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Urban meadows have landed in Finnish cities: an examination of how they are aesthetically and ecologically appreciated

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Abstract

As biodiversity loss is identified to be one of the pressing environmental challenges today, Finnish cities have begun to follow in the footsteps of many European cities by creating urban greening plans in the form of increasing meadow habitats. The ecological and economic benefits of urban meadows are well understood, but when meadow habitats are brought into people's everyday environments, it is important to consider how it affects people's environmental aesthetic experiences. 'Aesthetics' is often understood solely as individual preferences, but the aim of this thesis was to address the aesthetic appreciation of meadows through the field of environmental aesthetics. Combining the fields of environmental aesthetics and ecology, this study provides a fresh perspective to the value debate over urban meadows.

The analysis of the work approached the topic from the perspective of Finnish cities. After compiling the operational programs that solely consider urban meadows, qualitative content analysis was used to analyze what ecological and aesthetic aspects are brought up in the documents and how they are valuated. To emphasize the aesthetic perspective, it was further investigated through discourse analysis whether there are consistent ways in which cities construct an image of the aesthetic values of urban meadows.

The content analysis showed that the documents have both ecological and aesthetic viewpoints. The ecological content emphasized that meadows are important tool in increasing biodiversity and also provide recreational possibilities for people. The aesthetic content focused on the cultural-historical role of the meadows as well as the experiences provided by the meadows. Based on the content analysis, three uniform discourses were identified throughout the documents. The first relates to meadows which are the remains of cities' agricultural history, and their cultural and ecological values are easily recognizable. The second refers to meadows that are currently emerging from other green types such as lawns and grasslands reverting to woodland. They are seen as having ecological and recreational value, but as they are unlikely to meet the expectations for flowering meadows, city officials want to inform citizens about the ecological qualities of these meadows to avoid negative feedback. The last discourse focuses on the experiential side of meadows, but instead of talking about the environmental aesthetic experience as understood in theoretical research, the argumentation is restricted to visual and recreational experiences.

The way in which the aesthetic qualities, values and experiences of urban meadows are understood in a professional context reflects the way in which they are presented to the users of green areas. This thesis has revealed that the terminology used in the documents referring to environmental aesthetics is insufficient and does not correspond to the concepts presented in the theory of the work. Expanding the debate on environmental aesthetics would turn the goal of 'people tolerating unordered ecosystems' to 'how can unordered ecosystems be aesthetically appreciated'. While informing citizens about the ecological benefits of urban meadows, they should also be informed about the potential aesthetic values of urban meadows, such as wildness, aesthetic diversity, and how the ordinary environment becomes extraordinary.

Keywords
urban meadow, environmental aesthetics, ecology, aesthetic appreciation, aesthetic value, biodiversity

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Kaupunkiniityt ovat rantautuneet suomalaisiin kaupunkeihin: tarkastelu kuinka niitä esteettisesti ja ekologisesti arvostetaan

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Tiivistelmä

Luontokato on yksi polttavimmista ympäristöhaasteista nykypäivänä, ja sen vuoksi suomalaiset kaupungit ovat alkaneet eurooppalaisia kaupunkeja seuraten tehdä itselleen vihertämissuunnitelmia, yhtenä niistä niittyelinympäristöjen lisääminen. Niittyjen ekologiset ja taloudelliset hyödyt tunnetaan hyvin, mutta kun niittyhabitaatteja tuodaan ihmisten arkiympäristöön, on tärkeää pohtia, miten se vaikuttaa ihmisten ympäristöesteettisiin kokemuksiin. ”Estetiikka” ymmärretään usein vain yksittäisinä mieltymyksinä, mutta tässä opinnäytetyössä aiheeseen on paneuduttu ympäristöestetiikan tutkimusalan kautta. Yhdistämällä ympäristöestetiikan ja ekologian tutkimusaloja, tämä opinnäytetyö tarjoaa tuoreen näkökulman kaupunkiniityistä käytävään arvokeskusteluun.

Työssä analysoitiin suomalaisten kaupunkien niittyihin liittyviä toimenpideohjelmia. Aineiston keräämisen jälkeen selvitettiin sisällönanalyysia hyödyntämällä, millaisia ekologisia ja esteettisiä näkökulmia dokumenteista tulee esille. Aineiston käsittelyä jatkettiin edelleen diskurssianalyysilla. Työn painotuksen ollessa ympäristöestetiikassa tavoite oli löytää yhtenäisiä tapoja, joilla kaupungit rakentavat kuvaa kaupunkiniittyjen esteettisestä arvosta.

Sisällönanalyysin perusteella aineistosta oli tunnistettavissa sekä ekologisia että esteettisiä näkökulmia. Ekologinen sisältö painottui siihen, kuinka kaupunkiniityt ovat oiva tapa lisätä luonnonmonimuotoisuutta, ja samalla ne tarjoavat kaupunkilaisille virkistysmahdollisuuksia. Esteettinen sisältö painottui kaupunkiniittyjen kulttuurihistorialliseen merkitykseen ja kokemuksellisuuteen. Sisällönanalyysin pohjalta dokumenteista oli tunnistettavissa kolme johdonmukaista diskurssia. Ensimmäinen kuvastaa niittyjä, jotka ovat jäänteitä kaupunkien maanviljelyhistoriasta, ja niiden ekologiset ja kulttuuriset arvot ovat helposti tunnistettavissa. Toinen diskurssi kuvaa niitä niittyjä, joita kaupunkeihin parhaillaan kehittyy vanhoista nurmikoista ja metsittyvistä niityistä. Niiden luonto- ja virkistysarvot tunnistetaan, mutta niiden ei uskota täyttävän odotuksia kukkivista niityistä. Välttääkseen negatiivista kritiikkiä kaupunkien asiantuntijat haluavat tiedottaa kaupunkilaisia niiden ekologisista ominaisuuksista. Viimeinen tunnistettu diskurssi keskittyy niittyjen kokemiseen. Toisin kuin ympäristöesteettistä kokemusta käsiteltiin työn teoriaosuudessa, diskurssi rajoittuu vain visuaalisuuteen ja virkistyskokemukseen.

Tapa, jolla kaupunkiniittyjen esteettiset ominaisuudet, arvo ja kokemukset tunnistetaan ammatillisessa piirissä, vaikuttaa siihen, kuinka niistä kerrotaan kaupunkilaisille. Tässä työssä kävi ilmi, että dokumenteissa käytetyt ympäristöestetiikkaan viittaavat termit olivat riittämättömiä eivätkä ne vastaa tutkimusalalla käytettyjä konsepteja. Kun viherympäristöjen arvokeskusteluun liitetään ymmärrystä ympäristöestetiikasta, voidaan käytävää keskustelua laajentaa siitä, kuinka epäsiistejä ekosysteemejä siedetään, siihen kuinka epäsiistejä ekosysteemejä esteettisesti arvostetaan. Samalla kun kaupunkilaisia tiedotetaan kaupunkiniittyjen ekologisista hyödyistä, tulee heitä tiedottaa myös kaupunkiniittyjen esteettisistä mahdollisuuksista, esimerkiksi villeydestä, esteettisestä monimuotoisuudesta ja siitä kuinka arkiympäristöt tuottavat yllättäviä, ”vieraita” kokemuksia.

Avainsanat
Kaupunkiniitty, ympäristöestetiikka, ekologia, esteettisen arvostaminen, esteettinen arvo, biodiversiteetti

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INTRODUCTION

1.1 Research background

Along with climate change, biodiversity loss is identified as one of the pressing environmental challenges today (European Parliament, 2021). The main message of the most recent co-sponsored workshop report by IPBES (*the Intergovernmental Platform on Biodiversity and Ecosystem Services)* and IPCC (*the Intergovernmental Panel on Climate Change*) is that climate change and biodiversity loss are problems that need to be solved simultaneously (Pörtner et al., 2021). So far, the focus of Finnish cities has been on solving climate change, whereas measures to respond to biodiversity loss are scarce (Kärkkäinen & Koljonen, 2021; Mattinen-Yuryev et al., 2021). European Commission (2021a) has called all European cities with at least 20 000 inhabitants to create *Urban Greening Plans* to bring nature back into cities by the end of 2021. One of the trending plans among Finnish cities, already familiar in Central Europe (Nieminen & Leino, 2020), has been to develop meadow habitats into urban areas (Kopperoinen et al., 2021). This can mean either establishing meadows into newly developed areas or developing meadows from other green types like lawns.

Research about the ecological benefits of meadows support cities' aim to increase the number of meadow habitats, (Chollet et al., 2018; Norton et al., 2019; Przybysz et al., 2021) and the possibility to cut back maintenance costs has also been recognized (Viherympäristöliitto, 2019). This is an example of how city planning authorities have managed to transform value judgments into technical and scientific matters (Mattila, 2015): increasing the number of meadows in cities has become an ecological and financial necessity for cities, but the conversation about the aesthetic value of the environment is dismissed.

Besides calling for sustainable actions, European Commission wants cities to include inclusive and aesthetic viewpoints into their sustainability solutions (European Commission, 2021b). The Commission has launched a new initiative called New European Bauhaus to promote this work, and the Nordic cities have responded to the initiative by joining forces of architects, artists, designers, engineers, scientists, academic scholars, and entrepreneurs to create a Nordic perspective for the initiative (Nordic co-design, 2021). Like in the case of

climate change and biodiversity, new innovations won't be successful unless the inhabitants of cities affiliate with them. For example, when urban meadows are introduced into people's living environment as a new green element, it needs to be considered that people have cultural expectations of what urban green areas should be like (Nassauer, 1997).

The results of how citizens have adapted to the new meadow environments in Finnish cities can be read in local news media. Some articles imply that the reception has been reluctant: the sudden change in maintenance practices has made citizens actively give feedback about the inefficient green area management (Korpela, 2020), and urban meadows are even said to affect the city's appeal negatively which causes more damage to the city than what the maintenance savings provide (Nikka, 2019). Not all feedback has been negative. In Jyväskylä, citizens participated in the development of urban meadows and a member from the organizing party sees that meadow projects are popular among citizens (Rissanen, 2021).

There are multiple studies done about how people perceive biodiversity (Fischer et al., 2020; Vierikko et al., 2017) and unordered ecosystems (Hauru et al., 2014; Hoyle et al., 2017) which give an understanding of individual perceptions and preferences that people have towards urban green areas. It is identified that each experiential horizon is, however, affected by sociocultural phenomena beyond a singular experience (Vihanninjoki, 2015). Different reference groups, which have a certain social construction, tend to share similar views within the group. Even if the aesthetic experience is based on experiencing the environment individually, it is socio-culturally determined.

1.2 Research design

With my thesis, I want to present the opportunities that urban meadows provide for cities and citizens by looking at the fields of both ecology and environmental aesthetics. Ecology belongs to the field of natural sciences which aims to quantitatively observe and measure nature to explore and explain its reality, but how to study or quantitatively observe such a subjective topic like 'beauty'? There are sayings like "beauty is the eye of the beholder" but it is not meaningful for the purposes of this work to address things like aesthetic qualities, values, or experiences as subjective opinions as the discussion about these topics would collide in the first disagreements. Instead, I will look at how environments are and should be

appreciated, where aesthetic values and experiences arise, how the experience can be described, and how these perceptions can be affected.

The way how urban meadows are studied in the fields of ecology and environmental aesthetics vary, and the used concepts might overlap or be even contradictive. To lay the understanding about how urban meadows are approached from both perspectives, I will go through the central concepts and research from both fields in the theory section. The first thing to do in the thesis is to define what do I mean by an urban meadow. Next, I will address the nature of aesthetic experience and whether aesthetic experience differs between a meadow and an urban meadow. Following this, I will present the ecological conditions that determine the success of meadow species and the importance of meadows for the functioning of ecosystems. I will also investigate how scientific knowledge and design affect people's aesthetic experiences. Lastly, I will discuss what type of value debate is connected to meadows as part of green areas in general.

A multi-perspective approach to research opens up a number of possibilities for exploring the given topic. Since I work in the field of landscape industries and am in close contact with public green areas, I took Finnish cities as a starting point for my analysis. In this thesis, I aim to study what type of ecological and aesthetic aspects Finnish cities associate with urban meadows, and thus I chose meadow operational programmes of Finnish cities as my dataset. This brings me to my first research question: **Which cities/ municipalities in Finland have adapted urban meadow operational programmes as part of their green area strategy?** Through the data which I receive from my first research question, I can start the analysis about how cities perceive the ecological and aesthetic aspects concerning urban meadows. My second research question is: **What kind of aesthetic and ecological aspects can be recognized in the selected dataset?** To answer this question, I am using qualitative content analysis as my method. To get a further understanding of how cities construct the understanding about aesthetic appreciation, environmental aesthetic experiences, and aesthetic values that are attached to urban meadows, my third research question is: **Based on the content analysis, can one identify coherent ways in which cities construct the image of the aesthetic value of urban meadows?** To answer the last research question, I will use discourse analysis as my method. The difference between content analysis and discourse analysis is that the first studies what is said, and the latter, with what consequences.

2 LITERATURE REVIEW

2.1 The difference between meadow and urban meadow

The focus of this study is specifically on *urban* meadows. Before I move into the definition of urban meadow, I will first go through the ecological and historical development of meadows and how that links to human interaction. Meadows do appear naturally, but human interaction in the form of agricultural activities made meadow habitats more common. Urban meadows are even more recent phenomena and therefore, it is important to make a distinction between a meadow and an urban meadow.

2.1.1 Development of meadows through temporal processes

Meadows appear in natural environments mostly as temporal habitats. Organisms behave through a temporal process that is called ecological succession. After a disturbance occurs, for example, a forest fire, it creates new open habitats. Firstly, the area is covered by pioneer plants that can survive in barren areas, which include many herbaceous species. The habitat quality increases as more species arrive, which creates a positive feedback loop. After the area gets older, woody plants start taking up space and light from neighboring species which starts to decrease the species richness again. Finally, large trees cover the area and only specific species can survive in the remaining growing conditions under them. Through time, trees fall or die which makes up space and the same process starts all over again on a smaller scale. (Adler & Tanner, 2013.)

Where do meadows fit into this natural process? At the early stages of succession, there is lots of light and space available which allows herbaceous plants, of which the meadow consists, to thrive. If not controlled, the area is soon taken over by woody plants. Unless the growth of woody plants is not restricted, either because of unsuitable growing conditions or outside disturbance, meadows remain only as a temporal phase in nature. However, some perpetual or natural meadows also exist in growing conditions that are not suitable for woody plants and thus they don’t overtake the habitat (Lohilahti et al., 2006). In a boreal climate region like Finland, such habitats exist at shores, rock outcrops, boulder fields, and alpine habitats (Hyvärinen et al., 2019).

Human influence is one, and the most common, disturbance to the natural development of ecosystems. While the natural meadow habitats diminish due to human influence, it also affects the threatened species that use these habitats as their primary habitat. This can be either because of eutrophication of shores, extractive activities, trampling, development projects, among others. Climate change also affects the habitats and their species. (Hyvärinen et al., 2019.)

2.1.2 Development of meadows through human interaction

Human influence has, on the other hand, also produced meadow habitats. These habitats are called seminatural grasslands and wooded pastures, or heritage biotopes, which nowadays are all classified as threatened habitats (Finnish Environment Institute, 2019). Wooded pastures, pollard meadows, grazed woodlands, heathlands, lake, and shoreline meadows among others emerged alongside agricultural activities like traditional livestock farming practices, burn-clearing, and traditional mowing (Lehtomaa et al., 2018).

Seminatural grasslands and wooded pastures have become threatened because of changes in land use and agricultural policies. The decline started already in the late nineteenth century with the desire to increase the efficiency of cultivation, but it accelerated during the mid-1900s along with changes in agricultural policies. Smallholdings disappeared, wooded pastures were found to decrease forest yields, and meadows were turned into fields, afforested, or left unused. There is still today demand to intensify agriculture which results in larger farms, specialization of farms, and disappearance of the remaining smallholdings. In addition to the decline in habitats, their quality has also deteriorated. (Lehtomaa et al., 2018)

Heritage biotopes are not the only human-made meadow habitats. They can also be found along highways, roads, recreational green areas, etc. These are classified as open green areas. The classification includes lawns, long-grown grasses, meadow habitats as well as landscape fields. Heritage biotopes and open green areas differ in terms of how they are classified. The classification of different seminatural grasslands and wooded pastures is based on traditional land use and vegetation (Lehtomaa et al., 2018), whereas the classification of open green areas is based on use, maintenance, and goals set for the area (Viherympäristöliitto, 2020).

2.1.3 Definition of urban meadow

After going through the natural and historical development of meadows, a distinction to urban meadows needs to be done. I use argumentation from environmental aesthetics and ecology in the definition, but also add administrative standpoints into it, since my research topic concerns administrative cities. The definition is heuristic, meaning that it is created in the context of my study, but is not necessarily applicable as such in every situation.

As the separation of the definitions ’urban meadow’ and ’meadow’ is close to the difference between the concepts of ’nature’ and ’urban nature’, I make use of those in my definition. Both ecology and aesthetics recognize the opposites of pristine nature and anthropogenically altered nature. However, the spectrum on this scale differs between the disciplines. From the discipline of aesthetics, I will follow the ideas of Stephanie Ross (2006) about different grades of nature and Petteri Kummala (2016) about the concept of hybrid. From ecology, I will look at the concepts of historical[1], hybrid, and novel ecosystems (Hallett et al., 2013) as well as designed ecosystems (Higgs, 2017). The concepts of historical, hybrid, and novel ecosystems come from restoration ecology where the objective is to restore human-caused degraded, damaged, or destroyed ecosystems to their historical conditions (Society for Ecological Restoration, n.d.).

Ross (2006) begins her definition of opposites, nature-culture, and with the paradox of the setting: everything on the planet originates from natural processes so everything is nature, versus because of human influence, there is no pristine nature left on the planet anymore. These options, however, are very black and white, and Ross argues that we are unlikely to find examples of pure nature or pure culture anywhere on the planet. Instead, she claims that nature and culture are mixed. Nonetheless, nature can still be classified into different grades. The starting point of these grades is original or wild nature which appeared in a time before groups of human beings became civilizations. Since then, people have started to influence nature in different grades.

[1] ’Historical’ in anthropology refers to the time that homo sapiens as a species has existed of which prehistoric time is a period of little or no records of human history. In conservation ecology ‘historical’ is used to refer pristine ecosystems. ‘Remnant ecosystems’ is also used but it places a value for the ecosystem.

The idea of grades leads Ross (2006) to a four-level classification of nature, where nature is cut off from its natural processes (interrupted nature), the process is altered but still existing (altered nature), the process has been rebuilt in a different setting (constructed nature), and fourth, which doesn't include urban nature, is an artificial nature, made from unnatural material creating an illusion of nature (virtual nature).

There are similarities between Ross's idea of nature divided into grades according to the level of human influence, to the concepts of historical, hybrid, and novel ecosystems. Historical ecosystems resemble the idea of original nature. These ecosystems have not been altered by human interference. Ecosystems that have been altered by humans and then abandoned into self-sustaining ecosystems are called hybrid ecosystems. Hybrid ecosystems can be still restored to their historical state, but when the ecosystem has been altered so much that the changes are not reversible, it is called a novel ecosystem. (Hallett et al., 2013.) The idea that hybrid ecosystems could be restored to their historical state, differs from the idea of Ross, that even small alterations to original nature are not reversible[2]. The concepts of conservation ecology and Ross, however, share similar value systems: the starting point, historical/ original ecosystem/ nature is the desired outcome or rightful nature.

When thinking about urban meadows, how do those fit into this classification? From the ecological point of view, natural meadows could be classified under historical ecosystems, and rural meadows under hybrid ecosystems, since they used to be under the human influence but are now left to evolve on their own terms. Considering that all the three ecosystems (historical, hybrid, novel) are self-assembled and do not require management, implies that urban meadows are not necessarily novel ecosystems either. Instead, there is a fourth ecosystem called the designed, or engineered ecosystem. The difference to the other three is that they require management to be sustained and the management intention is human-centered instead of ecosystem-centered (Higgs, 2017). Most of the urban ecosystems are designed ecosystems, as the intention is to receive services, runoff control, shade, recreational possibilities, among others, from these ecosystems. Even if cities intend to add meadows in order to increase biodiversity, they are not only managed for the sake of the ecosystem but

[2] Some researchers in restoration ecology add restored ecosystems in between historical and hybrid ecosystems (Higgs, 2017). Like the definition of Ross, that implies that when an ecosystem faces anthropogenic changes, it can never be restored to its original state.

also because of safety and neat appearance. Designed ecosystems can however become novel ecosystems through time (Higgs, 2017) and grassland species do appear in urban areas as self-sustaining populations (Maurer et al., 2000).

According to Ross, even natural meadows are not original nature, as that was the state of nature before human societies. Following her definition, both natural and rural meadows would be something between interrupted nature to altered nature. Whether urban nature fits under the definition created by Ross, is contested in the field of environmental aesthetics because it places original nature above urban nature. Agreeing with Ross on the notion that nature and culture are mixed, Kummala (2016) finds it troubling to start defining urban nature as something that originates from original nature and is then classified by the amount of change it has gone through. The comparison sets pure nature as the starting point, something rightful and more valuable, against urban nature where humans always disturb or invade natural nature and are thus less valuable and impure.

Instead, Kummala (2016) defines urban nature as a conceptual hybrid. When urban meadow is understood as a hybrid, it constitutes from both nature and cultural/ social construction and instead of being a static entity, the definition allows urban nature to maintain its changing essence. Kummala highlights that by using the concept of hybrid, there is no need for hierarchical thinking: hybrid does not set off from either end of the scale, natural – artificial. As a further counterargument to Ross's hierarchical categorization, Kummala points out that the valuation of urban nature should not reflect naturalness, but the quality of the environment. The term hybrid gives researchers a neutral concept that acknowledges the differences between natural nature and urban nature but does not put one above the other. I have presented the relationship between all the definitions in figure 1.

Since in this study I am considering meadows located in administrative cities, the definition of urban meadow gets yet another perspective. Some of the meadows might locate in the most urbanized core of the cities, whereas others are in suburban or even rural parts of the city. This complicates the ecological definition of urban meadows as rural meadows could be classified as hybrid ecosystems whereas roadside meadows are designed ecosystems, and so forth.

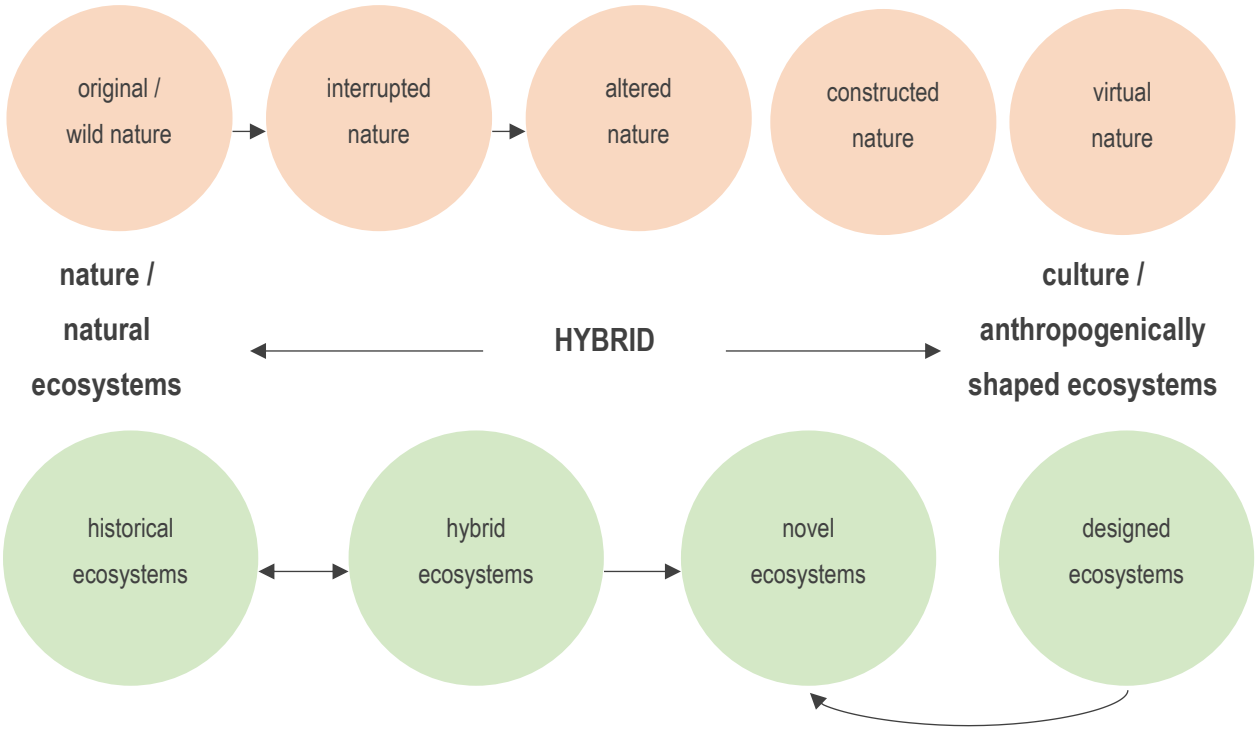

Figure 1 The relationship between ecological and aesthetic definitions about human interference in natural ecosystems

In figure 2, I have further illustrated different administrative, human-influenced, and ecosystem-based aspects which affect the definition of urban meadow. The governance-driven factors are important for me because my study area is Finnish cities as administrative areas. The definition of an urban meadow could be based on population density, whether the administrative area is city or municipality, is the land publicly or privately owned, and/or what type of land use is planned for the area.

In my case, all the study areas are administratively calling themselves cities, and the meadows are located on public land. Cities have individually chosen whether they have covered the entire city, including several land-uses, or just parts of population centers into their programmes. Decisions from the top-down will lead to the development, restoration, and maintenance of public green areas. These result in habitat modification that alters the ecological conditions, such as climate, flows of energy, water, and nutrients within and

between ecosystems. The intensity of human influence and ecosystem changes vary from one place to another, but ultimately, all meadows face the consequences but with varying degrees.

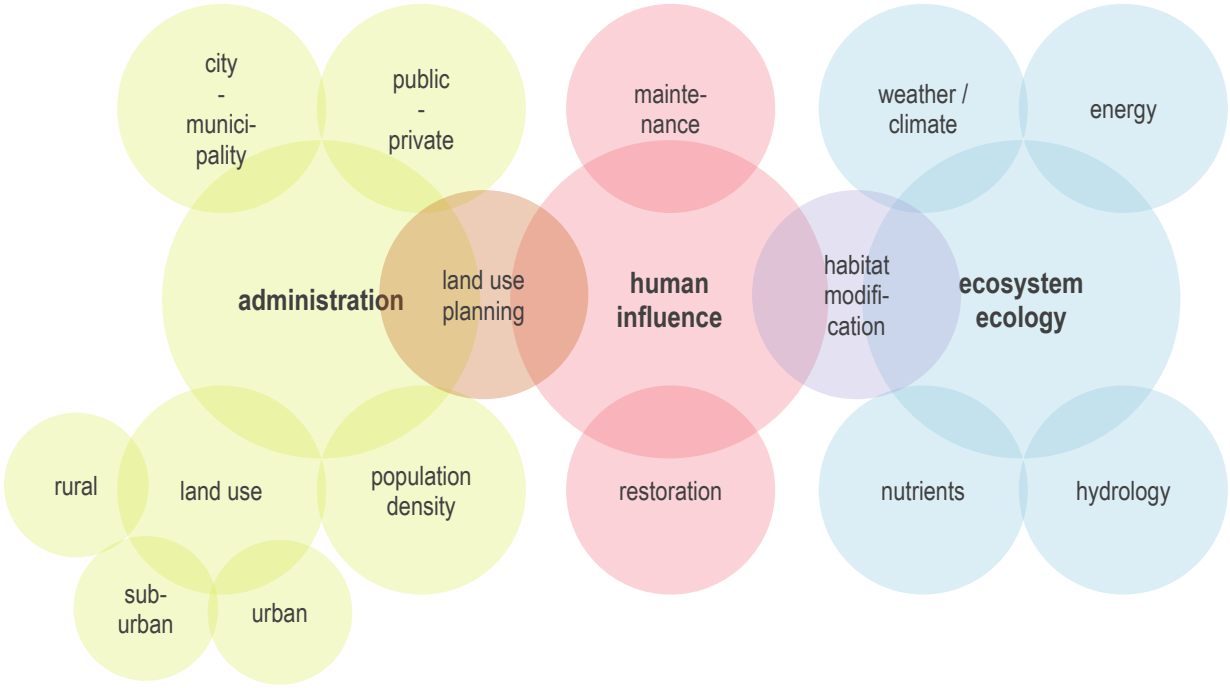

Figure 2 Ecosystem, human, and governance-driven factors that influence the definition of urban meadow

Defining the concept of urban meadow is complex, but my goal is to develop a comprehensive definition that serves the purpose of this work, and which could be also used and implemented by cities of Finland. Out of the different classifications given for urban nature in figure 1, I will rely on Kummala's (2016) concept of hybrid. This definition is not limited to a specific location, management intensity, or ecological condition, and allows urban meadows to be studied from both ecological and aesthetic viewpoints. To get an idea of how urban meadows can appear, I have collected a set of photographs about urban meadows in Finnish cities that are presented in figure 3.

Figure 3 Images of various urban meadows in Finland. Photos: Emmi Turkki

2.2 Experiencing and appreciating urban meadows

After explaining the main object of the study, I will move on to presenting some theories and terminology from the field of environmental aesthetics. As I brought up in the introduction, this study won't focus on individual preferences but on aesthetic appreciation as descriptive (how is valuated) and normative (how should be valuated) phenomenon.

There are two orientations within the field of environmental aesthetics about how nature, in this case, urban meadows, should be appreciated. The first, called cognitive approach, sees that scientific knowledge is the proper base for aesthetic appreciation, whereas the other one, non-cognitive approach, considers aesthetic engagement to be the premise for aesthetic appreciation. (Carlson, 2019.) Both approaches are significant when considering aesthetic appreciation of urban meadows, as the importance of meadows is justified with scientific facts, and on the other hand, the aesthetic appreciation of meadows arises also without any knowledge about them. Unlike the long-standing ideology that only art is worth aesthetic appreciation, both orientations have come up with arguments about how and to what extent the appreciation of nature differs from that of art.

2.2.1 Environmental aesthetic experience

The common notion in environmental aesthetics is that the environmental aesthetic experience can be divided between a visual and ambient experience[3] (Carlson, 2009; Certeau, 2013; Kummala, 2016). The visual experience refers to experiencing nature as a landscape object or a panoramic scenery, whereas the ambient experience considers a person's being in the environment through multisensory and kinetic experience.

Experiencing the landscape as a visual object has a direct resemblance to the idea of the picturesque; picturesque landscapes are like landscape paintings (Carlson, 2009). This was a popular notion about the aesthetic experience of nature in the field of aesthetics in the late eighteenth century. Since aesthetic appreciation was for a long time only seen to consider art, with the help of picturesque landscapes, sceneries were seen as a work of nature, which brought the appreciation of nature close to that of works of art. (Carlson, 2019). Carlson (2009) sees that what he calls *the Landscape Model*, describes the visual emphasis of environmental aesthetic experience still today. Tourists in particular favor the scenic viewpoints where there is a distance between the viewer and the object to be viewed.

However, rarely, the environment is only observed as scenery (Kummala, 2016). It can be even said that, unless a person is looking at a photograph or a painting, they are always part of the landscape, even when looking at it from a distance. The weather, people's position, and

[3] The term ambient experience is not used by these authors. In choosing an umbrella term to describe the type of experience, I have followed Foster (1998).

the elements surrounding them always affect the experience (Berleant, 2012). Carlson (2009) also contests the idea of the Landscape Model when aesthetically appreciating nature because it makes the natural environment static and two-dimensional. That is why the primary way of aesthetically experiencing an environment is through the ambient experience.

Aesthetic engagement emphasizes that to appreciate nature and make an aesthetic judgment of an environment, one must personally experience it (Foster, 1998) and instead of having an (art) object and an appreciator, the two are intertwined and in an interplay with each other. Carlson (2009) does not support the idea of aesthetic engagement that allows everything in nature to have aesthetic qualities but introduces *the Natural Environmental Model*.

Like appreciating art objects, the Natural Environmental Model allows the appreciator to distinguish individual aesthetic elements in nature that are relevant in the given setting because the person is aware of different elements and processes that take place in nature. As an example, a person can with the help of common sense separate the aesthetic characters of a lawn although trash has been left at the site. Besides *what* we should appreciate in nature, the Natural Environmental Model helps the appreciator to understand *how* to appreciate nature (Carlson, 2009). Carlson answers the question of "how to appreciate nature" with scientific knowledge. Even if in the case of urban meadows, one of the most influential means to change the perception of their aesthetic character is to increase people's understanding of nature's ecological processes, I want to bring up a counterargument to the cognitive approach to what an environmental aesthetic experience consists of. As Saito (2007) puts it, the scientific knowledge itself is not sufficient to determine what is aesthetically valuable, it is in the sensory attributes, directly perceivable qualities that the aesthetic experience unfolds.

Theories about the aesthetic experience have been for a long time centralized around sensory perceptions when, in addition to the fact that senses are constituted in our body, movement is another key factor in aesthetic experience (Kummala, 2016). Moving allows people to experience spaces, get a sense of place, become part of the environment (Kummala, 2016), and feel the qualities of the environment within their bodies (Bonsdorff, 2000). Kummala (2016) continues this notion by giving an example of how reading in a thermometer turns into

a feeling of cold or heat only within our body or how running up a hill is heavy because we feel it in our body.

Lastly, the aesthetic experience does not only constitute our senses and kinetics but is influenced by how we are situated in the world[4]. The culture we are born in, the historical setting that we live in, and the social setting that we've been raised in, affect the way how people perceive their environment (Berleant, 2012; Kummala, 2016). Understanding the subjective setting that people are in, contests the idea of disinterestedness, that the observer could detach themselves from any personal associations when appreciating nature (Berleant, 2012).

By understanding how holistic the environmental aesthetic experience is, it is safe to agree that experiencing environments as a scenery is also affected by all the other aspects listed above. However, I wanted to bring up the differences between the experiences, because in spoken language the aesthetic experience often relies solely on the sense of sight and the aesthetic criticism it produces.

2.2.2 Aesthetic qualities and the resulting criticism

Aesthetic qualities arise from the object's physical qualities, which can be measured, but also from the condition of the perceiver. This does not imply that the perception is subjective but rather, like in the case of color, dependent on the degree of light or the perceiver's perceptual capacity. (Brady, 2003). It has become common to attach "aesthetics" with something that people perceive as beautiful, sublime, or alike. That easily leads to the idea that things that do not possess such qualities are not worth aesthetic appreciation. (Berleant, 2011). It is possible, however, to say that an experience of a melancholy landscape also has aesthetic qualities. Everything that has aesthetic qualities also has aesthetic value (Brady, 2003).

Aesthetic experiences and the perception of aesthetic qualities lead to an aesthetic response. Since the perception of aesthetic qualities and the aesthetic experience are both influenced by the perceiver's personal attachments, it can be expected that the response itself and the

[4] In his dissertation Kummala (2016) goes on about the ways how people observe their surroundings citing Martin Heidegger, but in the context of this work, the three layers which make up the ambient experience, senses, kinetics, and one's personal attachment to the world are sufficient to give the reader an understanding about the differences of scenery and ambient experience.

aesthetic judgment that it creates are also affected by the perceiver's situation in the world. Depending on the perceiver, the judgment can be positive or negative. (Brady, 2003.) Negative aesthetics, however, is not the opposite of positive aesthetics, so everything that people dislike in a landscape is not negative aesthetics (Berleant, 2011).

I will exemplify this with urban meadows. If considered that someone perceives urban meadows as messy or untidy, it does not imply that the meadow has aesthetically negative qualities. Meadow appears different compared to more traditional greenery like lawn. It grows higher, and when plant species wither, they change color and eventually decay. Lawn on the other hand, if given enough water and nutrients, stays green the entire growing season. Ecologically speaking, they both grow as they should, either by themselves or with the help of human interaction. If the situation is compared to litter on grass, there is no ecological reason or any other excuse why the litter would belong to a lawn. Litter results from human behavior and is perceived as socially unacceptable. Litter does not belong to a lawn and that is why it can be said that it is a negative aesthetic quality in a landscape.

That is to say that disliking a landscape does not necessarily imply *negative aesthetics* but *negative aesthetic criticism* (Berleant, 2011). A situation, in which no aesthetic value can be found, and which causes distress and negative feelings in the perceiver, is called negative aesthetic experience. Negative aesthetic criticism, on the other hand, is a situation that raises unfavorable aesthetic judgment. Usually, it occurs when a scenario ahead of the perceiver is somehow unfulfilled. It does not imply that the scenario has no positive aesthetic qualities, instead, the aesthetic values found, are not fully realized. (Berleant, 2011).

2.2.3 Environmental aesthetic experiences produced by urban meadows

The environmental aesthetic experience created by urban nature arises from how urban nature affects the urban environment and how that effect reflects into people's experience (Kummala, 2016). Kummala argues, that just like the definition of nature and urban nature differ, also the kind of environmental aesthetic experiences that they provide have differences. The valuation of urban nature should not be compared to that of nature (like naturalness, originality), but should be assessed based on the quality of the environment. The key in experiencing urban nature is the urban backdrop that the cityscape creates for the natural artifacts that people encounter in urban areas. The urban setting poses a different tone

for the experience, for example, a tree growing in a forest has a different context than a tree growing by the street. Instead of using concepts such as naturalness or originality, Kummala chooses to focus on aspects of everydayness, place/locality, and ambiance. What comes to urban meadows, they produce the experience of everydayness but also place/locality and ambiance to some extent. Since I have specified that meadows located in suburban and rural settings can also be defined as urban meadows, in addition, I will look at historical and cultural viewpoints that can be connected to experiencing urban meadows.

Ambiance and place/locality

In his dissertation, Kummala (2016) discusses the qualities of urban nature which includes things beyond green elements such as weather and seasons, things that are not in the hands of people. Especially in the case of ambiance, it is often these immaterial aspects that create a specific mood for the environment, such as rain, fog, and sunset. It is, however, also the people and elements in the environment that exudes the ambiance to the surroundings. Urban green elements also create a feeling of place and locality. Kummala writes about trees which are maybe one of the most influential singular natural artifacts that create the feeling of place and locality in urban areas. Green areas as a whole can as well become distinguished and meaningful places inside cities. As an example, I use an allotment garden of Kupittaa in Turku. It has been planned to be transferred elsewhere by the city officials due to a new city plan. The allotment garden has a long history, and the members and supporters of the local association are using every exertion to prevent the plan from happening. They defend the saving of the garden in its original place because the flora found in the area is unique, developed through history, and is not transferrable. (Kupittaan ryhmäpuutarhayhdistys ry, n.d.) Thus, the allotment garden is a significant place for citizens in Turku, and especially the urban nature within it creates the feeling of locality.

Everydayness

Instead of influencing the experience of a place through ambiance or locality, urban meadows rather create a sense of everydayness. If a person is visiting a new city, the environmental aesthetic experience can be described by a feeling of strangeness (Haapala, 2005). The person is not accustomed to the surroundings yet, and the attention is drawn to things that feel mundane at home. Over time, the feeling of strangeness turns into familiarity when the person starts to make personal connections to the place. Home is the place where people feel

most familiar at. But as people become familiar with places, their level of attentiveness becomes low, and the functionality of objects and environments exceeds the aesthetic qualities. To make aesthetic considerations of familiar surroundings requires conscious effort. (Haapala, 2005)

When people's level of attentiveness in everyday environments is low, urban nature can provide people with surprises, obstacles, wow-effects – in other words, positive and negative feelings of strangeness (Kummala, 2016). Kummala gives an example of positive strangeness by comparing a case where a fox walks in the woods to a fox walking in the middle of the city. Seeing wildlife in a forest may be rare but anticipated, whereas in a city, the possibility to run into wildlife also exists, but when occurring, is highly unexpected.

Urban meadows in downtown areas are new and becoming a more common green element in Finnish cities. People have cultural expectations of how urban green areas should look like and bringing in new elements may provide them with negative feelings of unfamiliarity. Reflecting on negative aesthetic criticism, the feeling that something familiar to people is being altered makes it vulnerable for aesthetic judgment. Therefore, in the context of my topic, I argue that it is not sufficient to consider what type of surprise-factors urban meadows might provide in familiar surroundings. That does not give a full picture of the potential of urban meadows as everyday aesthetic environments. Rather, it is important to consider whether the elements of every day, like urban meadows, have aesthetic qualities as such.

Similar to Kummala, Saito (2007) argues that, like in the case of fox in a city, people can have ordinary experiences turned into something extraordinary, which gives the everyday experience an aesthetic consideration, but people should still take note about the environment "*ordinarily experienced*" as well. People make aesthetic considerations in their everyday life, for example, when dressing up or buying goods. Thus, these activities must also have aesthetic qualities which are worth investigating. Saito claims that the ordinary, even mundane aspects of our aesthetic life have an impact on further social, moral, political, environmental, and existential encounters.

Words like "clean", "dirty", "neat", "messy", "organized", and "unorganized" describe people's everyday lives whether depicting their house, desk, garden, or behavior. Unlike

creating art or making artistic judgments, everyone has everyday experiences of running into untidy spaces, dirty clothing, etc., and through these aesthetic experiences, people make pragmatic choices to clean and organize. (Saito, 2007.) Saito continues by saying that everything in our life goes through a process of aging and decaying, and many aspects of our life have a "peak" moment. This is the moment people tend to pursue later, whether it is their own appearance or the environment they live in. She claims that the discontent for messy and worn-out objects or spaces, whether real or perceived, is seen to decrease the functionality of items and environments. In the case of broken machines or unorganized drawers, it is safe to say that the functionality is decreased, but in many cases, it is the appearance of things that bother people, not the lack of functionality. If it is not about the functional traits, that bother people, it is about the moral judgments – how people might perceive others' character. Untidy gardens speak about laziness and messy desk about unorganized character. (Saito, 2007.)

Reflecting what Saito has written, it is possible to argue that urban meadows as well have aesthetic qualities. However, since the appearance of meadows is unfamiliar to people in built environments, it exposes people to make moral judgments about their appearance, considering them, for example, messy and thus not cared for. But when the feelings of strangeness turn into feelings of familiarity, the aesthetic qualities of urban meadows can be re-evaluated. When urban meadows are familiar to people, they are happy to visit them, and thus urban meadows become an important part of the everyday environment.

History and culture

experiences are culturally, socially, and historically determined. That is why areas that have cultural and historical connotations also bring up culturally and historically guided experiences. As an example, Sihvo (2007) talks about Koli, one of the 27 national landscapes in Finland, and how it provides feelings of homeland and culture to people. Koli as a homeland defines the world view, the whole of life, and state of mind of the local people. It resembles the feeling of place and locality. Koli as culture represents the common cultural awareness of the entire Finnish nation. It can be used as a metaphor itself and has been constructed by national romanticism. Like the notions of family, home, and nature, national landscapes are used to concretize the abstract idea of the nation-state, and they symbolize national phenomena like the nation's folk, history, and culture (Häyrynen, 2007). As I have

described earlier in the thesis, meadows have a strong connection to the agricultural history of Finnish society. Similar to national landscapes, meadows that arose from agricultural activities symbolize the history of cities. That is why urban meadows can also provide the feeling of history and culture to people.

2.3 Scientific knowledge and aesthetic appreciation intertwined

2.3.1 Ecological benefits of urban meadows

Urbanization has caused multiple environmental challenges from the urban heat island effect to the eutrophication of soils and bodies of waters and many more. In the light of this study, the focus will be on biodiversity since meadows and biodiversity are interconnected and biodiversity loss is the main reason why cities are encouraged to add natural elements into built areas (European Commission, 2021a). Biodiversity is most often distinguished as species diversity which includes the total number and relative abundance of each species in a community or habitat (Hamilton, 2005). In addition to species diversity, biodiversity can refer to genetic and ecosystem diversity (Carol, 2010) but the focus of this chapter is on species diversity. In this chapter, I will explain what the specific challenges for plant biodiversity in urban areas are, as well as how meadows are one tool to strengthen biodiversity in cities.

Soil characteristics and microclimate determine the species composition in each habitat. The habitat is then affected by disturbances and stressors. Urban biodiversity is determined by how species respond (colonization and extinction) to four factors in urban habitats: habitat quality, temporal processes, ecosystem processes, and ecological interactions. (Adler & Tanner, 2013.) Habitat quality especially refers to habitat size and location in which large and nearby habitats, as well as a mixture of many types of habitats, tend to have higher biodiversity (Adler & Tanner, 2013). Temporal processes refer to habitat age and ecological succession described in chapter 2.1.1. The arrival of new species takes time before the habitat biodiversity reaches an equilibrium. Ecosystem processes are described by resource availability where moderate climate, highly available nutrients, and water predict high biodiversity. Intermediate resource availability is seen to be the most suitable condition for high biodiversity since, low resource availability provides small biomass and population size, and high resource availability promotes high biomass and population size but may become

dominated by one adapting species. In that case, species richness is high, but species diversity is low. (Adler & Tanner, 2013.)

Besides resource availability, ecosystem processes also include levels of disturbance and stress. As in the case of resource availability, also intermediate levels of disturbance predict the highest biodiversity. The combination of the two least suitable conditions creates a stressful environment which again decreases biodiversity. (Adler & Tanner, 2013.) Ecological interactions indicate competition, mutualism, predation, and disease. The most common effect is that two species with similar traits cannot coexist in the same habitat but the dominant one slowly drives the other one to extinct. On the other hand, engineering species like beavers can also modify the habitat so that biodiversity increases. (Adler & Tanner, 2013).

Depending on how species respond to these four factors they can be divided into urban exploiters, adapters, and avoiders. To which category each species belong, is dependent on the species traits. (Adler & Tanner, 2013.) Urban exploiters are highly tolerant to increased disturbance, stressors, and resource availability and they are good at dispersing in the fragmented urban areas. Urban adapters possess a large dietary selection which enables them to survive in urban habitats. Also, the lack of predators helps adapters to survive. Urban avoiders on the other hand are vulnerable to human presence and only thrive in fragments of less urbanized habitats. In addition, species can be divided into native and non-native (also alien and exotic) species, where the latter refers to species that are imported or introduced to habitats. (Adler & Tanner, 2013). Urbanization is shown to promote non-native species. Especially human-influenced disturbance correlates with the abundance of alien species even if this cannot be shown in every vegetation unit. (Kowarik, 2008).

Vegetation is the primary determinant of the overall biodiversity in an ecosystem as it serves as a host to other biota (Cilliers & Siebert, 2011). In urban areas, the total species richness is shown to be higher than in natural areas, but for many species, like rare habitat specialists or species that are highly sensitive to habitat fragmentation, urban areas are unable to substitute the functioning of natural ecosystems (Kowarik, 2011).

In European cities, the overall vegetation cover in urban core areas has declined and the number of natural ecosystems has declined and become more fragmented (European Environment Agency, 2006). This is because, impervious materials, as well as lawns in green areas, replace natural vegetation (Raciti et al., 2008). Besides changes in the biodiversity patterns, vegetation in urban areas is faced with habitat transformation and fragmentation as well as human preferences (maintenance) and local urban environmental conditions which alter the structure, function, and behavior of plants among other biota (Kowarik, 2011).

When looking at singular green patches in a city, the most obvious anthropogenic disturbances (Cilliers & Siebert, 2011) affecting the habitat quality are trampling of vegetation and soil compaction (Sarah & Zhevelev, 2007), soil pollution (Madrid et al., 2004), mowing/cutting of the vegetation (Greller et al., 2000) and alien plant invasions (Kowarik, 2008).

To increase the biodiversity in urban green areas, variation in management practices should be aimed at (Fischer et al., 2016). For example, meadows increase functional and phylogenetic (species from many groups) plant diversity compared to typical urban green areas like lawns when the frequency of mowing is considerably reduced (Chollet et al., 2018). Urban grasslands also serve as new foraging habitats for pollinators (Fischer et al., 2016). Pollination is a function that sustains the biodiversity of plants and associated animal species at the same time as it is one of the main regulating ecosystem services that supports food production (Silva et al., 2021). In addition, the richness and abundance of primary producers like herbivorous insects show a positive correlation to multiple ecosystem services (Soliveres et al., 2016).

2.3.2 The importance of knowledge for aesthetic appreciation

After I have depicted the positive effects of meadows for biodiversity, it is appropriate to ask whether having this kind of scientific knowledge would affect the aesthetic appreciation of urban meadows. The cognitive approach within environmental aesthetics advocates the role of common sense and scientific knowledge for aesthetic appreciation (Carlson, 2019).

Authors from the cognitive view see that nature should be appreciated “on its own terms”, meaning that people do not impose their own agenda for nature, but rather appreciate what

nature tells people through its perceptual qualities (Saito, 1998). Like with art, to aesthetically appreciate a painting, the appreciator needs to have knowledge about art history. Similarly, to appropriately appreciate the aesthetics of nature, people need to understand natural sciences. (Carlson, 2019.) This implies that if people are aware of how meadows function ecologically, what kind of benefits they provide for animals and insects and what their role is in fighting biodiversity loss, also the aesthetic appreciation of urban meadows alters. When people appreciate nature "own its own terms", they see it like natural sciences recognize nature and not through art, personal expectations, and so on (Carlson, 2019).

Carlson (2009) is looking at ecology when thinking about how nature should be appropriately appreciated. Ecological processes work systematically in nature, whereas cultural processes seem to be more randomized. Despite that, Carlson has identified a concept of *functional fit* which is an ecological necessity in nature but can be also applied to the functioning of cultural systems. Based on the principles of biodiversity depicted in the previous chapter, where species either adapt or extinct in the given circumstances, similarly, cities can be seen to have grown as a natural process. Like ecosystems are in an interaction with each other, "habitats of human environments", dwelling, industry, among others should not be considered alone but as a part of larger entities. Carlson argues that in a state of equilibrium, different functions in a city are situated in places that fit for them. [5]

Carlson (2009) continues by saying that a situation where functions in a city and elements in landscapes, like infrastructure or agricultural buildings at farms, are in their right places, this allows everything to look as it should. The feeling of things looking as they should arise from people's everyday expectations. When environments look as they should, they become a necessity for people, which resembles the idea of ecological necessity. Carlson identifies that such an approach can be questionable if, for example, the dispersal of wealthy and less advantaged neighborhoods is justified with functional fit, when in reality, inequity is a result of corrupted political forces, exploitative economic forces, and so forth. Carlson sees that this argument could be further rejected by saying that aesthetic appreciation and ethics are not dependent on each other. However, like the aesthetic appreciation of human environments is

[5] With this Carlson does not imply that the placement of functions into places that fit for them is a result of deliberate design he criticizes in the Designer Landscape model but *" -- the result primarily -- of those forces that have so shaped it that a fit of its components has come into being*." Carlson (2009: 60), In the context of this work, it is not necessary to consider which forces have affected the emergence of urban structure.

based on ecology, it is also based on culture, and morality is at the heart of culture. Thus, the ethical grounds of how cities are originated are as important as the way how functions in a city form organically.

How profoundly people pay attention to their surroundings, can be divided into a *thin* and *thick sense* of the aesthetic (Carlson, 2009; Hospers, 1946). If an environment, for example, is only considered through its apparent visual appearance, it is called *thin sense*, whereas consideration of the environment beyond the appearance is called *thick sense* of the aesthetic. For the appreciator to understand the ecological approach for aesthetic appreciation in addition to the appropriate moral judgments, the thick sense is used.

These arguments mostly speak for human environments in general, but are there ways how for example urban meadows as part of human environments should be appreciated through science? In later writing, Carlson (2010) continues how the aesthetic appreciation of nature should also consider the requirements of environmentalism. Instead of concerning nature as a human-centered and scenic object, where nature exists for humans alone, the appreciator should have an environment-centered and objective approach to perceiving nature. When now considering urban meadows in human environments, the appreciator should put their personal associations aside and consider why is the functioning of meadows important from nature's point of view rather than people's point of view. Environmentalism also considers morality (Carlson, 2010). Saito (2007) makes an example of how moral judgment can impact the appreciation of beauty: if people are told about the environmental challenges and problems that, for example, a familiar-looking green area causes for the environment, it may not immediately transform the familiar environment ugly, but through aesthetic sensibility and the thick sense, the initial attraction will at least turn into questioning the innocent illusion of beauty. Without scientific knowledge, making moral judgments about the everyday environment is difficult, and the appreciation of meadows, for example, remains in the thin sense.

2.3.3 A change in aesthetic appreciation through design

Another approach to combine ecology and aesthetics is presented by Nassauer (1997), who argues that this can be done through design. She begins her argument by saying that the picturesque scenic landscapes have gained such widespread acceptance as beautiful

environments that they are also perceived to be ecologically healthy. However, unlike picturesque sceneries, landscapes are constantly changing. Landscape change is something that people both enjoy, like seasons, but also try to control, like when collecting dead plant material. The need to control landscapes as static sceneries can lead to ecologically unhealthy environments. For example, Saito (2007) argues that the desire to have green weed-free lawns is a result of televised golf tournaments in the US, which has made people obsessed about how their front yards should look like. Maintaining green weed-free lawns can, however, require an extensive amount of resources such as water, nutrients, and pesticides which strains the surrounding environments and resource availability. As can be interpreted from the example of green lawns, what is seen to be aesthetically pleasing, does not always imply ecologically healthy landscapes.

Like in the case of the cognitive approach, Nassauer (1997) sees that morality guides people's choices when caring for their gardens. Environments that evoke aesthetic pleasure in people are more likely to be maintained as such. The moral questions of caring about the environment considers also public spaces. Neighborhoods that have overgrown vegetation or other messy-looking characters can be seen as abandoned. Care tells about ownership. Nassauer suggests that a landscape that reaches the aesthetic expectations of a community can lead to unhealthy ecosystems whereas healthy ecosystems that show no human care invite people to develop them. Thus, in order to increase the ecological health of an environment, the presence of humans should be rather highlighted than hidden away.

Utilizing design, even messier-looking landscapes can become acceptable without any educational forms. Nassauer (1997) calls for *intelligent care* and *vivid care*. By intelligent care, she means that we understand what kind of care healthy ecosystem needs. Like in the case of meadows, people don't need to, or even should not leave them uncared for, in order to maintain the meadow-like habitat in a natural succession. Nassauer also points out that people do not need to fully understand everything about ecology and that is acceptable. By vivid care, she means that we show the human presence in the environment indicating the ownership of the space. Leaving clear signs that somebody cares for the area, for example trimming the edges of pathways in an otherwise long-grown grass area, allows people to experience nature in a somewhat familiar setting without further knowing the ecological benefits of the grassland.

2.4 Meadows as part of urban green areas

2.4.1 The appreciation of green areas in a professional context and their possible consequences

Since I work as a professional in the landscape industries, I also want to point out the ways how meadows are been discussed in professional context. The way green areas appear is not only the result of the aesthetic expectation of citizens but of those who plan them. The profession dealing with green areas in cities is culturally guided as well. In Finland, there is a national classification of how green areas are maintained. This is not mandatory, but many Finnish cities use it as a tool to categorize different types of green areas and to unify their maintenance practices. Since 2020, a new classification was created (Viherympäristöliitto, 2020.)

At the time of writing this thesis, the transition between the old and the new classification is still ongoing. The new RAMS classification includes class R which contains build green areas, class A which contains open green areas such as meadows, and class M which includes forests. Each class is further divided into more specific categories based on the use of the green area (A2 recreational meadow, A5 landscape field). The difference to the old classification ABC which includes similar categories is a shift from a money-based system to a value-based system. Instead of thinking only in terms of functionality, green spaces are seen as generating returns that increase economic as well as physical and mental well-being which include things like ecosystem services and aesthetics (Viherympäristöliitto, 2020.) What is meant by aesthetic well-being is not specified.

Such categorization has an impact on how green areas are being perceived and discussed in the professional context. Having a category like R1/A1, *(built) representative green areas*, which are mainly located around prominent buildings and where the maintenance is the most intense, set expectations for representative green areas about how they should look like. The type of values that are given to meadows in the classification are also the type of values understood by the professionals. This reinforces a situation that Carlson (2009) describes as the *Designer Landscape Approach*.

Carlson (2009) sees that the *Designer Landscape Approach* has molded people's perceptions of human environments. This model leads common people to believe that only deliberately designed environments are worth aesthetic consideration and the way to appreciate such environments is close to that of art. This is an approach that Carlson criticizes, and thus he sees the designer landscape approach as problematic. Carlson sees that even in the case of architecture, where buildings are a result of deliberate design, pointing out single buildings to be aesthetically judged, like art objects, ignores their context: the environment that the building is part of and the building's function in a flow of the streetscape.

Urban meadows are currently replacing lawns in people's everyday environments, which in a bigger picture, are a part of designed human environments such as parks. Reflecting Carlson's criticism about the designer landscape approach, people's expectations about how a designed park should look like, are dictated by the designer's ideas, and other designed parks that people are used to seeing in cities. The type of aesthetic qualities that professionals see urban meadows to have, guide the way how their users see them as well.

2.4.2 Value debate over urban nature

I have presented that the appreciation of nature is dependent on many factors. When the value of meadows is put into a bigger picture, to what extent should one value be underlined over the other? As Berleant (2012) describes forestry aesthetics, the same concepts go along with those of any green area: there are many different perspectives to perceive a green patch: social, historical, practical, economic, political, ecological and the list goes on. This already gives an idea of the complexity of the values that are placed for a piece of land. Whether the green area is placed into a rural, natural, or urban setting alters the values. In an urban area, the economic value of land use is higher whereas natural ecosystems are vital for nature conservation. The green area itself doesn't mind how it should be like, but people need to find a balance that is rather satisfactory from multiple points of view. I will exemplify a few interesting value perspectives from both aesthetic and ecological viewpoints.

Historical values

The first concerns the Observatory Hill Park in Ullanlinna, Helsinki. Haapala (2018) sees that urban nature within this park is partly natural elements and partly artefactual construct where the natural elements act as materials. The aesthetic experience in this park can be either

appreciating the natural elements alone or appreciating the whole park as a historical entity. Haapala distinguishes that the aesthetic appreciation can focus on "-- *immediate sensory pleasures, historically and theoretically informed satisfaction, enjoying the functionality of an object, and unnoticed smoothness and rhythms of our daily existence*." (Haapala, 2018: 149). To him, the historic context of the park is the most decisive factor of all the possible roles. Such a park can be altered but only respecting its historic context. To Haapala, the naturalness of the park is acceptable to a certain extent. He sees that the park requires a lot of management to maintain its historical character. He goes on by saying: *"-- the park as a whole is an artifact and should be treated as such. It should be looked at, appreciated, and estimated in the category of certain kinds of parks, where historical, structural, architectural, and other considerations have a significant role to play.*" (Haapala, 2018: 159).

In the context of historical parks, it is useful to distinguish the concepts of "natural time", such as seasons (Bonsdorff, 2005), versus "historical time" which associates with different styles in garden history (Kummala, 2016). Natural time alters the landscape constantly affecting its appearance which may then collide with the historical time.

Wildness

Another aesthetic viewpoint is made by Kummala (2016) about the park around the Töölö Bay in Helsinki. The history of the park's construction has been multifaceted, and it is still not in its final form. Since the park is situated on land with high land value and in proximity to high-profile buildings such as the Parliament House, Kummala sees that such context can lead to an impression of a dignified area. In areas like this, it is less acceptable to have "wild" looking elements. With the concept of wildness, Kummala refers to the contrast of something controlled and maintained, instead of aspects like originality which relates to natural nature. Wildness can also be understood as the unplanned effects of nature in the built environment, for example how weather wears out built structures (Bonsdorff, 2005).

Conservation values

While talking about wildness and the unplanned in the aesthetic context, it is also worth considering how "wild" ecosystems in built environments are treated in conservation ecology. Novel ecosystems represent wildness in the sense that these are not maintained but self-assembled ecosystems that appear after deliberate or unintended human habitat

destruction which causes novel species combinations as well as the potential for changes in ecosystem functioning (Hobbs et al., 2006). They can appear in horticultural and urban-industrial areas (Kowarik, 2011). The view in mainstream conservation ecology has been that only historical ecosystems are valuable in biodiversity conservation because novel urban ecosystems are not able to mimic the functioning of natural ecosystems and they are prevalent to non-native species which is one of the leading causes of biodiversity loss (Kowarik, 2011). On habitat level, it is, however, identified that some endangered species can establish self-sustaining populations to novel ecosystems and the mixtures of native-introduced species are expected to adapt to these ecosystems better than the previous composition of native species (Kowarik, 2011).

From the point of view of environmental aesthetics, one quotation by Kowarik (2011: 1979) stands out: "*First, one must consider whether ecosystems that represent profound human-induced changes in natural systems have value or whether they are per se to be negatively viewed because they diverge from natural settings*." As stated above, from the standpoint of conservation ecology, the value of novel ecosystems has only recently been studied more, but similarly, from the standpoint of aesthetics, the aesthetic value of such nature is easily overlooked.

Aesthetic diversity

When talking for example, about conservation ecology, the concept of biodiversity comes up frequently, and most often diversity in nature has only been described with biodiversity. However, the concept of biodiversity does not cover people's environmental aesthetic experiences of the surrounding nature, and therefore the definition is incapable to describe the full quality of the environment (Kummala, 2016). Instead, Kummala (2016, 2013) introduces a concept of *aesthetic diversity*. By aesthetic diversity, Kummala refers to the experiential richness of the space, the way how environments are aesthetically experienced, and how the aesthetic qualities are noted and perceived. Like biodiversity, aesthetic diversity can be understood as a normative goal in city planning, but unlike biodiversity which refers, among others, to the number of species, aesthetic diversity does not refer to the number of different experiences but rather to their quality, depth, and how they influence the perceiver.

Functionality

Aesthetic diversity is not only important addition to the concept of biodiversity but because functionality has become an overwhelming goal in city planning. Kummala (2013) claims that urban environments have been compressed and gives an example through heated streets in the winter at the city center of Helsinki. By heating the streets in the winter, the changes between seasons disappear, which impoverishes the experience of the winter season in Finland. It also impoverishes the kinetic sensation as all the obstacles are removed and changes the lightness of the street canyon. Heating the streets has a functional role which Kummala does not oppose, but the choice of heating streets is made entirely from a functional perspective and the changes that it makes for the aesthetic experience are hardly considered. By compressing environments, cities lose aesthetic qualities from the environment and instead end up creating spaces that resemble others and the activities become what defines the spaces, like shopping malls.

All the presented values can also be attached to urban meadows: are meadows suitable green elements in high-profile areas, are meadows with alien species less valuable than those that host endangered native species, should open green areas function as picnic lawns, or is there space for meadows as well? The value debate is particularly interesting in the core of cities, as urban development pushes green spaces narrower. At the moment, it is possible to see that urban green areas in city centers still look homogenous and value like functionality is highlighted. For example, even after the national maintenance classification transformed into a value-based system, functionality, and the type of recreational benefits that people obtain from the green areas are still highlighted. I do not imply that carefully manicured historical parks or picnic lawns do not have a place in city centers, but each park does not have to fulfill the same values, there are others to consider as well. If cities only favor functionality, they may not only lose biodiversity but aesthetic diversity as well. On the other hand, only emphasizing the ecological side of nature, cities overlook the aesthetic potential that urban nature also possesses. The value debate about city planning is complex but every viewpoint should have a say in the process.

3 METHOD

Given the multi-perspective approach and the varying nature of the fields of environmental aesthetics and ecology, there was no one clear method that would serve my research topic.

The two fields have been combined in studies before, mostly in the form of interview studies. The way how the concepts of environmental aesthetics are used in research has been studied in a dissertation by Hauru (2015). The methods used in this study are, however, seldomly used in either of the fields, especially when combining the two viewpoints in one study.

My work is centralized around urban meadows and how they can be perceived from aesthetic and ecological viewpoints. I decided to approach my analysis from the cities' point of view, because I have worked with designing public green areas, and urban meadows are acknowledged to be a necessary tool to increase biodiversity in cities. This led me to choose meadow operational programmes of Finnish cities to be my data source. Thus, the first step was to identify precisely: "**Which cities/ municipalities in Finland have adapted urban meadow operational programmes as part of their green area strategy?**" This is also my first research question.

The scope of qualitative research is wide, which is why the researcher needs to choose appropriate perspectives to the specific study area and frame the study accordingly. Choosing a suitable viewpoint for the study helps to define the methods used in the analysis. The viewpoint can be factual, experiential, or constructionist. (Jokinen, n.d.). If I had wanted to analyze how urban meadows are presented in the selected dataset only from an ecological point of view, I could have taken a factual perspective to my thesis. The ecological benefits of meadows can most often be interpreted objectively, and the argumentation is based on evidence. Aesthetic qualities, however, are relational and changing, the used language builds reality, and argumentation is interpretative.

Given the fact that I have two viewpoints in my study, I also decided to choose two methods for my analysis. Firstly, I was interested in the content: how do cities describe and explain urban meadows? To be more specific, I formulated my second research question as "**What kind of aesthetic and ecological aspects can be recognized in the selected dataset?"** To answer this question, I chose content analysis as my preliminary method. On the other hand, besides just looking at what the cities have written on the documents, I was interested in seeing how the documents might influence the reader's perception of urban meadows. That is why my third research question is:" **Based on the content analysis, can one identify coherent ways in which cities construct the image of the aesthetic value of urban**

meadows?" Since the argumentation around aesthetics involves constructing the social reality, I needed to ask questions like "how is said", "in which situations is said" and "with what consequences". For this type of research, discourse analysis is used, and I chose that as my secondary method.

3.1 Content analysis

Content analysis is a common method used for textual and media content such as interviews, speeches, and photographs. It is also a useful method to analyze documents. The method aims to recognize connective groups and clusters and patterns from the dataset. These clusters create themes which the researcher may have decided beforehand, or they emerge as the researcher goes through the text. The analysis can be carried out on a surface level when some obvious categories are revealed, or at a deeper level expressing hidden connotations. In other words, both conscious and unconscious messages can be studied. Content analysis can be quantitative, which focuses on preselected categories and is thus deductive, whereas qualitative content analysis is inductive and requires close reading of the text to find the latent content. Both can be used simultaneously depending on the aims of the study. Most importantly, content analysis identifies the relevant content through different approaches. (Julien, 2008.)

Content analysis is always open for multiple interpretations and a researcher brings their own perspectives to the study. This can be reduced by iterative analyses and providing supporting examples from the data. The reliability of the analysis means that the discovered categories are comprehensive and mutually exclusive. (Julien, 2008.)

3.2 Discourse analysis

Discourse analysis also belongs to qualitative research methods. It is used to study how the language constructs reality. Discourse analysis helps to identify the meanings of language created in the social context, the style and tone of the text, the immediate or broader context of the text, and with what consequences is the social reality constructed. Discourse analysis is most often used in studying interaction, but it can also be used to analyze speech and text. (Suoninen, n.d.) Instead of focusing on individual phrases and words, discourse analysis is used to discover the contextual meaning of entire conversations and texts. Discourse analysis

can focus on different levels of communication within the dataset: vocabulary, grammar, structure, genre, non-verbal communication, and conversational codes. (Luo, 2019.)

Discourse analysis is a multifaceted method that allows many different approaches and emphasis in the research. Depending on the emphasis of the research, discourse analysis can be either used to analyze the ways of cultural sensemaking, power relations, or interactions. (Suoninen, n.d). I chose to focus on the rhetorical features of the documents with analytical orientation. Rhetorical features, opposed to responsive, are highlighted in textual materials since they seek to persuade and assure the reader with argumentation. One can for example study how the given facts are constructed. The analytical approach takes a neutral starting point for the study, is data-driven, and details how the chosen language constructs social, cultural, and power relations. (Jokinen, 2016.)

3.3 Mapping out the target cities

At the time when I started conducting the analysis, there was no data source available that would give me a list of the Finnish cities that have adopted some kind of a meadow operational programme. I started to put together the cities through word search on the internet. I completed the word search in Finnish, using keywords such as “urban meadows” (*kaupunkiniityt*), “development project for meadow network” (*niittyverkoston kehittämishanke*), “development of open green areas” (*avoimien viheralueiden kehittäminen*),” developing meadows” (*niittyjen kehittäminen*), “operational programmes of meadows and open landscapes”(*niittyjen ja avointen alueiden toimenpideohjelma*), “strategy for open green areas” (*avoimien viheralueiden strategia*), “to develop meadows” (*Niityttäminen*).

To ensure a coherent approach to finding the cities that have operational programmes of some sort related to urban meadows, I needed to delimit the scope of all the Finnish cities somehow. For this purpose, I used the classification of urban municipalities made by Statistics Finland (n.d.): “*Urban municipalities include those municipalities in which at least 90 percent of the population lives in urban settlements or in which the population of the largest urban settlement is at least 15,000.*” This gave me a list of 58 cities. Along the thesis process, I learned about the EU’s biodiversity strategy which requires cities of at least 20 000 inhabitants to create urban greening plans (European Commission, 2021a). To limit the

number of cities, I excluded the cities and municipalities with less than 20 000 inhabitants from the preliminary list. This left me with 48 cities to investigate further.

After going through each of the 48 cities, I found six programmes exclusively related to meadows. These belong to the cities of Espoo, Lappeenranta, Kangasala, Tampere, Turku and Vantaa. Meanwhile learning about the biodiversity strategy of the EU, I also discovered that the Natural Resources Institute Finland had at the time of my thesis process published an evaluation report about how Finnish cities have managed to meet the goals of the EU strategy (Kärkkäinen & Koljonen, 2021). The report included a figure of cities that have created a programme considering meadows and it also showed that six Finnish cities have done such a programme (Kopperoinen et al., 2021). The names of these cities were not mentioned so there can be some indifferences between their and my results. From my study's point of view, I did not see this as an issue. Multiple other cities have also done for example, comprehensive green area programmes, but since separating the perceptions and benefits of meadows from such large entities, I decided to exclude those from my analysis.

Five of the chosen documents were commissioned by a city and accomplished by consulting companies. There were only two different consulting companies conducting the writing process of the programmes which implied that there will be similarities between the content of the documents. The remaining sixth document by Turku is done by an association, already in 2012. It is not a similar policy document as the others, but since it recognizes similar themes as the other documents, it has been funded by the city, and the document is linked on the city's website that talks about urban meadows, I decided to include it in my study. The rest of the documents have been published between 2017 to 2021, which tells about the timeliness of the topic. The documents commissioned by a city, all referred to the national green area maintenance classification. Two of the oldest documents (2017, 2018) still referred to the old classification, whereas the others to the new one. Since the content of the classification relating to open green areas (including meadows) has remained the same, this caused no differences in the content. The old maintenance classification was also mentioned in the document by Turku.

The document by Turku tells in general what types of meadows can be found in Turku, and they have included interviews from professionals dealing with meadows into the document.

The rest first describe the current state of the cities' meadow networks and what are the goals for the future. This was the part that I focused on in the analysis, but I did not include all the chapters and paragraphs into my study since some only focused on maintenance practices. Espoo, Vantaa, Tampere and Kangasala continued their programmes by going through individually each of the existing meadows in the city and proposing appropriate development actions for them. I did not include these into my analysis since they did not talk about the ecological or aesthetic viewpoints any longer.

4 ANALYSIS

4.1 Analysis structure

After I had acquired my dataset for the analysis, I needed to organize the content somehow. When performing content analysis, this can be accomplished through coding of texts. Coding can be a tool in itself to conduct the analysis or a phase of the analysis which helps to organize and categorize the data before making further analyses. The coding can be done by hand or with the help of computer programs. The codes themselves are not a result but they need to be interpreted according to the method. (Juhila, n.d.) Through coding, one can identify singular words, phrases, or paragraphs from the text, depending on what is the goal of the analysis. To complete the coding, I used a program called Atlas.ti which is designed for doing content analysis.

Based on my research topic, I chose two categories to concentrate on in the coding: ecological and aesthetic. I began the coding with two of the city documents as a pilot. Despite having the two pre-decided categories, the coding itself at first was done more inductively; the text revealed the kinds of clusters that were relevant from these viewpoints. In the first rounds of coding, I ended up finding about a hundred different codes from the pilot documents. These included the ways how meadows were described, the ecological conditions they grow in, and so forth. This led me to add a third relevant category to the analysis, valuation[6]. By doing the pilot coding, I got an overall idea about the content of my dataset and discovered connections to the theory around my topic. Based on my theory, I was able to

[6] By valuation I mean placing a value, positive or negative for something (in Finnish *arvottaminen*).

start naming groups under each category, and that helped me to narrow down the number of codes. This more deductive approach decreased the final number of codes into 31.

As I had the groups formulated, I went through the rest of the documents similarly. I was still shifting codes from one code group to another until everything found its place. I revised all the documents a second time in order to increase the reliability of the analysis. To categorize the codes and code groups from the documents is not sufficient to tell about the relations between different codes, how they appear in the documents, and so forth. To get more profound results, I used some of the automated tools within Atlas.ti to discover co-occurrences between codes and codes and documents.

Lastly, I proceeded to the discourse analysis. After focusing specifically on the content of the documents, "what is written", I shifted the focus to "with what consequences". Since in my last research question, I was interested in the aesthetic values given to urban meadows, during the rest of the analysis, I concentrated on the aesthetic viewpoint. Instead of focusing on the codes as such, I wanted to understand how the usage of these codes constructs the perception of aesthetic reality.

4.2 Findings

4.2.1 Matrix-based on the content analysis

I divided the content of the documents into three categories: aesthetic, ecological, and valuation. The aesthetic and ecological viewpoints were the obvious things that have been written down to the documents, but the valuation category revealed latent ways of valuating the aesthetic and ecological aspects. Each category is further divided into groups and those into codes. I have named the groups and codes in accordance with what I have presented in the theoretical part of the thesis. The structure of the categories, groups, and codes is presented in figure 4.

I will go through every category and the results relating to the content, density, and co-occurrence of the codes in detail. I will start from the ecological category, moving on to the aesthetic category, and finally to the valuation category. The results relating to ecological and

aesthetic category relate to the density of the codes. In the valuation category I have as well analyzed how some of the valuation codes co-occur with the ecological and aesthetic codes.

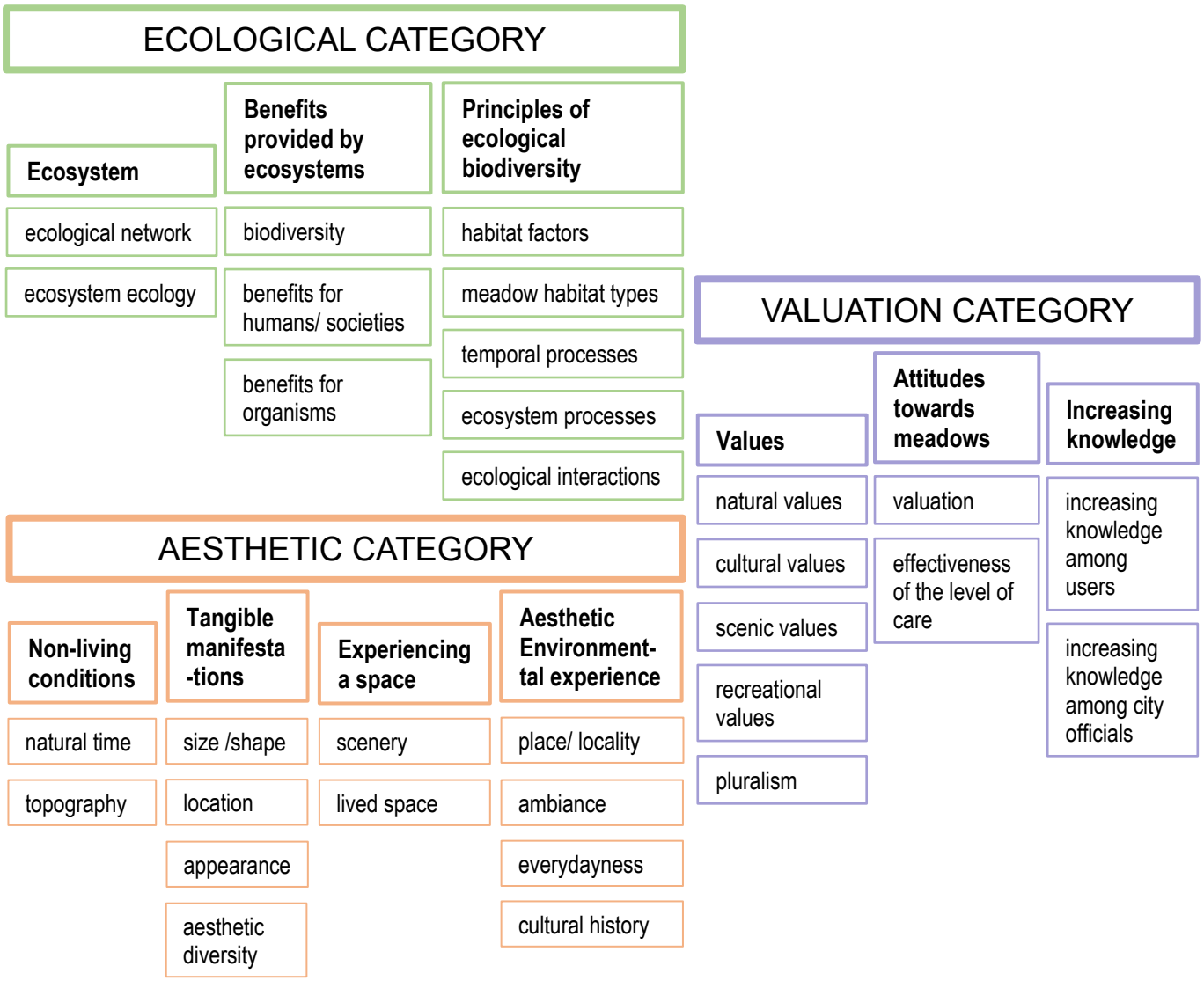

Figure 4 Each code divided into groups under the three main categories

Ecological category

As meadows are a tool to increase biodiversity in cities, I found it important to analyze how well the different factors which affect biodiversity are stated in the dataset. In addition, there were aspects related to ecosystems and benefits provided by ecosystems that I found relevant in the dataset. The ecological codes are divided under *ecosystem*, *benefits provided by ecosystems*, and *principles of ecological biodiversity*. The definitions for each code are drawn from a report by ViherKARA-verkosto (2014) and a book by Adler & Tanner (2013)

Ecological network – a green-blue network that serves the movement and spread of many organisms and groups of organisms

Ecosystem ecology – flows of energy, water, nutrients, and other materials through ecosystems

Biodiversity – species diversity

Benefits for humans and society – tangible and intangible benefits people obtain from the structure and functioning of ecosystems also known as ecosystem services

Benefits for organisms – benefits organisms receive from ecosystems

Habitat factors – size, spatial distribution, and quality of a habitat

Meadow habitat types – the variety of meadow habitats, an open or semi-open grassland / heritage biotope

Temporal processes – addition or loss of habitats over time and temporal variation due to ecological succession

Ecosystem processes – resource availability, disturbance, and stress which affect biodiversity

Ecological interactions – competition, predation, mutualism, and disease

Some of the codes, such as ecosystem ecology and ecosystem processes are related but I wanted to separate the factors which increase or decrease biodiversity and still take note of aspects that connect meadows into larger ecosystems. The density of each code in relation to different documents is presented in table 1.

The results are normalized meaning that the number of codes in each document is proportional to the document with the highest total of codes. Normalizing the results helps to compare the density of the codes between the documents since the documents were of different lengths and contained a different number of codes. Without normalization, the emphasis of individual codes in documents with the least codes would not show up, and results from the document with highest number of codes would be overrepresented. The Gr number tells the actual number of how many times each code was used in the entire dataset.

Out of all the coding biodiversity, benefits provided for humans/ societies, habitat factors, ecosystem processes, and temporal processes are well recognized throughout all the documents. Deviant results are several mentions about ecological networks in the document by Espoo and benefits provided for organisms by Turku. Ecosystem ecology and ecological interactions are the least mentioned aspects throughout all the documents.

Table 1 Adjusted density of ecological codes per document in relation to the document with the most codes

CODE	**Espoo** niittyjen ja avointen alueiden toimenpide-ohjelma 2021-2031	**Tampere** Avoimet viheralueet 2015-2025	**Lappeen-ranta** niittyverkos-ton yleis-suunnitelma	**Kangasala** kaupungin avoimien viheralueiden kehittämissuun-nitelma 2019	**Vantaa** peltojen ja niittyjen hoidon kehittämis-suunnitelma 2018	**Turku** kaupunki-niityt 2012	Totals
ecological network Gr=51	26,16	7,82	13,00	7,91	10,33	3,84	69,05
ecosystem ecology Gr=15	4,36	7,82	3,00	1,32	4,43	0,00	20,92
biodiversity Gr=102	18,89	21,88	19,00	31,66	28,05	28,76	148,24
benefits provided for humans / societies Gr=123	27,61	26,57	24,00	40,89	33,95	17,26	170,28
benefits provided for organisms Gr=69	11,63	9,38	8,00	18,47	19,19	38,35	105,01
habitat factors Gr=99	20,34	20,32	43,00	7,91	14,76	24,93	131,27
meadow habitat types Gr=90	21,80	17,19	19,00	18,47	16,24	38,35	131,05
temporal processes Gr=117	24,70	46,89	23,00	26,38	29,52	13,42	163,92
ecosystem processes Gr=112	29,06	21,88	34,00	23,74	23,62	19,18	151,48
ecological interaction Gr=17	1,45	6,25	0,00	9,23	5,90	1,92	24,76
Totals	186,00	186,00	186,00	186,00	186,00	186,00	1116,0

Since the role of meadows is strongly related to biodiversity, it is no surprise that the concept of biodiversity is brought up frequently. None of the cities' documents, however, define what they exactly mean by using the term biodiversity, and the term is used loosely throughout the documents. That is why biodiversity and benefits provided for organisms are separated; I wanted to distinguish the use of the term biodiversity from cases where it was actually clarified what type of improvement exactly is the chosen action going to provide. Turku describes what type of preferences individual species have, others talk about the benefits on a

more general level. For example, shores provide good habitats for birds, heritage biotopes for endangered species, and that the timing of maintenance measures for meadows should be timed so that flowers have time to flourish and spread seeds at the same time as providing food for insects.

The benefits provided for humans /societies are more commonly noted compared to benefits provided for organisms. Benefits that people obtain from ecosystems can be against biodiversity. It is recognized in the documents that cities have pressure to provide possibilities for recreation which wears out the vegetation, but at the same time recreation is the most mentioned benefit that meadow ecosystems provide for people. Cities see that movement in meadows, especially on those that have valuable species composition, is not appropriate and walking is guided through paths. However, a more comprehensive discussion about this controversy is lacking.

Out of the five principles that affect biodiversity, habitat factors, temporal as well as ecosystem processes are mentioned most often. Looking at the habitat factors more closely, especially Lappeenranta has made a thorough analysis about the habitat and soil types in Lappeenranta, whereas others discuss the growing conditions in general. Ecosystem processes mostly include quotations about how maintenance can be used to achieve higher biodiversity, but as stated above, aspects that decrease biodiversity, like increased demand for recreational use, effects of trampling, and trash are somewhat recognized as well. Since the cities aim to increase the number of meadows, the addition of new meadow habitats, temporal processes, occurs in the texts frequently as well. It is often stated that if a meadow habitat is lost due to urban development, replacing habitats should be found from another suitable location. Ecological interactions, which in this case mostly refer to invasive species, also decrease biodiversity, and even if mentioned in relation to meadows only a few times, the issue is generally well recognized and cities have separate strategies to tackle the challenge of alien species.

The discussion about connections between individual meadow habitats and larger ecosystems is limited. Cities aim to include new meadows as a part of larger green networks which increases the overall quality of each habitat. Especially Espoo sees that creating a network of meadow habitats is one of the major factors when considering where to locate new meadows.

Ecosystem ecology, which consists of the flows of material and energy between ecosystems, is recognized poorly, mostly in the form of water.

In a conclusion, the ecological content is emphasizing increasing biodiversity and providing benefits to humans, mostly in the form of recreation. Principles that affect biodiversity are presented, but cities themselves only associate things that increase biodiversity to the term biodiversity, not those that reduce biodiversity. When talking about benefits provided for humans /societies, the emphasis was on recreation, and not, for example on pollination, water retention, and so forth. Thus, there is only a little discussion about how meadows serve in climate change mitigation and adaptation as well.

Aesthetic category

The codes under aesthetic category have similarities to aspects that I have highlighted in the literature review, for example, different ways that people can experience meadows, what type of experiences they provide and so forth. The definitions of the codes that I used to categorize the content of aesthetic viewpoint are mostly drawn from a report by ViherKARA-verkosto (2014) or described by Kummala (2016) and Brady (2003):

Topography – landforms that constitute the abiotic landscape

Natural time – a reference to time as natural phenomena like seasons, time of day

Size / shape – the size or shape of a meadow patch

Location – the physical location of a meadow

Appearance – the intrinsic qualities of the environment that exist independently of an observer

Aesthetic diversity – the experiential richness of a space, and the perceptive observation of the environment

Scenery – visible appearance of a landscape

Ambient experience – the bodily experience which includes senses, kinetics, and one's personal attachment to the world

Place / locality – space, which is well-known, represents the local identity and has meaning for individuals and at best creates the feeling of community

Ambiance – what the surrounding space (things, people, environment, or combination of these) radiates or exudes

Everydayness – elements in the vicinity of people, strangeness, and familiarity in everyday environments

Cultural history – the anthropogenic historical feel of the environment, signs of historical time

There are similarities and overlaps between the aesthetic and ecological codes. For example, topography and natural time within the field of ecology are understood as habitat factors and seasonality which affect the species composition. In aesthetics, these are the perceivable factors that people can observe in the environment even without knowledge of ecology. I divided the codes under *non-living conditions*, *tangible manifestations*, *experiencing a space*, and *aesthetic environmental experience*. Table 2 shows the density of the codes in relation to each document, adjusted to the document with the highest total of codes.

Location, scenery, and cultural history are the codes that appear in the documents most often. Natural time, ambiance, and everyday environment on the other hand are connected to meadows only a few times in each document, some not even mentioning them once. In general, the ways how people experience meadows, through sceneries, or as ambient experience, and the type of experiences they provide are well recognized. In comparison, the way how meadows look is less talked about.

The most notified factor from tangible manifestations is the location of meadows. Cities see that new meadows should be mostly added to parks and roadside greeneries. There is a division between ’value meadows’ which are mostly located in areas with heritage values, and ’recreational meadows’ that are seen to fit better into recreational areas. Aesthetic diversity under tangible manifestations is a new concept that I already discussed in the theory. Despite low occurrence in Espoo and Lappeenranta, the cities do recognize meadows’ role as bringing aesthetic diversity to their townscape. The term *aesthetic diversity* is not used, instead, cities talk about the variation of sceneries. Aesthetic diversity would, however, represent the phenomena better, grasping the holistic nature of aesthetics. Kummala emphasized that aesthetic diversity is not about the quantity of different types of environments but rather about their quality. Interpreting the quotations, cities mostly refer to the quantity. Lappeenranta does talk about the quality and relevancy of meadows as well.

Table 2 Adjusted density of aesthetic codes per document in relation to the document with the most codes

CODE	**Espoo** niittyjen ja avointen alueiden toimenpide-ohjelma 2021-2031	**Tampere** Avoimet viheralueet 2015-2025	**Lappeen-ranta** Niitty-verkoston yleissuun-nitelma	**Kangasala** kaupungin avoimien viheralueiden kehittämis-suunnitelma 2019	**Vantaa** peltojen ja niittyjen hoidon kehittä-missuun-nitelma 2018	**Turku** kaupunki-niityt 2012	Totals
natural time Gr=10	3,00	2,30	0,00	2,03	1,78	8,20	17,31
topography Gr=37	11,00	2,30	9,49	8,12	7,14	24,59	62,64
size / shape Gr=34	6,00	20,70	3,30	6,09	8,92	18,45	63,95
location Gr=162	57,00	43,70	62,67	38,94	36,00	28,69	266,31
appearance Gr=44	9,00	13,80	17,09	8,20	8,92	22,54	70,48
aesthetic diversity Gr=45	5,00	16,10	7,60	20,50	21,41	14,35	84,75
scenery Gr=91	15,00	29,90	24,69	38,94	39,26	18,45	165,85
ambient experience Gr=75	23,00	25,30	11,50	24,35	21,41	22,54	128,00
place / locality Gr=71	29,00	13,80	17,09	20,29	16,06	16,40	112,64
ambiance Gr=14	2,00	6,90	0,00	10,15	7,14	0,00	26,19
everyday-ness Gr=16	5,00	0,00	9,50	4,06	1,78	6,15	26,49
cultural history Gr=126	42,00	32,20	44,08	26,38	37,47	26,64	208,38
Totals	207,00	207,00	207,00	207,00	207,00	207,00	1242,0

The idea of aesthetic diversity was often presented in the same sentence as biodiversity, but they were still recognized as separate entities. On the other hand, meadows were also said to bring calmness into the otherwise detailed and diverse outlook of cities, which implies the quality of the experience. Other forms of tangible manifestations did either not play a significant role or were only highlighted by some cities.

Both codes under non-living conditions were mentioned only a few times in all of the documents. As an exception, Turku saw that topography has relevance to meadows. Natural time was most often connected to the natural cycle of farming. The document by Turku brought up some effects of seasonal changes to meadows and animals' behavior which depend on the meadows. Even if natural time changes the appearance of meadows notably, its significance to people's experiences is either not recognized or understood well enough.

I brought up in the literature review that it is not meaningful to separate scenery and ambient experiences from each other. However, I chose to divide them into two codes since only the word scenery was used in my dataset so often. By doing this, I was also able to articulate whether the role of meadows for the cities is purely a scenic value or is the holistic environmental aesthetic experience considered as well. The division was reinforced in the dataset by quotes that stated that some meadows are purely meant to be observed from a distance whereas in others, people are allowed to walk and use them. Such comments create a clear difference between the experiences.

Identifying the scenic experience in the dataset was challenging since in the Finnish language, '*maisema'*, refers both to landscape and scenery. '*Maisemakuva'* is used to talk about the visible appearance of a landscape, in other words, a scenery. However, there were several references to '*maisema*' which I interpreted as 'visible landscape', for example, variation of sceneries instead of variation of landscapes. In such cases, I had to rely on the context around the wording. This causes some ambivalence in the interpretations, but I feel that I have been able to separate the two different ways of talking about '*maisema*' and focused on the ones that refer to sceneries.

Defining what goes under 'ambient experience' required some consideration as well. Kummala writes that the different ways of acting in space, for example, recreational activities such as sports, are not part of the environmental aesthetic experience, but he still emphasizes that kinetics, ways of moving within the environment, like walking or running, alter the aesthetic experience. That is why I included some forms of interaction with meadows, like walking on the meadows, in the coding of ambient experience. Pure recreational activities such as playing were not considered.

Both ways of experiencing a space were well recognized and often used in the same quotation, which confirms Kummala's point that one doesn't exclude the other. Differences in the experiences were visible between 'scenic meadows' and 'recreational meadows'. The role of the first is to bring visual enjoyment for citizens whereas the latter serves as a space where people can interact with nature. Inside the code ambient experience, the documents don't go deeper into the ways how a space can be experienced. There were, however, mentions about senses and tones that people associate with certain environments. The choice of wordings varies from *observing nature* to adding possibilities for *nature experiences*. A lot of the coding under ambient experience also refers to the movement within the meadows.

Lastly, I coded the documents according to the ways urban nature reflects into people's environmental aesthetic experiences: place/locality, ambiance, everydayness, and cultural history. When comparing the density of these codes, it is evident that meadows are not connected to the ambiance of a space, and the everydayness of meadows is also poorly recognized. Kummala talks about ambiance especially focusing on weather phenomena. Thus, it is understandable that meadows are not significantly connected to ambiance. However, I interpreted that quotations about coziness of meadows fit under ambiance. What comes to everydayness, in the document by Lappeenranta, it is recognized that in the beginning, the increasement of meadows should take place further away from housing areas but eventually, they should be added to people's everyday environments in order to increase their familiarity. Considering that cities want to increase the number of meadow habitats in parks and other everyday environments, the strangeness – familiarity aspect of meadows is poorly recognized. It is written in two of the documents that water retaining meadows can be quite unnoticeable from their appearance which helps to maintain the familiar look of the environment. Locality comes up most frequently in the document by Espoo, but it is quite well recognized by all the cities.

As I had gone through the pilot document several times, it was clear that meadows have a major role in the history of the cities. Meadows that already existed in cities before are often the remains of the agricultural era. I decided to name this quality as cultural history which also includes the notion of historical time. To a certain degree, coding under cultural history could be seen as representing locality, but since the connection was frequently made to agriculture, it was important to separate those quotes from any type of locality. This is the

most frequently used aesthetic code in the documents which reveals that the connotation of meadows is still strongly related to agricultural history.

In a conclusion, several aesthetic properties are connected to meadows in my dataset. The aesthetic experience is understood both as visual enjoyment and as an ambient experience. Meadows are also seen to influence people's environmental aesthetic experiences. The existing meadows are still strongly connected to agricultural history, whereas the expectations for future meadows are to provide nature experiences for citizens and diversify the townscapes. The documents, however, don't talk about these aspects with the concept of aesthetics. Instead of referring to aesthetic experience, just the term experience is used, and so forth.

Valuation category

The groups and codes under valuation are divided under *values, attitudes towards meadows,* and *increasing knowledge*. The codes are partially based on the concepts used directly in the documents themselves (natural, cultural, scenic, recreational values, pluralism), on the theoretical concepts from environmental aesthetics (attitudes towards meadows and increasing knowledge), and other wordings related to valuation. Here is how I defined each code under the valuation category:

Natural values – values attached to chosen important factors in nature such as species richness, the emergence of endangered species or habitats, etc.

Cultural values – values attached to environments that have cultural resonance and significance for human beings

Scenic values – values attached to the visual perception of a landscape; relates to attractive sceneries

Recreational values – values attached to recreational possibilities within the area

Pluralism – a set of different values

Valuation – how people appreciate meadows, expect them to look like, mention of goals placed for meadows, the emergence of words like important (tärkeä), significant (merkittävä), valuable (arvokas), prominent (edustava)

Effectiveness of the level of care – how the level of care affects people's perception and behavior, and how changing the maintenance norms affect these

Increasing knowledge among users – communication from the city to the public about the benefits and impacts of the chosen actions

Increasing knowledge among city officials – communication from the city to decision making about the benefits and impacts of the chosen action

The results that I'm interested in are the frequency of the value terms, and how do the codes under *attitudes towards meadows* and *increasing knowledge* co-occur with the ecological and aesthetic codes. Table 3 presents the adjusted density of the codes under the valuation category. I left out the codes under *attitudes towards meadows* from the table, since instead of looking at how often they appear in the documents, I have looked at the co-occurrence between those two codes and the ecological and aesthetic codes in tables 4 and 5.

Table 3 Adjusted density of valuation codes per document in relation to the document with the most codes

CODE	**Espoo** niittyjen ja avointen alueiden toimenpide-ohjelma 2021-2031	**Tampere** Avoimet viheralueet 2015-2025	**Lappeen-ranta** niittyverkos-ton yleis-suunnitelma	**Kangasala** kaupungin avoimien viheralueiden kehittämis-suunnitelma 2019	**Vantaa** peltojen ja niittyjen hoidon kehittämis-suunnitelma 2018	**Turku** kaupunki-niityt 2012	Totals
natural values Gr=24	11,00	6,63	12,72	10,60	10,60	21,20	72,75
cultural values Gr=25	16,00	6,63	6,36	5,30	10,60	21,20	66,09
scenic values Gr=11	2,00	6,63	8,48	5,30	10,60	10,60	43,60
recreational value Gr=9	4,00	6,63	6,36	5,30	0,00	0,00	22,29
pluralism Gr=6	6,00	0,00	0,00	0,00	0,00	0,00	6,00
increasing knowledge among users Gr=30	9,00	26,50	16,96	26,50	21,20	0,00	100,16
increasing knowledge among city officials Gr=6	5,00	0,00	2,12	0,00	0,00	0,00	7,12
Totals	53,00	53,00	53,00	53,00	53,00	53,00	318,00

Looking at the table 3 reveals that increasing knowledge among users is seen as more important than increasing knowledge among city officials. In fact, only two of the cities even brought the latter aspect up. Increasing knowledge among users is most often related to lush meadows about how those provide important benefits to people. At times, it is also seen as important to increase knowledge about the benefits of 'value meadows', about how they

provide habitats and food for insects. Coming back to the cognitive view in environmental aesthetics, cities also trust that by increasing people's knowledge about meadows, citizens might change their perception of the aesthetic qualities of urban meadows. In the case of city officials, it is written that the document itself works as a tool in city planning and when thinking about locations for new meadows. Only one quotation clearly says that the goal of the document is to provide information about meadows both for residents and city officials.

Out of the different values, cultural and natural values are overall mentioned most often. Scenic values are most often used by Turku but are mentioned also by all the other cities. Some cities didn't mention recreational values at all, and pluralism is only used by Espoo. They refer to pluralism as a combination of natural and cultural values.

For me, it was more interesting to code the direct and subtle ways of valuating different aspects of meadows. As part of the attitudes towards meadows, I noticed similarities in the dataset with Nassauer's thoughts about how the level of care in green areas affects people's opinions. Cities also see that the level of maintenance influences how the meadow or its surroundings are used.

Table 4 shows how the codes under *attitudes towards meadows* and *increasing knowledge* occur in the same context as the ecological codes. Valuation is most often attached to biodiversity. For example, the documents say that it is important to preserve some meadows because of biodiversity. Also, benefits provided for humans /societies, meadow habitat types, and ecosystem processes are related to valuation. Valuable meadow types are related to heritage biotopes. The valuation of ecosystem processes is related to the importance of developing new meadows where it can be done with little effort, either from lawns or overgrown shrubberies that used to be open grasslands. In addition, meadows with less value now can be developed into valuable meadows in the future with appropriate care.

Table 4 Co-occurrence of ecological and valuation codes

	valuation	effectiveness of the level of care	increasing knowledge among users	increasing knowledge among city officials
ecological network	8	1	0	0
ecosystem ecology	0	0	0	0
biodiversity	36	0	5	0
benefits provided for humans / societies	23	6	5	0
benefits provided for organisms	17	4	2	0
habitat factors	11	3	0	0
meadow habitat types	23	1	0	0
temporal processes	10	9	0	0
ecosystem processes	20	7	0	0
ecological interactions	0	4	0	0

Codes related to the level of care, which further influence people's opinions and experiences, are mostly related to ecosystem processes, temporal processes, and benefits provided for humans/ societies. Cities see that overgrown meadows which are maintained less intensely, affect negatively people's experiences of a place. In worst-case scenarios, cities have noticed that meadows reverting to woodlands are used as dumping grounds, or are otherwise misused. Cities also see that the level of care affects people's recreational experiences, which is the main benefit that people gain from meadows. To ensure safe and pleasant recreational use of meadows, more maintenance is seen to be needed, and plant waste, for example, is suggested to be collected away.

Cities see that knowledge about benefits provided for both humans and organisms as well as the potential of meadows to increase biodiversity should be increased among citizens. As already noted before, the documents are aimed to be used as a tool in city planning, so no special connections between increasing knowledge among city officials and ecological aspects are made.

Similarly, table 5 presents the results of co-occurrence between valuation and aesthetic codes. Valuation is mostly related to location, sceneries, and cultural history. Locations that are seen as valuable, are cultural or heritage landscapes and waterfronts. These desired locations for meadows reinforce the importance of sceneries, as meadows along water enable views. Meadows located in heritage landscapes are seen as particularly important, and therefore the experience of cultural history is highlighted above others. Locality is also seen as important. For example, some meadows are said to have special local values which might not be visible for others other than for those who use the meadow. Topography connects to locality, because the landscape forms, that include meadow habitats, are seen to be an important representation of the cities' local identity, especially in the documents by Espoo and Turku.

Table 5 Co-occurrence of aesthetic and valuation codes

	valuation	effectiveness of the level of care	increasing knowledge among users	increasing knowledge among city officials
natural time	1	0	0	0
Topography	12	0	0	0
size / shape	4	0	0	0
Location	34	3	0	0
Appearance	13	11	1	0
aesthetic diversity	6	0	0	0
Scenery	37	5	0	0
ambient experience	8	9	0	0
place / locality	22	2	0	0
Ambiance	10	7	0	0
everyday environment	2	3	0	0
cultural history	46	0	1	0

The co-occurrence between codes can be somewhat misleading since many of the different qualities that meadows have are mixed in the same sentence, but perhaps only one of the qualities is actually seen as important. For example, appearance shows up in quotations which indicate that, despite having a lush appearance, meadows still provide important ecosystem services. It is not the appearance that is important but the outcome it provides. It is also worth mentioning that the valuation is not always used positively, since the documents, for example, talk about how grassland species can also create a more modest-looking meadow. This is an example of the subtle ways of valuating different types of meadows, and it is apparent especially in regards to the aesthetic qualities.

When looking at which codes are correlated with the effectiveness of the level of care, appearance is an aspect that affects people's perception of meadows most. Again, low level of maintenance results in high-grown grasses and shrubs, which create the feeling of unpleasantness, whereas a maintained appearance is the desired outlook for meadows. Experiencing feelings of fear is a tone that affects the way how people experience their environment, and that is why ambient experience connects with the level of care. Similarly, a manicured meadow is seen to create comfort which is categorized under ambiance, so the level of care also affects the ambiance of the environment. This is how the intrinsic qualities of a meadow are intertwined with several other codes that again affect people's environmental aesthetic experiences.

When talking about increasing knowledge among citizens, mention about increasing knowledge about the benefits of "messy" looking meadows and the history of meadows are done. Like in the case of ecological codes, no connection between increasing knowledge among city officials and aesthetic viewpoints is done.

In a conclusion, the valuation is more related to the aesthetic aspects compared to ecological ones, although there are some ambivalences in the results as many of the ecological and aesthetic aspects appear in the same quotations, but the valuation may only be pointed to one quality. However, the tables give a general understanding of the qualities that cities appreciate the most. Only biodiversity from ecological codes is valued as much as cultural history and sceneries from aesthetic ones. Qualities that are valued the most correlate to the "historical meadow": meadows with diverse and endangered species composition in heritage

landscapes connect to cultural history and the scenic enjoyment that they provide. Meadows located in parks, roadsides, and so forth are on the other hand seen as important because of the ecosystem services and increased biodiversity that they provide. They are more related to providing ambient experiences rather than just visual ones. What comes to increasing knowledge, cities see that the ecological aspects are the ones that they should inform citizens about.

4.2.2 Discourses that construct the understanding of the aesthetic value of urban meadows

After analyzing what type of content and emphasis do the operational documents by these five cities include, I move on to analyze how these aspects construct the understanding of the aesthetic value of urban meadows. I already touched upon the subject when analyzing the density and co-occurrences of the aesthetic codes, but in this chapter, I will focus more closely on the different discourses that I identified from the dataset. These discourses are completed by the other two categories as well. I divided the aesthetic values into three discourses that construct the understanding of meadows as aesthetic environments: *meadows as a gateway to history*, *meadows as contradicting newcomers*, and *meadows as experiential spaces*. The correlation between the discourses and the codes drawn from the content analysis is shown in figure 5.

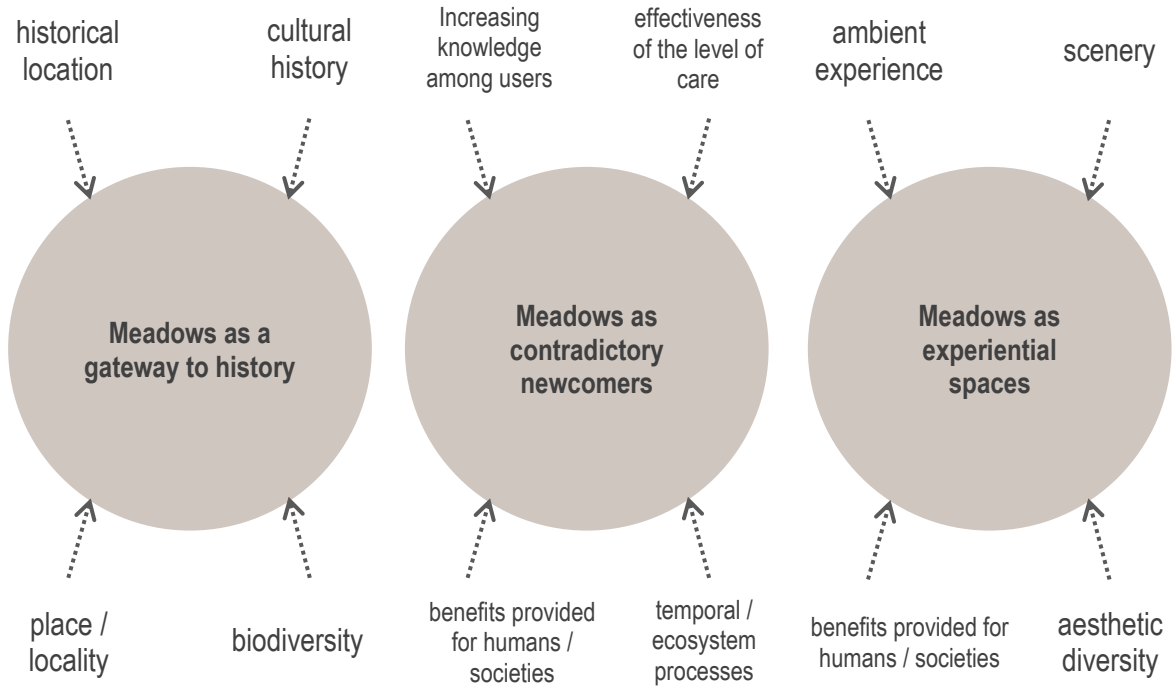

Figure 5 The codes from which the discourses mainly consist.

Meadows as a gateway to history

” Meadows and landscape fields are, in many cases, the last traces of the prior, several hundred years continued cultivation and animal husbandry. The areas form important heritage landscapes and biotopes, some of which possess significant cultural-historical values“ [7]

Already from the beginning, the strongest image that is created in association with meadows is the agricultural history of cities. This connection is brought up also physically right at the beginning of the documents, so the entire narrative of meadows begins from agricultural history. Only the document by Lappeenranta doesn't mention agriculture or cultivation in their introduction. The currently existing meadows in cities are recognized to be mainly the remains of agricultural activities and thus they are located close to early village communities, estates, and so forth. Through time the landscape structure has urbanized, and the remaining meadows present the last remains of cities' agricultural era. All the five cities still have some agricultural land-use, of which some rented for private stakeholders, but only Espoo and Vantaa emphasized these areas in their documents.

Landscapes which consist of heritage biotopes and the built traditional landscape make up *heritage landscapes*. Heritage landscapes hold special values related to both culture and species composition, so meadows situated in such landscapes are not only valuable because of the cultural history but also because of ecological factors. It is stated in the documents that some meadow types are classified as heritage biotopes, and these hosts most of the endangered species in Finland. Meadows that have either cultural or ecological values, are categorized as 'value meadows'. Because these meadows are seen as valuable, cities would like to restore such habitats from areas that were used in agriculture in the past and still possibly have remains of the old species compositions.

The validity of this discourse, where both the heritage landscape and heritage biotopes are connected to meadows, is reinforced by my content analysis where I discovered that the

[7] Original quotation in Finnish: *“Niityt ja maisemapellot ovat useissa tapauksissa nykymaiseman viimeisiä jälkiä alueiden varhaisemmasta, useita satoja vuosia jatkuneesta viljely- ja karjanhoitotoiminnasta. Alueet muodostavat tärkeitä perinnemaisemia ja -biotooppeja, joista osa omaa merkittäviä kulttuurihistoriallisia arvoja.”*

aesthetic experience in meadow environments is most often related to cultural history which in addition is consolidated by their importance in the co-occurrence table 5. Espoo and Vantaa especially give out special value to meadows as heritage landscapes since they reserved the entire chapter to this approach in their documents. Meadows' association to history mixes up with a representation of locality. Especially the meadows located in the heritage landscape represent the historical identity of cities, how the city has evolved from rural societies to modern cities.

Meadows as contradictory newcomers

"It is also worth telling the basics about meadows in communication; not all are multi-species, flowering meadows and the appearance of the meadows varies from year to year and season to season. In addition, lush, grassy meadows and old fields provide important ecosystem services, although not producing colorful blooms." [8]

The other discourse recognizes the lush, high-grown, and unordered meadows in people's everyday environments that differ from those of flowering, "historical meadows". The type of meadows that citizens have requested are colorful flowering meadows, but cities emphasize that the development of old lawns into flowering meadows takes several years before such suitable ecological conditions can be achieved. This understanding among citizens is expected to be lacking.

Many of the existing meadows in cities resemble the "historical meadows" which have multiple values attached to them already and their importance is easily recognized and justified. These are also the types of meadows that both citizens and city officials would like to see more. The goal right now for cities, however, is that in order to prevent biodiversity loss, meadows need to be added into several different growing conditions. These conditions might not favor the type of flowering heritage biotopes that are desired. The results may vary from lush to monotonous meadows which cities think are perceived as either modest or messy looking landscapes. On the other hand, cities recognize that new meadows provide

[8] Original quotation in Finnish: *"Viestinnässä kannattaa kertoa myös ihan perusasioita niityistä; kaikki eivät ole monilajisia kukkivia niittyjä, ja niittyjen ilmiasu vaihtelee eri vuosina sekä eri vuodenaikoina. Rehevät heinävaltaiset niityt ja vanhat pellot tuottavat myös tärkeitä ekosysteemipalveluita, vaikka ne eivät tuotakaan värikästä kukkaloistoa."*

benefits to humans/ societies, mostly in the form of recreation, and offer possibilities to enrich their townscape. Recreational meadows alone diversify the old lawns and open landscapes which are reverting to woodlands let alone all the different kinds of meadows maintained differently. To prevent negative feedback from citizens, cities want to provide information about the ecological benefits of these environments to the citizens. By adding knowledge, cities see that the perceptions towards meadows can be altered.

When cities highlight the importance of new meadows from the ecological point of view, they underestimate or don't even recognize the aesthetic qualities of these meadows. For example, meadows that are not traditionally enjoyable flowering meadows, and which do not provide recreational possibilities are not seen to have any value for people but are said to be good for nature. I brought up in the literature review the value of wildness in cities. When comparing meadows to lawns, they already bring wildness into urban environments. Such viewpoint was overlooked in the documents. These documents make the reader interpret that it is self-evident that dry, flowering meadows have desired aesthetic qualities, whereas more modest appearing meadows can function as recreational areas, or only benefit nature. Therefore, qualities like wildness, or the ordinary environment experienced as unordinary, are not recognized. The conception of cities is that the "newcomer meadows" possess no aesthetic character at all, and they will most likely receive negative aesthetic criticism from the citizens.

Meadows as experiential spaces

"Landscape meadows have no real functional value, but they are viewing meadows. Passage on the landscape meadows is guided through passageways or meadow paths. Landscape meadows are rich in visual appearance and the vegetation is allowed to grow tall. Often landscape meadows are dry meadows that grow herbaceous, natural vegetation. A picking meadow can be established in connection with the landscape meadow that also functions as an eye-catcher for example, along roads." [9]

[9] Original quotation in Finnish: *"Maisemaniityillä ei ole varsinaista käyttöarvoa, vaan ne ovat katseluniittyjä. Kulku maisemaniityillä ohjataan käytävillä tai niittypoluilla. Maisemaniityt ovat visuaaliselta ilmeeltään runsaita ja kasvillisuuden annetaan kasvaa korkeaksi. Usein maisemaniityt ovat kuivia niittyjä, joissa kasvaa*

Even if I divided the group of experiencing a space into two codes, I combined them into one discourse which covers all the different ways of experiencing a space. I came to this conclusion since there are some controversy and a lack of understanding about the aesthetic experience in the dataset. The controversy made it difficult to separate the discourses into two separate discourses. Having two distinct codes revealed that there are differences in how various meadows are seen to be experienced, but as I moved away from individual codes to the discourses, I noticed that there was no consensus between cities, nor even between one city document itself about what aesthetic experience really is.

The perception of heritage landscapes which include meadow habitats has a connotation to the picturesque landscape. It has a clear setting and frame within the landscape and is best discerned as vast scenery observed from a distance. The meadow itself in a such landscape can be small, but the experience is defined by the entire setting. This is exemplified as the documents often only talk about heritage or cultural landscapes in the context of meadows without mentioning the word meadow itself. Because recreational use of ’value’ or ’landscape’ meadows is not advised, the focus of the experience turns into a visual experience. The openness of meadows also reinforces the idea of meadows being sceneries.

Besides being observed as a scenery, the ambient experiential aspect of meadows is also recognized. The documents connect this especially to meadows located in recreational areas. The aesthetic diversity, in other words, a variety of meadow types, is seen to increase the experiences received in suburbs and recreational routes. ’Recreational meadows’ can be used and they are located close to residential areas and recreational facilities. These meadows are seen to provide experiences such as sense of space, experiencing cultural layers, experiences for all senses, possibilities to observe nature, among others. The difference to viewing a meadow as a visual object is that in order to experience the meadow, one must somehow be in the environment.

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ruohovartista luonnonkasvillisuutta. Maisemaniityn yhteyteen voidaan perustaa poimintaniitty, joka toimii myös katseenkiinnittäjänä esimerkiksi väylän varressa”

The conception that meadows that don't have recreational use are constricted to be viewing meadows exemplifies that the understanding of environmental aesthetic experience is inadequate. For example, some cities say that 'landscape meadows' are viewing meadows, but people can still walk along the meadows through cut meadow paths or other trails, in other words, be in the environment. Other cities, however, see that 'landscape meadows' provide experiences for all senses. Cities that say that, might still argue that another type of meadow that does not provide recreational possibilities, is a viewing meadow. The understanding that just being in an environment creates an aesthetic experience is missing. At the moment, the value of meadows is divided between visual experience and recreational use of meadows.

In a conclusion, the image of meadows can be roughly divided into two different types of meadow discourses that accompany each of the five documents. There are "historical meadows" and "newcomer meadows". The "historical meadows" function as a gateway to history and their importance is well recognized. They are both visually enjoyable and ecologically essential habitats. These meadows are aesthetically valued as they remind people about agricultural activities and landscapes and thus, they also have a significant role in providing the feeling of locality. This type of locality is more important from the cities' historical point of view compared to the locality that comes from citizens' feeling of belonging.

The "newcomer meadows" are understood as elements that provide benefits to humans and societies but may not meet the expectations of desired meadows by citizens. Cities see that such meadows can increase possibilities for nature experiences and citizens are allowed to use these meadows as meeting places and outdoor living rooms. What is lacking in the discourse is the understanding of what type of environmental aesthetic experiences the "newcomer meadows" can provide. Considering the viewpoints that I brought up in the theoretical part of the work, familiar meadows placed close to people's everyday environments are enjoyable to visit, but they also possess the element of strangeness, wildness in this case, that can unfold as positive unexpected experiences.

The discourse about the environmental aesthetic experience in general, relating to both discourses mentioned above, is still incomplete. Cities valuate different meadows based on

their use. If they lack recreational possibilities, the only conceivable experience they provide is visual. The documents say that some meadows provide experiences to all senses, some only for visual, and so forth. The way how different meadows are experienced is seen to differ, when in reality the way people experience their environment, always operates under the same laws; it is the type of experiences that these environments provide that differ.

5 Discussion

At the beginning of the study, I set three research questions to myself:

- Which cities/ municipalities in Finland have adapted urban meadow operational programmes as part of their green area strategy?
- What kind of aesthetic and ecological aspects can be recognized in the selected dataset?
- Based on the content analysis, can one identify coherent ways in which cities construct the image of the aesthetic value of urban meadows?

Since the first research question was used as a tool to answer the latter questions, I will not focus on that in the discussion. Using my literature review and analysis, I have compiled three main observations that I will go through in this chapter. The first observation relates to the question of aesthetic and ecological aspects that cities have recognized in their operational programmes. The following two focus on the last question about the image of the aesthetic values that these programmes construct. Since my work combined both deductive and inductive approaches, the interplay between the theory and analysis is worth investigating beyond looking at the results alone. Later, I will reflect on the limitations of my study and go through suggestions for further research.

5.1 Urban meadows as an aesthetic and ecological phenomenon

I approached the theory and methods of my thesis strongly through the topic of the work. Having a background in landscape design, I felt that both ecology and environmental aesthetics are topics that interest me, and the recent phenomenon in Finland about the increased number of urban meadows and the discussion that it has arisen gave me a perfect opportunity to choose this as my topic. I was curious to find out why Finnish cities see that meadows are a good tool for them to reach the urban greening goals set by the European Commission. Since I am accustomed to doing multidisciplinary projects at work, I felt

comfortable in taking two approaches for my work, although that caused some limitations at the same time. I will come back to those later. I also felt that the general discussion in the media around urban meadows left me no choice but to combine the two approaches: can there be both, ecologically healthy environments that also evoke positive aesthetic judgments in people?

It was already presented in the introduction that biodiversity loss is a serious environmental challenge that cities need to respond to. My content analysis shows that the connection between meadows and biodiversity is well recognized by the cities since the concept of biodiversity was mentioned often. However, none of the documents explained what they exactly mean by biodiversity. Large biomass and high species richness do not necessarily imply the relative abundance of multiple species. Biodiversity is a sticky concept that is used loosely in several connections.

As I was going through the research done about the ecological impacts of urban meadows, I noticed that when discussing the implementation of meadows, researchers also highlight people's aesthetic expectations towards green areas (Chollet et al., 2018; Norton et al., 2019). There are still conceptions prevailing that people have a negative attitude towards messy-looking urban meadows, and according to the articles in local Finnish newspapers, there might be something to it. The cities that I investigated, on the other hand, have noticed that informing citizens about the benefits of meadows for nature, is a way to increase the acceptance of meadows as well as turn down the amount of negative criticism that cities might otherwise receive.

This goes along with the conception in environmental aesthetics where some theorists argue that scientific knowledge is a tool and in fact a necessity, for appropriate aesthetic appreciation of nature. There is a risk, however, in solely relying on scientific knowledge when talking about the aesthetic value of urban meadows. A study by Southon et al. (2017) made an observation that people are willing to tolerate the appearance of urban meadows outside the summer season when they are provided with information about the ecological benefits of urban meadows. Given that the summer season in Finland is short and the popular flowering appearance will only last months if not weeks, a lot of tolerance is needed.

Tolerance might reduce negative feedback but is that the level at which the debate over the aesthetic appreciation of urban meadows should be at?

The non-cognitive approach, and especially the supporters of aesthetic engagement speak about the experiential side of aesthetic appreciation; one must personally experience the space in order to aesthetically appreciate it. When people are engaged with their surroundings, the environment produces a variety of environmental aesthetic experiences. These experiences are dependent on the location and context of the environment. In the case of my study, the most mentioned environmental aesthetic experience produced by urban meadows was cultural history. Others that emerged already in the theoretical section, and that were also, to some extent, recognized by the cities were ambiance, place/locality, and everydayness. Recognizing that both natural and human environments produce environmental aesthetic experiences is already a much more fruitful starting point for the environmental aesthetic discussion concerning meadows.

5.2 The impact of administrative documents on the perception of the aesthetic value of urban meadows

Besides looking at the content of the operational programmes, I wanted to see what kind of consequences these programmes might produce. The material I used in my study consists of administrative documents, so it is unlikely that the citizens would ever have a reason to read them. As I decided already in the framing of the study, the focus in the literature and methods is not on individual opinions and perception but theoretical aspects and at a level that affects cities in general. So, instead, it would be useful to ask how these documents affect the professionals' perception of urban meadows. I presented the Finnish national green area management classification that guides the maintenance of green areas. Those operational programmes that were commissioned by cities and written by professionals from landscape industries all referred to this classification. Such national classification that, while guiding maintenance, places values for different types of green spaces, will inevitably affect the the way how the value of green areas in discussed. Considering that these documents are produced and read by professionals, I think it is justified to investigate the perceptions of urban meadows produced by these operational programmes.

The three main aesthetic value discourses that I identified from the cities' operational programmes were "meadows as a gateway to history", "meadows as contradictory newcomers", and "meadows as experiential spaces". These are not narratives that cities have knowingly created, but discourses that I named based on careful interpretation of the content. The discourses were compiled connecting attributes such as "cultural history", "aesthetic diversity" with codes like valuation, and so forth. Under this chapter, I will focus on the first two discourses, and I will come back to the third one in the next chapter.

I found out that, meadows that are located at old agricultural sites are seen to have cultural-historical as well as species composition values. Such meadows are identified as heritage biotopes and both the ecological benefits and aesthetic values are easily recognized. Cities would like to acquire more of these types of meadows as they conveniently provide habitats for endangered species as well as preserve cultural-historical values. Although never directly stated, the latent signals indicate that these meadows often also best meet citizens' aesthetic expectations of flowering meadows. The environmental aesthetic experience produced by these meadows as well as the concept of heritage landscapes are dictated by history and that is why I call this discourse "meadows as a gateway to history".

The second discourse "meadows as contradictory newcomers" does not describe the aesthetic value through visual and ecological qualities in the same way as the one above, but rather through the conflicting feelings that cities anticipate citizens to experience. Citizens have expressed their desire for more flowering meadows, but the reality stated in the documents is that temporal and ecosystem processes, as well as the ecological conditions provided by the urban environment, will not produce flowering meadows immediately if ever. To avoid negative feedback from the citizens, cities want to provide information about why these meadows look as they do, and what type of ecological benefits they provide, in the form of old-fashioned information boards as well as through technology. By relying on this discourse, the cities might end up in a situation described in the previous chapter: the citizens will tolerate these non-flowering meadows. As already mentioned, this level of discussion about aesthetics is not enough.

It is not ruled out that tolerance over time could turn into positive aesthetic appreciation. The more people know about the downsides of lawns, the more it opens possibilities for

meadows. In the meantime, professionals who have the scientific knowledge of ecology should also focus on what kind of environmental aesthetic experiences these urban meadows could offer. In addition to informing the public about ecology, more aesthetic education can be introduced as well. Kummala in his dissertation provides a few such perspectives, strangeness, and wildness. Concerning urban meadows, both of these are especially appropriate perspectives because they invite wildlife into cities, and they are not controlled like lawns. Even if the notion of everyday aesthetics does not rely on turning ordinary experiences into something extraordinary, urban meadows might provide just such situations. While wildness might challenge the aesthetic values given to traditionally controlled, dignified green spaces, the most important thing is that environments that look uncontrolled and wild are recognized to have aesthetic qualities and thus they also have aesthetic value.

5.3 The environmental aesthetic experience described in the operational programmes compared to the literature

I have now reviewed why both ecology and aesthetics are important viewpoints when considering urban meadows, and the type of aesthetic values urban meadows are seen to have, but the last discourse identified from the content analysis focuses on the experiential side of urban meadows. Already in the early phases of the study, I pointed out ways to describe what an aesthetic experience consists of altogether. These are the Landscape Model where the environment is experienced as a scenery and the ambient experience which considers the person's being in the environment through bodily experience.

The reason why I wanted to highlight this as the last topic to discuss, is that the cities had contradictory and conflicting ways of understanding what does the aesthetic experience consists of; meadows' ability to provide aesthetic experiences was determined by their recreational value. Some of the cities divided the meadows into viewing meadows that have no recreational value and recreational meadows that provide different kinds of experiences. The viewing meadows were seen to provide scenic experiences whereas recreational meadows perhaps more ambient experiences. This was not a consistent pattern throughout the documents, but since none of the cities seem to have a clear understanding of what the ambient experience means, I felt that this is a topic worth investigating.

When considering the difference between a scenery experience and an ambient experience, it is more likely that when people are allowed to move within the environment, they can exploit the kinetics of their body and they are more likely to engage with the environment with multiple senses. However, while saying that a meadow is a viewing meadow, it was also said that people can move through and around the meadow through marked paths. This indicates that the understanding of aesthetic experience is not always fully understood. This to say, it is worth mentioning that the concept of aesthetic experience was never even used in the documents.

I argue that it would be useful for cities to widen the discussion about urban meadows to consider aesthetic experiences as they are explained in the field of environmental aesthetics. This would provide new tools to explain the aesthetic value of the "non-viewing meadows" that are now besides ecological benefits, appreciated solely for their recreational values. Even the different experiences that were described in the documents considered amenity values: people gain nature experiences and can observe animals. These experiences do not resemble the ambient experience as was described in the theoretical section. It can be also harmful to confuse the recreational/ amenity values with aesthetic values.

As is described by Brady (2003) recreational and aesthetic values are not the same. Recreational values are instrumental values meaning that the environment is a resource for humans. People can enjoy the sounds and sights of the environment, in other words aesthetically appreciate it, while walking in the forest, but this is a by-product of the experience. The aesthetic experience of the environment produces an aesthetic response that is not only about producing pleasure for people. Aesthetic response is not only about positive emotions that the environment makes people feel, but also feelings of shock, curiosity, and dismay. It is difficult to separate the recreational values from those of aesthetic, but the environmental aesthetic experience should not rely on the view that people gain something from the experience. It is rather about the unexpected, disinterested responses that people may experience while being in an environment.

5.4 Limitations of the study and suggestions for further research

Taking two viewpoints into one study may cause limitations for the study. Overlap of terminology may cause confusion, and one viewpoint may overrule the other. Since I have no

degrees in ecology or environmental aesthetics, I feel that my position to investigate the two viewpoints was neutral. On the other hand, having no deep knowledge about neither of the fields may leave the study subject superficial.

I used qualitative methods in my analysis which always leaves room for interpretation. When using coding, a tool used to categorize textual material, compromises need to be done about what is coded and in what detail. To avoid having too many codes may simplify the results and interesting details can be dismissed. In my case, there was a lot of interpretation of my own about what do I include under each code. Especially the coding under the aesthetic viewpoint is highly interpretative. Since I decided to code the content at the level of individual words, there were some unintentional co-occurrences. This may have distorted the co-occurrence results. In the bigger picture, this could mean that some readings would actually be a couple of notches smaller or larger so the effect on the overall results is insignificant.

Discourse analysis is often used to interpret cultural sensemaking, power relations, or interactions. Operational programmes are not a common source to be used in discourse analysis, but my study, however, focused on cultural sensemaking and that is why the chosen method was acceptable. Like qualitative content analysis and coding, the discourses that I assembled are interpretative. I justified the formation of my discourses with code co-occurrence presented in figure 5, and further with quotations from the documents. Thus, even if interpretative, I have made my results reliable.

I have claimed in the work that the way how professionals of landscape industries understand the value of urban meadows, affects the way how common people value them as well. There are, however, no studies done about the perceptions of professionals. Most often the interview studies about nature's aesthetic qualities are done to common people. One of my conclusions in the study is that the way how environmental aesthetics are understood in the field is also inadequate. The conceptions and terminology are misused, which hinders the proper discussion of aesthetic appreciation of built environments. In the description of my methods, I brought up a dissertation by Kaisa Hauru that has also combined environmental aesthetic, ecological, and experiential viewpoints when studying nature experiences. One of her results showed similar results about the misuse and conflict between terminology. That

study was done by analyzing research papers. Interview studies pointed to professionals could reveal where does the understanding of environmental aesthetics lies within the landscape industry.

I also wrote about the value debate attached to urban green areas. One way to interpret the value judgments would be through spatial analysis. Geospatial data could reveal where different kinds of green types tend to accumulate in cities, and whether the spatial distribution of green types correlates with the type of values that cities want to emphasize. For example, I asked whether meadows are suitable green types to be located in high-profile city centers. Spatial analysis could reveal the actual unfolding of values in cities, and whether the things said in interviews and operational programmes reflect reality.

6 CONCLUSIONS

I presented in the introduction that the world's leading experts have stated that climate change and biodiversity loss are inseparable environmental challenges that need to be solved simultaneously. As the European Commission has urged all European cities with at least 20 000 inhabitants to respond to the threat of biodiversity loss, some of the Finnish cities have created urban greening plans in the form of urban meadow operational programmes. Regarding urban meadows, the ecological and economic benefits have been well recognized, but the argumentation about the aesthetic possibilities of meadows is lacking. The discussion about the aesthetic value of an environment can be challenging as aesthetic qualities, experiences and values are seen to be subjective matters. However, as I brought up through many authors from the field of environmental aesthetics, each aesthetic value judgment or experiential horizon is socioculturally determined. On that account, it can be studied how aesthetic appreciation unfolds as a descriptive and normative conception.

This study has aimed to analyze both the ecological and aesthetic viewpoints connected to urban meadows. As a landscape designer, I have participated in designing public green areas, and that is why I also chose to approach the topic through cities' meadow operational programmes. Before the analysis, I mapped out the cities that possess such a document. Since I was interested in the content of the documents, I used content analysis as my first method. To further understand the latent bearings of cities' aesthetic argumentation in the documents,

I used discourse analysis as my second method. That was a tool to determine whether there are uniform ways of how the documents describe the aesthetic value of urban meadows.

Kummala's recent dissertation has dealt with the concept of urban nature in the Finnish context. This gave me a good starting point for defining the concept of urban meadow in my thesis: urban meadow is a hybrid that is situated somewhere along the spectrum of pristine nature – anthropogenically altered nature. The concept of hybrid does not restrict the physical location or the amount of human influence appointed for the meadow.

In my literature review, I have gone through ecological and aesthetic viewpoints attached to urban meadows. The main way how urban meadows are introduced to cities is by replacing maintained lawns with rarely cut grass. This is done because meadows increase biodiversity compared to lawns. Besides biodiversity, urban meadows bring aesthetic diversity into urban nature. They also can provide environmental aesthetic experiences of everydayness, locality, wildness, and cultural history. Having scientific knowledge about the benefits of meadows is a necessary tool in changing the aesthetic appreciation of urban meadows. Besides knowledge, aesthetic appreciation is affected by how people are historically and socially situated in the world. Nassauer argues that healthy ecosystems are easily conveyed as forgotten or unfinished environments. Signs of care indicate ownership and that is why she suggests that the appreciation of meadows could also be influenced through design. This is to say that professionals in the landscape industries have authority over what is seen to have aesthetic value in built environments. The perceptions of professionals are also culturally affected and for example, in Finland, there is a national green area management classification that guides the values set for each green area type, including meadows.

I found out that, at the moment, six cities in Finland have an operational programme of some sort exclusively related to urban meadows. Five of them were commissioned by the cities and they follow the national green area management classification in their documents whereas the sixth was done by an association and resembled a narrative about the city’s meadows. I found out that there are multiple ecological and aesthetic viewpoints to be identified in the documents. In addition, I found latent ways of how cities valuate urban meadows. The ecological viewpoints focused on describing the habitat factors and temporal and ecosystem processes that alter the meadow's appearance. The concept of biodiversity was well

recognized but it was never explained what does ‘biodiversity’ mean for the cities. The aesthetic viewpoints focused on describing the location of the meadows, and the meadows’ attachment to cultural history. Also, the type of experiences that meadows provide were described to some extent. The valuation of meadows was most connected to biodiversity and cultural-historical values. The cities saw that citizens should be informed about how meadows influence biodiversity and what type of benefits they provide for human beings.

The content analysis led me to identify three identical discourses that the cities unknowingly have created through their documents. The first is associated with “historical” meadows which have a strong attachment to the cities’ agricultural history. They are valuable because of their cultural-historical connotation but also because of valuable species compositions. These are the meadows that cities would like to discover more. The second one relates to the newly emerging meadows that especially respond to biodiversity loss in highly urbanized areas. For ecological reasons, these meadows are unlikely to resemble the flowering meadows that citizens have requested, and thus, cities want to highlight the ecological and recreational benefits that these meadows provide. From the aesthetic viewpoint, these meadows are seen to bring aesthetic diversity or variation into cityscapes. The last discourse implies that meadows are seen to increase cities’ experiential dimension. The conceptions of aesthetic and recreational experiences were mixed when some meadows were seen to have solely visual and others recreational value.

The study showed that both ecological and aesthetic qualities are attached to urban meadows. Some cities went deeper into the ecological qualities but the recognition of aesthetic qualities as well as aesthetic appreciation of urban meadows was inadequate throughout the documents. If a meadow was not seen to provide historical or desired visual aesthetic values, the argumentation was centralized around ecological and recreational values. Informing citizens about these values is done to avoid negative aesthetic criticism. Knowing how meadows function ecologically compared to a lawn influences people’s aesthetic appreciation. It is still fruitful to add new dimensions to the discussion in the form of aesthetic qualities, environmental aesthetic experiences, and aesthetic values, concepts that were not even addressed as such in the documents. Besides increasing knowledge about ecology, there is also a need for aesthetic understanding outside the theoretical frame.

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