

# Creating a chromatic atmosphere: The colour design process of the new Koivusaari neighbourhood in Helsinki

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This study explores a colour design project of a new neighbourhood, Koivusaari, in Helsinki, Finland. The author has worked as the colour designer of this area and analysed the design process and the used colour design methods. The research questions are 1) How to design the colours of a new neighbourhood, and which methods are used at each planning stage? 2) How to design the atmosphere of a new neighbourhood with architectural colours? This paper describes the colour design process of Koivusaari and compares it with two previously documented urban-scale colour design projects. The Koivusaari project has a distinctive character, because the design target is to design colours for the design guidelines and not for directly to the existing architecture or the facades. The practice-led study has identified eight steps. The first steps of the colour design process are quite similar to the other compared projects. The analyses of the landscape, townscape and colourscape in different seasons and weather have given information about how to integrate a new residential area to the landscape. The chromatic atmosphere of the surrounding landscape and the experience-based envisioning of the new architecture were the basis for the design guidelines and new identity of the neighbourhood.

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## Introduction

This paper documents one section of a practice-led doctoral research about the methods and the colour design process of Koivusaari, a new housing area in Helsinki, Finland. Koivusaari is a 17-hectare island in the coastal archipelago of the Baltic Sea, between the cities of Helsinki and Espoo. After landfilling it will grow to 34.7 hectares. There are two traditional sailing clubs and a few buildings to be demolished and new constructions for the metro station. Otherwise the island is in a natural state and the plan includes the preservation of two green areas.

The railway station of Helsinki is only about five kilometres from Koivusaari, and visually the new neighbourhood will be a part of the cityscape of Helsinki. In 2035, the island will be a home to 5000 inhabitants and a workplace for 4000 people.

During this research project, I have acted as the colour designer in the Koivusaari–Lehtisaari team in the City of Helsinki detailed planning department. The project started in 2016 with analysing the site and making the first sketch and continued in 2017 with the colour workshop with the urban designers, the main colour designing, and the colour idea formulation for the detailed plan and design guidelines. The target of the colour design in Koivusaari was to formulate a detailed plan equipped with a general colour design concept and the more specific colour design guidelines (Block Cards) for architects who will design the buildings. The general architectural colour design was connected to the landscape, the cityscape and the architectural atmosphere of the new neighbourhood. Understanding the variations and changes of colours in the landscape through the seasons was also important. The purpose of the colour design, the size of the new area, the perspective of the timeline, the island's location, the Nordic weather, the seasons and the light variations at Latitude 60°N, made Koivusaari a special case to design and study.

The main question of this paper is practical: 1) How to design the colours of a new neighbourhood, and which methods are used each planning stage? The second question follows: 2) How to design the atmosphere of a new neighbourhood with architectural colours? With the second question, the research is connected to the conversation about atmospheres of architecture, exploring the role of colour *making the atmosphere* [1] in urban design contexts.

## Earlier research

There is very little literature about colour design or colour planning related to urban design, and especially to detailed plan and design guidelines. I have compared the colour design process of Koivusaari with two other more recent large-scale colour design processes: Smedal's colour designing for Longyearbyen, Svalbard, Norway [2], and Lancaster's research on colour strategies in England [3]. Smedal has divided her *Working Method* into seven parts:

1. Registration
2. Analysis
3. Formulating the objective (describing the desired total result in ideal terms)
4. Overall colour plan – a visualisation of the basic ideas
5. Colourisation House-by-House
6. Presentation as a base for decision-making
7. Description of the use colour detail for the execution of the colour scheme in the years to come [2 p14-15]

Smedal's colour design encompasses one project while Lancaster's approach is more comprehensive. According to Lancaster, "A colour strategy implied not only a plan but also the establishment of procedures – working methods that are both practical and economically viable." [3 p88]. His vision about the stages is as follows:

1. A survey of the site and surroundings, including patterns of development of landscape and buildings, materials and colours.

2. An analysis of the above based upon existing survey criteria and information (history, geography, geology, architecture and planning etc.) derived from research and consultation.
3. The colour strategy plan.
4. Presentation by public exhibition, brochures, broadcasts and television.
5. Implementation procedures.
6. Management, constituting the long-term control of the colour strategy [3 p89].

Colour design is an artistic act that is based on the *genius loci* and aims at the creation of a *new local identity*. That is why this paper also considers Lenclos's concept, the *geography of colour*, and his methods to analyse architectural colour [3 p69-73, 4], in particular in the analysis of the existing architecture of Koivusaari's neighbouring suburb, Lauttasaari.

Understanding the effect of the seasons and weather on the colours is crucial in the Nordic countries. Fridell Anter used five categories of seasons in her research about the perception of architectural colours in Uppsala, Sweden [5 p198]: winter brown, spring green, summer green, autumn green and winter white. Smedal analysed the colour scales in Longyearbyen in relation to white (snow) and black (blackish ground in the snowless period) [2 p28-30]. Fridell Anter's research about the colour palette of the nature [6] and her results about the factors which influence to the perceived colours of the facades [5 p40] influenced to my design. I compared my colour choices with the traditional scale of the Falun red [7] and NCS Exterior colours [8].

The architectural colour design of the Koivusaari neighbourhood will be related to the adjoining coastal landscapes and townscape of the cities of Helsinki and Espoo. Two concepts are essential in this study: Böhme's "*making atmosphere*" [1 p20-22] and Lancaster's *colourscape* [3 p6-7]. Böhme describes the position of the buildings in the landscape in producing locality:

*"The knowledge of the landscape gardener thus consists according to Hirschfeld in knowing by means of what elements of the character of a locality is producer. Such elements are water, light, and shade, color, trees, hills, stones, and rocks, and finally also buildings."* [1 p22]

Lancaster outlines his explanation:

*"... Both 'landscape' and 'townscape' have the advantage of being associated with space and with buildings seen from the outside, either as landmarks within the space or enclosing it. Accordingly, I have chosen 'Colourscape' as an appropriate title ..."* [3 p7]

In Koivusaari, the elements of the landscape are the colours of the sky and the sea, the band of the islands on the horizon, and, lastly, the buildings in that narrow line (see Figure 1).

Perñao has opened the phenomenological approach to colour surveys in architecture, such as *landscape, townscape, image of city, synesthesia, colourscape, geography of colour, colour loci, emotional atmosphere, light and time* [9]. In my research, the question about how to construct, make, build or create architectural atmosphere is crucial. [10 p3-9]. Havik, Teerds and Tielens ask: "*How does the search for atmosphere work within the design process in relation to the notions of material, craft and detail? More specifically: Is it actually possible to build atmosphere?*" [10 p9]. In this practice-led research, I formulate the question in the opposite way: How to design the atmosphere of a new neighbourhood with architectural colours?

## Research methods and data

In the Koivusaari design process, I have worked in a two-fold role: first as a colour design consultant for the city of Helsinki; second, as a researcher analysing the material. This means that my research method has been the process of designing: sketching, drawing, painting watercolours, using a virtual model, building a cardboard model, writing personal notes, walking on site, taking photographs and measuring colour with NCS. The design process was cyclical in nature, starting with briefing and continued with iterative processes with loops of stages and questions about proceed or return, and ending to the outcome, what was the final design guidelines [11]. The resulting research data were diverse: sketches, photographs, notes, voice-recorded meetings, NCS measurements, a SketchUp model and a cardboard 3D model.

The guiding principle in reporting the design process has been transparency. As the subject of design is colour, which has both artistic and aesthetic value, the aesthetic choices could be different depending on the designer. Therefore, when reporting about artistic research, I have considered it important to open up all my design choices and solutions in a way that the reader understands the process (even if the reader may disagree with the choices). [12]. The aesthetic values to the final neighbourhood can be criticised only after the building process.

## The colour design process of Koivusaari

The aims and wishes stated in area's design brief were used as guidelines for the colour design (*Block Cards*, see page 8). The Koivusaari project required a general colour concept and the more specific guidelines for the approximately ten of the smaller areas or blocks that will be built first. The urban designers expected that the colour design of the new architecture could help in the challenging situation, in which a new, enlarged island needs to be integrated to the landscape. The colour scale should be calm with yellowish-brownish earth colour; only white should be avoided. The colours of Koivusaari should also have a connection to the colours of the *downtown* and the *townscape* of Helsinki. The purpose of the first part of the design in 2016 entailed doing the main analysis, the sketch for the colour scale and the perspective pictures to show the main idea. The main colour design started after the permission of The City Planning Committee in 2017. My aim as a designer was to design a new *identity* for Koivusaari with colours, and the specific colour scales and *atmospheres* for its smaller areas.

The colour design proceeded into a deep collaboration with the city planners. During the design process, we had a meeting every few weeks. The design process was an iterative one [11]: whenever the meeting identified a question or a problem, the design was adjusted accordingly. Then, I produced information by designing and planning, like analyses, visualisations, sketches, pictures and we discussed them in the subsequent meeting. In the analysis of the Koivusaari colour design process, I found eight separate steps, in which each step has a specific aim and purpose in the whole process.

### 1. Introduction

The first steps of the colour design project included familiarising with the facts, the earlier report such as the maps, the planning and the SketchUp 3D model [13] of the area. The 3D model had been made by the Koivusaari-Lehtisaari Team a few months before I started. The colours of the model were added by the planning department to avoid a white model. The crucial background information was the sketch of the detailed plan. The detailed plan defines the qualitative features of the new neighbourhood,

such as building heights, building materials and colours. The materials of the facades were designated plaster or brick, except for the Koivusaari bay, where they are to be wooden. In the earlier reports, Koivusaari had been studied by looking at landscape from the island itself. My strategy was to gather new information about the *cityscape* and *landscape* against which Koivusaari is seen in different seasons and weather conditions.

As a designer, I regarded a multi-sensory experience of the site and an intuitive understanding about the atmosphere in different seasons, the weather and illuminations as equally important as the factual data received in the *Introduction* (I) step. After this first step, I had the confidence and an understanding to formulate four atmospheric and aesthetic analyses.

## II. Analysis

First, I gathered more information about the coming urban planning in Espoo, because Koivusaari is situated on the border of Helsinki and Espoo. Second, I increased my understanding about the *cityscape* in the winter and summertime from four viewpoints (Figure 1). Third, I merged a perspective with a SketchUp 3D model for panorama pictures in Photoshop. The goal was to understand how the building process will change the *landscape* and the *cityscape* (Figure 2). Fourth, I collected data about the colours and materials of the architecture of Lauttasaari. I took photographs and made colour measurements with NCS from the plaster facades. The point was to have more information about the adjoining coastline and a reference point in the closest prevailing architectural atmosphere. The new Koivusaari plan has been strongly criticised by the inhabitants of Lauttasaari, and it was important to carefully consider the visual and mental connection.



Figure 1: The view to Koivusaari from the south. Koivusaari is situated in the middle. On its left is Espoo and on its right Helsinki. The elements of the landscape are the sea, the sky and the band of the islands in every season.



Figure 2: The cityscape with SkechUp model with the previous view.

After four different types of analysis, I wrote the conclusion and the main starting points for the colour design. The following serve as an example: From the north, Koivusaari is more or less against the light, thus the hues of the buildings can be lighter. From the south and the open sea, the coastline looks more natural and the buildings should be darker and more in brown-green-scale. I chose “grey weather” to the basic situation. The sea and the sky are often grey in the summer as well as in the winter, probably increasing with the climate change (Figure 1).



### III. Sketches and colour concepts



Figure 3: The colour sketch. On the north side of Koivusaari, the colours come from the colour scale of the reeds at the shoreline after the winter: ochre, yellow, grey, brown. The colours in the Koivusaari bay, come from typical old fishing harbour buildings, with Falun red -type red and grey. In the other parts of Koivusaari, the colours come from rocks, lichens and skerries on the Baltic Sea.

The colour concept and the first sketches arose from the deep analysis and the final conclusions about the site. The colours of the buildings came from the colour scale of nature. One purpose of the colour design of Koivusaari was to create the identity of the new neighbourhood with colours and to connect the new neighbourhood to the landscape and the cityscape. My colour concept illustrated a new vision of the colour scale and atmosphere of Koivusaari with a photo-based collage. The idea to use natural colours in the buildings come already earlier, but the analysis pointed out how to do it (Figure 3).

### IV. Perspective of the colourscape



Figure 4: Koivusaari from the north. On the north side of Koivusaari will be mostly in back light. On the north side, the buildings are in shadow, and that is why the colours of the facades can be lighter than in the previous picture from the south. Lauttasaari on the left side is close to Koivusaari. On the right side is Espoo. In the middle of Koivusaari, the highest building will have eleven floors. The higher darker buildings create a background to the lower lighter buildings on the coastline, and on the opposite side to the white buildings of Lauttasaari. The contrast between the sky and the coastline stay the same.



Figure 5: Koivusaari from the south. The basic elements of the landscape are sky, sea and the band of islands, where the natural and built environment alternate. That is why the darkness of the buildings should be close to that of the trees. The right side with the yellow-red-brown scale has remained the same in the last version. The left side with green buildings has developed in the next steps of planning.

Two perspective pictures conclude the first part of the colour design. The sketch of the detailed plan of Koivusaari [14] needs to be approved by the City Planning Committee before permission to continue the urban planning [15]. Two perspectives were needed to show the principal idea and colouration, and how the building changes the cityscape and the landscape.

The perspectives are the result of the design process with the 3D model. The Urban designers had used it as a tool to design, develop, draw, build and test the plan. [13]. The 3D model has used on 2D pictures, such as the cover of the sketch of the detailed plan [14]. In this step, I used the SketchUp model to show the perspective of the *colourscape*. The applied colour design methods were SketchUp-modeling, colour pencils and NCS, as well as merging the 2D SketchUp picture with the photos (Figures 4 and 5).

#### V. Colour workshop

The second part of the colour design process was started with a Colour Workshop (later CW). After receiving The City Planning Committee's permission in April 2017, my next goal was to do the main colour design and the colour information for the Block Cards. The CW was a brainstorm type of a design method. It started with an introduction of the design guidelines of the nine other neighbourhoods in the capital area of Helsinki. Next, we compared them with Koivusaari and continued with a lively discussion about the *desired identity* and *architectural atmosphere* of Koivusaari. The targets of the CW were to have a common goal as to how the colours and the architecture come together in Koivusaari, to discuss critically earlier steps of the colour design process, to have feedback about The City Planning Committee's permission, and to decide how to formulate the main idea about the architectural colours into the Block Cards. The atmosphere during the discussion was very open and confidential.

Methodologically, the CW differed from an ordinary meeting or a brainstorming session, because I analysed and manually coded an audio recording of the meeting [16 p28-30]. The first cycle of the coding produced information about the following seven subjects:

1. Targets of the colour design.
2. Subjects to avoid in future colour design.
3. Subjects which are related to the landscape, the cityscape or other large scale.
4. Aspects about the architecture of the smaller areas or the blocks.
5. Observations for forthcoming SketchUp design.
6. Details of the architecture.
7. Targets of the final Block Cards [17].

The analysis gave a clear direction for the upcoming colour design process and a shared target how to formulate architectural colours in the detailed plan and the Block Cards. I returned to the memo of the CW during the colour design, SketchUp updating and the finalising of the Block Cards. The CW produced information about what could be used even word-for-word in the Block Cards.

#### VI. Additional analysis

In the Koivusaari case, the colour design process was carried out simultaneously with the main urban planning process. I needed more understanding about the new urban plans before starting the main colour design. The analysis methods were similar with step *II Analysis*: Observing and walking in the surroundings of Koivusaari, taking photos and merging them with a SketchUp 3D model for panorama pictures in Photoshop. I knew that the west and the north side of Koivusaari would be constructed last

and would therefore be excluded from the *Block Card* preparation. I nevertheless needed to have some sense of these areas in order to update the architectural colours into the all-inclusive SketchUp model.

### VII. Colour designing of the neighbourhood and the Block Cards

The idea of the Block Cards is that the architect will get the detailed design guidelines on two A4-size pages: one double-sided cover page about the whole neighbourhood, and one page about the specific block on the particular site. Koivusaari will be the second new neighbourhood in Helsinki where a new type of design guideline will be used.

The Block Cards design phase turned the focus of the designing from the *cityscape* to the inner parts of the island. The starting point was the experience of a pedestrian and a resident of the *views* and *continued spaces* which the new architecture would offer. I also asked myself how colours can support *orientation* on the island.



Figure 6: The collage about the eleven used colour design methods in the main colour design of Koivusaari.

I used the following colour design methods:

1. Picking the colours of the reeds in May (after winter, before summer), September and October.
2. Making watercolours sketches of colour scales of the smaller areas.
3. Picking the scales in downtown Helsinki and in Sicily for inspiration and to study of the variation of the scales.
4. Translating the scale of the nature colours from the NCS nominal colour of the reeds and other scales from photos of nature to the language of the architecture (Figure 6 left).
5. Taking screenshots of the most important views of the SketchUp model in order to visualize a pedestrian experience of Koivusaari.
6. Scrutinizing the 3D cardboard model and considering the scale of the 'colour cloud' and the rhythm between the darkest, lightest and greenest colours of the buildings.
7. Sketching with coloured pencils on the printed 2D screenshots.
8. Working with urban designers to transfer my sketches of the colour scale of the blocks to the SketchUp model.
9. Taking once again the 2D screenshots from the main views and the continued spaces of the SketchUp model to envisage walking inside the neighbourhood.
10. Updating the colours of the whole SketchUp model.
11. Sketching the first versions about how to formulate the idea for the final guidelines, Block Cards.



I did this colour design step in November and December 2017. In Helsinki (60°N), the winter sun is up only for five to seven hours, and on a cloudy day it is possible to work with colours in natural daylight only for a few hours. Therefore, I needed the next and the last loop in the colour design in May 2018.

### *VIII. The detailed plan and the design guidelines in the Block Cards*

The urban planners are completing the detailed plan at the time of writing this article. I will check in 2019 that my colour design supports the last version. The openness of future developments is the most significant challenge to the colour design guidelines: How is it possible to design and direct architectural colour that will be applied in practice after 10 to 20 years from now? In Koivusaari, the design guidelines aim to express the 'rules of the game' or the 'algorithm' of the architectural colour design for future implementation.



*Figure 7: The collage of the mediums to guide the architectural colours of Koivusaari.*

The Block Cards presented the colour scale of Koivusaari, the colour scales of the blocks, the principals of the colour and architecture, the principals of the colours of one building with the adjoining buildings, the colourscape of the shoreline and the colours in the landscape in four different weather. I used several types of media to formulate this colour information. The cover page included a verbal description, instructions for the architectural colours and materials with an up-to-dated picture of the colour concept (Figure 3). Four areas were given more detailed specifications. On the other side of the cover page, I included four photos taken from the south in four different seasons (see Figure 1). The point of these more specified guidelines was to involve the architects in applying the colour scheme in their architecture in four ways:

1. With an intuitive way, encouraging to use "inspiration pictures" from nature.
2. With the free colour scales of the watercolours without a connection to the scale of architecture or the building material.
3. With proposals of the NCS nominal colours showing the colour scale and the limits of the 'colour cloud' of one block.
4. With perspectives from the SketchUp model, which indicate the rhythm of the colours on the buildings in a specific block, and how the colour scale of this block fits the surrounding blocks and the landscape

During this last step of the colour design process, I made some 'last-minute final check excursions' to the existing neighbourhoods to finalise my selection of the nuances of the reds and the greens. I also compared my NCS colour choices with the scale of NCS Exterior colours [8]. I found many similar colour choices, and one difference. The scale of NCS Exterior was slightly warmer than my colour scales.

## Summary and discussion

This paper has discussed practice-based experiences around two research questions: 1) How to design the colours of a new neighbourhood, and which methods are used at each planning stage? 2) How to design the atmosphere of a new neighbourhood with architectural colours? The second question connected the practical colour design to the concept of *architectural atmosphere* and the role of the colour on it. The colour design targets in Koivusaari were to formulate a general colour design concept for the detailed plan and the more specific colour design guidelines (Block Cards) for the architects who will design the buildings. The Koivusaari case study has identified eight steps in the colour design process:

- I. Introduction
- II. Analysis
- III. Sketches and colour concepts
- IV. Perspectives of the colourscape
- V. Colour Workshop
- VI. Additional analysis
- VII. Colour designing of the neighbourhood and the blocks
- VIII. Detailed plan and the design guidelines

The colour designing of a Koivusaari was similar to two other large-scale colour design processes, but differed from the colour designing of their later phases. First, the designer needs the *Introduction* (I). Smedal calls it *Registration*, and Lancaster *A survey of the site and surroundings*. Second, Smedal, Lancaster and Lenclos argue for systematic and deep *Analysis* (II) about the site, the architecture and the surroundings with different methods, around-the-clock and during different seasons, and taking into consideration the influence of new buildings on the landscape. The third step involves *Sketches or formulating the objective* (Smedal) or *Sketches and Colour concepts* (III). The fourth step is the main colour designing; *Overall colour plan* (Smedal), *The colour strategy plan* (Lancaster) and *Colour designing of the neighbourhood and the blocks* (VII). The result of the colour design process is *Colourisation house by house* (Smedal), *The colour strategy plan* (Lancaster) or *Detailed plan and design guidelines* (VIII) of Koivusaari. During the later stages in the Koivusaari project, *Perspective of colourscape* (IV), *Colour workshop* (V), and *Additional analysis* (VI) were needed before finalising the main colour design. On the other hand, Smedal and Lancaster focused at this stage how the colour plan is presented to the audience and how the colour plan will be followed in the future.

The purpose of the colour design of Koivusaari was to contribute to the *identity* and *atmosphere* of the new neighbourhood with colours, and to connect the new neighbourhood to the *landscape* and the *cityscape*. The colours of the facades come from nature, but the scale of the colour is translated to the language of the architecture. Lancaster's *colourscape* [3 p6-7] was a useful concept for the *Perspectives of the colourscape* (IV), when the purpose was to show the colour scale of new buildings on the shoreline and in a landscape. The purpose of *the Sketches and the colour concept* (III) was to show the main

vision, but to keep open the next possibilities of evaluation of ideas. The photos narrated the chromatic atmosphere of buildings allegorically. Cordero-Jahr used in her presentation at the AIC interim meeting in Lisboa a new concept: *chromatic atmosphere* [18]. She had introduced the term *atmósfera cromática* to describe the chromatic atmosphere of a landscape or the colours of architecture.

*The Colour Workshop* (V) opened the discussion about the concepts, which are used discussion on colour design in different scales: In the large scale (*landscape, townscape, cityscape, colourscape*), the buildings are part of the landscape. Böhme also considered the position of the buildings in the landscape in producing locality [1 p22]. In scales of the neighbourhood, blocks or buildings, we discussed *architecture, facades, volumes, materials, details, windows, balconies, and roofs*.

*Colour designing of the neighbourhood and the blocks* (VII) turned the focus of the designing from the *cityscape* to inside the island. The starting point was the *experience* of a pedestrian and a resident. In this case, I operated with *volumes of the buildings, the illumination, materials of facades, spaces, distances and reflections*. Many of the subjects are mentioned in Fridell Anter's research about the factors which influence the perception of colours of facades [5 p40]. According to Böhme, "*Atmosphere is the common reality of the perceiver and the perceived.*" [1 p20]. In the process of the design, the designer replaces her/himself with the perceiver: "*It is the reality of the perceived as the sphere of its presence and the reality of the perceiver, insofar as in sensing the atmosphere s/he is bodily present in a certain way.*" [1 p20]. I argue that the architectural colour designer should pay attention both to the complex phenomenon of perception of the façade colours (Fridell Anter), and the factors that affect the imagined experience of the architectural colour. The design of the atmosphere of a new neighbourhood with colours requires both of these elements to be present.

The literature about architectural atmosphere talks about the making, building or creating of an atmosphere, but seldom addresses the role of colour in this process. The colour design process of Koivusaari resonates strongly with Böhme's concept of *making the atmosphere* but extends it to making/creating/building the atmosphere with colour in a new neighbourhood. In the discussion of the atmosphere, the colour has been one factor of the atmosphere of the architecture *or* the landscape. *Chromatic atmosphere* opens the view point into the atmosphere of the architecture *and* the landscape together. The used colour design methods applied in Koivusaari that *chromatic atmosphere* is a both a practice-based and theoretical concept.

## Conclusions

This paper introduced eight steps in the colour design of Koivusaari, the final result being the detailed plan and the Block Cards. The research opened both practical and theoretical themes for reflection. The comparison with other large-scale cases points out the importance of a deep and comprehensive analysis before embarking on the actual colour design phase. The paper elaborates a new concept of *chromatic atmosphere* [18] as highly intriguing and useful, for it resonates with Böhme's idea of *making the atmosphere*. Architectural colour is a strong medium for connecting the built environment with the landscape. There has been very little interaction between the research and practice of the colour design. The study prompted two more questions: How is the architectural colour design related to the space in different scales: landscape, townscape, blocks and buildings? What concepts do we use when talking about the environmental colour design? This paper discussed one designer's working methods: what she was thinking and doing when creating an atmosphere or an identity for a new neighbourhood, and how she formulated the design guidelines. However, there could be other ways to formulate architectural colours as well, so colour design guidelines deserve to be investigated further.

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## References

1. Böhme G and Thibaut JP [Editor] (2017), *The Aesthetics of Atmospheres*, Abington: Routledge, 20-22.
2. Smedal G (2009), *Longyearbyens farger – veien videre = The Colours of Longyearbyen – An Ongoing Project*, Eget forlag John Grieg AS, Bergen, 14-15, 28-30.
3. Lancaster M (1996), *Colourscape*, London: Academy Group Ltd., 7, 69-73, 88-89.
4. Lenclos JP and Lenclos D (1990), *Les couleurs de la France*, Paris: Éditions du Moniteur.
5. Fridell Anter K (2000), What colour is the red house? Perceived colour of the painted facades, *Doctoral Thesis*, Department of Architectural Forms, Institution of Architecture, Royal institute of Technology (KTH), Sweden, 40,198.
6. Fridell Anter K (1994), *Naturens färgpalett. Inmätta färger hos vegetation, sten och mark*, Värnamo: Fälths Tryckeri.
7. Fridell Anter K and Svedmyr Å (2004), *Mikä talolle väriksi* (Finnish translation by Lauri Niemi), Helsinki, Kustannusosakeyhtiö Hakkuri, [Original Swedish edition: *Färgen på Huset*, Stockholm, Forskningsrådet Formas, 2001], 64-66.
8. NCS (2010), NCS Exterior, A Colour Chart.
9. Perñao J (2017), A phenomenological approach to colour surveys in architecture, *Journal of the International Colour Association*, **19**, 23-33.
10. Zumthor P, Havik K, Tielens G, Teerds H and Pallasmaa J (2013), OASE, *Building Atmosphere*, NAI010 Publishers, **91**, 3-9.
11. Jones JC (1992), *Design Methods*, New York: Van Nostrand Reinhold, 76.
12. Varto J (2018), Artistic research. What is it? Who does it? Why?, *Aalto University Publication Series: ADA 6/2018*, School of arts, Design and Architecture, Aalto ARTS Books, Espoo, 94.
13. <https://www.youtube.com/watch?v=lgHtlIGqAO4> – last accessed 8 December 2018.
14. <https://www.hel.fi/helsinki/fi/asuminen-ja-ymparisto/kaavoitus/osallistuminen/> – last accessed 8 December 2018.
15. [https://www.hel.fi/static/public/hela/Kaupunkisuunnittelulautakunta/Suomi/Esitys/2017/Ksv\\_2017-01-31\\_Kslk\\_3\\_EI/6241F82B-6472-CFD9-B7A0-59CFF2C00008/Liite.pdf](https://www.hel.fi/static/public/hela/Kaupunkisuunnittelulautakunta/Suomi/Esitys/2017/Ksv_2017-01-31_Kslk_3_EI/6241F82B-6472-CFD9-B7A0-59CFF2C00008/Liite.pdf) – last accessed 8 December 2018.
16. Saldaña J (2016), *The Coding Manual for Qualitative Research*, SAGE Publications Ltd., 28-30.
17. Pyykkö S (2018), Kaupunkikuvasta asemakaavaan ja korttelikortteihin–Väriyöpaja uuden asuinalueen kaupunkisuunnittelun välineenä, *Proceeding of the 10<sup>th</sup> Architectural Research Symposium*, Espoo (Finland), 36-38.
18. Cordero-Jahr E (2018), Travel journal (in colours) of Lisbon city, *Proceedings of the International Colour Association (AIC)*, Lisbon (Portugal), 333-336.