

Understanding aesthetics of urban environment through drawing

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Abstract

This paper addresses the general question of how to enhance aesthetic experience in urban space and suggests that practice-led inquiry can provide a setting for a deep experience of surrounding landscape, critical reflection and verbalisation of situated or embodied knowledge. The paper is build around a pilot study were artistic practices are used to capture and analyse phenomena while theoretical framework helps to interpret the data. Data is collected during drawing experiments. Content analysis, based on methods of inductive and deductive coding, is applied to it to derive main themes and provide a platform for ideas and interventions. As a result, two strategies for improving aesthetic experience of the area in question are outlined.

KEYWORDS: environment, aesthetics, drawing, practice-led research.

Introduction

Research on aesthetic qualities of environment rarely relies on practice-led methodologies: flowing between the philosophy of art, environmental physiology and geography it searches for universal principles and explanations that define human response to different environmental settings. This area of inquiry developed from theoretical foundations made by 19th century philosophers of art to the rise of rigorous empirical studies in 1960s followed by attempts to create a new conceptual framework based on evolutionary theory (Appleton, 1975; Kaplan, 1982).

Today environmental aesthetics embraces not only natural landscapes, but also man-made forms and activities that happen within the space. The multitude of relations encompassed

by this embrace requires the development of new empirical approaches to answer the following general question: how can aesthetic experience in urban space be enhanced? This question necessitates understanding of the aesthetic qualities of the urban environment, and this is where explorative and practice-led methods can become an important source of knowledge.

The purpose of this paper is to consider how explorative practices can be used to achieve a deeper understanding of aesthetic value in the environment. It is built around a pilot study and describes a theoretical framework that supports the interpretation of empirical data.

Background

Philosophical foundations in the aesthetics of nature were created in the eighteenth century and included concept of disinterestedness (abstraction of aesthetic appreciation of nature from the appreciator's particular interests or views) as well as notions of beauty, the sublime and Picturesque. Empirical grounds in this area were piloted by Fechner who in 1876 wrote a book on experimental aesthetics where three methods were outlined: "method of choice", "method of production" and "method of application" (Berlyne, 1972 p. 309).

Dimensions of complexity and order, which will be discussed later, were introduced by Gestalt school and used as key variables in the influential mathematical theory of aesthetic value that Birkhoff proposed in the 1930s (Berlyne, 1972 p. 312).

In the nineteenth century, philosophy turned its attention to the art, and environmental aesthetics followed a different track: influenced by Positivism, by middle of 20th century it was objectified and quantified to suit the needs of landscape management policies that saw the aesthetic quality of the environment as a valuable resource. In the 1960s, the term of "Landscape assessment" appeared as an umbrella to standardise visual quality research and foster land-use decisions.

Among the drawbacks of quantifying environmental aesthetics was the way it described the environment in terms that are independent of the perceiving individual, treating the physical setting as the sole predictor of preference (Fenton and Reser, 1988, in Nasar, 1988 p. 108). As a critical response, theories explaining the connection between human

perception and environmental preference started to appear, such as Appleton's Prospect-refuge theory, which proposes that human preferential responses to landscapes are in part inborn and derive from biological requirements for survival (Appleton, 1975). Empirical research by Kaplan & Kaplan further develops this theory defining relationships between the content of landscapes and human preferences through evolution of cognitive processing. According to their framework, which can be applied to both urban and natural settings, landscapes that are preferred are coherent, legible, complex, and mysterious (Kaplan & Kaplan, 1982). Although this conclusion provides an interesting ground for experiments, some important elements are still lacking, for example, in the exact definitions of coherency and complexity. The goal of the study described here, is therefore to find alternative ways of exploring these qualities via alternative approaches.

Practice-led research

According to Pedgley, practice-led research is a mode of enquiry in which design practice is used to create an evidence base for the phenomena in question. It is aimed at eliciting and communicating new knowledge originating from these creative practices (Pedgley, 2007 p. 463). Practice-led research often relies on introspection, visual documentation and critical reflection.

There is a connection between this definition and what Porteous classifies as a Humanist approach to environmental aesthetics: non-positivist, sometimes explicitly phenomenological, relying on personal experience, intuition, and inductive reasoning (Porteous, 1982 p. 54). In the area of landscape assessment, reliance on personal opinion is also a common practice: according to Zube (1976), landscape quality can be assessed by means of judgements based on professional expertise. Expert paradigm (involvement of experts in evaluation of landscape quality) is described by Sanoff and implies the use of judges' ratings to determine the values of pre-defined landscape variables (Ibid, 1991). The commonality of two methods is relying on the opinion of someone who is a trained expert in the area of aesthetics (an architect, artist or designer), but there are distinctive differences: firstly, landscape assessment methods use observation as a main ground for judgement, while practice-led research may involve artistic practices to enable thinking in action. Secondly, the outcomes of a landscape assessment process are numeric grades and checklists, while practice-led exploration can result in a lot of media including text and

images. When a deeper understanding of the phenomena (versus management and decision making) is needed, the second approach might prove more relevant.

Method

For the present study a phenomenological approach was adapted so as to correlate empirical observations gathered through creative practice with an established theoretical foundation. Drawing experiments are the core of the method: a practice-led exploration that is followed by qualitative analysis. Drawing based method of enquiry as described by Anderson (observational drawing) involves hand-eye coordination, analysis, delineation, abstraction, improvisation, collage and deep concentration. The author stresses that concentrated observation within the act of drawing creates new perceptual or tacit knowledge (Ibid, 2013, p. 4). This assertion forms the ground for the present study: the act of drawing is used to provide a setting for a deep experience of surrounding landscape, critical reflection and verbalisation of situated or embodied knowledge.

In the experiment, drawing practice is followed or accompanied by reflective conversation or thinking on action sessions which provide verbal reports of the activity. Content analysis of the reports classifies text into categories or topics that represent similar meanings (Weber, 1990). Finally, clustering emerging topics into themes leads to suggestions for how to improve aesthetic experience of the space in question.

The theoretical framework employed is derived from literature on environmental aesthetics and focuses on so-called aesthetic variables: qualities of the perceived environment that influence human response. Several attempts at their classification have been made by researchers: Nasar describes two types of component that influence our appraisals — formal (attributes of the object) and symbolic or associational (connotative meanings), while Santayana finds it useful to distinguish among sensory, formal and symbolic interactions between people and their built environments (Nasar, 1988; Santayana, 1896). For this study, all environmental variables were divided into three groups according to their relation to the observer or observed: formal qualities are the descriptive features of environment, independent from the viewer (e.g. textures, colours, rhythm, contrast); sensory qualities — affective or judgmental responses (e.g. empty—dense, calm—exciting, interesting—boring, useless—useful) and collative variables — features of an aesthetic situation that include both observer and observed (Heath, 1988 in

Nasar, 1988 p.7). The notions of complexity, order, legibility, coherence and mystery fall into the last category (Kaplan, 1988 in Nasar, 1988).

Drawing process

Mäkelä, Nimkulrat & Heikkinen acknowledge the many and varied approaches to sense-making through drawing that are valued for the access provided through drawing to thinking (Mäkelä, Nimkulrat & Heikkinen, 2014 p.3).

The connection between drawing or painting and reflection has been discussed by Mlicka. In the paper "Painting Architecture" she investigates how the act of painting can visually facilitate the process of spatial thinking through critical reflection. Her approach to drawing utilises it is not a mode of representation, but a mode of analytical reflection (Mlicka, 2014). For the present study drawing is also seen as a process that facilitates reflection and the analysis of one's surrounding space with less conscious judgments in comparison to visual observation. It is noted that preferential judgements are relatively easy to make, but the reasons underlying a preference are much more difficult to elicit (Kaplan, 1988 in Nasar, 1988 p.53). Verbalisation of the tacit knowledge that happens during observational drawing can give clues on specific features of environment that determine our perception of surrounding space.

Another reflective practice that can utilise drawing explores mental or cognitive mapping and implies creation of a map of the area from memory. Mental or cognitive map is seen as an important source of the information that is processed and preserved by the human mind. Often referred as environmental image (Lynch, 1960) it responds to a fundamental human need of orientation that highly affects the way people enjoy and appreciate space (Sanoff, 1991 p.73).

To enhance reflective thinking, both drawing and mental mapping were made on two kind of surfaces: chalkboard and whiteboard. Material agency of the surfaces create associations with temporality and brainstorming practices. Both surfaces allow to erase the drawing after it is completed and every line or stroke can be easily modified, providing the ability to focus on the process rather than thinking about end result.

Pilot study: the site

Pilot case-study was developed in the district of Otaniemi in the city of Espoo. The landscape of Otaniemi consists of low buildings of red bricks and forest areas (fig. 1). During the 1950s and 1960s, Otaniemi became one of the showcases of Finnish architecture — a unified district dedicated to higher education, research and housing. Designed by Alvar Aalto, the campus area is included in the National Board of Antiquities' list of culturally important built environments. In June 2011 the Aalto University Board decided to concentrate on building up the main core of the new university in Otaniemi (Aalto University, 2012 p. 14). The University intends to create a vibrant community for students, residents and visitors of the area. However, the critical attitude expressed by a number of students (for example, as evident in the responses to the recent questionnaire "Aalto ARTS campus in Otaniemi") shows that at the moment the site is not perceived as a welcoming public space and visual aesthetics can be one of the factors that accounts for this outcome.

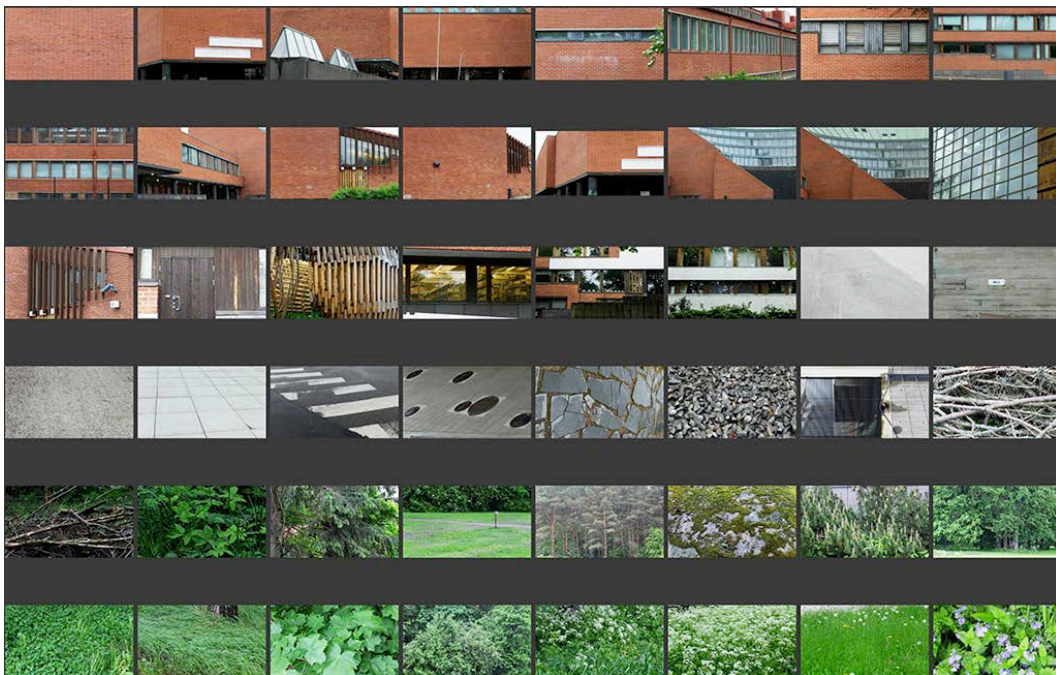


Figure 1. Photographs showing fragments of Otaniemi area arranged by colour.

Experiment setting

Pilot study experiment was carried by one participant trained in the area of graphic arts. The experiment was carried out in the following way: first, a 1 hour walk around the area

with a camera was undertaken aimed at getting to know the space. Comments were recorded after the walk relying on photographs as stimulus material (fig. 2). After that, a mental mapping session was conducted (10 minutes): drawing on the whiteboard was accompanied by simultaneous thinking aloud accounts (fig. 3). The third part of the experiment included filling out a visual diary at the site, where several types of information about environment were captured. The diary was designed and printed in advance and permitted the following sections be entered: a small map of the place, semantic differential of sensory qualities, textures, landmarks, associations and a sketch of the space. (fig. 4). After the diary had been completed, it was overlaid by a sheet of tracing paper (fig. 5) onto which further comments could be added (cf. Pedgely, 2007, p. 474). The final stage of the experiment involved a 40 minutes video recorded drawing session on site, which was used as stimulus material for comments recorded on the same day (fig. 6).



Figure 2. Photographs used as stimulus material

The four components of the experiment encourage gradual understanding of the area: from superficial photographic observations (132 photos in 15 minutes) to a deeper experience during the drawing session (1 view in 40 minutes). The scale of the area under examination also changes from a large territory during the first two stages to a region that is visible from a single point of view.

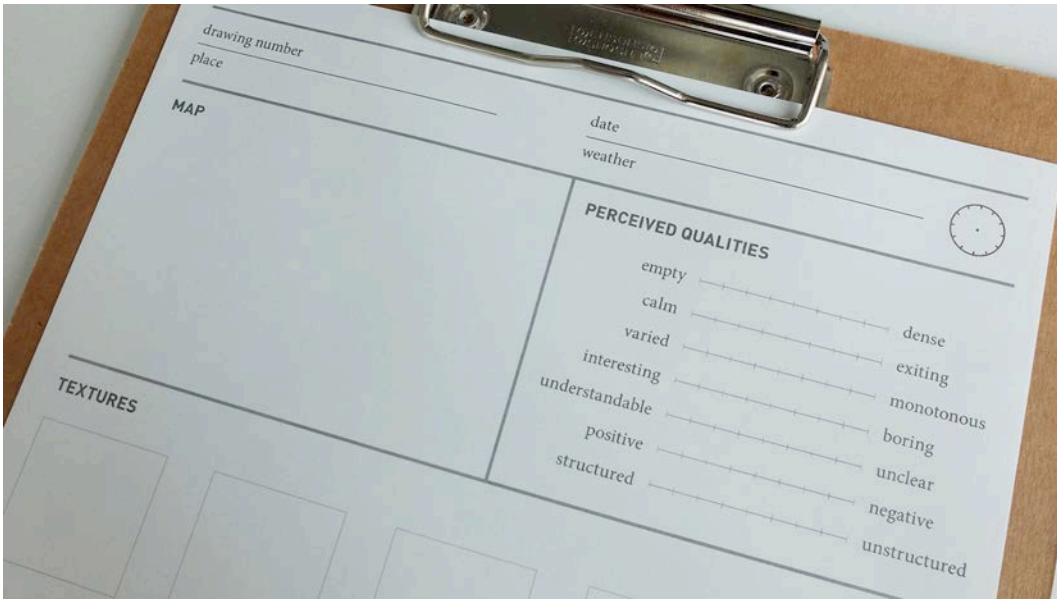
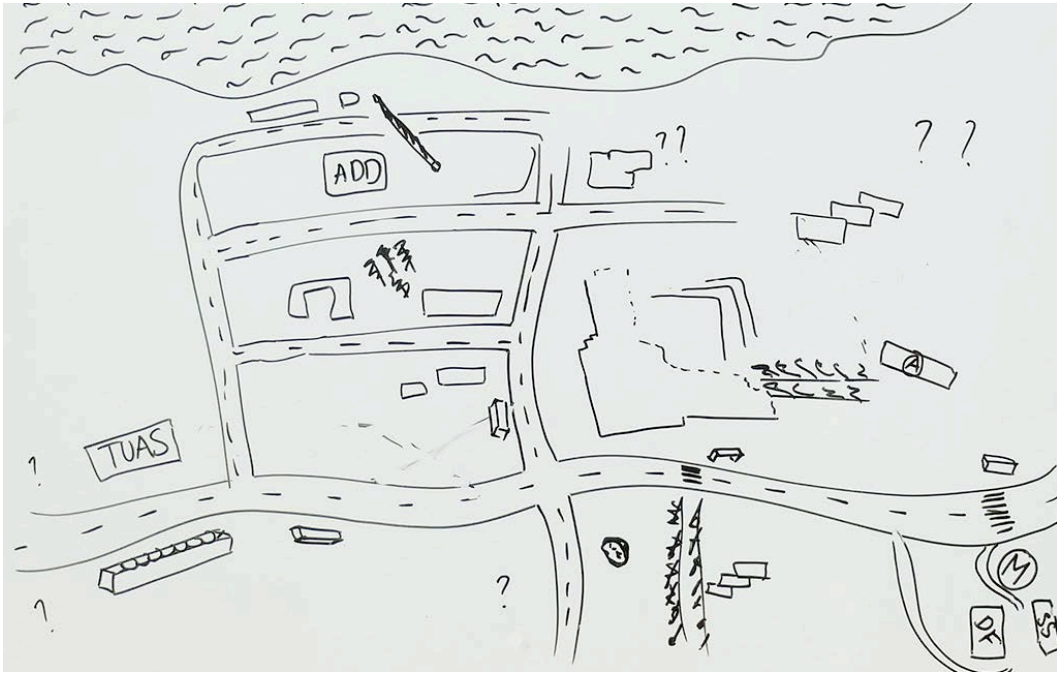


Figure 3. Cognitive map

Figure 4. Visual diary sections

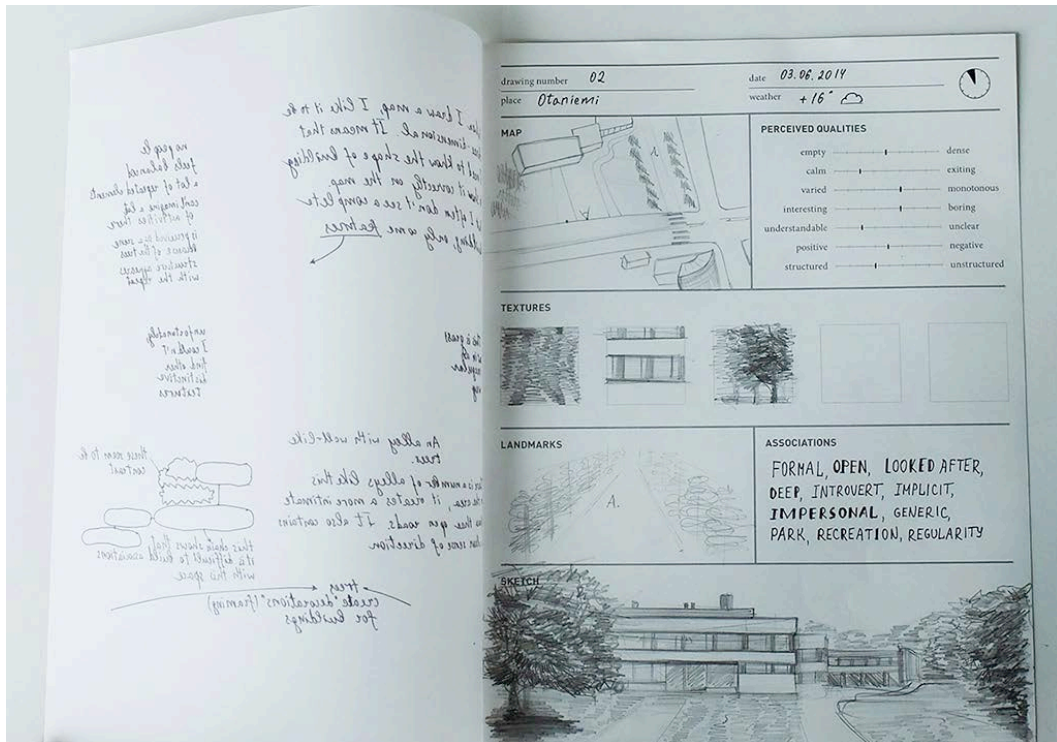


Figure 5. Visual diary overlaid by a sheet of tracing paper

Figure 6. Drawing session setting (to the left) and the drawing made on site (to the right).

Analysis of the data

Data set for the analysis included the texts of reports from stimulated recall sessions (with drawing and photographs as stimulus material), transcript of thinking aloud account during mental mapping session and texts from the visual diary entries. The content analysis undertaken aimed at theme development and relied on inductive and deductive coding (Fereday and Muir-Cochrane, 2006). First, a system of codes was developed, a

priori, guided by the theoretical framework indicated above (deductive coding): codes were assigned to three groups of aesthetic variables (qualities of environment taken into consideration): formal, sensory and collative. The grouping of the variables and names of the groups were derived from literature: for example, Nasar and Carson stress the importance of formal and sensory qualities while Kaplan and Berlyne introduce the notion of collative variables — complexity, novelty, mystery and coherence (Nasar, 1988; Carson, 1979; Kaplan, 1988; Berlyne, 1972). The codes were used to define what variables emerged more often than others on different stages of experiment. New codes were assigned to segments of data that described a new theme observed in the texts (inductive coding).

This analysis confirmed that the practices applied in the experiment (use of photographs, drawing a mental map of the area, visual diary and drawing on site) focus on different groups of aesthetic variables.

The photographs captured, primarily, formal variables: textures, rhythms, colours and scale that affect visual interest. Sorting photographs by color showed a clear distinction between man-made and natural surfaces in the area.

The mental mapping session included most mention of sensory variables with distinct emphasises on aspects of use and human activity. A new theme also emerged from this session: most of the landmarks were connected with transport infrastructure and bus stops emerged as important points for orientation, whilst the natural setting was noted as a landmark when it had a clear direction or function (alleys and terraces).

The visual diaries contained both formal and sensory variables due to corresponding predefined sections. Additionally, it allowed associations (e.g., hospital like feeling) to be traced and led to the further development of the themes of man-made vs. natural settings. One of the insights that emerged from the visual diary was how the natural elements of the space are modified and used to create a balanced composition of the perceived scene and improve a scenic beauty (Pastfal, 1984) of the area.

The drawing session concentrated on relations between objects and elements of the scene and allowed the capture of collative variables: complexity and order were explored through patterns in man-made and natural settings, while the notion of mystery was connected with experience of forest.

Results

Two main themes emerged from the data, providing a platform for ideas and interventions. The first theme can be referred as "Human activity and usefulness" and included several aspects:

- Human activity is not visible (source: visual diary)
- The parks and open spaces are not welcoming any activity except walking by and viewing from a distance (source: photographs)
- Forest areas are not included in any activity (source: mental mapping)
- Open green spaces are not perceived as useful (source: mental mapping)
- Activity happens in unusual places, e. g., bus stops (source: mental mapping)

The second theme concerned contradictions between natural and built environment in the following aspects:

- Contrast between natural and built environments (source: photographs, visual diary)
- Scenic beauty dominates: landscapes are designed to create a visually balanced composition (source: visual diary)
- The Forest forest is often perceived as border (source: visual diary)
- Natural elements serve to enhance the look of the built elements, e.g. trees and green spaces are designed to complement the red brick buildings. (source: drawing on site)
- The built elements interact with formal green spaces (designed), but are isolated from natural ones, e.g. forested areas (source: drawing on site)

To translate these findings into strategies for improving aesthetic experience a link between the two themes and the theoretical background was necessary. Heath suggests that there's a connection between the perception of place and human behaviour: the most significant division is "front" and "backstage" areas corresponding to formal (official) and informal (relaxed) behaviour. He suggests that a high degree of formal order is most appropriate in "front" areas, where it serves to reinforce formal behaviour (Heath, 1988 in Nasar, 1988 p.9). This idea is consistent with the present study, where scenic beauty dominates in the observed area and therefore contributes to formal behaviour ("The parks

and open spaces are not welcoming any activity except walking by and viewing from a distance"). The same line of argument can be found in works of Berleant who speaks about panoramic landscape — a harmonious formal array that appeals through its orderliness when viewed from a distance, and a participatory landscape that contains comfortable irregularity and disorder. He associates first one with exposure and second with enclosure, continuing the line of argument of Heath. (Berleant, 1988 in Nasar, 1988 p.87). This reasoning helps to connect two themes emerged from the data and explain how human activity (formal or informal behaviour) is influenced by the visual quality of environment (order or complexity).

Following this reasoning, two improvement strategies can be outlined: firstly, adding elements into the public space of Otaniemi that break its formal scheme and foster participation; secondly, designed use and access to wild forest areas can become an important producer of aesthetic experience to the space that is already informal and provides inclosure (fig. 7).



Figure 7. Formal, "Scenic" environment (bottom) and informal forest area (top) in Otaniemi

Discussion

The pilot study explored the possibilities of drawing practice in explorative research of visual qualities in urban environment. Use of drawing as a research tool is opposed to quantitative studies aiming at decomposing the environment to elements that can be

evaluated independently and made responsible for resulting preference. Following the discourse of evolutionary theory, present study examined not the environment itself, but the experience of a person who perceives it. The approach outlined in this paper combines two research perspectives: environmental aesthetics on one hand and practice-led research on the other. A distinction from environmental aesthetics and environmental psychology is a shift from collecting preferential judgements of participants to eliciting information about perceived environment during drawing experiments.

Drawing as a part of research is not novel and comes from e.g. sociological sciences (used for respondent validation or for highlighting some features of the phenomena), but eliciting tacit knowledge about aesthetics of environment through the process of drawing corresponds to communicating new knowledge originating from a creative practice and creates a bridge to practice-led research.

Another contradictory aspect of the study is the theme of use and usefulness of the environment that emerged in response to investigation about aesthetics. Aspects of use appeared mostly in the data collected from mental mapping session and visual diary entries and could be excluded from the investigation to focus purely on the area in question, but it was intentionally left in the dataset to trace connections between human behaviour and visual qualities of environment. The underlying concept of this decision is looking at the aesthetics of urban space as an experience — a situation that happens between the observer and observed.

These contradictions provide a ground for further investigation of the connections between behaviour and aesthetics of environment. However, the study allowed to develop a deeper understanding of the observed space and to propose strategies that could improve aesthetic experience of environment.

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