movement this typically manifested itself as a hill that was utilised to give an extensive view across the surrounding landscape, visually extending the proprietorship of the observer, often well beyond the limits of any actual boundary of ownership.

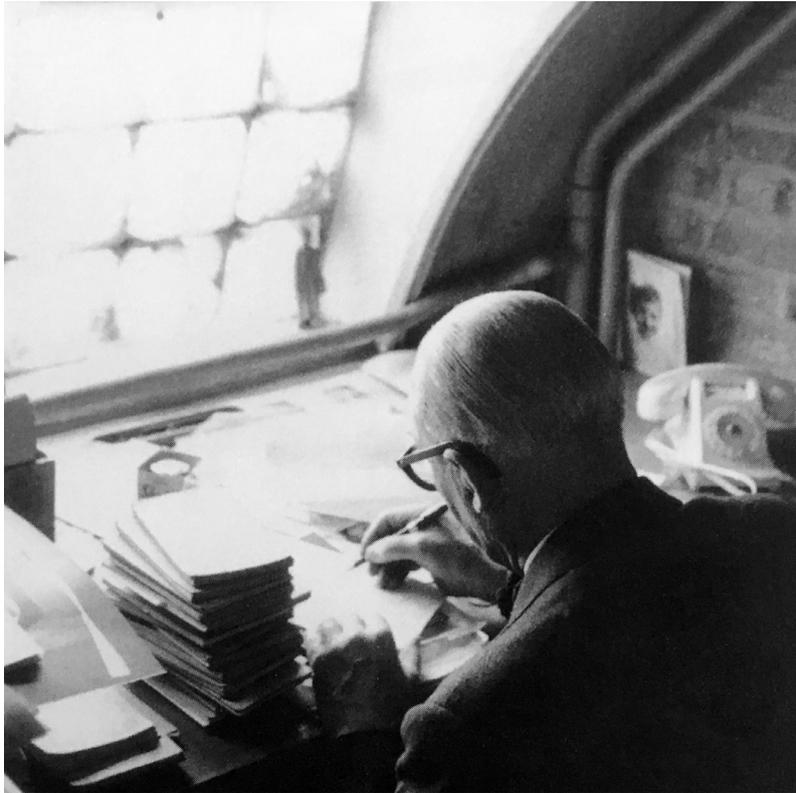


Figure 7.15 Le Corbusier at his desk, 24 Rue Nungesser et Coli, 1933



Figure 7.16 Villa Beer Bay Window, Josef Frank, 1930

In his writings, Edmund Burke introduced the notion of 'Association', whereby architectural arrangements were based upon the opportunities that they offered for interpretation, rather than their functional appropriateness. This can be seen as a precursor to Humphry Repton's later focus on 'appropriation', which he viewed as a central trait of picturesque planning. As shown by Caroline Constant, illusionary properties were inherent in the picturesque landscape, and required the interpretive powers of the individuals' imagination in order to be appropriated. A simultaneous immersion in natural phenomena, together with a physical distancing is observed in architectural examples from Alexander Pope's Grotto, at his garden in Twickenham (1727), Sir John Soane's Lincoln Inn Fields (1792-1824), Mies van der Rohe's Barcelona Pavilion (1929), Le Corbusier's Penthouse Flat in Paris, 24 Rue Nungesser et Coli (1933) and Josef Frank's Villa Beer (1930). The notion of appropriation is central to the picturesque, from the pictorial treatment of nature within landscape painting, to the illusionary qualities inherent within the picturesque landscape garden. Of most interest however to our enquiry, is where the picturesque manifests itself as the scenographic treatment of the domestic interior, where a multitude of opportunities are provided for the inhabitants' imaginative interpretation. Focus is placed on an approach to spatial organisation, based upon experiential appropriation, rather than functional appropriateness. As the picturesque has transitioned from painting, through to the planning of landscape gardens and eventually into an approach for the spatial organisation of the dwelling interior, it is a triumph of illusion that the domestic built-environment can resemble an architectural landscape, which is open to both physical and cognitive appropriation.

7.8 'HOUSE 250' ANALYSIS & REFLECTIONS

In the proceeding section of the chapter an analysis of, and a reflection upon, the 'epistemic artefacts' that have been produced during the development of a proposal for a 250m² villa is undertaken. By taking inspiration from methods that were originally pioneered during the picturesque movement, the potential of pictorial planning as an approach to the spatial organisation of the contemporary dwelling interior has been explored. Over the course of this research enquiry, priority has been placed on the use of large-scale physical models, rather than perspective sketches or paintings, as the primary means of composing and studying the spatio-visual character of the dwelling. Following a site visit to Ordrup Næs, an abstract 1/50 scale 'view-field' model was produced in order to document the preferred aspect views from the proposed location of the villa, as well as, requirements for privacy with respect to overlooking from neighbouring properties. As a direct reaction to this 'view-field' model, a 1/50 scale massing model has been utilised to interrogate and develop the spatio-visual composition of the various places that constitute 'House 250'. Following these studies and by taking inspiration from Caroline Constant's reflections on Mies van der Rohe working methods, an adjustable 1/50 scale sketch model has been utilised as the primary design tool during the development of the dwelling. This working model, constructed from card, has been continually re-built and re-configured based upon pictorial views, which were captured through photographs taken at a scaled eye-level²¹ from within the model. By using the models in this way, emphasis has been placed on the actual perspectival spatio-visual experience, which can then be used as a tool for the composition and adjustment of the dwelling interior. Consequently, the spatial organisation of 'House 250' is based upon pictorial planning methods, rather than a planimetric approach that is fostered by functionalist logic. Pictorial planning has also favoured the compositional layering of spaces from the point-of-view of an inhabitant, rather than a spatial organisation strategy that is based upon an overriding geometric system, such as a grid or axial lines.

21. An 'eye-level' for the lens of the camera was established to be 34mm high from the floor level of the model at 1/50 scale and 85mm at 1/20 scale, respectively.



Figure 7.17 'House 250', Daylight testing 1/20 model, Nicholas Thomas Lee, 2017

Inspiration has been taken from the picturesque planning approach employed by John Nash and Sir John Soane during the design of their respective residential projects. The spatial organisation of both buildings has been treated scenographically, where the dwelling interior becomes an architectural landscape. The final design of 'House 250' takes the form of an explorative field-configuration of enclosable places with distinguishing spatio-visual characteristics that are dependent upon their location within the dwelling, their relationship between one another and their aspect to the surrounding environment.²² These clearly demarcated places delineate a continuous interstitial space that weaves through the dwelling creating a series of ambiguous places with a variety of spatial characteristics. The careful composition of this interstitial spatial volume is most apparent in the 1/50 scale negative cast model. The least private places within the dwelling are located at the southern end, while the most private areas are located at the northern end of the house, which provides panoramic views over the bay. An enclosed courtyard is placed at the centre of the house creating an outdoor garden that is protected from the natural elements, in particular the prevailing wind, which can be considerable in the open landscape of Ordrup Næs. Consideration has also been given to the views and vistas between places within 'House 250', particularly with regards to the positioning of windows facing onto the enclosed courtyard garden. Rather than being considered as an object in itself, the dwelling has been treated as a picturesque 'grouping'²³ of inhabitable elements that have been considered in relation to one another through an appreciation of an inhabitants' experiential path, where there is a harmonious equilibrium between its defined enclosable 'places' and the interstitial 'places'. Both Caroline Constant (1990), while referring to the 'pictorial circuit' and Flora Samuel (2010), while writing about Le Corbusier's 'promenade architecturale', argue that, picturesque planning is based upon concealing and revealing spatio-visual information. In the design of 'House 250', long linear views through the house are avoided, in favour of sequential acts of revealing and obscuring, which is achieved through the meandering composition of the interstitial space. Although the various routes through the dwelling have been considered for their perspectival spatio-visual experience, there is no prescribed chronology as to how they should be experienced, making the spatial organisation of the villa closer in attributes to the 'pictorial circuit', rather than the 'promenade architecturale'. In fact, the explorative

22. The aspects onto the surrounding environment are achieved through apertures in the building envelope, which take the form of carefully placed windows and openings in the facades and the roof.

23. In the chapter, "Architecture" from the book, "The Picturesque, Studies in a Point of View" (1927), Christopher Hussey introduces the notion of picturesque 'grouping' as a compositional technique for the spatial organisation of a series of objects that are placed in relationship to one another. (Hussey, 1927, p. 221)

field-configuration layout of the dwelling, with its multitude of ‘paths’ connecting a whole series of inhabitable ‘places’, has a stronger connection to the writings of Josef Frank (1931), than any other contemporary interpretation of picturesque theory. ‘House 250’ can be considered to be representative of a ‘Dwellscape’ as defined in chapter 05.²⁴

The inherent irregularity that is found within the picturesque has been explored in a number of ways during the development of the design for ‘House 250’. Through the adoption of pictorial planning for outlook, the resulting spatial organisation of the 250m² villa is wholly asymmetrical, with a broad variation in its composite elements and irregularity in their relational composition, qualities which Sir Uvedale Price considered to be principle causes of ‘picturesqueness’. Price’s notion of asymmetry was based upon variation and irregularity in the composition of the architectural elements that coalesce to form a building. ‘House 250’ also contains many qualities that Christopher Hussey would consider to be characteristic of picturesque architecture, such as “variegating the windows, and contriving bastion-like projections and shady recesses.” (Hussey, 1927, p. 218) The façades of ‘House 250’ are heavily articulated, projecting inwards and outwards based upon views to and from the house and the need to provide varying levels of privacy, as it encloses the dwelling interior that results in irregularity both in layout as well as in outline. The exterior wall itself, has an irregular thickness that allows for unexpected inhabitable niches within the façade, at various places within the dwelling. The spatial organisation of ‘House 250’ also relies on variegating window types and carefully locating them so as to prevent long linear views through the house. This can be seen most clearly in the positioning of the windows in the exterior wall enclosing the courtyard, which provides ‘pictorial’ views onto the garden, as well as, opportunities for sitting both inside and outside. The final irregular element worthy of mention is the introduction and placement of the circular bathroom element at the northern end of the dwelling, which disrupts the rectilinear character of the rest of the building, as well as, providing a dynamic spatial tension within the interstitial area. Intentional variation in the spatio-visual qualities of the various enclosable ‘places’ that coalesce to form the dwelling, have been designed to support a wide variety of activities that gives the building considerable programmatic contingency. The ambiguous interstitial areas also have a wide

24. A ‘Dwellscape’ is defined as a continuous ‘domestic landscape’ composed of a relational field-configuration of distinct architectural elements, which define ‘places’ that accommodate specific activities, as well as, delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways.

variation in spatio-visual character, which encourages the various places to be inhabited in a multitude of ways, supporting what John Macarthur might refer to as ‘non-architectural’²⁵ uses of space, rather than merely containing prescribed functions.

The theme of appropriation has been shown to be central to the picturesque and this characteristic has been explored in a number of ways in the spatial organisation of ‘House 250’. This can be seen in the pictorial treatment of nature, illusionary spatio-visual effects through to the scenographic approach to the interior landscape, which provides inhabitants with a multitude of opportunities for interpretive forms of use. In the spatial organisation of ‘House 250’, focus has been placed upon supporting inhabitant appropriation, rather than accommodating prescribed functions. The labyrinthian layout of the dwelling provides both contingency and diversity as to how it can be appropriated by its inhabitants. The variation in the spatio-visual qualities of both the enclosable places and the interstitial areas within ‘House 250’ necessitate the interpretative powers of imagination in order to be appropriated, a quality that Caroline Constant argues is inherent within the picturesque landscape (Constant, 1990, p. 46). Inhabitable ‘windowscapes’²⁶ are strategically positioned throughout the dwelling interior. These windows have deep reveals, allowing them to be interpreted as sideboards, seats or even daybeds, through a process that Edmund Burke would refer to as ‘Association’ and that Humphry Repton would later define as picturesque ‘appropriation’. The roof fenestration of ‘House 250’ has also been explored in detail by testing the large-scale physical models within the light laboratory at The Royal Danish Academy of Fine Arts, Schools of Architecture & Design (KADK). A variety of different roof lights have been located at specific locations throughout the dwelling. These provide characteristic ethereal lighting conditions that suggest a variety of uses for the adjacent interstitial places, as one inhabits the dwelling. For example, a large circular roof aperture is used to demarcate a more static place within the house, where specific activities could occur, such as dining, while long rectangular roof lights are positioned in circulatory areas to give a dynamic lighting ambiance. Fixed, full height windows at selected locations within the interior provide a pictorial treatment of the surrounding landscape, resulting in a simultaneous spatio-visual immersion and physical distancing by preventing any actual contact. As

25. In the chapter, “Disgust” from the book, “The Picturesque: Architecture, Disgust and other Irregularities” (2007), John Macarthur refers to the documentation of ‘non-architectural’ uses of spaces, while discussing the behavioural observation techniques utilised by architects such as Atelier Bow-Wow and Lacaton and Vassal. (Macarthur, 2007, p. 108) For example, with Atelier Bow-Wow’s notion of ‘occupancy’, focus is placed on the design of habitation that is based upon the study of human behaviour, rather than the accommodation of prescribed ‘functions’.

26. The ‘windowscape’ refers to a term coined by Atelier Bow-Wow and The Tsukamoto Laboratory at the Tokyo Institute of Technology in the publication, “Window Scape: Window Behaviorology” (2010). The windowscape can be understood as the inhabitable threshold that surrounds a window and is discussed in greater detail in chapter 6: “Inhabiting the In-between Realm.”

discussed by Caroline Constant, while comparing the work of Alexander Pope and Mies van der Rohe, these types of illusionary contradictions were nascent in the picturesque. The enclosed garden at the centre of the dwelling also provides a variety of illusionary effects. Firstly, physical egress to the courtyard is discrete and therefore accessing the garden requires the act of revealing. Secondly, carefully placed windows in the perimeter wall of the courtyard provide a 'pictorial' treatment of the nature contained within through framing, as if the garden were on display. Despite the visual connection that these 'picture' windows provide, they simultaneously prevent any actual physical contact. The courtyard garden represents a world apart from reality, yet at the same time, it acts as a mirror to the surrounding landscape.



Figure 7.18 Ordrupnæs Site Aerial Photo, Nicholas Thomas Lee, 2017



Figure 7.19 Ordrupnæs Site Photo, Nicholas Thomas Lee, 2017

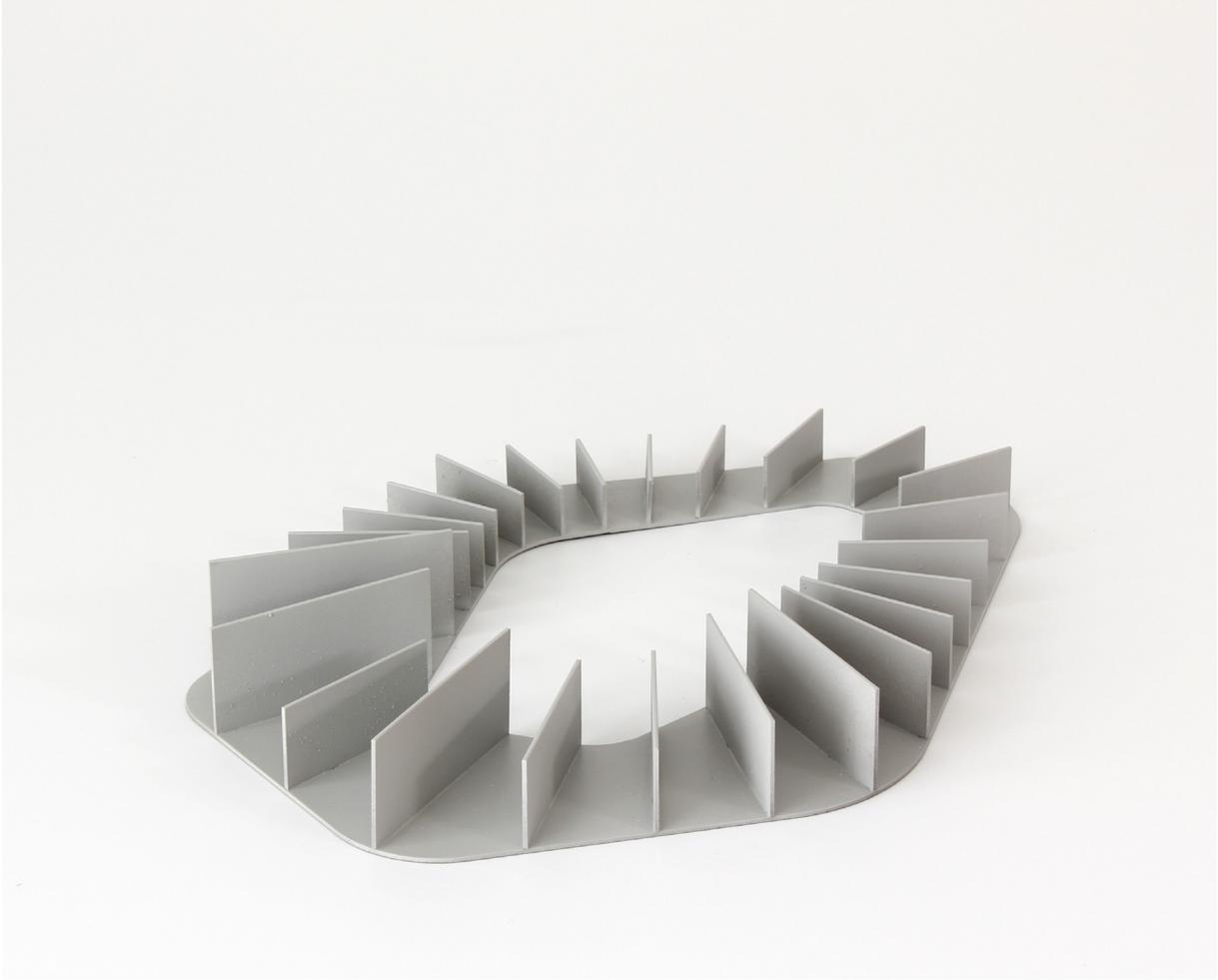


Figure 7.20 'House 250' 1/50 scale 'View-Field' Model, Nicholas Thomas Lee, 2017



Figure 7.21 'House 250' 1/50 scale initial Massing Model, Nicholas Thomas Lee, 2017



Figure 7.22 'House 250' 1/50 scale 'Sketch Model', Nicholas Thomas Lee, 2017



Figure 7.23 'House 250' 1/50 scale 'Sketch Model', Nicholas Thomas Lee, 2017

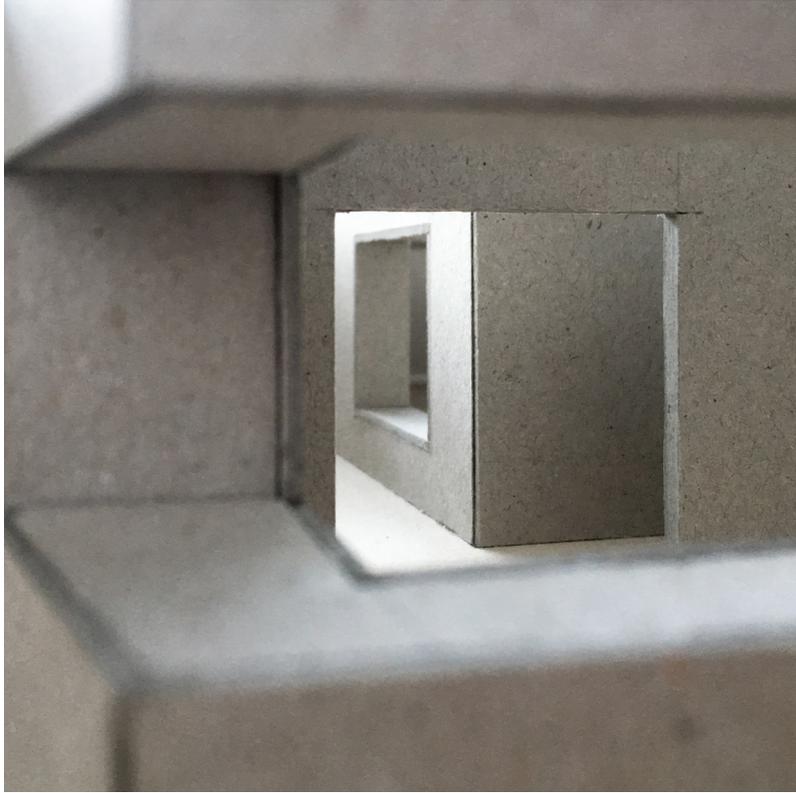


Figure 7.24 'House 250', 'Sketch Model' Pictorial View, Nicholas Thomas Lee, 2017



Figure 7.25 'House 250', 'Sketch Model' Pictorial View, Nicholas Thomas Lee, 2017

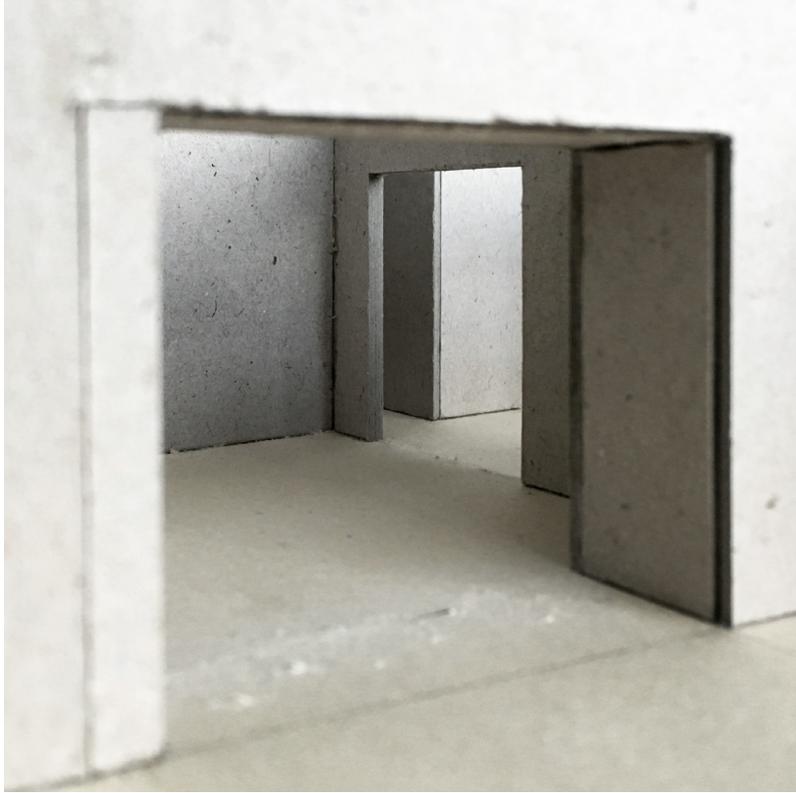


Figure 7.26 'House 250', 'Sketch Model' Pictorial View, Nicholas Thomas Lee, 2017

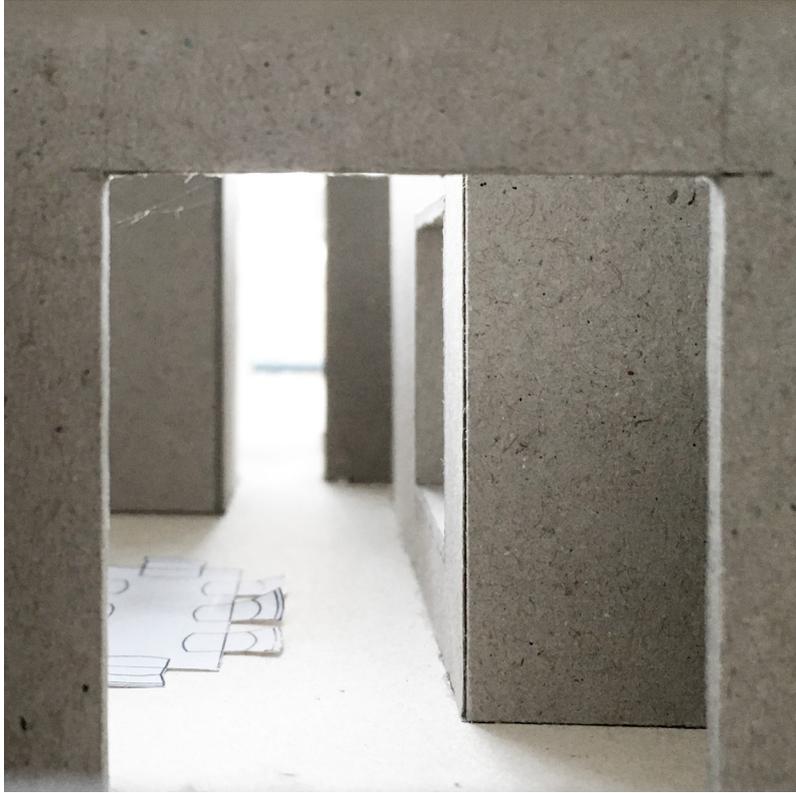


Figure 7.27 'House 250', 'Sketch Model' Pictorial View, Nicholas Thomas Lee, 2017

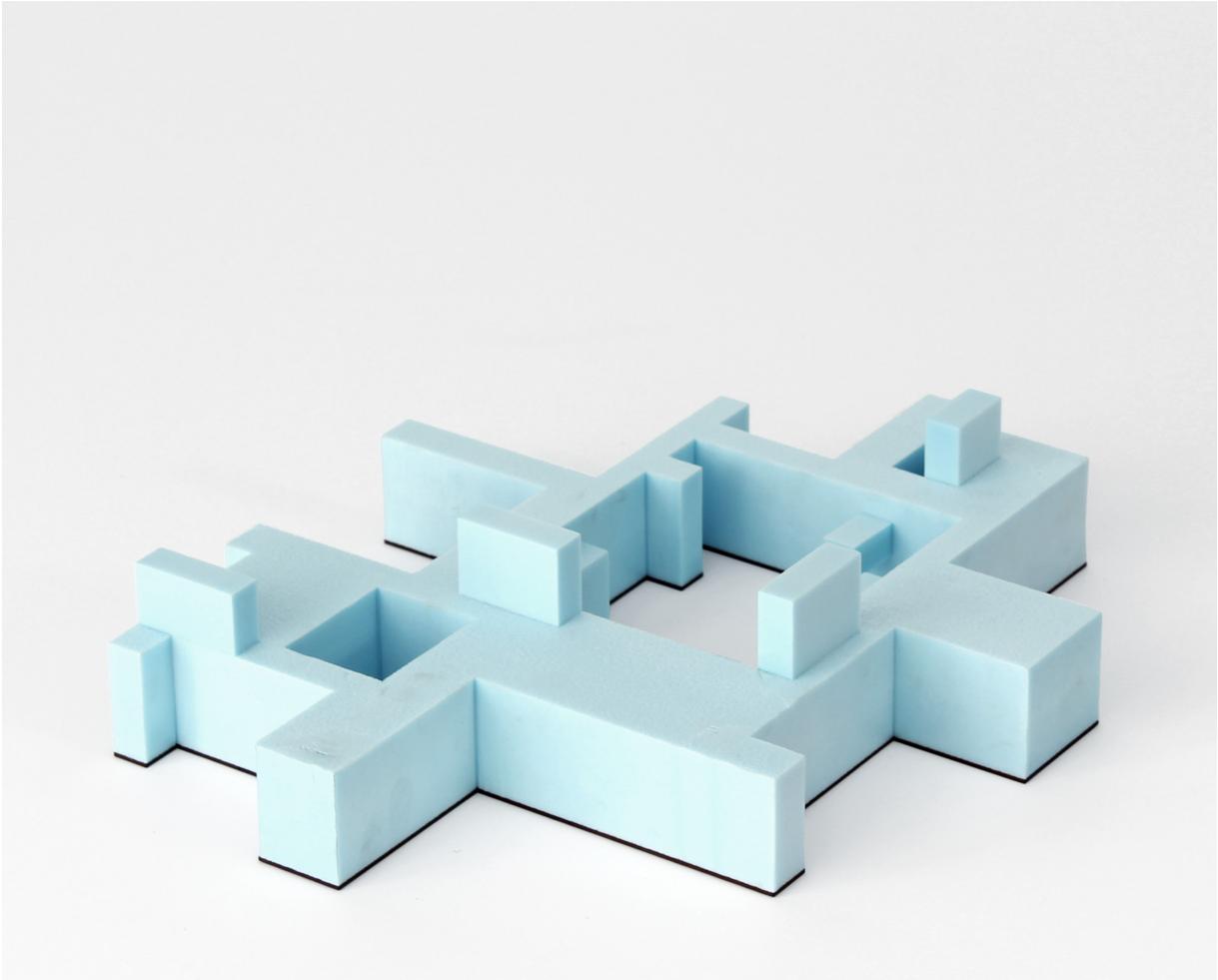


Figure 7.28 'House 250', 1/50 scale 'Negative' cast model, Nicholas Thomas Lee, 2017



Figure 7.29 'House 250', 'Sketch Model' Final Iteration, Nicholas Thomas Lee, 2017



Figure 7.30 'House 250', 'Sketch Model' Final Iteration, Nicholas Thomas Lee, 2017



Figure 7.31 'House 250', 'Sketch Model' Final Iteration, Nicholas Thomas Lee, 2017

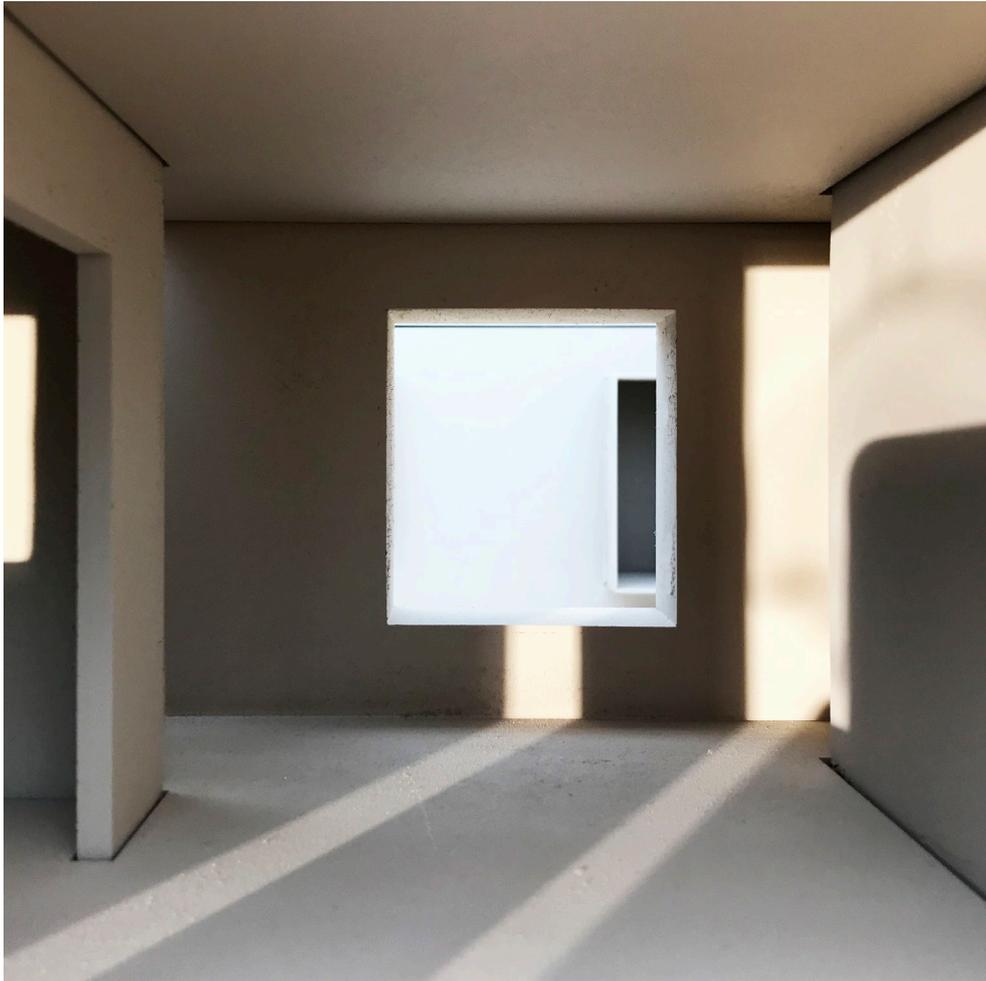


Figure 7.32 'House 250', 'Final Model' View 11, Nicholas Thomas Lee, 2017



Figure 7.33 'House 250', 'Final Model' View 15, Nicholas Thomas Lee, 2017



Figure 7.34 'House 250', 'Final Model' View 03, Nicholas Thomas Lee, 2017



Figure 7.35 'House 250', 'Final Model' View 13, Nicholas Thomas Lee, 2017



Figure 7.36 'House 250', 'Final Model', Nicholas Thomas Lee, 2017



Figure 7.37 'House 250', 'Final Model', Nicholas Thomas Lee, 2017



Figure 7.38 'House 250', 'Final Model', Nicholas Thomas Lee, 2017



Figure 7.39 'House 250', 'Final Model', Nicholas Thomas Lee, 2017

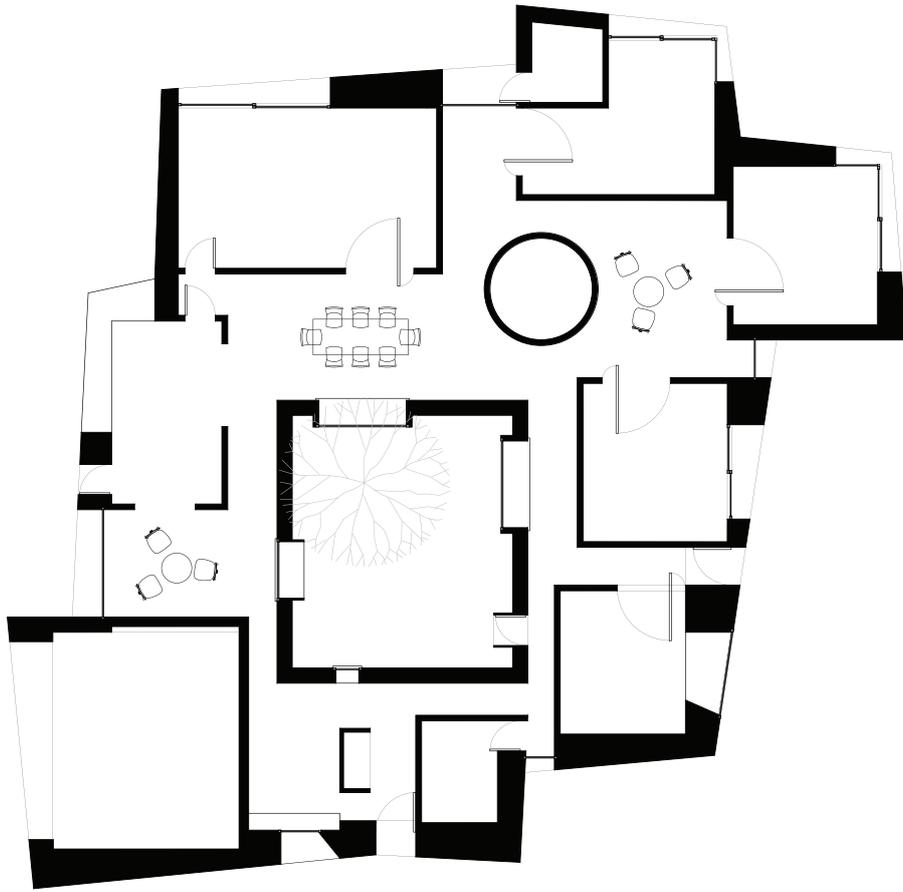


Figure 7.40 'House 250', Floor plan 1/200, Nicholas Thomas Lee, 2017

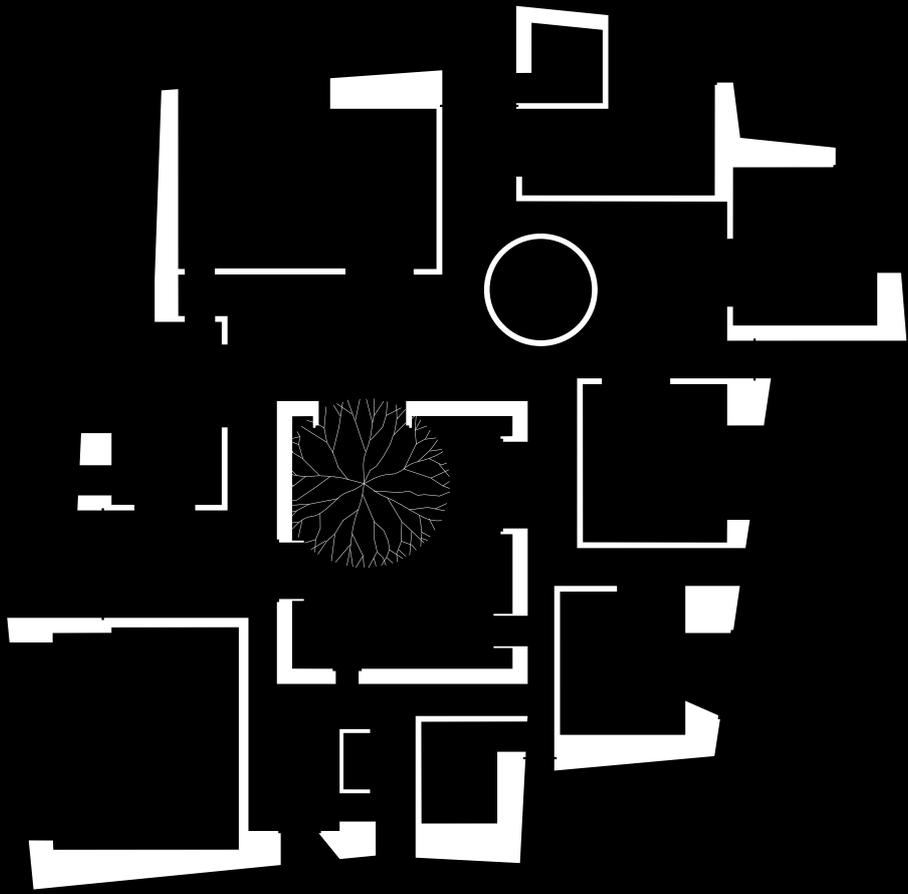


Figure 7.41 'House 250', 'Nolli' floor plan 1/200, Nicholas Thomas Lee, 2017

7.9 CONCLUDING COMMENTS

The point of departure for this chapter has been the prevalence of a planimetric approach to the spatial organisation of the contemporary dwelling interior, which is a consequence of the functionalist planning logic that is now embedded in, and propagated by, current building regulations, codes, design methods and rules-of-thumb that continue to inform architectural praxis and the day-to-day production of housing. At the start of this chapter we posited the following question, through a re-exploration of the picturesque what spatial organisation strategies can be identified that are relevant to the contemporary dwelling interior and that challenge the prevalent functionalist approach to the programming of domestic space that continues to inform current architectural praxis? The approach taken by this research enquiry to a discourse on the picturesque has differed from previous scholars²⁷ by utilising a two-fold movement where retrospective analysis is synthesised together with prospective research by design investigations. Importantly, it is through the critically reflective design of these prospective ‘epistemic artefacts’ that new knowledge can be contributed, to a discourse on the spatial organisation of the contemporary dwelling interior. Over the course of this chapter, four distinct traits have been identified within the picturesque that have been shown, through the associated research by design investigations, to be productive agents for the spatial organisation of the contemporary dwelling interior.

Firstly, the picturesque movement has been instrumental in the development of ‘pictorial planning’, as an alternate approach to the spatial organisation of the built-environment, which has been considered as being superordinate to planimetric methods, typically favoured by functionalist logic. Early contributors to picturesque theory, such as William Gilpin (1768), Sir Uvedale Price (1794) and Humphry Repton (1795) have explored planning for point-of-view of landscape gardens and buildings. These writings would eventually influence, via proto-modernist architects and city-planners,²⁸ Le Corbusier in the development of his own form of experiential ‘pictorial planning’ during the 1920s, under the guise of the ‘promenade architecturale’. Towards the latter half of the 20th century, direct re-readings of the original picturesque publications contributed greatly to the ‘Townscape’ movement, which

27. Writers, such as Christopher Hussey (1927), Nikolaus Pevsner (1955), David Watkin (1982) have treated the picturesque as a purely historical movement, typically arguing for its influence upon the Modern Movement. More recent scholars, such as Yve-Alain Bois (1987), Caroline Constant (1990), and John Macarthur (2007) have argued for the contemporary relevance of the picturesque by exploring the spatio-visual aspects of its pictorial planning methods.

28. Namely, Hermann Muthesius (1904), Karl Friedrich Schinkel, Heinrich Wölfflin, Auguste Choisy (1889) and perhaps most importantly, Camillo Sitte (1889).

once again advocated the primacy of ‘pictorial planning’ over a planimetric approach to spatial organisation. The potential of ‘pictorial planning’ as an approach to the spatial organisation of the contemporary dwelling interior has been utilised in the development of the proposal for the 250m² villa, through a focus on the use of large-scale physical models, instead of planimetric drawings. In particular, a 1/50 scale sketch model has been constantly re-built and re-configured, based upon pictorial views captured through photography, in order to arrive at the final composition of the dwelling. By using the model in this way, emphasis has been placed on the primacy of perspectival spatial experience and the compositional layering of places within the contemporary dwelling interior, rather than arranging architecture planimetrically, as fostered by functionalist logic. Only at the end of these prospective investigations has an architectural plan drawing been produced of ‘House 250’, emphasising the primacy of the physical model during the design process.

Secondly, the picturesque places emphasis on the temporal, where the built environment is understood as being experienced by the inhabitant in duration, through movement. A consideration for the sequential spatio-visual experience of the viewer has emerged as a central planning technique within the picturesque movement. This involves the compositional ‘grouping’ of objects that are carefully considered in relation to one another through an appreciation of an inhabitants’ experiential path. This thesis makes the claim that Josef Frank’s ‘House as Path and Place’ can be considered as the most developed contemporary interpretation of picturesque spatio-visual planning theory, with its advocacy for the dwelling interior as an explorative field-configuration.²⁹ The spatial organisation of ‘House 250’ has been based upon the spatio-visual experience of the inhabitant and takes the form of a continuous architectural landscape, composed from a relational field-configuration of enclosable places with distinguishing characteristics that accommodate specific activities, as well as, delineating a network of ambiguous interstitial places. An appreciation for picturesque ‘grouping’ has led to the careful consideration of the compositional relationship between constituent elements and the subsequent views and vistas between places, while ensuring that there is an intentional equilibrium between enclosed places and interstitial space. The spatial organisation of the 250m² villa can be considered as indicative of a ‘Dwellscape’, as defined in chapter 05.

29. This is discussed at length in chapter 5: “Defining the Dwellscape.”

Thirdly, irregularity has been identified as a foundational quality of the picturesque. This can manifest itself in architecture through asymmetrical composition and irregular planning, variegated fenestration and a celebration of the banal and quotidian. Through the adoption of pictorial planning for outlook, the spatial organisation of 'House 250' is wholly asymmetrical, with a variation in composite elements and irregularity in their relational field-configuration. Through irregular planning, the labyrinthian layout of the dwelling provides great diversity, as well as, contingency as to how it may be appropriated by its inhabitants. The façades of 'House 250' are articulated in both arrangement and depth, allowing for unexpected inhabitable niches, which results in irregularity both in layout and outline. The spatial organisation of the dwelling also relies upon variegating window types and carefully positioning openings, so as to provide 'pictorial' views onto the surrounding environment.

Last but not least, the picturesque advocates an approach to the spatial organisation of the built environment that is based upon the opportunities offered for inhabitant appropriation. Caroline Constant has shown that illusionary properties are inherent in the picturesque and that these architectural landscapes require the interpretive powers of the individuals' imagination in order to be appropriated. The notion of appropriation is central to the picturesque, from the pictorial treatment of nature within landscape painting, to the illusionary qualities inherent within the English landscape garden. This eventually led to an approach to the spatial organisation of the dwelling interior based upon an architectural landscape that invites exploration and interpretation, where a multitude of opportunities are provided for the inhabitant's imaginative interpretation. In the spatial organisation of the 250m² villa, focus has been placed upon encouraging appropriation, rather than on merely supporting functional appropriateness. The variation in the spatio-visual qualities of both the enclosed and interstitial places, together with various inhabitable 'windowscapes' necessitate the interpretative powers of the inhabitants' imagination in order for them to be appropriated. A variety of windows at selected locations within 'House 250' provide a pictorial treatment of the surrounding landscape that results in a simultaneous spatio-visual immersion, together with a physical distancing.

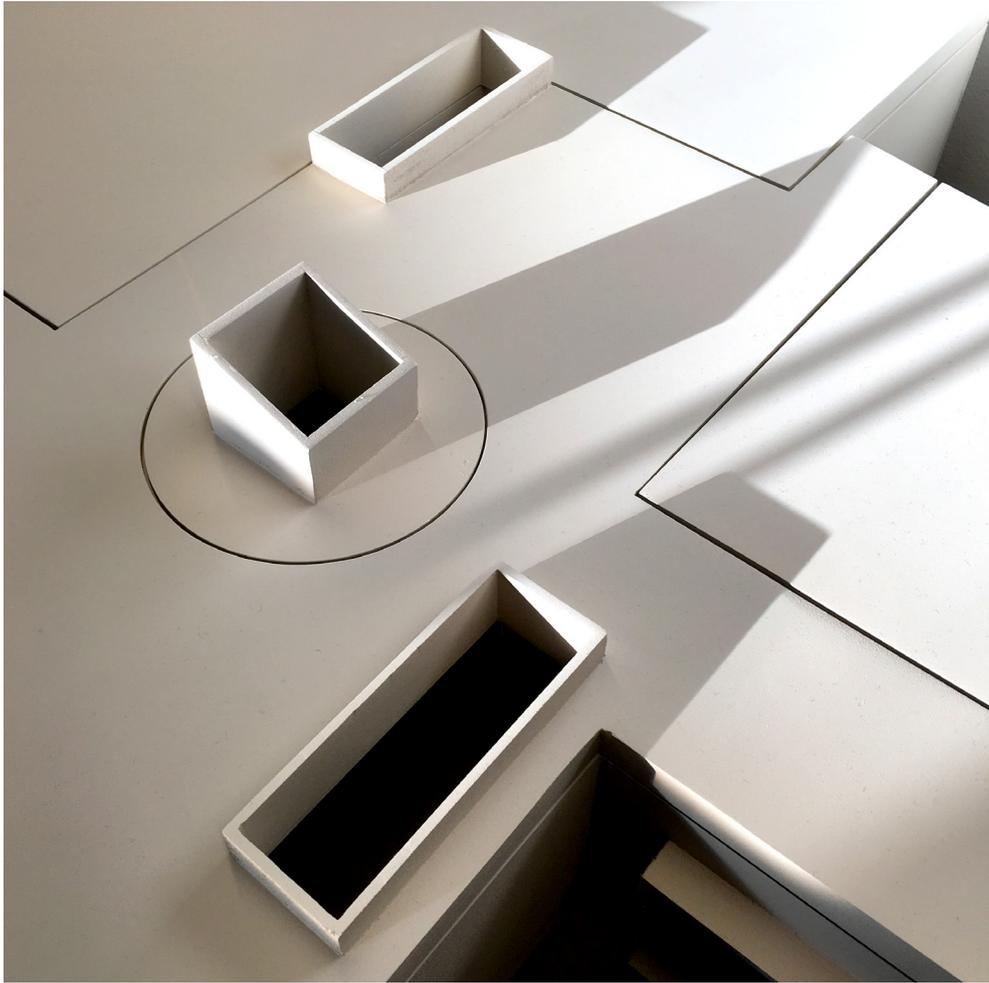


Figure 7.42 'House 250', Roof Study in the KADK Light Lab, Nicholas Thomas Lee, 2017

Over the course of this chapter, formative writings from William Gilpin (1768), Edmund Burke (1756), Sir Uvedale Price (1794), Humphry Repton (1795), Richard Payne Knight (1805) relating to the picturesque have been revisited in order to establish foundational theory of the movement. At the same time, more contemporary reflections upon the picturesque from Christopher Hussey (1927), Nikolaus Pevsner (1955), David Watkin (1982), Caroline Constant (1990) and John Macarthur (2007) have been synthesised together with prospective 'research by design' investigations. Through these prospective design enquiries, four distinct traits have been identified within the picturesque that have been shown to be productive agents for the spatial organisation of the contemporary dwelling interior. These characteristics of the picturesque productively challenge a planimetric approach to the spatial organisation of the domestic interior, which continues to be propagated by functionalist planning logic. The picturesque movement has been responsible for the development of pictorial planning, an approach to the spatial organisation of the built-environment based upon sequential spatio-visual experience, an appreciation of irregularity and a focus on providing opportunities for inhabitant appropriation. However, in relation to this research project, the greatest contribution of the picturesque movement is that it has provided a catalyst for the reconceptualisation of the domestic interior as an architectural landscape.

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8. CONCLUSIONS & CODA

“And as the dancer reveals himself in the dance, in spite of the fact that he knows his actions are bound by a choreography, so is the dweller himself explicitly present in his movements, even as his self-expression is tempered by the form in which his movement is contained.”

(Leupen, Mooij, & Uytengaak, 2011, p. 19)

8.1 EPILOGUE

The point of departure for this Ph.D. project has been the prevalence of a positivistic¹ approach to the application of functionalist spatial planning principles within the contemporary dwelling interior, which reinforces dichotomies and absolutes by abstracting human behaviour into definite ‘functions’, ‘place’ into Cartesian ‘space’ and inhabitants into ‘users’, thereby reducing the reality of the built environment into those aspects that can be represented most efficiently in a plan drawing. This research project rejects a prescribed, causal relationship between the domestic built environment and the use of space by its inhabitants, which has long been promoted by functionalism and that continues to be propagated by contemporary building practices that conform to its planning principles. It has sought to reconceptualise the contemporary dwelling interior as a ‘domestic landscape’,² a ‘Dwellscape’,³ in order to explore formative approaches to the spatial organisation of this critical built environment, with the motivation of encouraging and contributing to a necessitous critical discourse from the architectural profession, on the subject. At the start of this Ph.D. project the following question was posited, In the midst of the current ‘crisis’⁴ in domestic architecture brought about by a positivistic approach to the application of functionalist spatial planning principles, which results in deterministic forms of inhabitation through the abstraction of the lived reality of the built environment into definite ‘functions’, ‘users’ and Cartesian ‘space’, how might the architect re-conceptualise the spatial organisation of the contemporary dwelling interior?

A significant aspect of this Ph.D. project has been the re-conceptualisation of the contemporary dwelling interior as a ‘domestic landscape’, a ‘Dwellscape’, in order to explore formative approaches to spatial organisation that productively challenge functionalist planning strategies. In chapter 05, a comprehensive definition of the ‘Dwellscape’ concept was developed and three important aspects of this theoretical construct will be elaborated upon in this chapter. These aspects include, the notion of spatial organisation based upon a ‘relational field-configuration’, a conscious appreciation of ‘threshold’ places and lastly, a focus on providing opportunities for

1. Positivistic here is used in the literal sense to refer to the definitive application of functionalist planning logic without questioning its broader consequences.

2. The term ‘domestic landscape’ is introduced and strongly promoted by the Swedish academic, architect and designer, Lars Lerup as a reconceptualisation of the dwelling interior in his publication, “Building the Unfinished” (1977).

3. In chapter 5: “Defining the Dwellscape”, a ‘Dwellscape’ is defined as a continuous ‘domestic landscape’ composed of a relational field-configuration of distinct architectural elements, which define ‘places’ that accommodate specific activities as well as delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways.

4. This ‘crisis’ in domestic architecture has been highlighted by Shumi Bose, Jack Self and Finn Williams in their publication and associated ‘Home Economics’ Exhibition at La Biennale di Venezia in summer 2016 (Bose et al., 2016).

inhabitant ‘appropriation’. Through retrospective analysis of theory from the early contributors to the picturesque movement, Le Corbusier and his ‘promenade architecturale’, protagonists of the ‘Townscape’ movement & Aldo van Eyck, ‘pictorial planning’ has emerged as a productive counterpoint to the dominance of a planimetric approach to the spatial organisation of the domestic environment. Pictorial planning has been utilised in the prospective ‘research by design’⁵ investigations through the use of large-scale physical models and photography. The resulting ‘epistemic artefacts’⁶ have revealed the primacy of pictorial planning and its value when utilised, not as a replacement for, but rather as a productively critical complement to planimetric techniques.

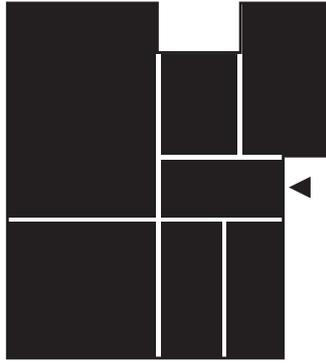
8.2 DWELLSCAPE: A DOMESTIC LANDSCAPE

A central contribution of knowledge made by this Ph.D. dissertation has been the conception, development and formulation of a definition for the ‘Dwellscape’. Through a reconceptualisation of the contemporary dwelling interior as a ‘domestic landscape’, the notion of ‘Dwellscape’ has been proposed as an alternative spatial organisation strategy that challenges a purely functionalist approach to the programming of domestic space. In chapter 05, we defined a ‘Dwellscape’ as a continuous ‘domestic landscape’ composed of a relational field-configuration of distinct architectural elements, which define ‘places’ that accommodate specific activities, as well as, delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways.

When discussing the theoretical genealogy of the ‘Dwellscape’ concept, it is impossible to not mention the influence of the picturesque movement on its conception and development. As discussed by both Caroline Constant (Constant, 1990, p. 54) & David Watkin (Watkin, 1982, p. viii) in particular, the picturesque has been a catalyst to conceive of the dwelling interior as an architectural landscape, where the scenographic treatment of the domestic environment provides the inhabitant with opportunities for interpretative forms of use. In chapter 07, Sir John Soane’s Lincoln’s Inn Fields (1792-1824), is used as an archetypal example of a picturesque dwelling interior comprised

5. The Norwegian academic and current chairman of The OCEAN Design Research Association, Birger Sevaldson defines the ‘research by design’ method as, “a special research mode where the explorative, generative and innovative aspects of design are engaged and aligned in a systematic research enquiry.” (Sevaldson, 2010, p. 11). The ‘research by design’ method utilised in this research project is discussed at length in chapter 3: “A Methodological Framework.”

6. In the paper, “Epistemic Artefacts: The potential of artefacts in design research” (2009), Flemming Tvede Hansen introduces the term, ‘epistemic artefact’ within the field of design research. He writes, “the epistemic artefact, that is the object of the experiment, can be seen as a tool or a means to develop theory in interplay with a verbal reflection and discussion and by that an integral part of the research practice.” (Hansen, 2009, p. 7)



1. FUNCTIONALIST DWELLING PLAN (FUNCTION)



2. TYPICAL CONTEMPORARY DWELLING PLAN (FUNCTION + NEUTRALITY)



3. DWELLSCAPE CONCEPT PLAN (SPECIFICITY + AMBIGUITY)

Figure 8.01 Dwellscape concept diagram, Nicholas Thomas Lee, 2019

of a complex rabbit-warren of interlocking rooms and passage ways with their distinctive spatial characteristics. Josef Frank (1931) and Aldo van Eyck (2008a) both contribute to the 'Dwellscape' concept with their shared position that a dwelling should be composed from a 'field-configuration' of inhabitable 'places', which offer the contingency and diversity found in the town and cityscapes. Lars Lerup's (1977) conceptualisation of the dwelling interior as a 'domestic landscape', with his advocacy for intentional programmatic ambiguity, also contributes an important theoretical aspect to the 'Dwellscape' concept. The central differentiation between the two, is that 'Dwellscape' promotes the design of intentionally ambiguous 'places', whereas Lars Lerup calls for the design of ambiguous objects, referred to as 'environmental fortuna', in other words the former promotes spatial ambiguity, while the latter advocates an object-based ambiguity. Fundamentally, key protagonists of the picturesque movement, Josef Frank, Aldo van Eyck and Lars Lerup all consider the dwelling interior as a landscape, a 'dwell-scape' that should support active forms of appropriation rather than prescribed inhabitation.

In chapter 05, the comparative analysis of House Vandenhaute-Kiebooms (1967), designed by Juliaan Lampens and Moriyama House (2005), designed by Ryue Nishizawa reveals that the spatial organisation of the two dwellings can both be considered as empirical manifestations of the 'Dwellscape' concept. The 'Nolli'⁷ type drawing of the two dwellings highlights a shared spatial strategy, where fixed architectural elements define characteristic places that can accommodate specific functions, which in turn delineate interstitial places that can be appropriated 'nomadically'.⁸ The ambiguous open-plan archipelago of House Vandenhaute-Kiebooms and the 'non-hierarchical' landscape of building fragments that coalesce to form Moriyama House highlight the adaptability of the 'Dwellscape' to differing historical, cultural and typo-morphological contexts. The contrast in the level of spatial continuity present in the two dwellings can be directly attributed to their immediate geographical contexts, namely the open countryside of Belgium and the densely populated metropolis of Tokyo, and the resulting difference in privacy requirements from their respective inhabitants. The 'Dwellscape' concept has also been employed as a spatial organisation strategy in the designs of 'House 25'⁹ & the 'House 250',¹⁰ which will be elaborated upon in the following section.

7. Giambattista Nolli produced his iconic map of Rome in 1748, which was revolutionary in its development upon the traditional figure-ground map by highlighting enclosed public spaces, as well as, open civic spaces that allowed one to appreciate the urban grain, in the form of the interstitial spaces in between the buildings.

8. 'Nomadically' is used here to refer to the ability of a dwellings inhabitants to establish a multitude of territories within the dwelling temporally through appropriation. Jo Van Den Berghe writes of House Vandenhaute-Kiebooms, "The house is nomadic in its outer appearance and in the inner experience of its daily use." (Van Den Berghe, 2014, p. 39)

9. A qualitative analysis of 'House 25' is undertaken in chapter 06: "Inhabiting the In-between Realm."

10. A qualitative analysis of 'House 250' is undertaken in chapter 07: "A Picturesque Dwelling."

8.3 THREE ASPECTS OF THE DWELLSCAPE

Over the course of this research project, three important constituent threads of the 'Dwellscape' concept have emerged that interweave and permeate across the three central chapters¹¹ and that will be elaborated upon here. These three aspects are, a spatial organisation based upon a 'relational field-configuration', a conscious appreciation of 'threshold' places and finally, a focus on providing opportunities for inhabitant 'appropriation'. These three characteristics productively challenge functionalist planning strategies that propagate an approach to spatial organisation, which is based upon an aggregate of isolated cellular spaces, the removal of threshold between places and the abstraction of human behaviour into prescribed activities. Practical applications of these three aspects of the 'Dwellscape' will be discussed in relation to the designs of 'House 25' and 'House 250'.

8.4 RELATIONAL FIELD-CONFIGURATION

The following section discusses the emergence and development of planning principles, which are based upon a 'relational field-configuration'. In chapter 06, the traditional Japanese concept of 'oku' and its spatial manifestations in traditional Japanese architecture are explored. 'Oku' results in an approach to spatial organisation that is based upon the multi-layered structuring of space, the careful composition and orientation of places and the temporal act of revealing in order to create spatial depth. 'Oku' is representative of a fundamental characteristic of Japanese spatial perception, where singular entities are simultaneously considered as independent elements, while at the same time always in relation to their position within a greater constellation. Kiyoyuki Nishihara (1968), notes this characteristic in the spatial organisation of the traditional Japanese house, which is comprised from a relational field-configuration of 'ma' or places, while Barrie Shelton (2012), observes this same phenomenon in the decentralised, yet conjugated blocs that coalesce to form the Japanese city. These fundamental characteristics of Japanese planning show a strikingly analogous approach to spatial organisation as that of the picturesque movement. A principle tenet of the picturesque was for an approach to spatial organisation that is based upon the relational

11. The three central chapters refer to, chapter 05: "Defining the Dwellscape", chapter 06: "Inhabiting the In-between Realm" & chapter 07: "A Picturesque Dwelling."

connections between objects in a 'pictorial circuit', or 'field-configuration', with a consideration for the sequential spatio-visual experience from the point-of-view of its inhabitants. The 'pictorial circuit' can be considered as a perspectival spatial sequence, which relies upon one's movement and the sequential acts of obscuring and revealing, between a series of scenes that are arranged in relation to one another.

With regards to the contemporary dwelling interior, it is Le Corbusier's 'promenade architecturale' and Josef Frank's 'House as Path and Place', which can be considered as the most developed interpretations of picturesque spatio-visual planning theory. As opposed to the prescribed processional chronology of the 'promenade architecturale', it is the domestic landscape based upon an explorative field-configuration of 'paths' and 'places' advocated by Josef Frank that has greatest relevance for the development of the 'Dwellscape' concept. Aldo van Eyck (2008b), is also worthy of mention at this juncture for expanding upon Frank's earlier ideas, with his reflections upon the importance of modulating spatial depth within the domestic interior through the carefully considered composition of adjoining spaces and the distinct articulation of transition between inhabitable places.

Aldo van Eyck's reflections upon spatial composition and layering, which he demonstrates through reference to the 17th century paintings of Pieter de Hoogh, have a striking resonance with the picturesque and its approach to arrangement based upon a successive 'pictorial circuit', as well as, 'oku' and its manifestations as meandering routes through building interiors. In recent years, the Swiss urbanist Eve Blau (2011) has used the term 'non-hierarchical' to describe the spatial organisation of architectural projects designed by SANAA. As discussed in chapter 05, Moriyama House is an archetypal example of this type of approach to spatial organisation, with its field-configuration of independent volumes that are intricately interwoven with their neighbours, through a carefully calibrated network of interstitial spaces. Over the course of this research project, an approach to spatial organisation of the contemporary dwelling interior based upon a 'relational field-configuration' has emerged as a productive alternative to functionalist planning principles, which tend to enforce dichotomies and absolutes, through an isolationist approach to space and its use that results in the

house as an aggregate of isolated cellular spaces, as observed by Kiyoyuki Nishihara (Nishihara & Gage, 1968, p. 80). Precedents for this 'relational field-configuration' within the dwelling interior have been identified in traditional Japanese domestic architecture, the 'picturesque' movement, the works and writings of Le Corbusier, Josef Frank, Aldo van Eyck, SANAA and most recently Sou Fujimoto. The spatial organisation of both 'House 25' and 'House 250' give concrete examples of how this approach can be applied practically. The design of both dwellings is based upon a continuous field-configuration, where architectural elements delineate interstitial places in a 'non-hierarchical' relationship.

At this juncture, the notion of a 'relational field-configuration' should be elaborated upon to include the quality of compositional irregularity, which we see in both picturesque planning, as well as, traditional Japanese compositional techniques. In chapter 07, irregularity has been identified as a foundational quality of the picturesque through the writings of William Gilpin (1792), Sir Uvedale Price (1810), Richard Payne Knight (1805), Christopher Hussey (1994) and John Macarthur (2007). During the maturation of the picturesque movement, the notion of irregularity transitioned from an appreciation of the mundane and quotidian 'roughness' inherent in the English landscape to a spatial organisation strategy for the design of buildings, and in particular dwellings, based upon asymmetrical planning, irregular massing and variegated fenestration. Sir Nikolaus Pevsner (1944) in particular, notes the influence of 'Chinese Gardens' with their irregular arrangement and composition on the asymmetrical planning of 18th century picturesque landscape gardens in England. During the 18th century, the anglicised Chinese word 'Sharawadgi', or 'Sharawaggi' was used to describe this 'exotic' phenomenon of 'charming irregularities'. These terms were perpetuated and made popular by influential figures in the picturesque movement, such as Sir William Temple & Horace Walpole. Interestingly we see a comparable asymmetrical planning approach to that found in the 'Chinese Garden' in traditional Japanese landscape gardens and architecture. Traditional Japanese compositional techniques place emphasis on a harmony with nature that includes an aversion to symmetry, which can be observed in Japanese landscape gardening, calligraphy and even the art of flower arranging. "The Japanese eye is aesthetically conscious of the balance within

natural irregularity. The word ‘hachō’, used to express this sort of discordant beauty, has been variously translated by the noted art critic Teiji Itō, who first decided to render it ‘imperfection’ but finding that too close to the literal meaning of the Japanese, hit upon ‘aversion symmetry.’” (Nishihara & Gage, 1968, p. 125) This dynamic equilibrium in composition finds its most literal manifestation in traditional Japanese path laying, where an odd number of ‘key-stones’¹² are carefully positioned irregularly at important places along the route, where there are favourable vistas over the garden for example. These ‘key-stones’ then act as hints for the form of the entire pathway. There is a striking similarity between the aversion to symmetry found in Japanese spatial composition and the irregular planning that is synonymous with the picturesque movement, and this asymmetry is an essential component of the ‘relational field-configuration’ that is present in both.

8.5 THRESHOLD

A second aspect of the ‘Dwellscape’ concept that is worthy of elaboration is the productive role of threshold space within the contemporary dwelling interior. Functionalism has had the tendency to place merit on a reductionist approach to planning, where space that is deemed to lack purpose is purged from the plan under the guise of utilitarian efficiency. This has resulted in the eradication of many threshold spaces from within the contemporary dwelling interior that are considered to lack functional value. Spatial articulation and thresholds within the domestic interior have also been removed in order to achieve neutral ‘open-plan’ arrangements under the guise of functional flexibility and in order to achieve spatial continuity. The central discussion of chapter 06 has been focused on ‘The In-between Realm’,¹³ a term that provides a highly productive agent for our discussions relating to the opportunities afforded by inhabitable threshold places within the contemporary dwelling interior. In concrete architectural terms, the ‘in-between realm’ can manifest itself through spatial layering in the carefully considered composition of adjoining spaces and by providing distinct inhabitable ‘places’ that can support ‘occasions’ on the threshold between spaces. Kiyoyuki Nishihara (1968) also identifies important threshold places, or characteristic ‘joint’ spaces, in the spatial organisation of the traditional Japanese house, such

12. In the chapter, “Techniques” from the book, “Japanese Houses: Patterns for Living” (1968), Kiyoyuki Nishihara writes about the traditional Japanese technique of composing a path of stepping stones through the use of ‘yakuseki’, or ‘key-stones’ (Nishihara & Gage, 1968, p. 128).

13. In the chapter, “The In-between Realm, Place and Occasion, A Home for Twin Phenomena” from the book, “The Child, the City and the Artist” (2008a), Aldo van Eyck places great emphasis on the importance of articulating threshold between ‘twin-phenomenon’, or what he refers to as the ‘The In-between Realm’.

as ‘engawa’ and ‘tsugi-no-ma’ that are also exemplary of Aldo van Eyck’s ‘in-between realm’ through their programmatic ambiguity. Aldo van Eyck’s reflections on the door threshold (Eyck et al., 2008a, p. 62) and Atelier Bow-Wow’s research into the ‘windowscape’ (2010) have also revealed the affluency of the two architectural elements, with their ability to create characteristic inhabitable places at significant thresholds within the ‘Dwellscape’. In the design of ‘House 25’ there is an articulation of distinct inhabitable window openings and doorways throughout, which can accommodate a wide variety of ‘occasions’ at thresholds within the dwelling. Inhabitable ‘windowscapes’ and niches are also introduced throughout ‘House 250’, where its carefully composed interstitial spaces provide a variety of threshold ‘places’ in-between the more clearly defined enclosable ‘places’.

8.6 APPROPRIATION

The final aspect of the ‘Dwellscape’ concept to unfold here is an appreciation for the importance of designing domestic built environments that provide opportunities for inhabitant appropriation, rather than merely being an aggregate of programmatic functions posited in Cartesian space. This is an explicit rejection of the prescribed causal relationship between the built environment and the use of space by its inhabitants propagated by functionalism. In chapter 07, the notion of ‘appropriation’ is revealed to be central to the picturesque movement, from the early writings of Edmund Burke and his notion of ‘Association’,¹⁴ through to the explicit championing by Humphry Repton of ‘appropriation’¹⁵ as a foundational consideration in planning. Sir John Soane’s Lincoln Inn Fields (1792-1824) provides a concrete example of the scenographic treatment of the domestic interior, where a multitude of opportunities are provided for the inhabitant’s imaginative interpretation, based upon a consideration for experiential and cerebral appropriation, rather than the mere fulfilment of functional requirements. With the ‘Dwellscape’ concept emphasis is placed on providing opportunities for inhabitant appropriation, based upon an interpretive engagement with ‘places’ that have distinct characteristics and a key aspect required for this active interpretation is ambiguity in programmatic use. In chapter 06, ‘The In-between Realm’ emerges as a productive reconceptualisation of

14. In the book, “A Philosophical Enquiry into the Origin of our Ideas of the Sublime and the Beautiful” (1756), Edmund Burke touches on the notion of imaginative interpretation being inherent in the picturesque, through his theory of ‘Association’, where architectural forms were based upon the ideas that they suggested.

15. In the book, “Sketches and Hints on the Theory and Practice of Landscape Gardening” (1795), Humphry Repton identifies ‘appropriation’ as a central trait of the picturesque movement.

domestic places that have ambiguity in terms of programmatic use, rejecting dichotomies and absolutes propagated by functionalist thinking. Archetypal examples of intentional ambiguous places, which can be inhabited in a multitude of ways through active appropriation are the characteristic ‘joint’ spaces found in the traditional Japanese house, as previously mentioned. The contemporary Japanese architectural office Atelier Bow-Wow continue to reject any causal, mono-directional relationship between the built environment and the way in which it can be used. Instead, they propose an alternative technique to the design of the built environment that is based upon the notion of “Behaviorology” (2010). Yoshiharu Tsukamoto and Momoyo Kaijima arrive at the concept of designing architecture that is based upon supporting ‘occupancy’, rather than prescribed functional use, which leans heavily on the earlier ideas of Henri Lefebvre, in particular his advocacy of ‘appropriated space’ (Lefebvre, 2016, p. 165) The concept of ‘occupancy’, as the forming of inhabitable ‘scenes’ with distinct characteristics that can accommodate a multitude of temporal activities is tantamount to Aldo van Eyck’s earlier advocacy of designing ‘places’ that support ‘occasions’. Above all, these architects and philosophers all point to an alternative approach to the relationship between the inhabitant and the built environment that they occupy, based upon the creation of places with distinct characteristics that foster opportunities for appropriation. A consideration of this has been a critical constituent in the development of the ‘Dwellscape’ concept.

8.7 PICTORIAL PLANNING

Functionalism in planning terms has favoured and propagated a planimetric approach to spatial organisation, based upon the positing of functional activities within a plan drawing, resulting in the abstraction of the ‘real’ into ‘logico-mathematical space’, or what Lefebvre would refer to as ‘dominated space’. Over the course of this research project, ‘pictorial planning’ has emerged as a productive counter-point to the dominance of a planimetric approach to the spatial organisation of the domestic environment, which is favoured by functionalist planning principles and that continues to be propagated by contemporary praxis, which is informed by building

regulations, planning codes & design standards.¹⁶ In chapter 07, the emergence and development of ‘pictorial planning’ has been traced back to the early contributors to picturesque theory, such as William Gilpin (1768), Sir Uvedale Price (1794) and Humphry Repton (1795), who all explored point-of-view planning for landscape gardens and buildings. It has been noted that Le Corbusier developed his own form of experiential point-of-view planning under the guise of the ‘promenade architecturale’, by taking inspiration from the ‘picturesque’ writings of proto-modernist architects and urban planners, namely Hermann Muthesius (1904) and Camillo Sitte (1889). During the latter half of the 20th century, direct re-readings of the original picturesque publications led to the ‘Townscape’ movement, which advocated the primacy of visual planning for perspectival spatial experience over planimetric organisation, eventually arriving at its paramount development in the form of Ivor de Wofle’s ‘Civilia’ (1971) project. Although not explicit ‘pictorial planning’, it is interesting to note that during the design phase of the traditional Japanese house a 1:1 arrangement of timber posts were typically laid out on the site to form a volumetric spatial representation of the dwelling. These timber posts were then adjusted with the client until there was a dynamic equilibrium in composition, much in the same way as ‘key-stones’ were used in the compositional design of pathways in the traditional Japanese garden.¹⁷ Aldo van Eyck’s reference to the paintings of Pieter de Hoogh in order to demonstrate the importance of modulating spatial depth within the domestic interior also conveys an approach to planning based upon the inhabitants point-of-view. ‘Pictorial planning’ methods have been utilised throughout the development of ‘House 25’ and ‘House 250’, through the use of large-scale physical models as the primary means of design. These sketch models have been constantly re-built and re-configured based upon actual pictorial views, typically captured through photography. By using the physical model in this way, emphasis is placed on the primacy of perspectival spatial experience and the compositional layering of spaces within the contemporary dwelling interior, rather than arranging architecture planimetrically as favoured & propagated by functionalist planning principles.

16. The continuing influence of functionalist planning logic on contemporary architectural practice has been discussed extensively in the writings of Robin Evans (1997), Bernard Leupen (2006) & (2011), Stephen Bates (2016) and most recently, Shumi Bose, Jack Self and Finn Williams (2016). This subject is also unfolded in a lengthy discourse in chapter 2: “The Functionalist Dwelling.”

17. In the chapter, “Techniques” from the book, “Japanese Houses: Patterns for Living” (1968), Kiyoyuki Nishihara describes in detail the traditional method of spatial planning through the use of an arrangement of timber posts on the site that represented a volumetric spatial depiction of the dwelling.

8.8 A 'TWO-FOLD MOVEMENT'

Over the course of this research project, simultaneous retrospective analysis has been synthesised together with prospective design enquiries in a 'two-fold movement', which has resulted in the production of 'epistemic artefacts', in the form of physical architectural models, through a 'research by design' method. The 'Inbetweeness: The Architectural Model as Epistemic Artefact' workshop in particular, has highlighted the productive nature of combining the analytical, in the form of historic theory and references with the suggestive, in the form of prospective 1/20 scale physical model experiments. As the students embraced the dogma of designing only using physical scale models, the mediums corporality, immediacy as a mediating tool and empirical authenticity were emphasized. At the end of the week-long workshop, each group presented four 1/20 scale models, often with the most interesting discussions taking place in relation to the earlier models, rather than the final iteration of the design, highlighting the productive role of the physical model as both object and process. Dwelling No.06 in particular, with its great spatial complexity in the articulation of its thick perimeter wall punctuated with niches, window openings and a concealed staircase, perhaps highlighted best in the sequence of plan sections produced after the workshop was completed, is a direct result of a design method centred on the exploration of 1/20 scale models, synthesised together with architectural theory from Le Corbusier, Louis Kahn and the study of traditional Japanese architecture, namely 'oku'. The 'epistemic artefacts' produced during the research process are not merely empirical input to be analysed but rather generators of insight, understanding and knowledge that are viewed as part of the intellectual work and are complementary to the processes of reflection and knowledge creation. This 'reflection-in-action' is perhaps best represented in the evolution of the design for 'House 25', from the early sketch models produced in collaboration with Berg Thornton Arkitekter, through to the complex arrangement of the final model, which shows a greater understanding of spatial layering, inhabitable threshold and an appreciation for the 'in-between realm' facilitated by the concurrent retrospective analysis.

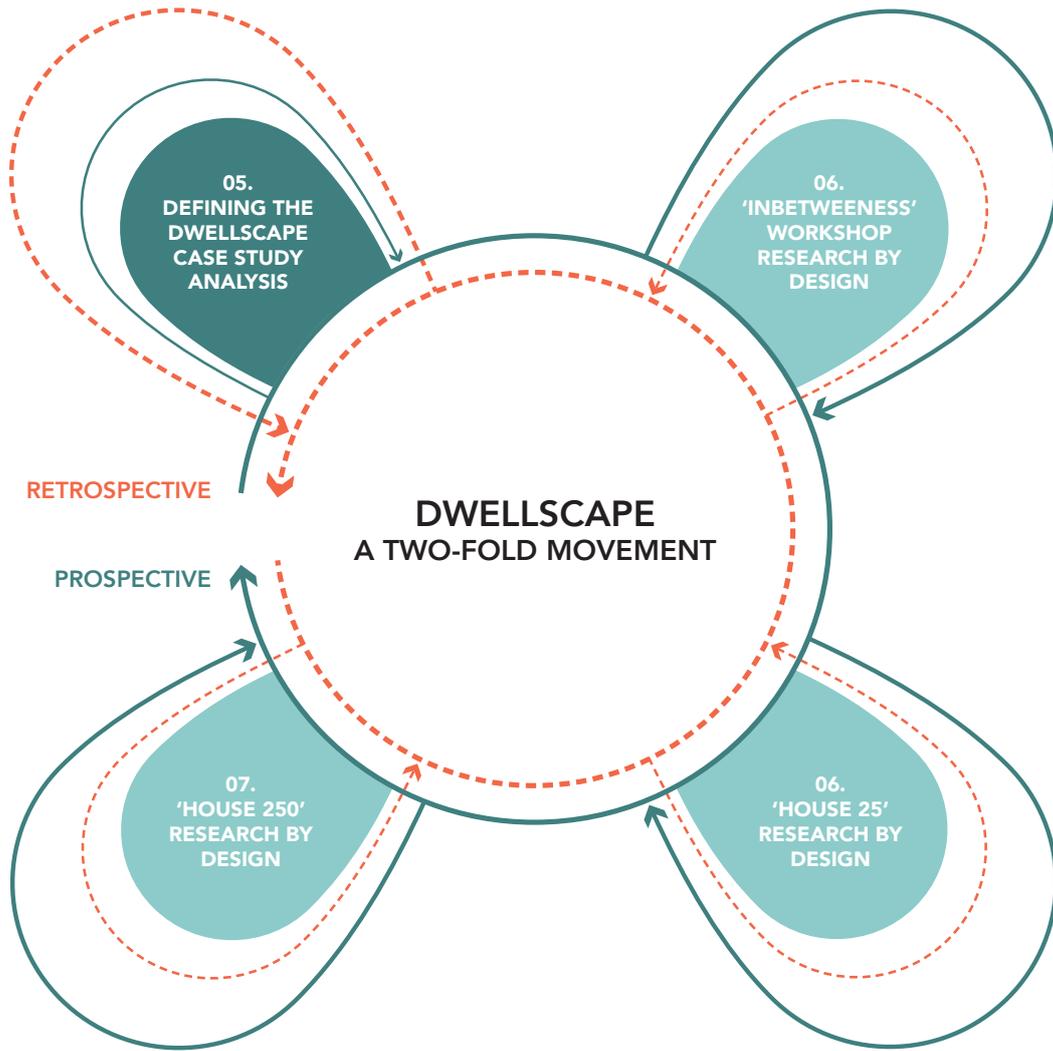


Figure 8.02 Dwellscape 'Two-fold Movement', Nicholas Thomas Lee, 2019

8.9 CODA

At the beginning of this research project the following question was posited, in the midst of the current ‘crisis’ in domestic architecture brought about by a positivistic approach to the application of functionalist spatial planning principles, which results in deterministic forms of inhabitation through the abstraction of the lived reality of the built environment into definite ‘functions’, ‘users’ and Cartesian ‘space’, how might the architect re-conceptualise the spatial organisation of the contemporary dwelling interior? A significant aspect of this PhD project has been the re-conceptualisation of the contemporary dwelling interior as a ‘domestic landscape’, a ‘Dwellscape’, in order to explore forms of spatial organisation that productively challenge functionalist planning strategies. In chapter 05, we defined a ‘Dwellscape’ as a continuous ‘domestic landscape’ composed of a relational field-configuration of distinct architectural elements, which define ‘places’ that accommodate specific activities, as well as, delineating ambiguous interstitial ‘places’ that can support inhabitant appropriation in a multitude of ways.

In this chapter, three important constituent aspects of the ‘Dwellscape’ concept that interweave across the three central chapters have been elaborated upon. These three characteristics are, an approach to spatial organisation based upon a ‘relational field-configuration’, a conscious appreciation of ‘threshold’ places and lastly, a focus on providing opportunities for inhabitant ‘appropriation’. Through retrospective analysis of theory from the early protagonists of the picturesque movement, Le Corbusier and his ‘promenade architecturale’, practitioners of the ‘Townscape’ movement & Aldo van Eyck, combined together with prospective ‘research by design’ investigations with large-scale physical models, ‘pictorial planning’ has emerged as a productive counter-point to the dominance of a planimetric approach to the spatial organisation of the domestic environment. Rather than being a new dogma to replace an old, the ‘Dwellscape’ embraces the fertile domain of the ‘In-between Realm’, which advocates a balance between distinct, rationally planned places that accommodate specific activities, together with ambiguously planned places that support interpretative appropriation. An important distinction can be made at this point between functionalism and rationalism, where, “Functionalism is the design of space

around specific ergonomic activities, and rationalism is the use of impartial spatial relationships to achieve general conditions of space.” (Bose, Self, & Williams, 2016, p. 15) Interestingly, one of the central coda from the ‘Home Economics’ (2016) exhibition in the British Pavilion at the 15th International Architecture Exhibition, La Biennale di Venezia, has been to reinstate a rationalist understanding of domestic space, in order to overturn the functionalist perspective of the contemporary dwelling interior in Western architecture.

It is the position of this Ph.D. dissertation that the ‘Dwellscape’ concept can be utilised as a formative approach to the spatial organisation of the domestic interior, which productively challenges functionalist planning strategies that continue to be propagated by contemporary architectural praxis. Over the course of this Ph.D. project, the research by design enquiries have shown practical manifestations of the ‘Dwellscape’ concept. Through emphasis on the use of physical models, ‘pictorial planning’ has emerged as a productive counter-point to the dominance of a planimetric approach to spatial organisation. The ‘Inbetweeness: The Architectural Model as Epistemic Artefact’ workshop in particular is viewed as a good example of how the use of large-scale physical models can simulate ‘pictorial planning’ in the spatial organisation of the contemporary dwelling interior. It is intended that the findings of this research project make a valuable contribution to a critical discourse on the spatial organisation of the contemporary dwelling interior.

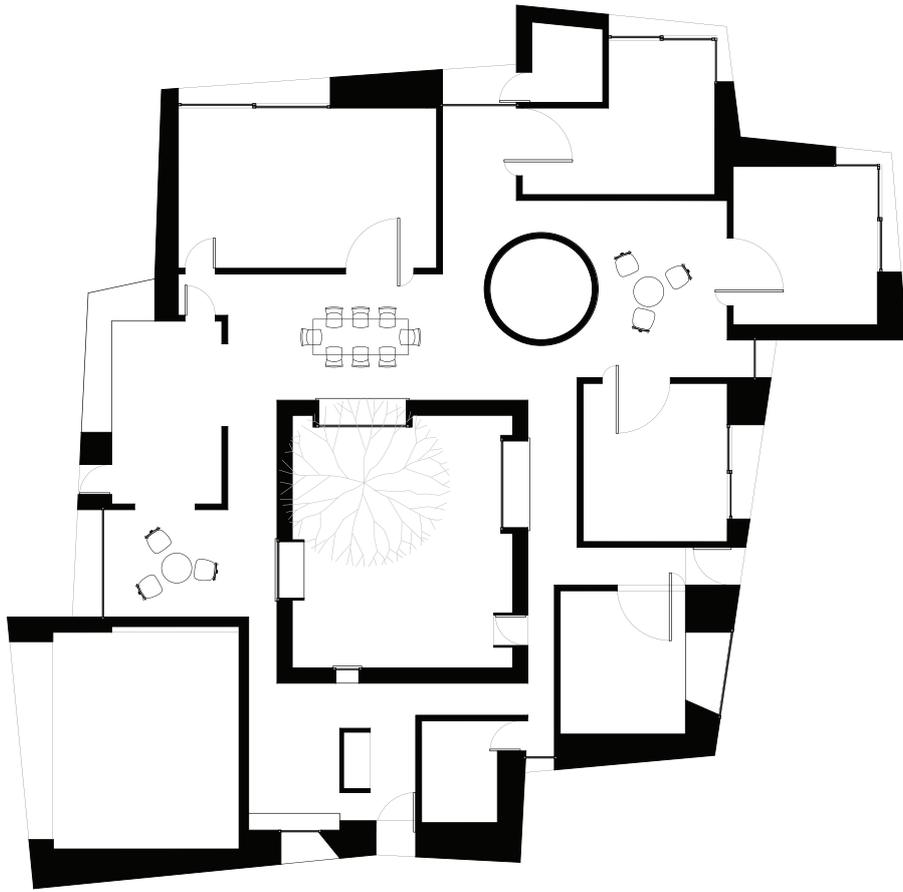


Figure 8.03 'House 250', Floor plan 1/200, Nicholas Thomas Lee, 2017

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DWELLSCAPE

The Contemporary Dwelling Interior as a Domestic Landscape

This Ph.D. dissertation engages in an architectural discourse on the spatial organisation of the contemporary dwelling interior. Through a reconceptualisation of the contemporary dwelling interior as a 'domestic landscape' the notion of 'Dwellscape' is proposed as a productive spatial organisation strategy. A 'Dwellscape' is defined as a continuous 'domestic landscape' composed of a relational field-configuration of distinct architectural elements, which define 'places' that accommodate specific activities, as well as, delineating ambiguous interstitial 'places' that can support inhabitant appropriation in a multitude of ways.

