PhD title:

**Living edge - The Prospect of Urban Dimensions of Ecological Domesticity**

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Paper title:

**Edge Matters, Theoretical Issues of Living Edge**

**Abstract**

When separating the meaning of dwelling to ‘home’ and ‘house’, ‘home’ has no clear boundaries, organizational types, physical features, and experiences (Chapman, 1999) - while ‘house’ does. The house is a physical container of dwelling activities. Since early days, the essential purpose of this container is to separate inside from outside and to protect and provide privacy, psychological as well as physical (Venturi, 1966). But, if dwelling phenomenon takes place both inside and outside the private house – why is the urban house an enclosed box? What is the differentiation between inside and outside the contemporary urban house? And what is the interplay between them?

The research argues for re-thinking the edge zone between inside and outside the urban house. Therefore, although, residential buildings in the city are the objects of study, the focal point here is the edge zone along the building. The research explores and develops the architectural characteristics of correlations between the resident, the singular unit, the building and the given location at the edge zone. It approaches the edge zone of the urban house as a platform for dynamic interactions between these behaviours.

The following text includes the first draft of the first two chapters: introduction and theory. The chapters are not written completely, and some parts are written only as headlines. These headlines and other comments are marked in red. The text is on working progress and far from being finished, but it will be wonderful to get your comments on it during the conference.

1. **introduction**
	1. **Filed of study**

This PhD study is a qualitative architectural study on the edge zone between the urban apartment and its surroundings. The edge zone, as an in-between place, resists and admits interactions between inside and outside, private and public, individual and collective, built and unbuilt, indoor and outdoor climate, architectural and urban scale.

The study explores and develops the architectural characteristics and values of an edge zone. The adjective ‘Living’, of Living Edge, gives the edge zone a double meaning: to live at the edge and an edge that is living. The first meaning is about the people and their living patterns. The second meaning, an edge that is living, reads the building as a living entity changing through seasons, daylight, usage and urban context.

The object of study is the edge zone of a multi-family house in the city. The scale of investigation grows out from the apartment to the two other ingredients of the edge zone - the building envelope, and the urban space adjacent to the building. The edge zone is studied from inside out and from outside in, through the three ingredients of the edge zone.

The research aims to gather in-depth understanding of the topic, to explore its architectural and urban characteristics and to demonstrate implications of it in theory and practice.

* 1. **Problem analysis and research question**

The urban environment in Copenhagen has become softer in the last two decades. Industry has moved out, criminality rates have been reduced, car roads and parking areas have been transformed to walking streets and squares, bicycle paths have been paved, and more green areas have been realized.

What is the effect of a friendlier urban environment on the architecture of the apartment? Or to be more precise - What architectural edge conditions does a friendlier urban environment generate in urban dwelling?

“Dwelling consists of human activities that take place inside as well as outside, in the spaces of dwellings, the spaces of residential buildings, the spaces of the street and neighbourhood, and the spaces of the city and its broader environs.”

“While the dwelling – the place – effects a separation between inside and outside, dwelling – the phenomenon – takes place on both side of this line of separation.”

(Bernard Leupen and Harald Mooij, 2011)

When separating the meaning of dwelling to ‘home’ and ‘house’, ‘home’ has no clear boundaries, organizational types, physical features, and experiences (Chapman, 1999) - while ‘house’ does. The house is a physical container of dwelling activities. Since early days, the essential purpose of this container is to separate inside from outside and to protect and provide privacy, psychological as well as physical (Venturi, 1966). But, if dwelling phenomenon takes place both inside and outside the private house, and if the inside does not need to be as protected from the outside as it used to be – why is the urban house an enclosed box?

“My sense of ‘wall’ was no longer the side of a box. It was enclosure of space affording protection against storm and heat only when needed. But it was also to bring the outside world into the house and let the inside of the house go outside”[[1]](#endnote--1).

Explain about modern architecture. As a continuation to the search for communicative borders in modern architecture, re-questioning the enclosed box and re-thinking the interactions between inside and outside are relevant today more than ever before.

Looking into Danish culture, three paintings from the end of 19th century illustrate the long tradition of life at the edge.

The first painting is by Vilhelm Hammershøi titled ‘interiør Åhuset, åboulevarden’ (1898) is an interior depiction of a room (Fig.1). It illustrates the edge zone from the inside. A woman is sitting on the chair by the table looking outside of the window. It is a summer day, the window and curtain are open and fresh air is coming into the room. It might be that the woman moved the table by the window, as the warm weather. (Hammershøi has other interior paintings, where the woman is standing by the window and the table is the centre of the room. These paintings might be painted in days, when sitting by the window is too cold)

The painting shows how the particular circumstances of the open window, the open curtain, the fresh air, the light, the table, the chair and the sitting woman create a fleeting edge zone. Another day, time, weather, group of residents or arrangement of furniture will determine other character of edge. The edge zone changes by interactions of habitual practice, urban events and climate.

Second painting ‘Stemning fra Nyboderhus’ by Edvard Petersen (1860) captures this situational circumstances at the edge zone (Fig.2). In Nyborders (address: Øster Voldgade 44), a man and a child are at an entrance hall; the entrance door is open to the street. The man is sitting on the doorframe with one leg inside and the other outside, enjoying being at home and at the street simultaneously. The child is standing inside the space, lining on the wall, holding a little chair and thinking whether to play inside or outside. These inhabitation patterns are common for an edge zone – occupying both sides of the edge at the same time, and weighing up the next activity whether it should be indoors or outdoors.

The painting ‘Udsigt fra kunstnerens altan over det gamle banegårdsterræn og Peblingesøen’ by Paul Fischer (1887) shows the life at the edge from the outdoors (Fig.3). It is a depiction from a balcony viewing at Copenhagen lakes (address: Vodroffsvej 58). A man and a woman are on the balcony on a summer day. The man is sitting on a chair, and the woman is standing and lining on the fence. Each one looks to a different direction. She is about to leave, as she has a hat on and an umbrella in her hand.

These man and woman inhabit the exterior edge of the domestic space. They perform their life to the street, and by doing so they stage domesticity to the sidewalk. This exposed inhabitation is important to the atmosphere of the street. It gives human face to the building, and creates a stronger communication between them at home and the people out at the street.

In Copenhagen today, more than hundred years after these illustrations, the differentiation between inside and outside the urban house has radically changed. Interior and exterior are not necessarily an opposition. Although the living unit and the urban space around it are essentially different, by form, use, scale and ownership, they share characteristics, especially along the borderline between them. Meaning that, the culture presented in these nostalgic images is still exceptionally up-to-date.

What is the interplay between the two sides of the edge zone? To answer this question, I would like to move out from Copenhagen, to the countryside, and look into the Danish summerhouse tradition. The architecture of Danish summerhouse often searches for connective characteristics. The summerhouse allows a penetration of the outdoors to the indoors and visa verse. It welcomes light and fresh air, as well as sand, mud, beetles and mosquitoes. It also expands the indoor space to the outdoors, by programming areas at the garden, like an open-air shower, living room, kitchen, and laundry.

The envelope of the summerhouse functions as a dynamic filter over time. The filter connects and disconnects inside and outside, mainly in relation to weather conditions. On a beautiful summer day, the walls of the summerhouse open up so that the inner and outer become one. On a wet day, the house gives the option to stay dry. On a cold summer day, the building envelope including walls, windows and doors offers thermal isolation.

The summerhouse is a good example for the interplay between indoors and outdoors, but with a critical limitation. The indoor provides a roof and programmatic spaces to meet the residents’ needs, including sleeping places, kitchen, and toilet. The outdoors provides an extension to the indoor space and the ability to be in contact with the outside. Actually, inside and outside at the summerhouse play together one role – offering an experience of living at the outdoors. Following this line of thought, the communication between inside and outside is not mutual. Although, the house reaches out to the outdoors and the outside enters the interior space, the motive is one-sided – creating a physical frame for an outdoor/ extraverted experience. There is no feedback, no will or need to reflect the house, the interior space or the life in it at the outdoor space.

The urban context is essentially different from the summerhouse. The edge zone of the urban apartment offers open conditions. In contrast to the summerhouse, here the two sides play a different role and are equally involved. The inside is private, enclosed, intimate, indoor climate. The outside is public, open, anonym, and outdoor climate. Connection and disconnection of inside and outside has implications from inside out and from outside in. from the inside – light, fresh air, urban outlooks and atmospheres are coming in. from the outside – domestication, intimacy and picture of private life is being exposed. Consequently, edge conditions strengthen home identity, by creating a continuation of being ‘at home’ (=private home) and being a part of community (=collective home). And architecturally, they stimulate creative solutions for building envelopes with conjugative characters.

The problem is that we, architects, do not commonly develop the relationship between inside and outside in the context of the urban dwelling. We are more used to approach them separately. In this light, the architecture of the summerhouse can be used as a conceptual model to show how to open up, how to allow a dialogue between inside and outside, and how to break the dialogue when the circumstance changes. It can also demonstrate how to communicate with natural elements such as light, temperature, and greenery.

The summerhouse phenomenon also reveals a schism in the Danes’ behaviour. During summer time, the man of culture turns into a man of nature, by travelling to the summerhouse and enjoying a break from everyday life. “The man of nature and a man of culture are permanently combined in one person. The scientist-professor turns into an old-time fisherman and leaves all traces of the lecture hall atmosphere behind in the city”[[2]](#endnote-0). The man of culture is the man/woman, who works in the city and live in it or nearby. The man of nature is in fact the man of culture, in a moment of longing for being out in the nature.

Regarding this schism, in contrast to the summerhouse, the urban context is about containment. Therefore, the urban house must find solutions to inhabit the man of culture and nature at the same time. The edge zone might be the spatial area to dwell the man of nature, since it characterized by a relationship with the outside world.

In order to expand our knowledge of edge zone and edge conditions in architecture, the research looks into Richard Forman’s profound analysis of edge zones in landscape ecology. From Forman, three concepts are raised: edge zone, interaction and change. Edge zone is the main concept, while interaction and change are the behaviours of the edge zone. These three concepts grow to be the common thread along the research process.

To return to the field of architecture, the concepts are discussed and developed by the means of three bodies of theory: (1) the work of Richard Sennett on the distinction between borders and boundaries in the city and the significance of cooperation (2) David Leatherbarrow’s work on architectural behaviour (3) Aldo van Eyck’s work on an in-between place and twin phenomenon.

The first concept, *Edge zone*, is developed by the substance, dimension and function of an edge zone. The second concept, *Interaction*, is initially developed by searching after the objects to be moved in/out, the vectors of transport, the rate of exchange and possible types of interaction - resistance, continuity and exchange. The third concept, *Change*, is developed by discussing how the edge zone change over time, whether it shrinks and expands, appears and disappears, opens and closes, or changes from static to dynamic, and by types of change - no change, adjustment, changing thickness, natural performance and growth.

(later I will add in short how each body of the theory contributes to the discussion, which is initially inspired by Forman)

Toward research questions:

1. What are the architectural and urban dimensions of the edge zone between the apartment and the adjacent urban space?
2. What are the architectural edge conditions in multi-family housing in Copenhagen?
3. What are the architectural implications of such an edge zone in future housing?
	1. **Justification**

The research participates in and contributes to the discussion on improvement of the life quality in Copenhagen, and enhancement Copenhagen as a living place.

The current research extends an ongoing urban strategy titled ‘Kantzone’ (= edge zone), promoted by the city architect, Tina Saaby. ‘Kantzone’ is about the interaction between people walking at the street and building on the ground floor, by for instance shops, cafés or ground level housing. The idea is to avoid a blind boundary to the street, and to create a dialogue between the different urban entities on the ground level.

The current research examines the edge zone between the apartment and urban environment. Here, the focus is on higher-level apartment, as they generate the biggest part of the borderline (= building envelope).

Another urban strategy in Copenhagen, relating to research topic, is about the nearness to natural elements. Normally, living in a multi-family house in the city limits the opportunity to see or experience nature. Therefore Copenhagen invests effort in improving nearness to green areas. The city set two aims for 2015. First: “90% of Copenhageners must be able to walk to a park, a beach or a sea swimming pool in less than 15 minutes”[[3]](#endnote-1) (60% in 2007). Second, Copenhageners will visit the city’s parks, natural areas, sea, swimming pools and beaches twice as often as they do today” [[4]](#endnote-2) – which was an average of one hour every other day (2007).

The current research contributes to this effort by investigating the edge zone as a generator for performance of natural elements in the interior space, as light, heat, water, wind or plants. In this way, the city people attain a connection with natural elements without leaving their home. This performance changes over time and might influence on spatial experience and usage.

More than that, Copenhagen is facing a housing boom. A document by Koncerrn Service shows that by 2027 the population of Copenhagen will grow by 116.000 new inhabitants (118.5%)[[5]](#endnote-3). The urban density will rise in average of 1.344 inhabitants per squared kilometre. With this expected population growth the city of Copenhagen will need 45.000 new dwellings until 2025. (Ref?)

This information strengthens the need to study the current movement in urban housing and to distribute the outcomes among architects and planners involved in the planning process of coming housing developments. In this way, the research outcome can directly contribute to the architectural characteristics of the future housing. With a similar reason, the research process and outcomes are valuable to the planning process of housing projects at Holscher Architects.

Copenhagen is not the limit. The research ends by a general discussion on Living Edge as architectural phenomenon. This discussion shows that Living Edge, by its nature, supports conflicting forces and atmospheres. Living dense but spacious. Living big but small. Living alone but together. Living urban but green. Living inside but outside. These characteristics of diversity, synthesis and cooperation are of important to the architecture of urban housing as well as of housing in general. In this way the research contributes to the discussion on architectural qualities of housing today and tomorrow.

Starting with landscape ecology as inspiration, this study of interactions among living units and their environment ends with ecological reflections. Ecology is discussed not in terms of environmental friendly solutions, but as relationships between different urban entities for a creation of a pleasant city.

All in all, the research findings are valuable to three levels of discussion: housing in Copenhagen, architectural qualities of housing today, and ecological reflections on urban housing.

* 1. **Method**
	2. **Outline**

The research design (=structure and method) is a combined strategy of a two-phase structure. (Table 1)

It starts with a theoretical study, as a formation of the theoretical position. The theoretical body of work by Forman, Sennett, Leatherbarrow and van Eyck is used to mold theoretical content in to the research concepts. Exploratory examination of best examples, as a basic illustration, supports the theoretical discussion on the concepts.

The second part is an explanatory study of one particular form of Living Edge, which is a common architectural element in Copenhagen – the bay-balcony. Grounded by the three research concepts, the study employs a case analysis with two polar cases of a multi-family house. One case is contemporary, designed by Holscher Architects, the other is older built as a post war urban extension in the forties. The cases are dissimilar, and yet they show a continuation of Danish architectural tradition. This study ends by an evaluation of the findings by the means the theoretical concepts.

The third part of the research is a discussion on the values and barriers of the research topic. The aim here is to broadly develop the characteristics of each concept, based on theory and practice, local and global. The discussion includes theory-driven generalization of the research concepts, and a practical reflection on possible architectural employment of Living Edge in the future.

Following this structure, the research design goes from a general study on the topic, to a study of a detail, back to the general topic of Living Edge – using the research concepts as a common thread. The research design steers the study process from initial research questions to a widespread set of answers, through following themes: introduction to Living Edge, Forman as an inspiration for theoretical position, a theoretical study of the three concepts, an explanatory study of bay-balcony in Copenhagen, reflections and finally conclusion. (Fig. 4)

* 1. **Definitions**
	2. **Delimitation of scope**
	3. **Prolong**
1. **theoretical study**

**The most important sub-chapter here is the third one, which is about the research concepts as a theoretical proposition. It is still missing in this draft. ß**

* 1. **Edge matters - landscape ecology as inspiration**

“What is an edge? We can think about an edge as having been of two sorts. In one, it is a border. In the other, it is a boundary. A border is a zone of interaction where things meet and intersect. A boundary is a place where something ends”[[6]](#endnote-4) (Fig.5). In his work, Sennett develops the difference between border and boundary by an analogy to the biological world – the world of living. As well architects and urban planners often use this analogy as a reference for living architecture. This sub-chapter looks into this metaphor and asks - what can we, architects and planners, actually learn from natural ecologies in the matter of edge.

In the book, Land Mosaics, Richard Forman describes boundary and edges between two-landscape elements. This profound analysis is used as an agent to dive into the natural world.

The coming text goes back and forward from the natural world, represented by Forman, and the urban context of the Living Edge. This reflection process poses important questions, which are left open, for now, and used to point out significances and challenges. A set of answers is developed later in the body of the research.

According to Forman, the meeting point between landscape A and B (for example forest and field) creates dynamic boundary conditions. Forman explains that each landscape element has an interior zone in the centre of it and an edge zone along the borderline, as he writes: “Each landscape element contains an edge, the outer area exhibiting the edge effect, i.e., dominated by species found only or predominantly near the border. The inner area of a landscape element is considered the interior or core, and is dominated by species that are only predominantly live away from the border. A border is the line separating the edge of adjacent landscape elements. Two edges combined compose the boundary zone.”[[7]](#endnote-5) (Fig.6)

Forman underlines that the edge zone has distinctive characteristics, which are not a combination of the two neighbouring landscapes, but a system by itself, characterised by higher population density and diversity of species.

This distinction between an interior and an edge zone, and recognition of the unique characteristics generated by the nearness to the borderline are of interest for the context of the urban house. What is the edge zone between the home and the city? And, what are the distinctive characteristics of this zone?

To distinguish the edge zone from the interior zone, Forman explains three characters of it: dimensions, function, and action. The first two terms are actually used by Forman, and the third is my term.

Dimension. Forman identifies three dimensions of the edge: ‘width’ between the borderline and each interior zone, ‘vertical’ including its height, and ‘length’ along the boundary. According to Forman, these dimensions are important for the understanding of the structure and functionality of the edge zone. Together, they provide a three-dimensional anatomy of it.

Similarly, in the urban context, looking into the dimensions of an edge zone is a tool to articulate the characteristics of it. In this regard, important questions are – How to measure the edge zone? What are the measurements? What are the characteristics of the three-dimensional anatomy of it?

Function. To express the function of a landscape boundary, Forman uses the cellular membrane as an analogy. The key function of such a membrane is “being a differentially permeable filter, that is, letting some materials cross but not others. Different materials cross in different places, time and via different mechanisms…”[[8]](#endnote-6) He mentions three mechanisms of material crossing: passive diffusion, active transport (using energy) drives, and large particles cross in ‘bulk transfers’. Back to his topic of landscape ecology, Forman states that landscape boundary exhibit these functions and more. He writes that five functions of landscape boundary are commonly recognized: habitat, filter, conduit, source and sink. As he explains each of them: habitat – “Edges are often biological cornucopias” [[9]](#endnote-7); filter – “objects are inhibited from crossing between patches on opposite sides” [[10]](#endnote-8); conduit – “when objects move along it (=corridor)” [[11]](#endnote-9); source – “an area or reservoir that gives of objects” [[12]](#endnote-10); sink - “an area or reservoir that absorbs objects” [[13]](#endnote-11).

Learning from the functions of both cellular membrane and landscape boundary - what could be the functions of the edge zone between inside and outside the urban house? In other words, what is the role of the edge zone?

Forman’s statement: “No absolute barriers or boundaries exist in nature, only filters” [[14]](#endnote-12) underlines the filter function of a boundary. This emphasis on filters brings up another interesting reflection to the urban context – what if architecture of domestic spaces had only filters and no absolute barriers? What are these filters and what do they do?

Action. The different between function and action is that function is the role; action is about how this role is actually done. This character gathers three themes from Forman’s work. The first is rates of exchange, according to Forman, the filter function determines the tempo of interaction, which changes constantly, seasonally, or successionally (by development). Second – vectors of transport, Forman mentions that interactions occur through vectors that transport objects in and out the particular landscape. He identifies six vectors: wind, water, flying animals, terrestrial animals, human and machines. And third, moving boundaries, Forman examines the changes in boundary patterns and their mechanisms (Fig.7,8). He explains the tendency to move and change, by the opposing forces are never exerted evenly along a boundary. ”Lobes, coves, and other boundary surfaces appear and disappear” [[15]](#endnote-13).

Rates of exchange, vectors of transport and moving boundaries express possible behaviour of an edge zone. in fact, all three behaviours are performances of interaction and change.

In the urban context regarding the edge zone around the house, the notions of interaction and change advocate interesting questions. Concerning interaction - What are the objects to be moved in and out the urban house? What are the vectors of transport to cross the physical barrier? What is the rate of exchange? Concerning change - How does the edge zone change and move over time? Which lobes, coves, and other boundary surfaces appear and disappear?

Although employing Forman’s work as a conceptual agent illustrates significant issues concerning an edge zone between in and out the urban house, it also has two major limitations.

Firstly, a boundary zone in landscape does not necessarily embrace a physical barrier, while an architectural edge zone encompasses one nearly always.

Georges Perec beautifully describes an uncommon transition between inside and outside of a house without a physical barrier, as he writes: “It’s hard to imagine a house which doesn’t have a door. I saw one day, several years ago, in Lansing, Michigan. It had been built by Frank Lloyd Wright… Bit by bit, as if by chance, without thinking, without your having any right at any given moment to declare that you had remarked anything like a transition, an interruption, a passage, a break in continuity, the path became stony, that’s to say that at first there was only grass, then there began to be stones in the middles of the grass, then there were a few stones and it became like a paved, grassy walkway, while on your left, the slope of the ground began to resample very vaguely something like an open-work roof that was practically indissociable from the vegetation that had invaded it. In actual fact, it was already too late to know whether you were indoors or out”[[16]](#endnote-14). This house is located in a private protected golf club. Therefore the open transition between inside and outside is possible. The urban fabric is not an appropriate environment for a house without a physical barrier between inside and outside (Fig.9).

The dependency on a physical barrier in the urban context adds the architectural edge zone a forth character to the three of landscape (dimension, function and action), which is the matter and materiality - the substance.

Secondly, the application of Forman’s theory is restricted because of the disconnection from urban context and complexity. As Sennett ends the essay Borders and Boundaries by limiting the analogy between natural ecologies and built environment: “At this point, I need to make a break in this procedure (of comparison)-- at least, I can find no simple natural analogy to hand to explain a great paradox of urban experience, a very sensate, physical experience which smudges the distinction between "closed" and "open."”[[17]](#endnote-15). Meaning that although the natural ecologies assist to articulate edge conditions, it cannot be used to express the sensual and physical urban experience of these conditions. After all, people, buildings and cities are fundamentally different from natural ecosystems.

To gap this insufficiency, in the theory chapter, I search for theory from the field of architecture and urbanity, which discusses and develops similar issues as rose here. In this way, Forman is used as an inspirational staring point, which grows and returns to our filed of architecture.

Through the selected theory, the theoretical formation of the research concepts is initiated by the questions:

Edge zone. What are the substance, dimension and function of an edge zone?

Interaction. What is the action of interaction at edge zone? What are the objects to be moved in/out? What are the vectors of transport? What is the rate of exchange? How does the edge zone embrace each type of interaction - resistance, continuity and exchange?

Change. What is the action of change at edge zone? How does the edge zone change over time? Does it shirk and expand, appear and disappear, open and close, or change from static to dynamic? How does the edge zone embrace each type of change - no change, adjustment, changing thickness, natural performance and growth?

* 1. **Intermezzo - architectural behaviour of an edge zone**

What does the edge zone actually do? Behaviour of an edge zone is not restricted to landscape ecology. In his work, David Leatherbarrow develops the idea of architectural behaviour. He calls for a shift in orientation from the type of architectural work (useful or beautiful) to the way the architectural work behaves. As he clearly explains: “from what the building is to what it does” [[18]](#endnote-16). Leatherbarrow considers the building as autonomous or independent from constructional and perceptual intentionalities, and searches for its actions and operations – “not performances in architecture, but performances of architecture”[[19]](#endnote-17). These performances are not an outcome the design or technology, but unscripted events dependent on several incidents: “ those of the inhabitants’ interest and habitual practice, or of the climate, the seasons, and the time.” [[20]](#endnote-18)

In search of the performance of an edge zone, I collected a list of verbs describing possible architectural behaviours of it. Here is the list organized from A to Z.

to absorb // to act // to adapt // to allow // to anticipate change // to balance // to be // to be dynamic // to be ecologically friendly // to be in concert with // to be natural // to be outside // to be restorative // to be wild // to become // to benefit // to bind // to blend // to blossom // to breath // to bridge // to camouflage // to care // to change // to circulate // to climatize // to coexist // to communicate // to connect // to disconnect // to contain // to contextualize // to contribute // to control // to uncontrol // to cool // to correct // to cultivate // to decorate // to delight // to depend // to desire // to develop // to discover // to discuss // to dissolve // to equal // to embrace // to emerge // to enclose // to encourage // to enhance // to enjoy // to enlighten // to equal // to escape // to evolve // to excite // to expand // to experience // to explore // to feel // to flow // to flow out // to frame // to fuse // to gather // to generate // to green // to grow // to habitat // to harmonize // to hybrid // to identify // to improvise // to increase // to inform // to informalize // to initiate // to inspire // to integrate // to interact // to interfere // to invite // to isolate // to keep // to lay on the grass // to liberate // to light // to live // to liven // to love // to maintain // to mediate // to meditate // to meet // to move around // to negotiate // to network // to open // to organize // to orient // to penetrate // to perceive // to permeate // to place // to plant // to play // to preserve // to process // to promote // to protect // to qualify // to react // to rebuild // to reconcile // to recreate // to recycle // to reduce // to refer // to refresh // to relate // to relax // to remember // to renew // to respond // to reterritorialize // to reuse // to reveal // to seasonally use // to see // to self-sow // to sense // to shelter // to shift // to socialize, // to solve, // to stay // to stimulate // to surround // to sustain // to sweat // to synthesize // to systemize // to thematize // to theorize // to touch // to trace // to uncultivate // to understand // to unfold // to unpredict // to view

Out of this long list, and influenced by Forman, two architectural behaviours of an edge zone are developed along the research process: interaction and change.

These architectural behaviours are sensitively described by this quote of Venturi: “Designing from the outside in as well as the inside out, creates necessary tensions, which help make architecture. Since the inside is different from the outside, the wall – the point of change – becomes an architectural event. Architecture occurs at the meeting of interior and exterior forces of use and space. These interior and environmental forces are both general and particular, generic and circumstantial. Architecture as the wall between the inside and the outside becomes the spatial record of this resolution and its drama. And by recognizing the difference between the inside and the outside, architecture opens the door once again to an urbanistic point of view.”[[21]](#endnote-19) In view of that, through interactions of interior and exterior vocabulary, architecture actually appears, and change is the spatial record of the resolution and drama of interactions.

* 1. **Theoretical proposition – edge, interaction and change**

Here I am discussing about each concept through the selected theory and using best examples as a basic illustration of them. The research concepts are the theoretical proposition of the study.

* 1. **From theory to methodology**

This is the last sub-chapter before the theory chapter. Here I am connecting chapter two (theory) with chapter three (method) by describing in short how the theoretical discussion on the three concepts construct the research method.

1. Footnote:

 Wright, F. L., 1943. Frank Lloyd Wright: An Autobiography. Ed?. Portland: Pomegranate Communications Inc. [↑](#endnote-ref--1)
2. Schunck, E., 2003. [↑](#endnote-ref-0)
3. The Technical and Environmental Administration, City of Copenhagen, 2007. *Eco-Metropolis: Our Vision for Copenhagen 2015.* [↑](#endnote-ref-1)
4. The Technical and Environmental Administration, City of Copenhagen, 2007. *Eco-Metropolis: Our Vision for Copenhagen 2015.* [↑](#endnote-ref-2)
5. 2012, Befolkningsfremskrivning for København 2013-2027 [↑](#endnote-ref-3)
6. Sennett, R., 2005*.* Democratic Spaces*.* Hunch 9*,* BerlageInstitute. pp. 40-47 [↑](#endnote-ref-4)
7. Forman, R., 2006. Land Mosaics, The ecology of landscapes and regions. 9th ed. Cambridge: Cambridge Univesity Press. pp.85 [↑](#endnote-ref-5)
8. Forman, R., 2006. Land Mosaics, The ecology of landscapes and regions. 9th ed. Cambridge: Cambridge Univesity Press. pp.96 [↑](#endnote-ref-6)
9. Forman, R., 2006. Land Mosaics, The ecology of landscapes and regions. 9th ed. Cambridge: Cambridge Univesity Press. pp.96 [↑](#endnote-ref-7)
10. Forman, R., 2006. Land Mosaics, The ecology of landscapes and regions. 9th ed. Cambridge: Cambridge Univesity Press. pp.148 [↑](#endnote-ref-8)
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