

INTERFACES

a multispecies urban habitat

Marcus Andersson
Building Design for Sustainability

ACEX35

Examiner: Liane Thuvander
Supervisor: Ida Röstlund

Chalmers School of Architecture
Department of Architecture and Civil Engineering

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CHALMERS
UNIVERSITY OF TECHNOLOGY

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My warmest thanks to

Ida Röstlund
Matilda Hansson Jessen
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Mats Andersson

abstract

The separation of humans and nature is central to the environmental crisis. The philosophical foundation of society that humans stands above all other species is problematic. The lack of everyday life relations to other species leads to a lost connection, identity and knowledge about our environment and ourselves as a part of a network. The large-scale solutions, that amplifies the dualistic structures, is a too simple answer in a world of complex ecosystems. Nature is an intangible phenomenon often described as opposed to human creations. The aesthetical principle of the natural environment is often created by the species inhabiting and always houses a wide diversity of life forms. The local species are shaped over long time and well adapted to the local climate.

This thesis aims to explore multispecies negotiations and the interface between architecture and landscape, urban and rural, humans and non-humans. To in a speculative way question the current hierarchies and what a more equal right could mean spatially. To shed light on how human made structures are part of nature and why non-human agencies need to be accepted. To define a ground for architectural discussions regarding questions of other species and find arguments for empathy, to reach a multispecies agreement of a sustainable future.

This is done through speculative drawings, writing and hypothetically designed situations of cohabitation. The theoretical framework widens by interdisciplinary literature studies and is supported by theorists and architects from posthuman perspectives. By learning from the scales of different species, investigations through spatial design search for multispecies interfaces.

This thesis results in a collection of knowledge and understanding of issues for different species agencies. It reflects on how to talk about values and settle agreements in a multispecies coexistence. A speculation on how to work with temporality and shared habitation within the urban landscape. This to strengthen the local community and interspecies relationships in everyday life. This thesis portrays a scenario of seasonal dwelling related to spatial negotiations and multispecies design.

keywords biodiversity, ecosystem, habitat, household, posthuman architecture, resilience, symbiosis

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Dictionary

Definitions from Oxford Dictionary

Term	Origin	Definition
Agency	Mid 17th century from medieval Latin agentia, from agent- 'doing'	2 <i>[mass noun]</i> Action or intervention producing a particular effect.
		2.1 A thing or person that acts to produce a particular result.
Anthropocene	2000, from greek anthropo- 'human being' + -cene 'new'	1 The period of time during which human activities have had an environmental impact on the Earth regarded as constituting a distinct geological age
Architecture	Mid 16th century from French architecte, from Italian architetto, via Latin from Greek arkhitektōn, from arkhi- 'chief' + tektōn 'builder'.	1 The art or science of building
		2 a Formation or construction resulting from or as if from a conscious act
		2 b A unifying or coherent form or structure
		3 Architectural product or work
		4 A method or style of building
Attention	Late Middle English from Latin attentio(n-), from the verb attendere, from ad- 'to' + tendere 'stretch'	1 Notice taken of someone or something; the regarding of someone or something as interesting or important.
		1.1 The mental faculty of considering or taking notice of someone or something.
		2 The action of dealing with or taking special care of someone or something.
Compromise	Late Middle English (denoting mutual consent to arbitration): from Old French compromis, from late Latin compromissum 'a consent to arbitration', neuter past participle of compromittere, from com- 'together' + promittere 'put forth, promise', from pro- 'forward' + mittere 'send'.	1 <i>[noun]</i> An agreement or settlement of a dispute that is reached by each side making concessions.
		1.1 An intermediate state between conflicting alternatives reached by mutual concession.
		2 The expedient acceptance of standards that are lower than is desirable.
		1 <i>[verb]</i> Settle a dispute by mutual concession.

Term	Origin	Definition
Consciousness	Latin conscius, 'knowing with others or in oneself' from com- + scire to know	1 The state of being aware of and responsive to one's surroundings.
		2 A person's awareness or perception of something.
Diversity	Middle English from Old French diversite, from Latin diversitas, from diversus 'diverse', past participle of divertere 'turn aside'	1 The state of being diverse; variety.
		1.1 A range of different things
		2 The practice or quality of including or involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc.
Domestication	From Latin domesticus, from domus, house	1 The adaptation of a plant or animal from a wild or natural state (as by selective breeding) to life in close association with humans
		1.1 The process of adapting someone or the state of being adapted to domestic life
		1.2 The adaptation of something to meet the expectations or tastes of ordinary people
Ecology	Late 19th century (originally as oecology): from Greek oikos 'house' + -logy	1 The branch of biology that deals with the relations of organisms to one another and to their physical surroundings.
Entanglement	Middle English tanglen, tagilen, probably short for entanglen, from Anglo-French entagler, entangler to prosecute (for), implicate	1 The action or fact of entangling or being entangled
		1.1 A complicated or compromising relationship or situation.
Facet	Early 17th century from French facette, diminutive of face 'face, side'	1 One side of something many-sided, especially of a cut gem.
		2 A particular aspect or feature of something.
		3 Any of the individual units (ommatidia) that make up the compound eye of an insect or crustacean.

Term	Origin		Definition
Habitat	From Latin, literally ‘it dwells’, from habitare.	1	The natural home or environment of an animal, plant, or other organism.
		1.1	<i>informal</i> A person’s usual or preferred surroundings.
Household	Late Middle English. From house + hold.	1	A house and its occupants regarded as a unit.
Interface	From Latin, inter ”among, between,” + Latin facies ‘form, appearance, face’.	1	The place at which independent and often unrelated systems meet and act on or communicate with each other
		1.1	The means by which interaction or communication is achieved at an interface
		2	A surface forming a common boundary of two bodies, spaces, or phases
Kin	Old English cynn, of Germanic origin; related to Dutch kunne, from an Indo-European root meaning ‘give birth to’, shared by Greek genos and Latin genus ‘race’.	1	One’s family and relations.
		1.1	Animals or plants that are related to a particular species or kind.
Landscape	Late 16th century (denoting a picture of scenery): from Middle Dutch lantscap, from land ‘land’ + scap (equivalent of -ship).	1	All the visible features of an area of land, often considered in terms of their aesthetic appeal.
Nature	From the Latin word natura, or ”essential qualities, innate disposition”, and in ancient times, literally meant ”birth”	1	The phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations.
Natureculture	A term coined by the professor Donna Haraway as a synthesis of nature and culture that recognizes their inseparability in ecological relationships.	1	Human relationships to nature and culture or human-nonhuman relations.
			<i>Authors definition</i>
Negotiate	Early 17th century from Latin negotiat- ‘done in the course of business’, from the verb negotiari, from negotium ‘business’, from neg- ‘not’ + otium ‘leisure’.	1	<i>[with object]</i> Obtain or bring about by discussion.
		1.1	<i>[no object]</i> Try to reach an agreement or compromise by discussion.
		2	Find a way over or through (an obstacle or difficult route)

Term	Origin		Definition
Resource	Early 17th century from obsolete French ressource, feminine past participle (used as a noun) of Old French dialect resoudre ‘rise again, recover’ (based on Latin surgere ‘to rise’).	1	A stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.
		2	An action or strategy which may be adopted in adverse circumstances.
Settle	Old English setl ‘a place to sit’, of Germanic origin; related to German Sessel and Latin sella ‘seat’	1	<i>[with object]</i> Resolve or reach an agreement about (an argument or problem)
		2	<i>[with object]</i> Pay (a debt or account)
		3	<i>[no object]</i> Adopt a more steady or secure style of life, especially in a permanent job and home.
Species	From Latin, literally ‘appearance, form, beauty’, from specere ‘to look’.	1	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding. The species is the principal natural taxonomic unit, ranking below a genus and denoted by a Latin binomial, e.g. Homo sapiens.
Synurbization	From Greek sun ‘with’ + urb- ‘city’ + -ize ‘become’	1	The effects of urbanization on the adaptation of wildlife
Terrain vague	A term coined by the architect Solà-Morales. Middle English from Anglo-Norman French, from Latin terrenus, from terra ‘earth’ + Latin vagus ‘wandering, uncertain’.	1	Refers to obsolete and unproductive spaces that is outside the logic of the capitalist city. A kind of ruin of urban spaces.
			<i>Authors definition</i>
Transhumance	Early 20th century from French, from the verb transhumer, based on Latin trans- ‘across’ + humus ‘ground’.	1	The action or practice of moving livestock from one grazing ground to another in a seasonal cycle, typically to lowlands in winter and highlands in summer.
Umwelt	German, literally ‘environment’.	1	The world as it is experienced by a particular organism.



1. Introduction

Background

The world faces a multitude of severe problems that is a result of mankind's exploitation of natural resources. An effect of this is the oppression of living beings other than human, by exploitation of natural habitats that contributes to the extinction of species (IPBES, 2019; SLU Artdatabanken, 2020). There is a lack of awareness for other species than humans in the urban development of today and the cultural distancing to nature and the ecological cycle is greater than ever before (Kesebir & Kesebir, 2017). Many different species have traditionally been present in people's everyday life and helped human development and welfare. The separation of domesticated species such as cows, pigs, and vegetables have growth ever since mid-20th century and the increasing urbanization. Instead, these species are often used for optimized production in large scale industrial facilities outside the cities.

The mental and physical separation of human and nature has increased ever since the start of the industrial revolution. The separation has often resulted in a lost connection to something very important, our natural context and understanding of the physical world. Urban dwellers often absence a defined relation to the close environment, making outdoor areas in neighborhoods to impediments without a shared care of the local community. Without a strong cultural connection to the local context the result is often a lack of identity and this expresses itself in new buildings through aesthetics of the architecture that often seem contextless.

Beauty is common in nature and a flora and fauna of a certain place is often characteristic and tangible to define. The necessity of biodiversity for ecological systems to function and the complexity and small scale of these systems lets us understand that our own created large-scale systems is malfunctioning out of a sustainable aspect. The unsustainable and often unnecessary exploitation and use of the worlds resources has to be changed, which requires collaborative action from everyone and a rethinking of our everyday life and our relationship to our environment.

Discourse

The theoretical starting point is situated within posthumanism. There are many different definitions and theories that could be found under the same term but the discourse that is referred to here is the cultural and philosophical critical theory, that questions the notions of *human* and *human nature*. The recognition of the *anthropocene* is key, and of the adaptations to the contemporary interconnections between human, nature, and technology. This theory also expands the ethical and moral circle to include non-human species. This is foremost about paying high respect to other species and the natural surroundings, to revitalize empathy as a design tool.

A theoretical key is to challenge the view on the building as autonomous from its environment and consider more layers of unspoken agendas. That all resources used have *shadow places* that are affected indirectly from the exploitation and it can be hard to be aware of all the consequences of different choices or actions we make (Plumwood, 2008). There could also be said to be social shadow places that are determined by the hierarchy of voices and the power distributed by privileges, the structures that maintain the rights to these often have a history of conquering and violence. These social shadow places include all kinds of oppressed social beings and minorities, including animals and non-human species to also be seen as social beings.

These questions are relevant and important when it comes to sustainability because they touch on the fundamental part of coexistence. There are potential in this discourse to find alternative methods to define a sustainable everyday life. A key to this is a holistic design with empathy as a design tool.

Aim

This thesis aims to explore the interface between architecture and landscape, urban and rural, humans and non-humans, and in a visionary way question the current hierarchy between human and non-human and what a more equal right could mean spatially. The architectural aim is to investigate the spatial qualities of interspecies negotiations. What happens spatially when humans compromise their comfort of everyday life enough for letting other actors coexist. To define a ground for architectural discussions regarding questions of other species and find arguments for empathy. This speculative thesis aims to design situations to highlight the theoretical issues within.

Research questions

How can architecture strengthen the connection between human and non-human everyday life? ←

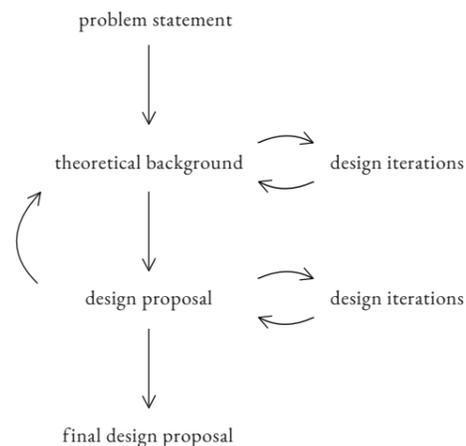
How can a small scale diversity be achieved in the architectural interface between human and non-human habitats? ←

How can architecture support cohabitation and dissolve the borders of architecture and landscape and curate ownership between species? ←

Method

The process started through iterative research by design, using sketches as a main tool, simultaneously as thoroughly getting engaged into the discourse and theory through reading and studying references. This developed through speculative drawings, writing, and hypothetically designed situations of cohabitation. A mapping of the theoretical field and situation through extensive literature studies of theorists and architects from posthuman perspectives and other disciplines, and finding key words to support the written material and defining the vocabulary. Participation in seminars on the topic to get engaged in the discussion. Animation is used as a tool to work more actively with the sketches and as a dimension to understanding living beings and explore and represent. Investigating the different scales of other species and using these scales as a method to find situations and typologies for iterative design proposals. By learning from the scales of different species, investigations through spatial design search for multispecies interfaces.

Figure 1. process diagram



In focus:

- Interspecies urban relationships.
- Human responsibilities.
- Everyday life negotiations.
- Integration of agencies
- Typologies/situations

Not in focus:

- In depth studies of philosophical theories.
- Measurement of ecosystem services
- Food production.
- Urban planning.
- Site analysis.

Delimitations

To limit the selection of species to work with for representing a certain scale of living will be necessary even though many species are affecting each other and are dependent on each other. The behavior of wild species is harder to predict than domesticated species, therefore it will be necessary to do hypothetical assumptions based on reference studies.

Due to the timeframe, it will be necessary to do limitations in the search for literature and references on other fields of knowledge and interdisciplinary questions. Philosophical theories will be interpreted through the lens of theorists possible to connect to a posthuman discourse.

Welfare for all living beings is the indirect purpose of this thesis but thorough studies will be limited. There will be hardship to do empirical studies on species. To reach further in speculations on cohabitable environments require limitations in extended studies of the quality of the habitat. Regarding domesticated animals it will be necessary to view this relationship as a cultural tradition of animal keeping over thousands of years and that the natural behavior and environment of these species often is human made. This project will not in depth focus on food production, neither on urban planning but it might feature to support scenarios. The sites used in the project represents a typology and is used hypothetically for the discussion, a specific site analysis is not in focus.

Reading instructions

The columns in the middle of the spreads are reflections, comments, poems or sketches that interplay with the continuous text. There are also references to be find here and will then be mentioned as that.

Whenever it appears bold words, **species**, in the text, it encourages the reader to find the word in the dictionary for further connections.



Problem statement

IPBES (The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) is an intergovernmental body constituted by plenty of different states to shape a platform to bridge science and policymakers about biodiversity and ecosystems. The following claims are extracted from the report summary from 2019.

Nature is vital for human existence and life quality and contributes with biodiversity and ecosystem services and functions that are important for people all over the world. These are deteriorating and biodiversity is declining faster than ever before in the human history (IPBES, 2019).

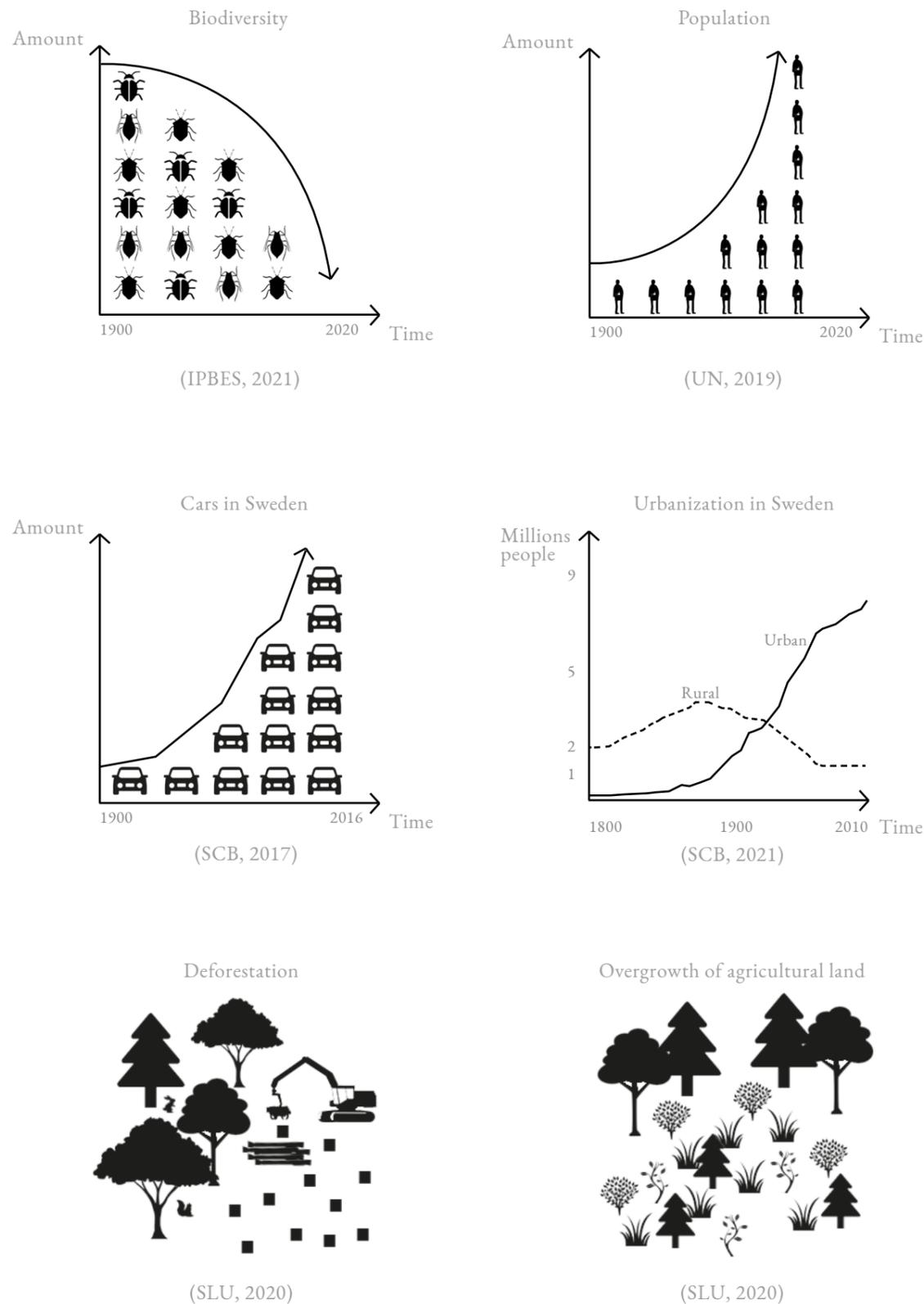
Around one million species face extinction, and many of them within decades. The rate of extinction is accelerating, and it is already at a ten to hundred times higher than the average the past ten million years. The resilience of ecosystems and agricultural systems becomes threatened and constitute a serious risk for future food supply (Ibid).

The past 50 years global change of nature have a higher rate than ever before. IPBES have listed the five drivers of change with the most impact:

1. Changes in land and sea use
2. Direct exploitation of organisms
3. Climate change
4. Pollution
5. Invasive alien species

One of the major reasons for the loss of biodiversity in Sweden is the changes of land and degradation of habitats. Deforestation of nature forests is the main reason. Overgrowth of lands that previously have been used for agriculture with grazing animals is also a key problem (SLU, 2020). Fragmentation of the landscape by for example roads that make the habitats divided into too small pieces (Naturvårdsverket, 2021) (Figure 2).

The IPBES (2019) report mentions some suggestions for solutions, but all scenarios require transformative change or the negative trends in nature will continue to 2050 and beyond. Some mentioned strategies are to reduce consumption, consider biodiversity and ecosystem services in decision making on regional levels, to remove subsidies on a national level that harm nature, and increase economic incentives for pro environmental behavior. It is not enough to adapt to environmentally friendly technique, key issues are related to transports, food, and living, hence a change in lifestyle is necessary (Bokalders & Block, 2009).



Threats to biodiversity and ecosystems

Figure 2. Trends and phenomena
Illustrations based on statistics



2. Theoretical background

Beginnings

Nature is the foundation for human existence. It is from what we call nature that all our resources comes from that makes human life possible and filled with quality (IPBES, 2019). Even if we are in the central parts of a city, everything we see still is nature, it is fragmented matter from different locations on our planet that have been merged together to have a new purpose. Look upon everything as built of small components of matter, molecules and minerals. Humans, non-humans, rocks etc all are made out of these components. As humans, we have over a long time of scientific research and endeavours categorized the organic mass into species; human, plant, animal. The inorganic and solid have also been defined as rocks, minerals, metals. By classifications and taxonomy it has been possible to organize and sort nature. When we rearrange these materials and mix them or order them, we design. We design meals with gastronomic taxonomizing, we design products of technological taxonomizing, or design buildings of architectural taxonomizing. Every species designs. As the philosopher Emanuele Coccia (2020) puts it:

We must keep in mind that there is no such thing as a natural environment. Every space is an artifact. Every space is a designed space, because every single centimeter of the inhabited world was designed by other species for other species. (p. 15)

It is important to see that there are no spaces that are empty or available with no designs on them. To only see man made designs as valid easily becomes an oppression. All components still originate from resources of nature, organic or inorganic, and still are a part of nature. A **negotiation** of the space is needed.

The professor of architecture Francesco Careri (2002) elaborates on the phenomenon of walking. In the chaos of nature, walking became a way to shape artificial structures in the **landscape**. Paths and places emerged. The first arising of monoliths could be seen as the origin of architecture (ibid). The inorganic rock, artificially reshaped in the landscape to have a new purpose, creates a new relationship to the space. It creates an outside space around it, and the cultural act of walking in relation to the monolith reveals the need for symbolic construction of the landscape (Ibid). It is still both architecture, sculpture, and landscape. Over time, paths becomes roads, walking accelerates into driving, and the landscape reduces to merely be visual in cities as topography.

The car could in this sense be seen as a composition of minerals and matter retrieved from different places in the world. It is invented and constructed by humans as a feature to create superhuman properties. Once the car is built, it is then possible

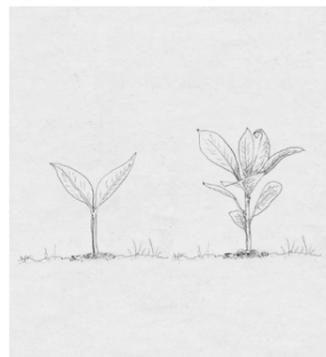
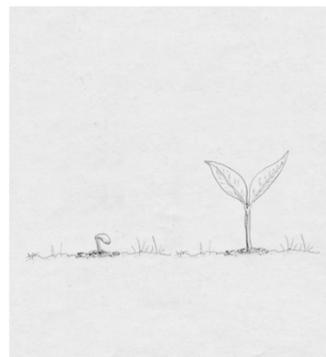


Figure 3. The network relationship of plants
Authors sketch

Conversation with a stone

Wisława Szymborska

I knock at the stone's front door
"It's only me, let me come in.
I want to enter your insides,
have a look around,
breathe my fill of you."

"Go away," says the stone.
"I'm shut tight.
Even if you break me to pieces,
we'll all still be closed.
You can grind us to sand,
we still won't let you in."

I knock at the stone's front door.
"It's only me, let me come in.
I've come out of pure curiosity.
Only life can quench it.
I mean to stroll through your palace,
then go calling on a leaf, a drop of water.
I don't have much time.
My mortality should touch you."

"I'm made of stone," says the stone.
"And must therefore keep a straight face.
Go away.
I don't have the muscles to laugh."

I knock at the stone's front door.
"It's only me, let me come in.
I hear you have great empty halls inside you,
unseen, their beauty in vain,
soundless, not echoing anyone's steps.
Admit you don't know them well yourself."

"Great and empty, true enough," says the stone,
"but there isn't any room.
Beautiful, perhaps, but not to the taste
of your poor senses.
You may get to know me but you'll never know me through.
My whole surface is turned toward you,
all my insides turned away."

I knock at the stone's front door.
"It's only me, let me come in.
I don't seek refuge for eternity.
I'm not unhappy.
I'm not homeless.
My world is worth returning to.
I'll enter and exit empty-handed.
And my proof I was there
will be only words,
which no one will believe."

"You shall not enter," says the stone.
"You lack the sense of taking part.
No other sense can make up for your missing sense of taking part.
Even sight heightened to become all-seeing
will do you no good without a sense of taking part.
You shall not enter, you have only a sense of what that sense should be,
only its seed, imagination."

I knock at the stone's front door.
"It's only me, let me come in.
I haven't got two thousand centuries,
so let me come under your roof."

"If you don't believe me," says the stone,
"just ask the leaf, it will tell you the same.
Ask a drop of water, it will say what the leaf has said.
And, finally, ask a hair from your own head.
I am bursting from laughter, yes, laughter, vast laughter,
although I don't know how to laugh."

I knock at the stone's front door.
"It's only me, let me come in."

"I don't have a door," says the stone.

to view it as an organism, or a species of its own kind. The car will be a car even if it is not used, but it will eventually be weathered by phenomena of nature. There has then developed a symbiosis between the species human and the species car. The lifespan and **agency** of the car extends with the human using it, and the human design and build support system such as roads and parking lots to make the car thrive. Now we have reached a point where the car is part of jeopardizing the human environment and there are vast areas of land transformed and designed for this single dominating species. In an ecological system, when a species becomes overrepresented, it can be balanced out with another negotiator to maintain the balance for the whole system. It needs an equal competitor.

The forester and author Peter Wohlleben (2018) writes about the complexity of ecosystems and the often unexpected effects that one species can cause. One example he mentions was the eradication of wolves in Yellowstone national park in the 1920s that led to overpopulation of elk which in its turn ate grass and saplings along the now freely available river. This led to the disappearing of birds and beavers that relied on the vegetation, and the erosion of the riverbanks when the ground protection of plants disappeared, which in its turn led to the river changing course. If we look upon the car and other technological beings to also be a part of the logic of ecology and have the power to change and affect the landscape in an indirect way, then we could ask ourselves how we should handle the overpopulation of cars.

About landscape

The author Daisy Hildyard (2017) argues that all living beings have two bodies. The first one is the one that you clearly define as you and that you have autonomy over. The second body is more intangible and much larger, it acts on a global scale. It has more to do with the direct or indirect effects of your first body's, your individual body's, choices and actions. It could be connected to the ecosystems and the individual's agential footprint. All species are relevant for at least another species. No species can live without the effect of another species. Not even humans. Humans breathe air that is produced by species of algae, trees, and plants. Humans eat species of vegetables, plants, and animals. The interaction and network of these actions and lives are the second body.

If landscape is the local context, the local flora and fauna, and everything living is a design and a species, then the grass, the tree, the cow and the human are equal part of defining the landscape. The local species and inhabiting species are what defines (designs) the landscape and in that sense every designer is connected to each other and entangled with the fact of being a part of the same organism, the landscape.

The professor of anthropology Anna Lowenhaupt Tsing (2015) writes about the **entanglement** of different species living which creates worlds. All organisms make ecological living places by altering earth, air, and water. In this process, everyone's world changes. Bacteria made oxygen, plants help maintain it, fungi made soil by digesting rocks, beavers reshape streams when making dams. Projects of making worlds can overlap and allow room for more species. As an example, humans have burnt landscapes which then encourages grass and quick growing plants, which then attract animals for hunting. Tsing (2015) writes: "humans shape multispecies worlds when our living arrangements make room for other species" (p. 22). Not just by crops, livestock, and pets, but also pines and fungi that thrives in the landscapes burnt by humans. This living arrangement of humans, fungi, and pines both creates living conditions for themselves, but also for others and then creates multispecies worlds.

The anthropologist Tim Ingold (1993) makes a comparison with the everyday project of dwelling in the landscape and the project of the cartographer who tries to represent it. The distance between two places in the landscape is experienced as a bodily movement with changing perspectives along the way for both actors, but the cartographer makes measurements and produces a representation that is independent of the points of perspectives. Everywhere to be viewed at once. This kind of omnipresence can only be achieved through a birds-eye view.

Ingold believes that instead of describing the landscape as something either seen from a naturalistic perspective that describes a kind of neutral background to human actions, or from a cultural perspective where each landscape is seen as one cognitive and/or symbolic spatial order, should merge these two perspectives. In this way, the landscape can be seen as consisting of remains of previous generations, as well as their lives and pursuits. He writes:

...through living in it, the landscape becomes a part of us, just as we are a part of it. (p. 154)

About knowledge

Modern society is to a large extent built on oppression but often claims to be built on freedom. The philosopher Val Plumwood (1993) argues that forms of oppression from both present and past have left traces as a network of dualisms in the western culture, and that this, as she describes it, "logic of colonization" forms a basis for the connection between forms of oppression. The dualism of the human/nature division explains many of the problematic ways of how we are treating nature which is

Ostinato

Tomas Tranströmer

Under vråkens kretsande punkt av stillhet
rullar havet dånande fram i ljuset,
tuggar blint sitt betsel av tång och frustar
skum över stranden.

Jorden hölls av mörker som flädermössen
pejlar. Vråken stannar och blir en stjärna.
Havet rullar dånande fram och frustar
skum över stranden.



Figure 4. An entangled architectural interface.
Authors sketch

Till naturen

Thomas Tidholm

Nu går vi till naturen
nu går vi så försiktigt,
sista biten får vi smyga och krypa
naturen är rädd för oss, den har
glömt oss, den vet inte vilka vi är längre,
vi har ju alla dessa kläder, vi gör ljud
som inte låter riktigt bra, nu är vi framme,
men naturen har gått undan
den är längre bort, vi börjar springa,
vi springer mot naturen, men den
gömmar sig bakom en stor sten, den vill inte
komma fram, den darrar, man ser
ögonen, den vet inte
vad den ska vänta sig av oss,
nu ser vi att den är ledsen
så väldigt ledsen
och vi är också
så ledsna

View with a grain of sand

Wisława Szymborska

We call it a grain of sand,
but it calls itself neither grain nor sand.
It does just fine without a name,
whether general, particular,
permanent, passing,
incorrect, or apt.

Our glance, our touch mean nothing to it.
It doesn't feel itself seen and touched.
And that it fell on the windowsill
is only our experience, not its.
For it, it is no different from falling on anything else
with no assurance that it has finished falling
or that it is falling still.

The window has a wonderful view of a lake,
but the view doesn't view itself.
It exists in this world
colorless, shapeless,
soundless, odorless, and painless.

The lake's floor exists floorlessly,
and its shore exists shorelessly.
Its water feels itself neither wet nor dry
and its waves to themselves are neither singular nor plural.
They splash deaf to their own noise
on pebbles neither large nor small.

And all this beneath a sky by nature skyless
in which the sun sets without setting at all
and hides without hiding behind an unminding cloud.
The wind ruffles it, its only reason being
that it blows.

A second passes.
A second second.
A third.
But they're three seconds only for us.

Time has passed like a courier with urgent news.
But that's just our simile.
The character is invented, his haste is make-believe,
his news inhuman.

central to the environmental crisis. To overcome different shapes of oppression in society it is vital to redefine and critique the relationship of human and nature. To recognise the interconnection of social domination and the domination of nature. The dominator identity of the master has formed the ideals of western culture and humanity as oppositional to nature and embodied the ideals of human with norms of gender, race, class, and species exclusion (Plumwood, 1993). This is a question of democracy and justice on many levels in the society. There is a higher level of complexity to knowledge, just as in ecological ecosystems, than could fit into dualistic divisions. The natural dynamics is to the core multifaceted and complex, and hence this dynamic should suit social structures and knowledge structures as well. Tolerance and patience is the key concept of the natural order.

Donna Haraway (1988) defined the concept "situated knowledge" as a critique to the relativist idea and the realist idea of knowledge, both which she found problematic. It is about understanding that all knowledge comes from positional perspectives, that neutrality or "objective knowledge" hides a specific position and not an impartial "view from above". A fundamental part is the idea that the world is active and not passively waiting to be mapped.

Ecosystems are often governed by indigenous people and local communities, but often stakeholders from these communities are excluded from scientific mappings. (Tengö, M. et al., 2021). This often is a question of historical inequalities that defines whose knowledge is valued. Nature generally decline less rapidly in lands managed by indigenous people and local communities, but are becoming under more pressure (IPBES, 2019). In Sweden, the deforestation of natural forests that have been used by Sámi people for reindeer herding is a contemporary problematic situation that have major impact on the ecosystems (Lundgren, P. et al., 2020). The indigenous and local knowledge does not typically tries to validate itself outside the local context and is examples of context-specific knowledge (Tengö, M. et al., 2021). Citizen science, the inclusion of regular people in collecting observations, with local communities can contribute to meeting sustainability challenges (ibid). An example of a citizen science biodiversity project in Sweden is Artportalen (SLU Artdatabanken) where reported findings of species by anyone is registered and conduct a base for knowledge.

About trees

Cooperation is important for trees. In a forest, the trees value the weaker trees of the same species as high as the strong trees, because without them there would be gaps that could affect the local climate negatively. According to Peter Wohlleben (2016) beech trees for example support each other and distribute sugar evenly between every individual nearby so they all produce the same amount even if they are weaker, smaller, and have less access to sunlight or nutrients. This kind of cooperative strategy that includes a **diversity** of individuals and values differences is obviously a good strategy for long term survival. Each individual finds a way to contribute to society without the need for competition. Trees are the oldest living biological beings, and the slow pace and cooperation is a proven sustainable model that could be mimicked. They have adapted perfectly to very different climates and without the capacity to walk, can supply their needs without risking their future existence.

Architecture

Architecture could be seen as a rearrangement of the landscape, the inorganic and organic. The organic as the flexible, the inhabitants and the purpose of the rearrangement, and the inorganic as the static framework that creates the conditions for the organic. Biology could be seen as a technology that carries life in the diversity of best solutions for adapting to the context and the knowledge and information of why a species is shaped or behaves as it does is stored within each individual.

The knowledge and understanding of our surrounding context, organic and inorganic, has been a perpetual endeavour for humans through history. Today, the collected knowledge and information is stored as translations in books and sources on the internet but the firsthand source is the actual bird, plant or rock. With the extinction of species, much information disappears and because of the complexity of ecology, it is hard to understand the consequences.

Throughout history, humans have all over the world created structures in the landscape out of the available local resources and intuitive iterations. Just as all other species. This vernacular architecture still is a simple rearrangement of the landscape that most often keeps the local ecosystems functioning without deleting the spaces for other species. Out of necessity, the principle is resource efficient and deals with temporality in an ecologically sustainable way because of the locally sourced resources. The decentralized and community-led construction of houses is a natural phenomenon in this context.

The origin of ornaments and the references of beauty often is found in nature. The traditions and cultures often pay a high respect to nature and animals and take advantage of the ecosystem services that can be provided within a symbiosis of

Trädet och skyn

Tomas Tranströmer

Det går ett träd omkring i regnet,
skyndar förbi oss i det skvalande grå.
Det har ett ärende. Det hämtar liv ur regnet
som en koltrast i en fruktträdgård.

Då regnet upphör stannat trädet.
Det skymtar rakt, stilla i klara nätter
i väntan liksom vi på ögonblicket
då snöflingorna slår ut i rymden.

Species

From Latin, literally 'appearance, form, beauty', from specere 'to look'.

- 1 A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding. The species is the principal natural taxonomic unit, ranking below a genus and denoted by a Latin binomial, e.g. Homo sapiens.

other **species**. This is a technology that is disappearing and a knowledge that is getting lost in the urban fabric. To be a part of an ecological context is an ancient technology that could be viewed as the new modern. Biology is as high tech as it gets.

Humans

Humans have since ancient times been fascinated about the stars and the unknown. When basic needs were satisfied, walking became merely a symbolic act that may be interpreted as humans first artistic expressions (Careri, 2002). Walking and making up paths through the repetition of movement became a structure in the chaotic wild landscape. An exploration of the unknown.

Early human societies consisted of hunter-gatherers that depended primarily on searching for wild food for subsistence. This lifestyle is strongly connected to the conditions ruled by nature and knowledge to recognize available edible other species determines the standard of living. This requires larger areas of lands, or territories to supply a certain number of people. A nomadic lifestyle is then necessary unless there are abundant and reliable food supplies, then permanent dwelling and villages can shape (Britannica, 2021). Private possessions are limited to what can be carried to the next camp. Because of the need for transportation or temporary construction of available local resources, the housing was simple, often tents made out of animal skins or light structures and shelters. Social groups were normally quite small to not exhaust a location too quickly, and often organized in band societies of around 30 to 50 persons (Britannica, 2021). With a more permanent lifestyle and the use of agriculture, populations numbers can start to grow.

The history and development of human culture and innovations in technologies since the neolithic revolution and the domestication of plants and animals, can be seen as a long run-up to the springboard of separation from nature that the enlightenment and the industrial revolution is. It is possible to argue that the separation of human and nature started with the shift of power structures that the domestication of other

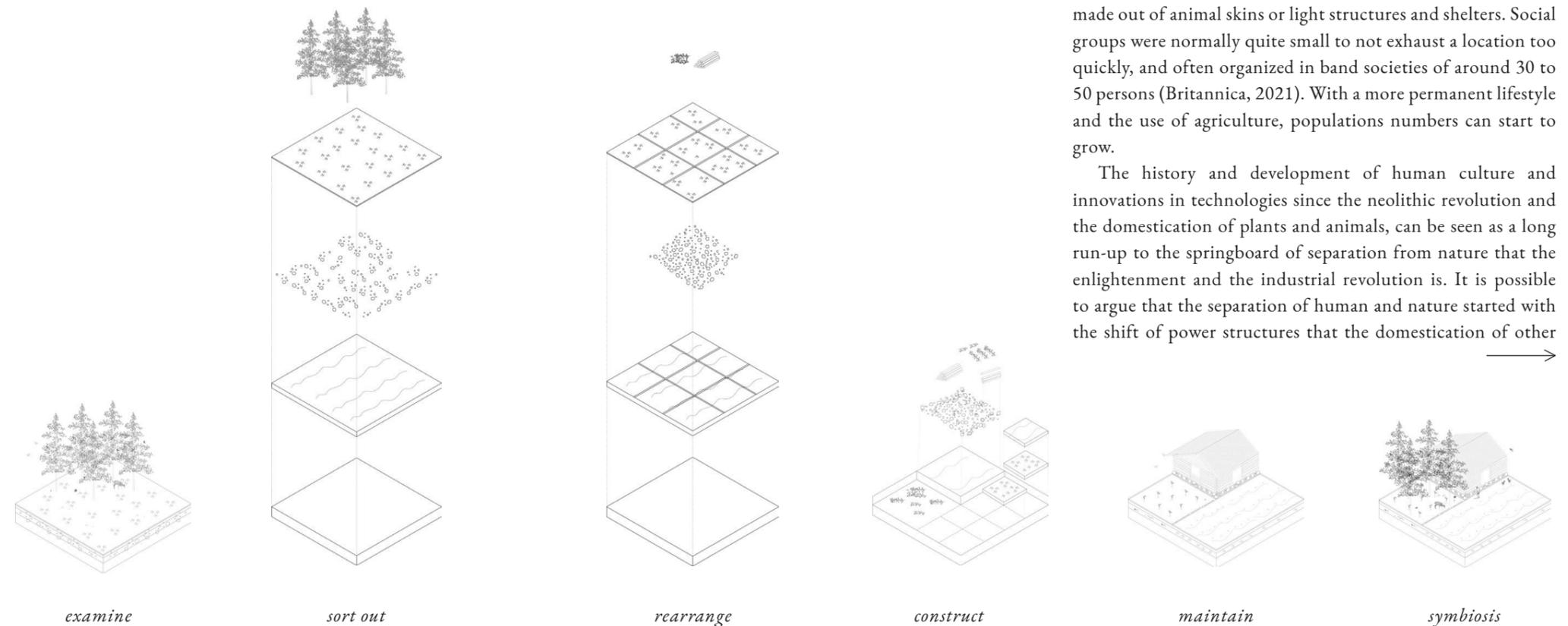


Figure 5. Diagram of vernacular architecture principle.

species were. A new relationship was established where humans are part of setting the conditions and increasing the reliability of their subsistence. The relationship with the domesticated species developed to become symbioses with a mutual benefit for survival and despite the power hierarchy still a respectful relationship.

Separation

The speed of progression and movement were limited by the capacity of the human body or by the speed of animals until the invention of the train in the mid 19th century. This was the first manipulation of time through speed and the bodily movement in space. The train and furthermore the car constitute a new power shift for humans capacity of controlling the conditions of nature, to replace the local with movement, time to be more important than space (Hallemar & Forsell, 2018).

The culmination of the separation from nature, the dualistic philosophy and the view of the world as a passive bank of resources, could symbolically be marked with the moon landing in 1969. This historical event occurs while the spirit of the time takes shape through the modernist idea. The large scale planning for the car and for housing areas dominated the shaping of cities, artificial materials of plastic replaced natural material (Ridderstrand & Wenander, 2018). This drastically improved the living conditions and standards for the humans in the industrialized countries. Western culture had strong influence, consumerism was widespread, pesticides frequently used in agriculture, and commercial airplane travels rapidly became common during this decade. But the cost and the consequences of this discharge is the depletion of the world's resources. All of these phenomena are now considered to be problematic for a sustainable development of the future for humankind on earth.

Attention

Paying **attention** means to notice something. To listen. It means to direct the focus to something and regarding it as important. It also mean to care for and consider the need and wants of others. Humans want to make the most of their time. Be effective and focus on the vital parts in life. It is said that we are in an attention economy. That human attention is to be seen as a resource, with a limited capacity. The overwhelming stream of information that hits us every day, through advertisement, social media, television, etc. all compete within this attention span (Burkeman, 2019). It is seen as a high value to quickly send a message and communicate with hasty pace. This matches the era we are living in and the high pace of life and flow of resources of today.

The everyday life values are often expressed through representations rather than authenticity. We translate our

Vädertavla

Tomas Tranströmer

Oktoberhavet blänker kallt
med sin ryggfena av hägringar.

Ingenting är kvar som minns
kappseglingarnas vita yrsel.

En bärnstensdager över byn.
Och alla ljud i långsam flykt.

Ett hundskalls hieroglyf står målad
i luften över trädgården

där den gula frukten överlistar
trädet och låter sig falla.



Figure 6. Temporary camp.
Authors sketch

Meanwhile in the forest.
The pine needle trembles at the edge
of a branch, closer to the tree trunk
is a squirrel who energetically chews
on a pine cone. The air is clear. The drilling
sounds of a woodpecker fills the dew drops
that transforms into notes
on a musical sheet made out of ferns.

Settle

Old English setl 'a place to sit', of Germanic origin; related to German Sessel and Latin sella 'seat'

1 [with object] Resolve or reach an agreement about (an argument or problem)

2 [with object] Pay (a debt or account)

3 [no object] Adopt a more steady or secure style of life, especially in a permanent job and home.

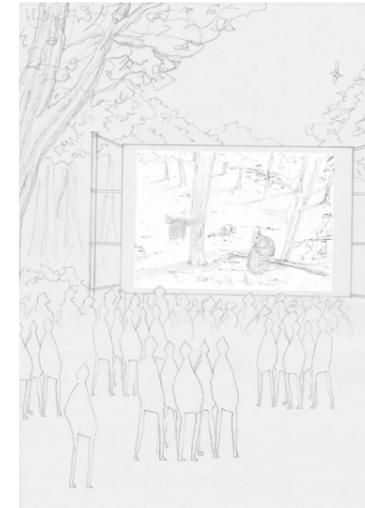


Figure 7. Nature viewed in nature through a translation media.
Authors sketch

Anthropocene

2000, from greek anthropo- 'human being' + -cene 'new'

1 The period of time during which human activities have had an environmental impact on the Earth regarded as constituting a distinct geological age

everyday life labour into money that we use to pay for necessities and qualities. In a farming situation, connection to nature's cycles is inevitable. Specifically in a self-sufficient farm that foremost requires land and labour as values, it is important to plan the future and make sure that the upcoming year is well prepared in order to get the most out of your work. It is also important to remember your previous experiences and to maintain the memory of the past to be successful. This requires an everyday relationship to different species of both plants and animals. Close social relationships are important for human happiness. By regarding other species as social beings as well, interspecies connections and acceptance can be made.

Companion species

There are many species that have a close relationship to the human species. Some are social buddies, while some are work colleagues. The closest relationship is to what is referred to as "man's best friend", the dogs. They have been around as a breed from wolves over a hundred thousand years ago. There have developed a mutual understanding of each other's language where it is possible to communicate without words. It could also be other pets and animals such as cat and horse. As Donna Haraway (2003) puts it: "one does not eat one's companion animals (nor get eaten by them)" (p.14). Companion species also widens the spectre to include plants with close relationship to the human species and other species that affect the human situation. Rice, wheat, flowers, bees etc. are common in humans everyday lives but often ends up eaten or have a more professional work relationship. The same goes for pigs, cows and chickens for example, which all could be seen as working animals but yet ends up eaten. Vinciane Despret (2016) collected a multitude of different stories of scenarios including actions of animals which shed light on the hardship of static definitions of animals behaviour. The world is active and animals are animate hence when a certain situation is put into a certain context the result is thought-provoking. Does cows work and are colleagues to the farmers?

Network

In Swedish, the word 'lycka' is defined as a lasting feeling of deep joy and satisfaction, that is determined from the essential conditions in the circumstances of life. It could also refer to a small, enclosed field or meadow, or a knot with a loop. The word is also etymologically related to the word lock, to close. The word could then in a sense be interpreted as a "lagom" amount of necessities and resources in time and space that is safely defined as yours. To be a loop in a mesh that holds together and becomes the fabric of life and is developed through interactions with everyone connecting to your two bodies through time.

Every life form could be represented metaphorically as a thread that intertwines and creates a weave with each organisms own perception, **umwelt**, and in larger scale the second body. This mean that an action made in one part of the weave can affect another part (Ingold, 2013). The shadow places that are rarely made visible but highly affected by exploitation of nature for western consumption and affluence (Plumwood, 2008). Plumwood describes how losing track of these places and hence the labour of others and the agency of nature, puts unrealistic demands on them. Tsing (2015) means that this marks the definition of the Anthropocene with "the advent of modern capitalism, which has directed long-distance destruction of landscapes and ecologies." (p. 19). Capitalism have entangled ideas of progress to the image of being human which veils the need of collaboration. Tsing (2015) argues "this 'anthropo-' blocks attention to patchy landscapes, multiple temporalities, and shifting assemblages of humans and nonhumans: the very stuff of collaborative survival." (p. 20).

We are all connected, now through technology in addition to the ecosystems. The infinite flow of information and interconnections makes us more connected and our digital umwelt is both fictive and true but warps reality and space so that we are more digitally integrated but perhaps at the cost of being more physically isolated. The communication through digital social platforms often is simplified by representations of our lives through one single picture, an artefact of attention.

The pandemic of Covid-19 has for many people meant an increased presence in a digital reality and a decrease in physical reality. Less social interactions and less movement and more time spent in the home. This change of lifestyle and the improvements of the digital infrastructure at many jobs shows the sudden need and possibility in the local surrounding area and the home. The home needs to be a safe place and the surroundings as well. Knowing the neighbours and regular presence around the house could improve the feeling of security. More polycentric social establishments and neighbor-based social day-to-day configurations can support new relationships, physical activation through householding responsibilities, and decrease the need for daily travels during parts of the week. By maintaining the small scale qualities of both the local neighborhood as well as the district and the entire city, perhaps resilience for human wellbeing can be achieved. An equalisation between time and space. Is there such a thing as local self-sufficiency of life qualities?

Ecology and household

The home is the origin. It is elementary. The characteristics of the abstract phenomenon of a 'home' is defined by elements. It is defined in order to protect from the elements. It is arranged to become a natural element of the habitat.

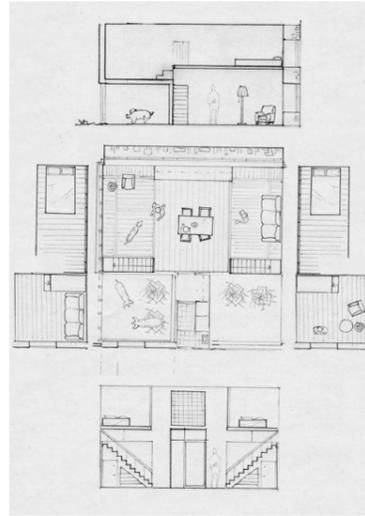


Figure 8. Human qualities of spatial negotiation. Authors sketch



Figure 9. Shielings, small cabins for shepherds transhumance, livestock movement seasons, grazing. Authors sketch

Cocoon

Late 17th century from French cocon, from medieval Provençal coucouin 'eggshell, cocoon', diminutive of coca 'shell'. The verb dates from the mid 19th century.

- 1 A silky case spun by the larvae of many insects for protection as pupae.
- 1.1 Something that envelops someone in a protective or comforting way.

Domestication

From Latin domesticus, from domus, house

- 1 the adaptation of a plant or animal from a wild or natural state (as by selective breeding) to life in close association with humans
- 1.1 the process of adapting someone or the state of being adapted to domestic life
- 2 the adaptation of something to meet the expectations or tastes of ordinary people



(Bokalders & Block, 2009)

Figure 10. Diagram showing different perspectives of ecological thought.

To **settle** is to find your spot, to find peace, and establish a home. You can also settle an agreement or pay a debt. It is about the natural balance. The balance of chaos, when particles slowly sediment after being stirred. The chaos of motion and the chaos of stillness (Careri, 2002). The settlement, sedimentation, is made after reaching an agreement with the surroundings, the earth, the cohabitants and the elements. After negotiation.

Ecology origins from the word house and in that sense is connected to the phenomenon of householding. It is about economical thinking of resources and to recognize the natural world as the true source of values, and the entanglement of ecosystems and habitats through different species. To household carries the meaning of a more active living and awareness and (relational) ownership of the habitat. The word is often used to describe an economic view as to be frugal and make the monetary economical calculations go around, but also with a wider responsibility of the maintenance of the production and physical surroundings.

Tactile experiences strengthen the presence, without physical work and the use of our hands, everything in the everyday life becomes more abstract. To have a daily or weekly contact with the soil through farming or animals through feeding them or care for them, could increase the sense of missing presence that citizens may lack in their everyday life. The small scale urban farming could seamlessly dissolve by the urban border to be small scale rural farming. The small scale is a key for many questions regarding sustainability and the future, both in the urban and the rural landscape.

In cities today, most of the housing is disconnected from its natural environment and the apartments lack a strong relation to an outdoors area. The tenants have no responsibility or participation in the maintenance and construction of the house and the surroundings. In this sense, most of the urban dwellers could be equated to temporary hotel guests, passing through the city without having the possibility to establish a multi-generation household and conserve geographical memories through time. Is the phenomenon of householding left out of the cities and remains only in rural situations?

Local species

When more superior bred species were beget, the traditional local landraces became outrivalled. More efficient properties regarding production of meat and milk etc were prioritized. Many species have therefore disappeared and some were rediscovered and saved just before extinction. The same goes with local species of plants. These local and well adapted species, that can live on bare resources and withstand the fluctuations of the local climate, are strongly connected to the cultural relationship with humans. The disconnection with animals,

tradition and heritage, you could say happened simultaneously as a result of the modern movement. The process of raising the living conditions and standards came with a high cost. The definition of modern, pure, and high standard, perhaps need to be revised. Local, well adapted architecture follows the same curve of extinction as the landraces and perhaps there should be a categorization of architecture as a local species.

Non-human earthlings have, you could argue, ever since humans entered the neolithic revolution, been subject for **domestication**. The negotiation of one species right to rule over the natural conditions and other species is an eternal process of showcasing power. The domestication of nature has most often been with the purpose of enhancing human conditions and creating enduring lives. So far it has been a logical natural phenomenon, but with the industrial revolution and the following years of oppression of nature and resources, the responsibility of humans to rehabilitate nature and share the earth with other species becomes obvious.

Diversity

The senior lecturer in literature Amelie Björck (2019) describes how farm animals are separated from humans by human narration. Animals are not portrayed as a “being in time” as the humans are. Humans plan for the future and describe the past, animals do not. The animal without a future doesn’t fit the story of progression. The marginalization of farm animals removes its right as a subject and then it becomes slaughterable (ibid). Questions of animal rights today still often have to have arguments for a human purpose such as environment or health to be attended (ibid). The actual meaning of “farm” comes from the latin firmare ‘fix, settle’ and ‘fixed payment’ or ‘contract for’. This prefix defines the cultural anchoring of the working class status of these animals.

Most animals don’t use verbal language to speak. Instead, other senses are more developed and active communication tools. The human fixation to verbal understanding might just make us less aware of understanding the world through other senses. The scientist Temple Grandin designed humane livestock facilities through empathic understanding of the animals. As autistic, relying primarily on visual information instead of verbal, she could empathize with the animals way to perceive the world beyond verbal language. Grandin (2010) described it as “an animal is a sensory based thinker, not verbal. Think in pictures. Thinks in sounds. Thinks in smells.”. There is a high value in allowing diversity and differences, and the key for achieving resilience.

Negotiate

Early 17th century from Latin negotiat- ‘done in the course of business’, from the verb negotiari, from negotium ‘business’, from neg- ‘not’ + otium ‘leisure’.

- 1 *[with object]* Obtain or bring about by discussion.
- 1.1 *[no object]* Try to reach an agreement or compromise by discussion.
- 2 Find a way over or through (an obstacle or difficult route)

Alfabet

Inger Christensen

mångskiktat ljus, som undre skikt i en fresk bergens snö och snöns figurer så

bromlikt upplösta dolda liksom alltid på sömnresor lite frambrytande sol som från

jordsidan, äggen rämnar och strax som en virvel av bofinkar bort över staketet

tankarnas flykt från min kropp; deras rörlighet, näbb, deras vingar och välkomstens

täthet bland andra så snart vi slår ner i en björk och det avslöjas varför vi lever:

när björken kom till Lakselv och grundade staden tog den grästuvor med sig till några får

så att andra än löven själva kunde höra lövens prassel och se hur de

omvandlar solljuset nästan som till klart grönt vatten; sedan tog fåren då och då

björkarna med sig till stranden en gåta för strandkantens renar som betar bland

halvludna stenar, ett sista stråk morgondis svept om de gråaktiga kropparna, annars bara

vindstilla isturkos himmel och en ejders blomma i det frostdrabbade vattnet

morgonen den tjugonde juni

Jordlöparens bok

Thomas Tidholm

Saklighet i allt de gör.

Vad får dem att fatta ett visst beslut?

En fågel lyfter från en gren och flyger till en annan, lite längre bort.

Det är aldrig något mer än så. Det är saklighet.

The 8 design principles for common-pool resource systems

Elinor Ostrom

1. Clearly defined borders. Individuals or households that have the right to exploit a common resource pool have to be clearly defined, so as the borders of the resource itself.

2. Congruence between appropriation and provision of the local circumstances

3. System for collective choices

4. Monitoring, by the appropriators themselves.

5. Graduate sanctions, not by external authorities but by the participants themselves. Strategic actors are more likely to follow rules when they perceive that the common goal is achieved and when others follow the rules.

6. Mechanisms for conflict resolution

7. Minimal recognition of the right to organize, the participants right to shape their own institutions are not questioned by external authorities.

8. Nested units, entanglement of different levels of the principles above.

Measurability

Ingold (1993) describes value as the denominator that enables us to say how much a thing is worth by comparing it with another. He differentiate value with use-value and compares it to the distinction of land and landscape. Like land and value, labour is also quantitative and part of the production of value. Value is measured in units of money, land in units of space, and labour in units of time.

The political economist Elinor Ostrom (1990) found during her field studies of complex economic systems examples of how local communities were able to handle a common resource without top-down regulations or privatization. In order for these to work, she concluded that rules must fit into the socio-ecological context and that polycentric systems may enable a fit between human action situations and nested ecological systems as compared to a top-down system. The complexity of the intricate networks of both ecological and social factors makes it hard to define a general solution that fits the local situations.

The similarities in the common-pool resources Ostrom studied is that the decision making is strongly decentralized. The probability that individuals will organize for a collective caring of common resources increases when there are a low number of actors and how dependent they are on the resource (Ostrom, 1990). This kind of resource negotiation and sustainable logic is a fundamental exercise in everyday life. To together learn how to take responsibility to exploit a resource enough for it to be able to recover for future supply. These situations teach the actors in cooperation, communication, time management etc.

A polycentric system of ownership or administration could strengthen the role and responsibility of the local community within a city. Common property systems could be implemented as an economical model to establish social bonds and a householding of urban areas close to the home (Colding & Gren & Barthel, 2020).

The biomimicry scientist and author Janine Benyus (1997) writes about examples of natural succession in agriculture. The possibilities of working with the natural cycles and phenomena through permaculture strategies creates efficiency through synergies from the logic of nature. Benyus refers to the geographer J.Russell Smith that described the agriculture of Native Americans before the colonization. By mimicking the natural dynamic of the forest, with small-patch agriculture of local plant species that after farming for around eight years were abandoned for around twenty years to let the land fallow, natural succession restored the fertility in the land. This nomadic agriculture can be seen as a sustainable negotiation with the natural conditions. The biodiversity of plants, combining trees, bushes and crops, supports different species of animals, keeps pests under control, retains nutrients, and lets mycorrhiza grow.

Terrain vague

In the urban fabric, there might suddenly appear a gap in the grid. The movement of the actors, the threads that run through the loops and together constitute the mesh, have dropped a stitch. This urban morphology is a typology of the forgotten, the **terrain vague**, the area in between nature and human culture arrangements. A location with an ongoing negotiation, albeit a slow conversation, the edge of different bodies. Urban seams. Like the forest edge, the transition zone between the forest and the field, where biodiversity is great and many species are adapted to, these ambiguous areas in the city outside economical or social gaze can house multiple different lifeforms and social structures. They could act as an urban embassy of the non-humans. These places can through their versatility turn out to be more productive than you first think. It does not require much to fill a place with significance, and through small adjustments such as changing the view of a place something can occur without the need to be dictated by an interest in economic profit. There is a kind of dormant hopefulness in these hopeless places that does not have a defined coding. The use of these sites could be shared and negotiated by temporality between human agencies and non-human agencies.

The large unutilized spaces triggers architects to order the chaos with design and saturate and stitch these fragments together (Careri, 2002). But these spaces are a fundamental part of the urban and inhabit the city in a nomadic way, moving when the city tries to order it (ibid). The incompleteness and ephemeral character of the urban void waiting for development allows another growth. A shift in scale can visualize the potential. In a microscale, otherness and wilderness can be perceived in spontaneous vegetation as patches of moss and rainwater collected on pavement (Rahmann & Jonas, 2014).

The architect de Solá-Morales (1995) that coined the term "terrain vague" described the problematic relationship between architecture and these places. Architecture imposes limits, order, and form, and turns strange places into recognizable. de Solá Morales (1995) writes "In essence, architecture acts as an instrument of organization, of rationalization, and of productive efficiency capable of transforming the uncivilized into the cultivated, the fallow into the productive, the void into the built.". This often results in extensive transformations to meet the realism of efficiency.

The role for architects and architecture to curate the discussion and presence of multispecies agencies in the development of societies is becoming more urgent. Humans need to recognize the power in hand and accept other species and take responsibility for the role as a shaper of the environment. Recognize that humans are a vital part of the ecosystems.



Figure 11. Spontaneous interactions with wild animals creates common grounds for human social interactions. To see other species thrive and do their own business is perceived as a quality.

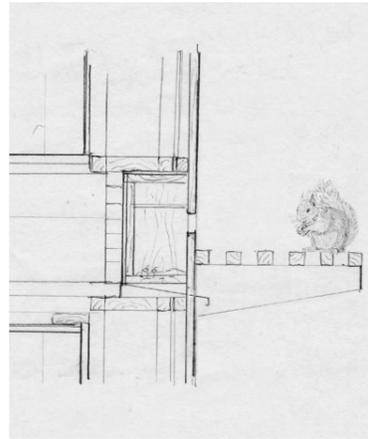


Figure 12. Cohabitation with wild neighbours in spaces inside the architecture makes disturbances such as noise and droppings, and are perhaps not the best environment for wild animals but makes interactions more common and with more patience allows other species to live close up and share the city. Allowance for decay, porosity, and for others to find their space.



Figure 13. The city might play the role as a cocoon for human individuals to be able to develop socially. The anonymity opens the possibility to go round cemented structures of prejudice and historical assumptions that could accumulate in small social groups or villages. Diversity is necessary for resilience.

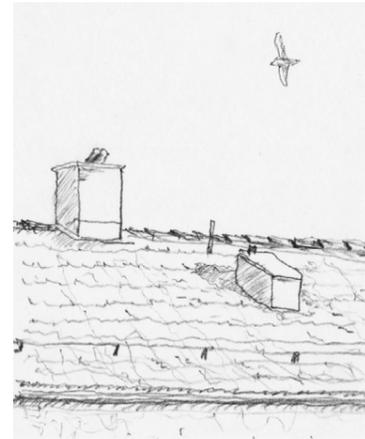


Figure 14. The city supports other species dwelling, often with an abundance of food. It's not rare that there is a high biodiversity per area in cities, but often it requires change in behaviour and primarily supports certain species.

Summary

Humans are often physically and culturally separated from nature in cities. To revise the view on landscape as something static and something else is part of being reconciled. Humans everyday life actions and choices affect other humans and non-humans both directly and indirectly. This means there is a choice to be made, and to accept other than human agencies as important requires sometimes to accept changes in lifestyle. If this is done in a socially sustainable way, humans and non-humans can coexist and this might lead to enhanced qualities in the everyday life and an increased sense of presence and participation in life. This comes with costs which not always is cheap, but that could depend on our socially constructed perception of value. The perspective of value, to be changed from representations of values to concrete values, means a shift in focus to experiences and patience. To improve the qualities and infrastructure of the local and create incentives for pro environmental behaviour could make a shift in lifestyle to an upgrade rather than downgrade. There are spaces in the cities possible to release and transform for non-human agencies. This is a spatial negotiation of the human view on rights to space and agency.



3. Design project



Integration or separation

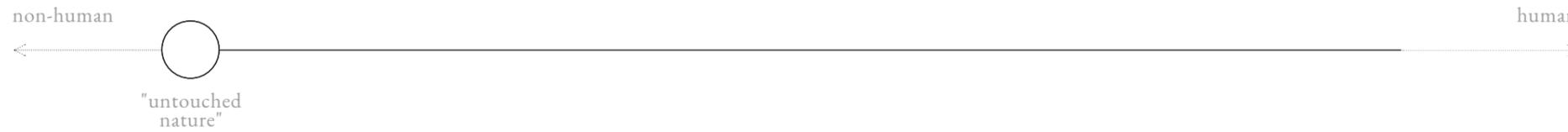
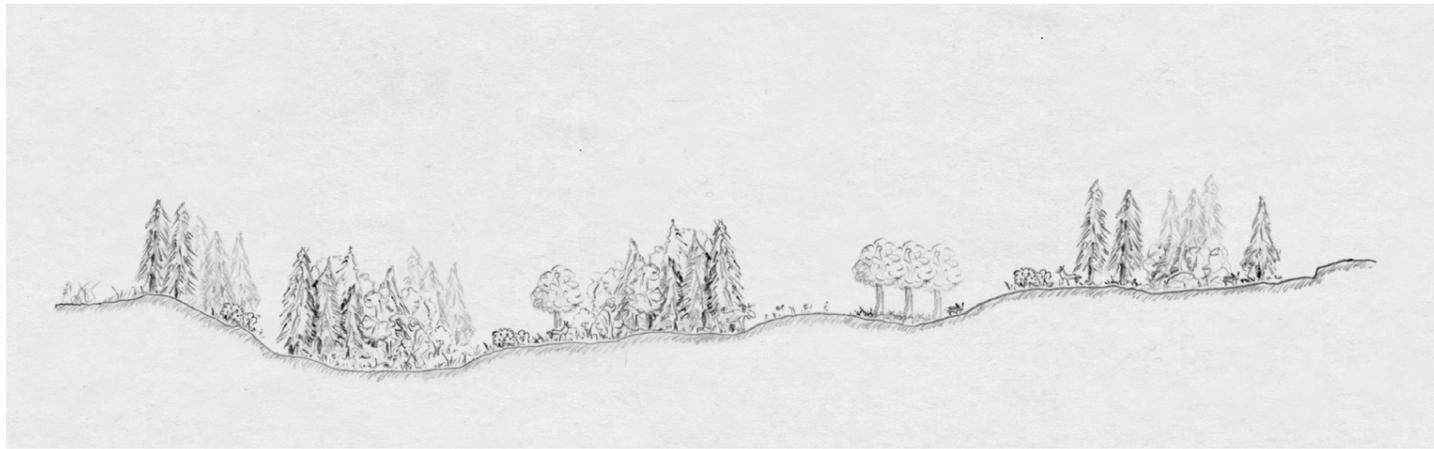
It is possible to argue that there should be a total separation of human and non-human conditions. That the city should be a city full out with only the human agency in mind, and this should be where humans are meant to be kept. The other lands are where nature shall be kept, with full agency of non-humans and no humans are involved or visits these areas. The living conditions would then be the most suitable and comfortable for the humans and non-humans living in these divided areas. But this view is a key problem because even if the division is made with good intentions, the separation strengthens and the knowledge and understanding of the ecological rules of the world is depleted. The citizens still is in a very high degree dependent on the production outside the city but this production chain becomes "invisible" and the relationship to the consumed goods becomes absent. We can not live without the non-humans. The expansion of the human habitat will continue to gradually push away non-humans and degrade the non-human habitats.

The total integration of human and non-human conditions does not have an easy answer or shape. It probably won't be comfortable in all situations in the way that the urban lifestyle is used to because of the necessary negotiation and conflicts with non-humans. But in many situations, the presence and possibility to see and establish relationships to other species, increases the everyday life quality.

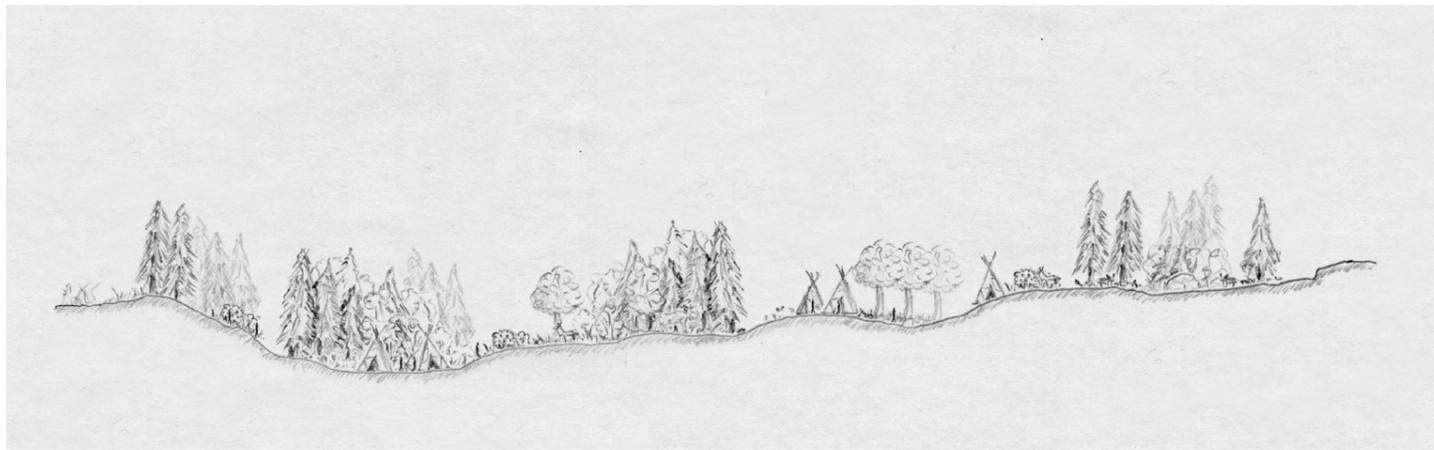
Position

The scale on the following pages shows which actors and what agency that defines (designs) the conditions of the site. For the negotiation to be a profitable deal for both actors compromises are needed (note that non-human include multiple different species and actors with various spatial demands). The compromises could consist of lifestyle and behaviour changes, comfort, efficiency and accessibility to areas, or spatial exploitation and privatization of land.

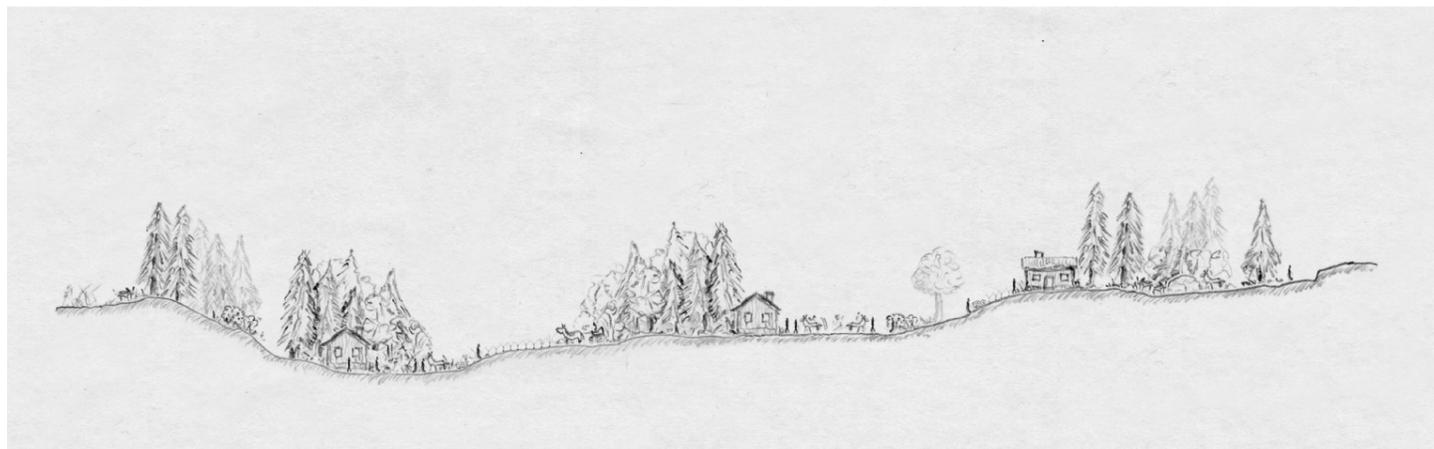
A single house could still be maximized out of human conditions on the inside but with a wild garden conditioned by non-human agencies on the outside. Therefore these diagrams rather shows the built morphology based on social patterns of the human dwellers as a whole. The gradient of changing power conditions goes hand in hand with human historical patterns of creating civilizations.



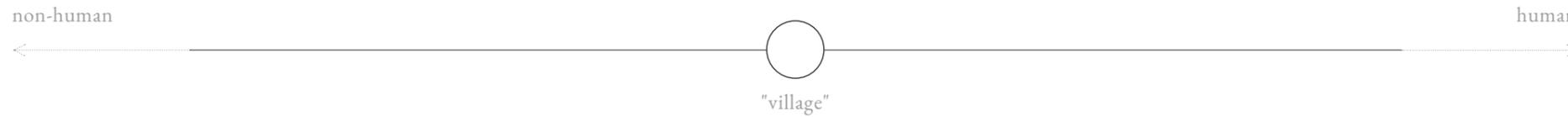
The situations that could be categorized as having condition shaped to a high degree by non-human agencies and actors are sites such as old-growth forests. None or very small effects from human intervention. No human dwellers but occasional trespass.



The nomadic human situation is dependent on local wild resources and limited by what is possible to carry. The temporality of the dwelling follows the natural dynamic and does not affect the local landscape and species in a long term. Non-human agencies have advantage in defining the conditions.



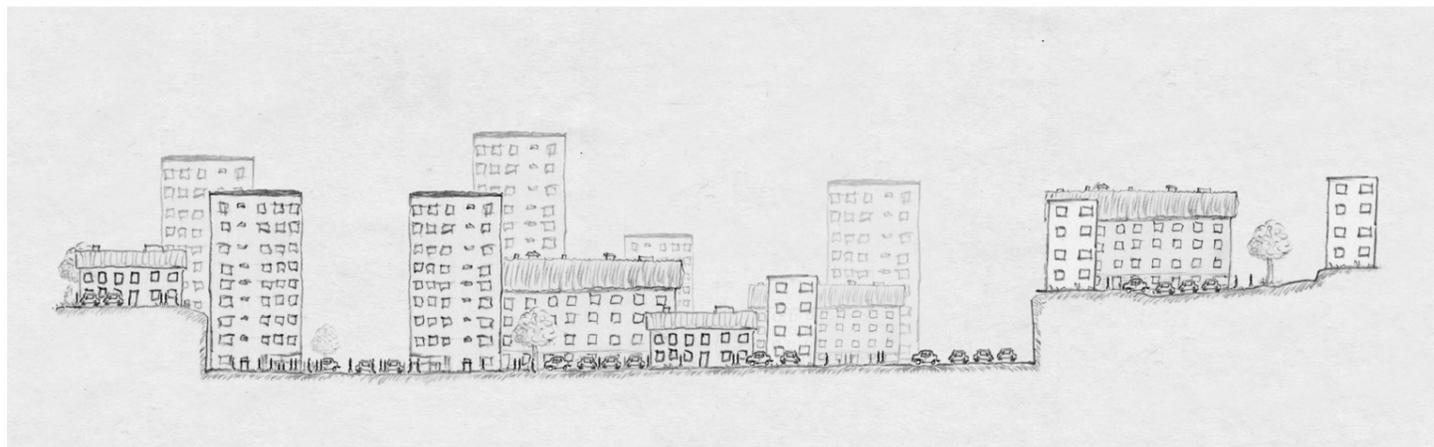
In this situation, human settlement becomes present in the local landscape. The dwelling mainly consist of small scale self-sufficient ecological farming. Humans have reshaped parts of the landscape and domesticated different local species. Natural conditions such as weather, climate, wild animals etc. play an important role to the human situation.



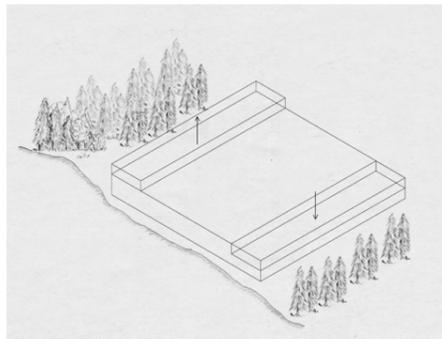
This situation that on this scale is in the middle have characteristics of a small village or garden city typology. There is continuous settlement of humans and a local but centralized production. Farming and food production is located close to the central part of the town and is clearly visible. There are patches of undefined and unexploited territory mixed in the constructed fabric that often connects to other "nature" areas inside and outside of the town.



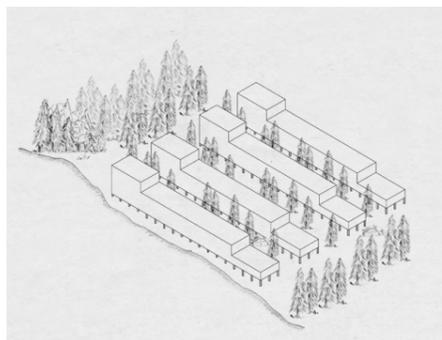
The higher degree of human shaped landscape supports a larger number of dwellers and often more radical reshaping of the terrain. Impervious structures increase efficiency in human mobility but tear apart both constructed and natural structures. The undefined in-between zones or "terrain vague" is abundant but the sprawl allows others than humans to cohabitate parts of the city.



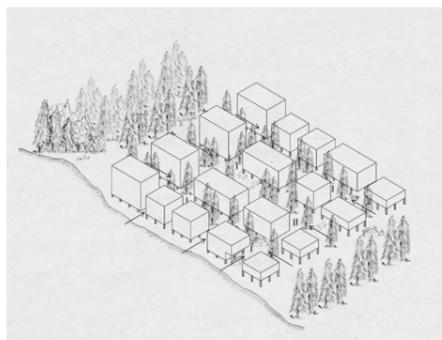
The highly exploited and impervious city is primarily a place for humans, pets, birds and rodents. Green structures are often isolated and programmed as parks. Deliveries and infrastructure to support trade are prioritized. Waste and abundance of resources can make non-humans thrive through **synurbization** but that often requires changes in behaviour and diet. There are few undefined places that remains as isolated forgotten spaces which houses ecological growth rather than economical growth.



When exploiting an area for future human habitation, be aware of the existing layers of life and spatial needs of other species. Use techniques strategically to not diminish ecological qualities. Adapt volume to the surrounding landscape and defining structures. Allow the longest living structures on the site such as rocks and trees to set the scale and conditions.



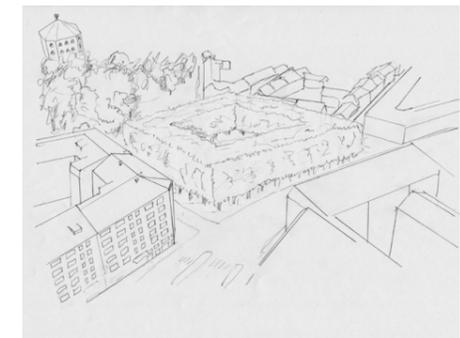
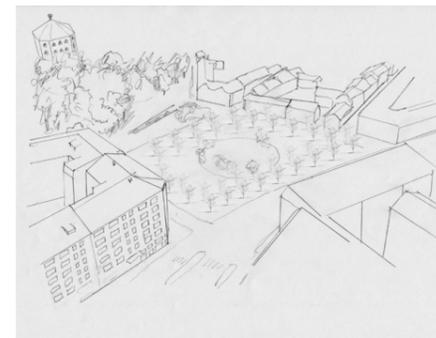
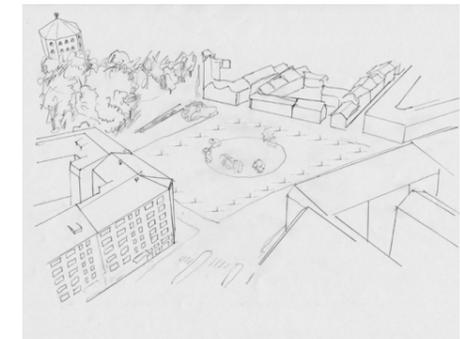
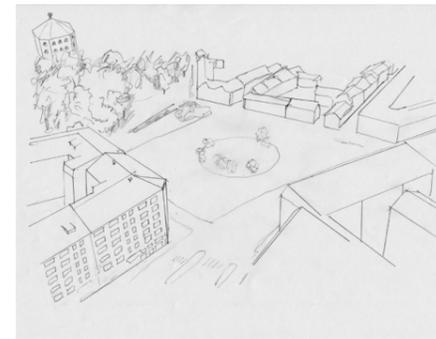
Minimize the footprint and effect on the terrain and the existing life on the site. Maintain the visual readability of the landscape and accessibility for animals and plants.



Increase sunlight and ground area, make porous structures to increase ecological accessibility. Adapt to terrain and optimize individual volumes for passive strategies and the local local context. Increase the presence of other species and the need to interact with them through translation medias.

Strategies

Example of a site volume strategy



Undefined car controlled urban spaces could be part of acupuncture strategies for increasing biodiversity, with more developed "ecological square" features.

Transformation

Densification of ecological features



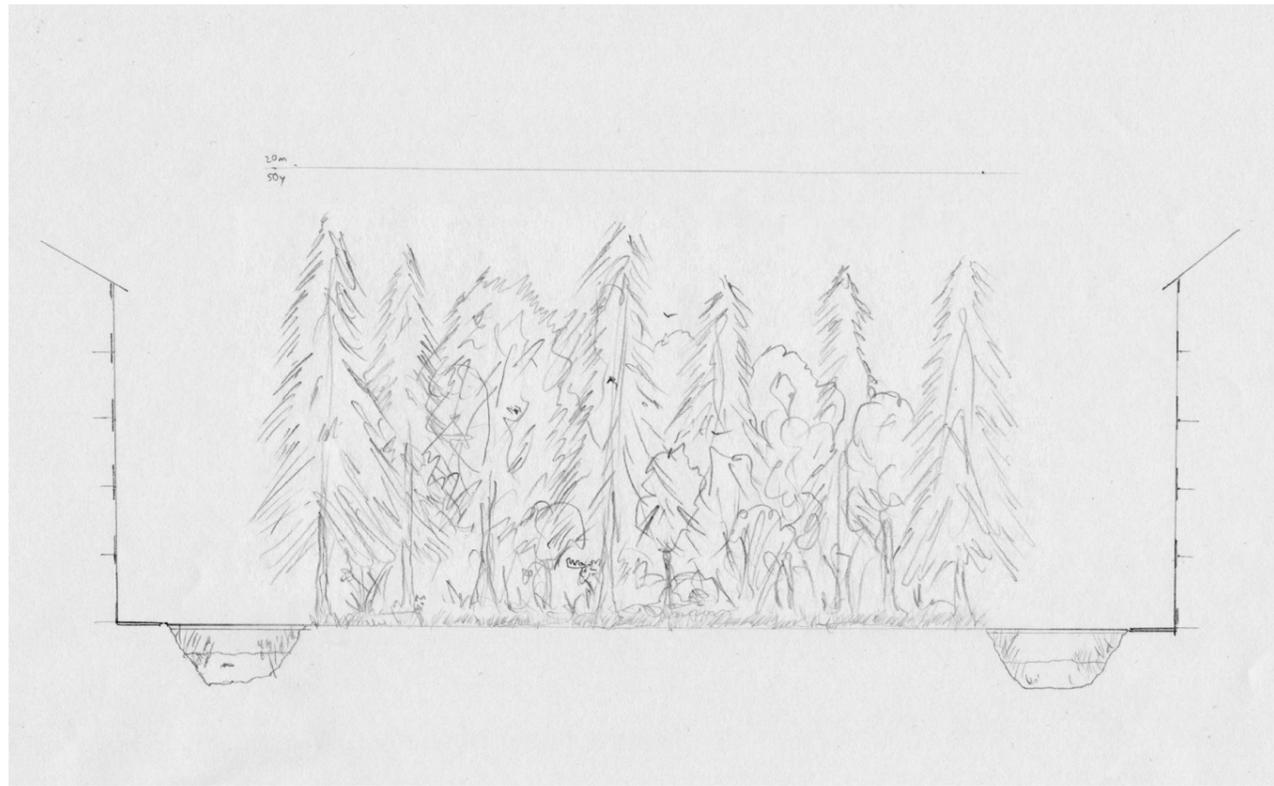
This vast area is today a shopping district for car-bound visitors. Its construction began during the 1960's simultaneously as the exploitation of the surrounding areas. The car-adapted scale makes this area hard for pedestrians to visit, and the spatial morphology reminisce of the human self-centered era and non-human oppression.

Similar areas are common around the outskirts of cities and often cover huge areas. Mainly consisting of industries or shopping malls it is an urban morphological typology based on production and consumption and might lack application in a future society for this scale of land use when circular economical tendencies are more common. The scale of these areas makes transformation for recovering ecological infrastructure possible and apply strategies for future non-human-shared administration of urban land.

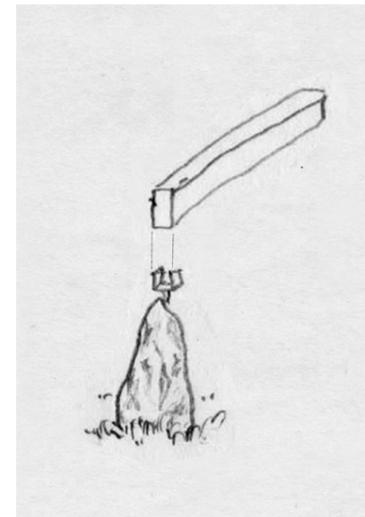
The society always strives towards maximizing efficiency and so are humans in their everyday life. The expectations of the mobility and accessibility of the car with citizens today is on a quite extreme level. It is expected, and often demanded, that it should be possible to reach any front door with your car and at the quickest possible pace. Compared to the time it would take to walk the same distance, take the bike, or commute, there is still a lot of time won from the start when taking the car. The abundance of time left over, compared to the natural state of physical movement for humans in space, is a luxury and should hence be seen as a negotiable resource compared to other qualities of life.

Rewilding of industrial urban area

Example of a common site typology

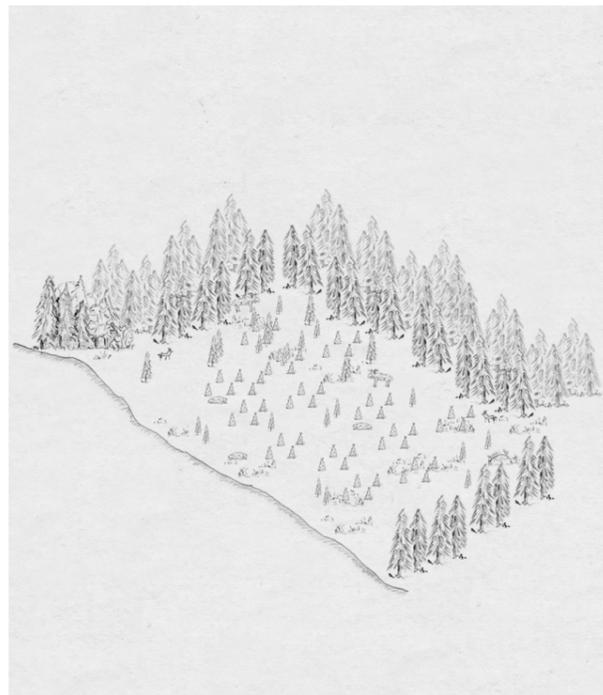


Forest street

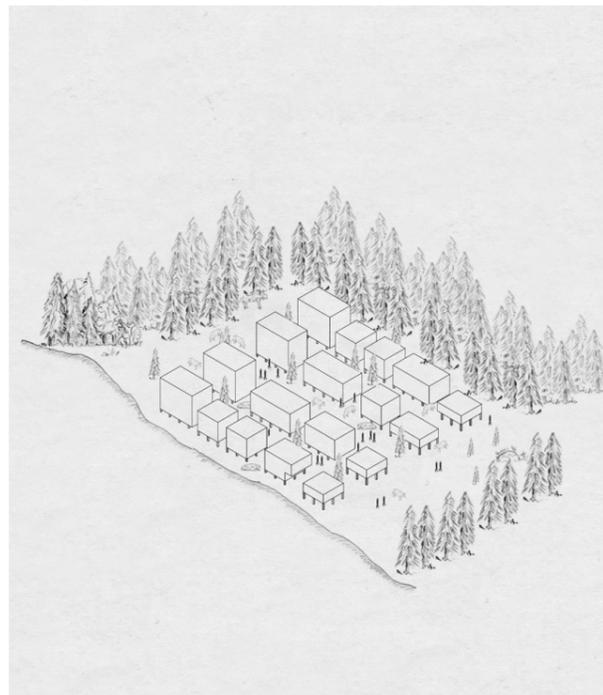


The menhir foundation. Organic/unorganic

The urban forest street. Accessibility and infrastructure for non-humans to reach nature areas. Non-human agencies to become a common, visible and prioritized part of the urban environment.



Non-human season



Human season

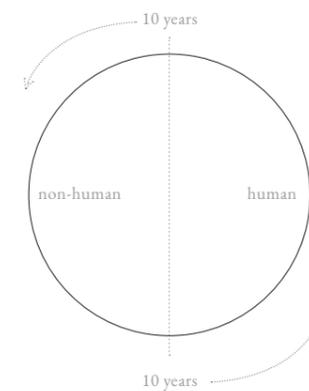


Figure 15. Timeplan for actor based land use.

The forest edge

The forest edge is important infrastructure for many species. It is the area that forms the transition zone between the forest and the open fields. A higher amount of sunlight reaches down to the ground and allows for bushes, deciduous trees, and herbs to thrive. Bees, butterflies, ungulates, etc. find food and shelter in these zones (Jordbruksverket, 2018). If the forest edge connects to an agricultural field, the zone can support pollinators, and give grazing animals protection from the sun at the same time as they maintain the openness of the forest edge.

For an integration of farming activities in urban settings, the ecological infrastructure necessary for pollinators and other non-human actors are needed. The transformation of central streets to forest edge streets that creates accessibility but also other climatological benefits for the local urban climate are prioritized infrastructure projects and in parts of the city common street typologies. The flora constituting the design have a high biodiversity but are based on oak, hazel, cultural heritage flowers, and herbs.

Traffic

There is an additional light to be added to the traffic lights in the central parts of Gothenburg. It flashes to make the drivers aware, not for a crossing train or tram, but for a crossing wild animal. Sensors detect passing animals to increase traffic safety. The forest streets are flanked by cattle grids covering swales that collect rainwater and supports herbs and aquatic species. Wild animals are able to move between nature areas and to be a multispecies citizen.

The field

As a part of the negotiation the seasonal or temporary ownership of a space by humans requires leaving the space for non-humans during parts of seasons (Figure 15). The infrastructure is permanent and during human season, light, temporary structures can easily be constructed to define borders and be used as expansion of human interests. When it is non-human season, the human made structures or use of the space that compete with the non-human agencies are to be removed and stored until next human season. Incentives for human trespassing are low.

Non-human
season



Sciurus vulgaris

Capreolus capreolus

Alces alces

Vulpes vulpes

Lepus timidus

Corylus avellana

Meles meles

Bombus muscorum

Rubus infestus

Gonepteryx rhamni



Agreement

The rental agreement of housing in these urban areas are expanded with the view on the house as a part of the landscape. Then the landscape is included in the contract of maintenance duties for the dwellers. A building starts in its surroundings and the responsibility for the local community increases with this insight. This shape of the community supports social configurations of building communities and opens up for a diversity of actors, contractors, and housing.

The balcony

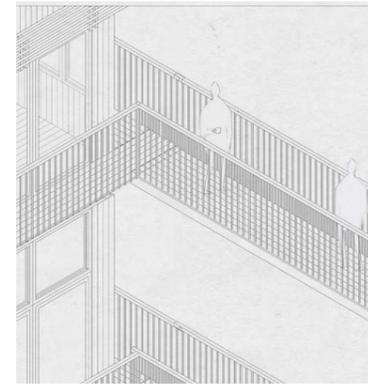
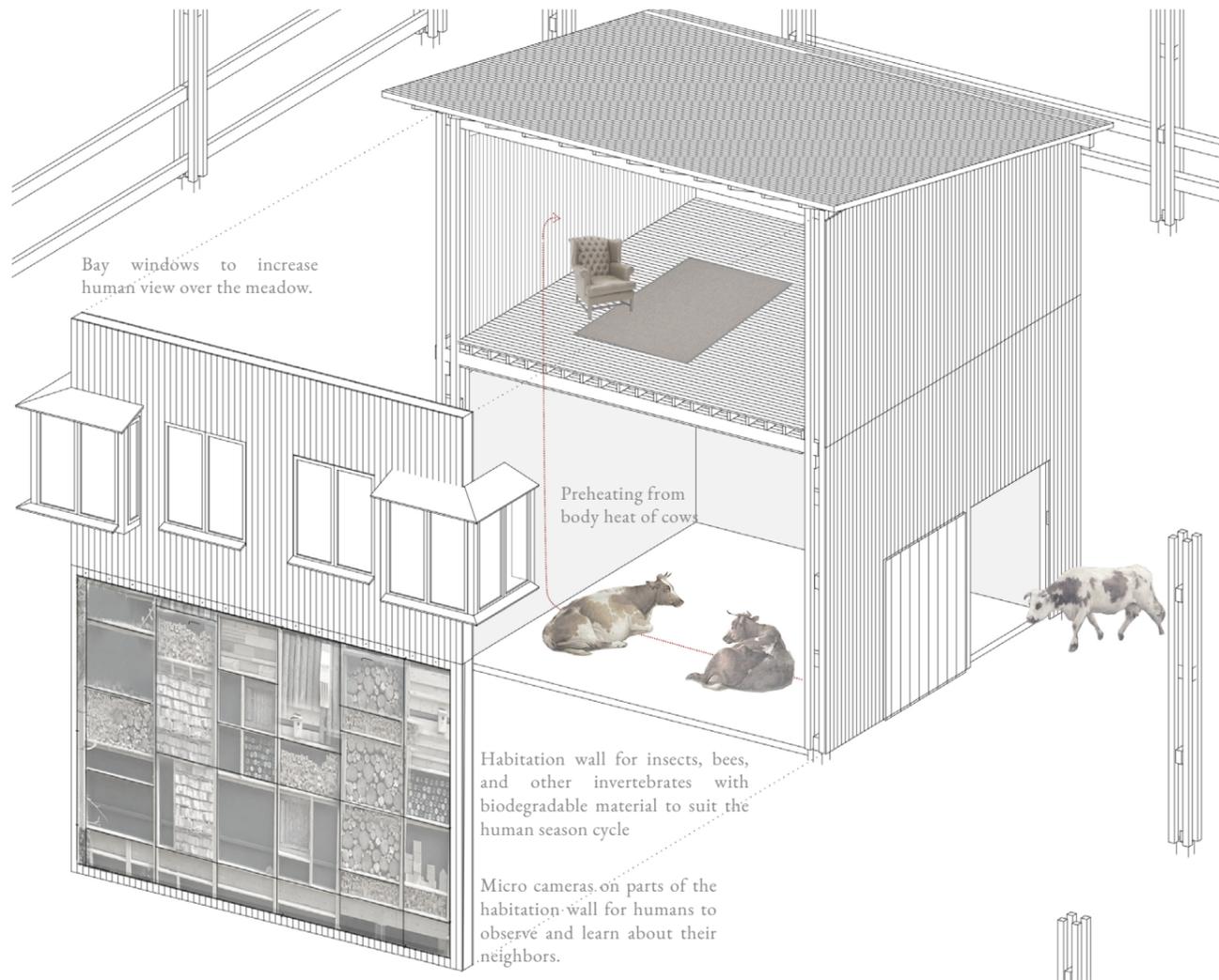
The architecture that support the human dwelling situation creates a gradient of possible relationships with conditions that shift focus from cultivated by human to wild.

The everyday care of plants or animals by humans creates a bond and understanding of other species lives, their needs and struggles. The closer to the human home the more private is the rewards for this mutual relationship.

The visual aspect of seeing other species is important too to establish relationships and the sense of being a part of the world. To have reasons to or by necessity the need to go outdoors and either spend time there and hence being encouraged to experience the weather and other species or to just pass between two rooms that is separated by an outdoor room could strengthen the sense of living and being a part of the landscape. Experiencing nature with our different senses, hearing birdsong or sensing the scents of flowers may reduce stress and increase environmental satisfaction better than only visual stimuli (Hedblom et al., 2019). This shapes a multispecies urban design task that could have mutual benefits in connectedness and close interspecies relationship integrated in the physically rearranged environment.

Human
season





The footbridges can act as an apparatus for human interactions and social negotiations. Accessibility around the facade makes it easier to maintain and creates an outdoor passage.



Shielings constructed for seasonal use, with modern areas of use. Provides possibilities for alternative urban summer houses.

← Facilities can have varied purpose depending on season and be used for cultivation and as a local office for neighbors to co-work with digital distance work and local physical farming and maintenance work.

Frames

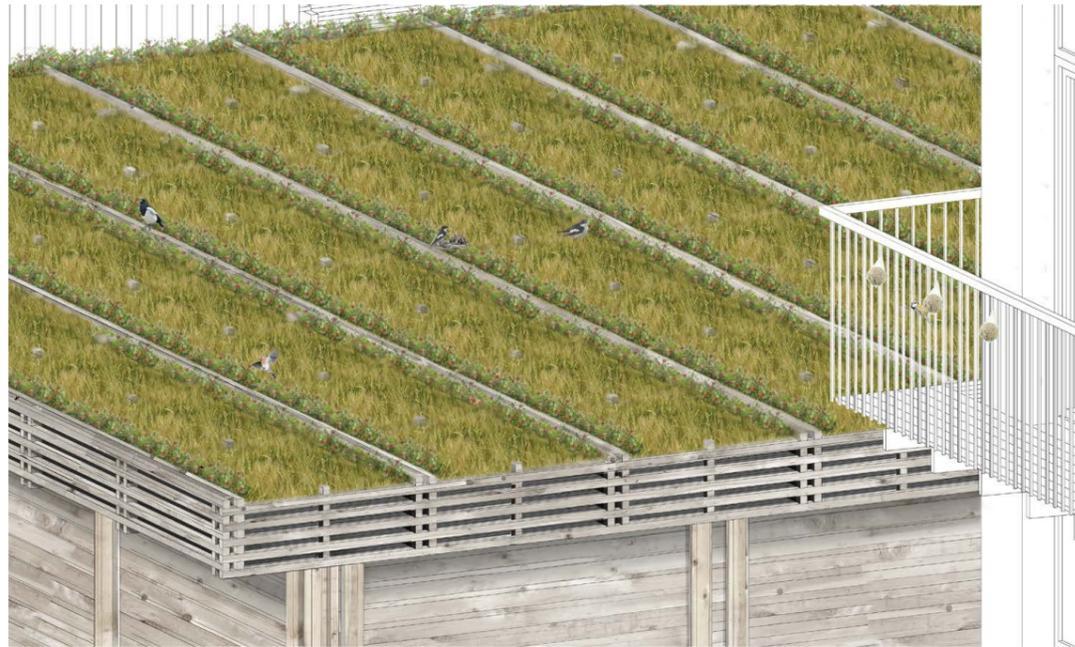
There are of course many factors of how likely it is to start a conversation with a stranger or confirm another person with a greeting. These small gestures that builds social trust are from own observations supported by certain situations. The width of the road, the probability to meet someone, the frequency between meetings, the unexpectedness of a situation. In the forest while searching for mushrooms, waiting by the entrance of a narrow passage, or at the sea in a boat for example. The framework defines similarities, and makes the common grounds visible out of the noise of information. When on the same frequency, we can meet and see each other and build social trust. One kind of beauty, one species of beauty is made through these relationships built on trust and sympathy. This kind of performative beauty requires the situation to be framed in the right way. The framework as a tool to contemplate beauty from the noise is a proven technique. In poetry the use of meters to find structure and frame beauty in words. In music there are keys and rhythm to distinguish beauty from noise.

All cultural creations are but land art that vanishes immediately or leaves imprints or structures, frames, that affect the local behaviour for generations. Architecture can also act as a framework for producing beauty and make everyday life beautiful. Today it is more about loudness than frames to stand out from the noise. But perhaps the greatest contemplations are in the modest details.

Seasonal changes

Existing permanent temperate dwelling structures defines an open community driven urban landscape that during the winter is less dense, allowing more sunlight to the apartments. The domesticated animals and plants are kept closer to the houses in the available greenhouse structures and bike-barn. During the summer the livestock can move further out from the built area and the grid structure allows temporary structures and human dwellers to rent and camp to densify the center. Depending on degree of participation in maintenance and farming, the temporary dwellers can increase a discount on the rental fee.

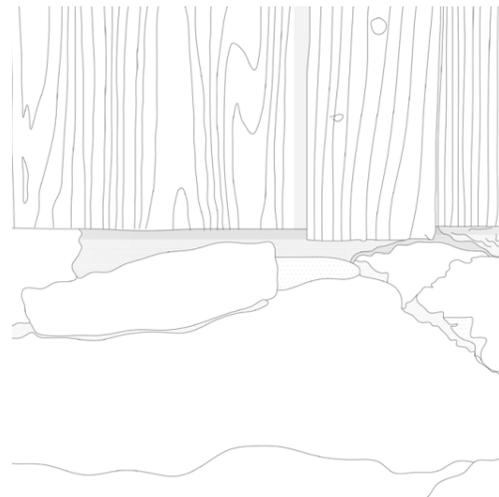
During the autumn and spring, in between seasons, the greenhouses can house office spaces for the neighbours working from home to extend the working space, while also getting social interaction and possibility to perform physical ecological work intertwined with the digital work.



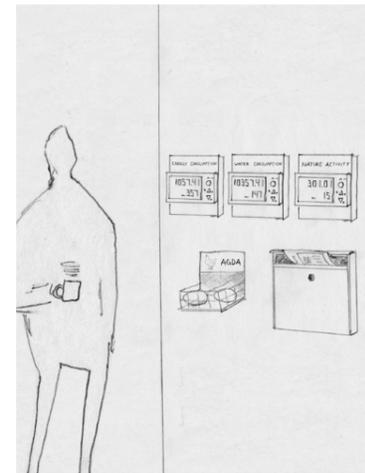
Strawberry roof. Increased non-human habitation of surfaces improved with wages.



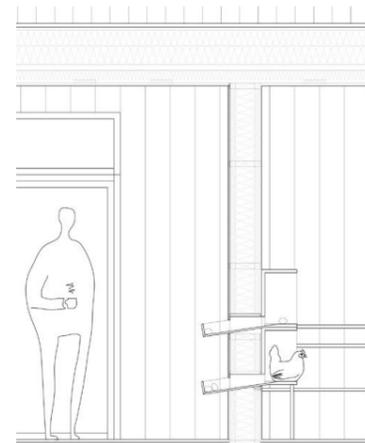
Plinth-foundations have a low impact on the landscape and surroundings. Adjustable to many different conditions. Keeps the terrain passable for insects, plants and small animals. Footbridges makes human passing more comfortable without leaving imprint on the ground. Accessibility around the facade makes it easier to maintain and creates an outdoor passage.



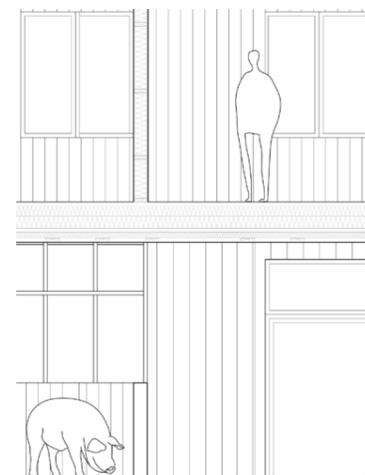
Permeable rock foundation. Cracks between rocks and between wooden panels creates small inhabitable spaces. Unintentional cohabitation in aging and decaying material.



Measurability of ecological activity to support distribution of subsidies for biodiversity rich neighborhoods. Increase economical incentives for cohabitation. How many species are living in your neighborhood?



The "Hentrance" situation. Shared house relationship, everyday life communication and relationship, exchange of labour.



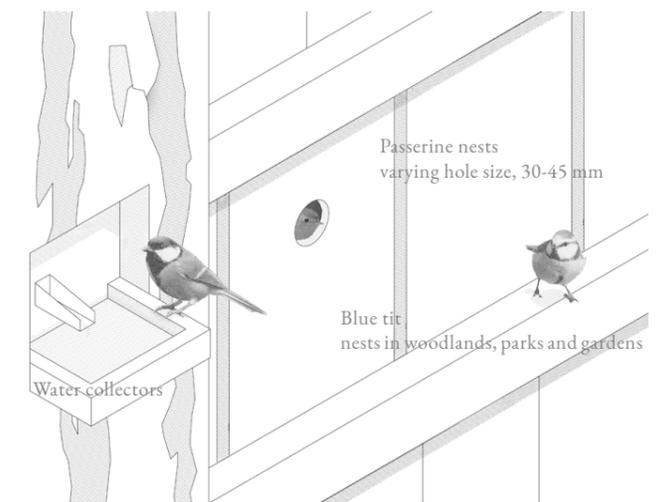
Multispecies neighbors

Allowance

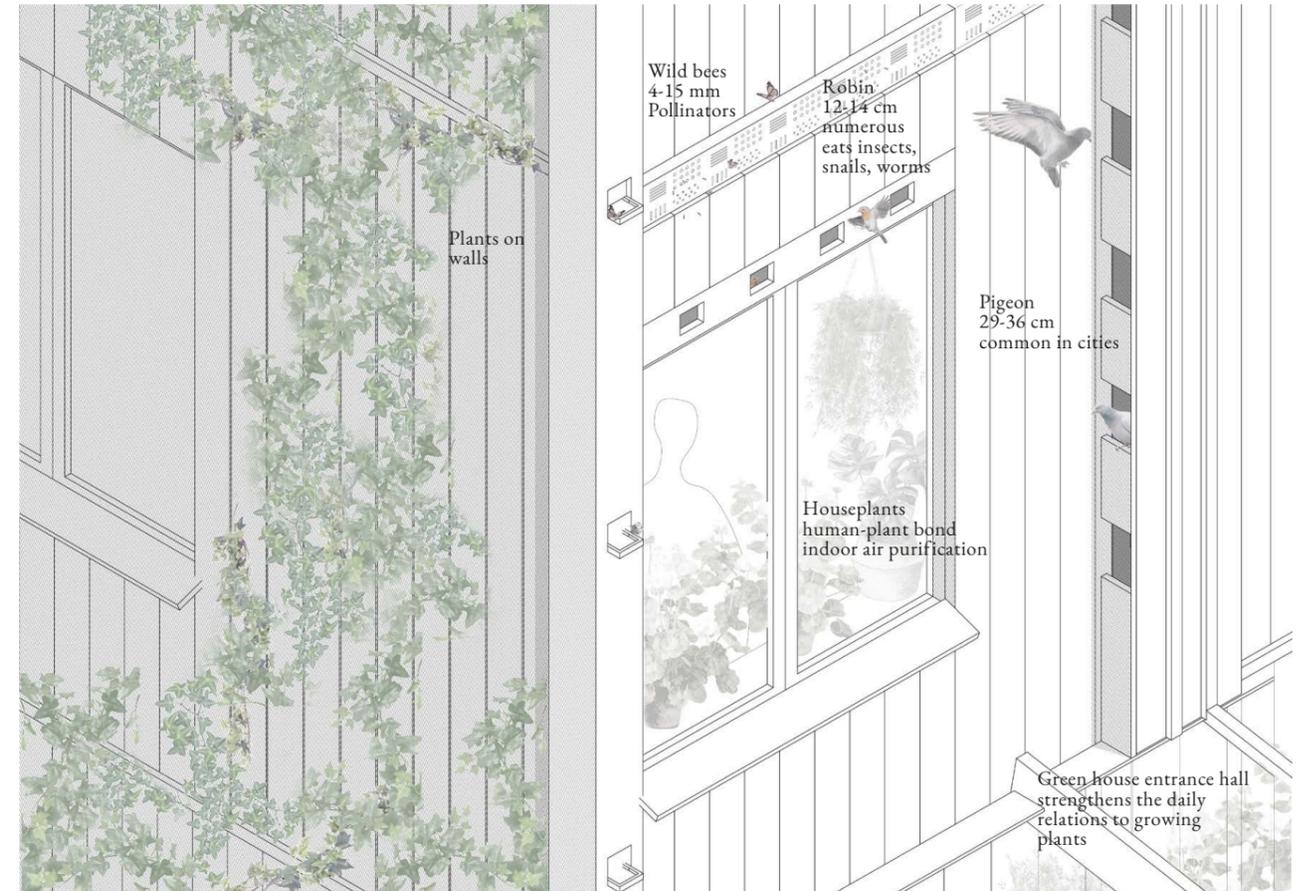
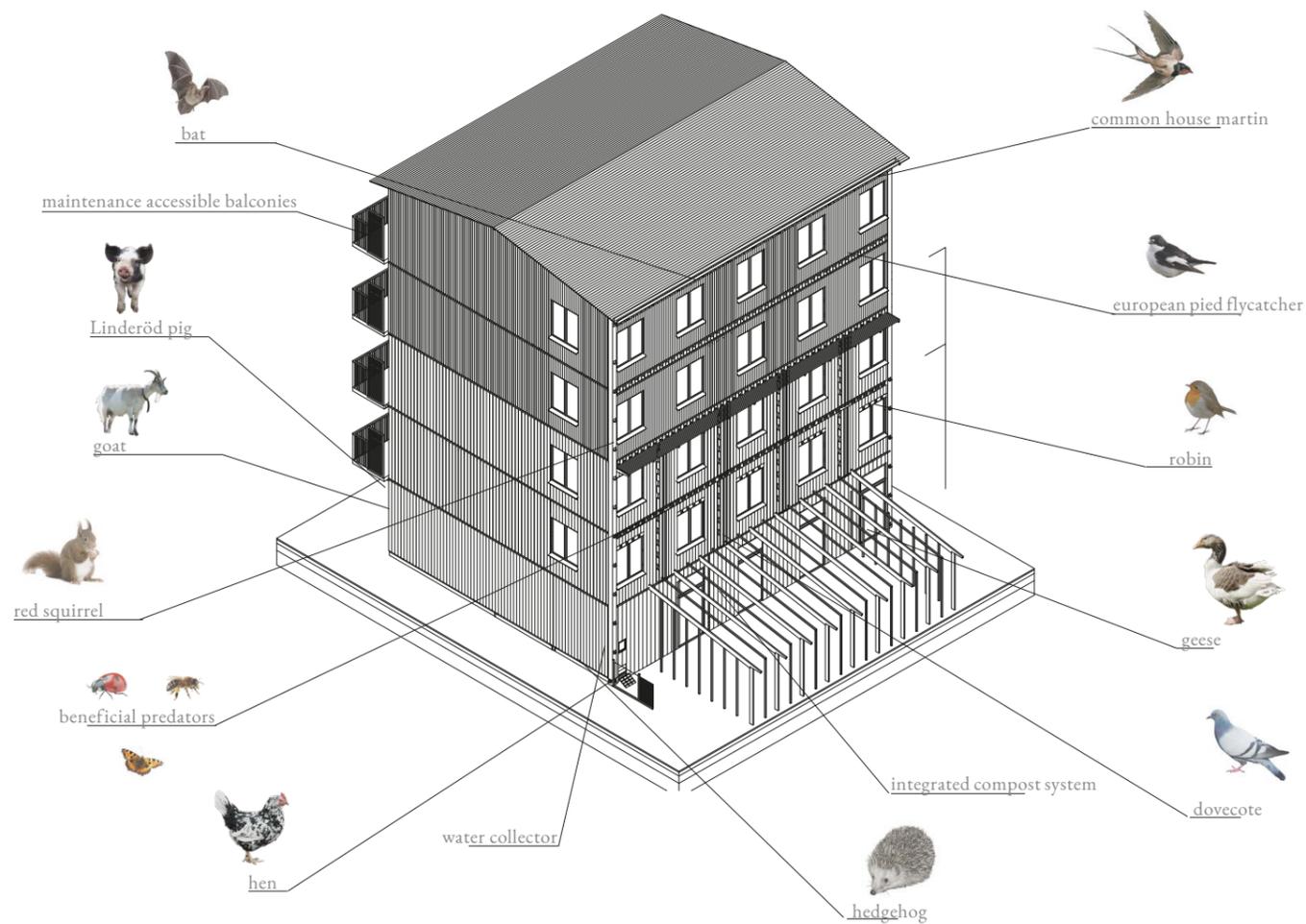
As part of getting to know and establishing a relationship to the non-human neighbours, allowance is custom. Both allowing others to coexist and contribute with supporting resources but also to offer gifts as a wage. To sacrifice both space and time as payment for claiming such large spaces for human dwelling.

The ecologist and philosopher David Abram (1996) experienced an interesting phenomenon on this topic when he spent a visit with a balinese family. They explained how they placed out rice on leaf platters by the corners around the house as offerings for the household spirits. When later Abram saw ants carrying away the rice he reflected upon this as the surrounding animals being the spirits. The offerings was a way to keep the ant colonies occupied and satisfied while they also established boundaries between human and ants. By honoring the boundary with gifts they hoped to persuade the ants to not enter the house.

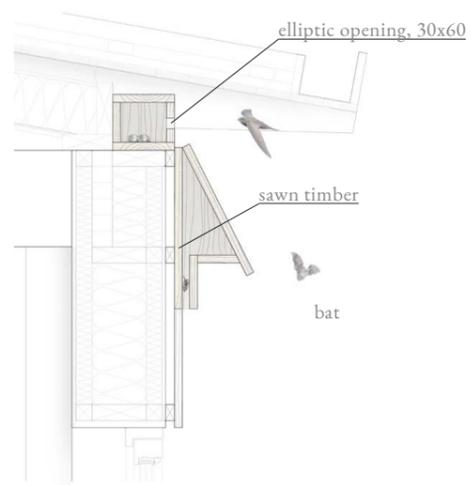
If human exploitation expands on non-human grounds, a rental fee or payment is a economically logical part of settling an agreement in a spatial negotiation. The key factor is the mindset and recognition of there being other agencies and actors and hence a counterpart in ownership and ascription of values.



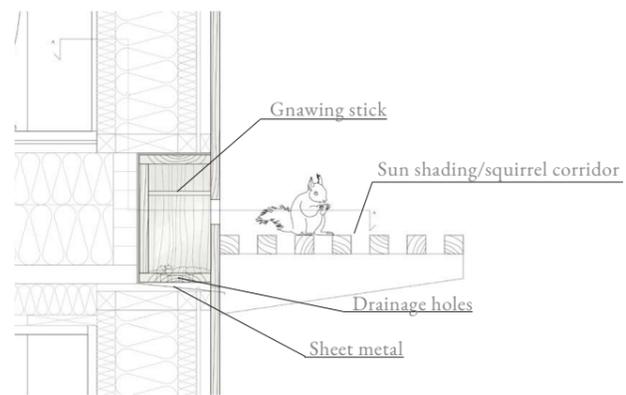
Living "ornaments". Integrated bird houses. Living beings fills spaces with an atmosphere.



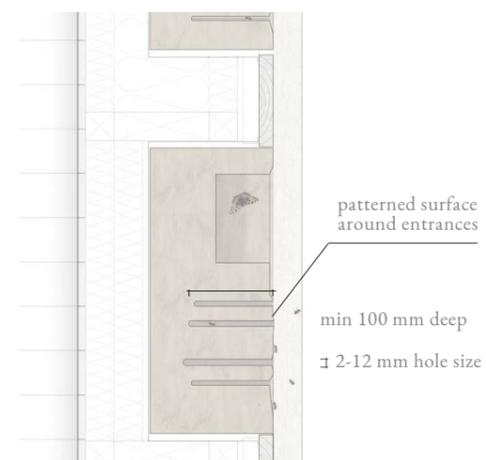
The window as interface.



House for bat and common swift.



House for squirrels.



House for solitary bees and butterflies.

The barn

Domesticated species dwell during parts of the seasons close to humans and the pens are divided by the somewhat more permanent footbridges. Preparatory plinth foundations are built on parts of the field to facilitate future light constructions made by the residents and to easily construct or dismantle fences and division of different infrastructural agencies. Existing infrastructure such as electricity, water, and impervious surfaces supply the area with easy human accessibility and are developable without big operations. Footbridges work as dividers of pens and as structures to incorporate habitation support for certain species and let the flora recover beneath.

The footbridges can act both as dividers of the landscape and makes human passing more comfortable without leaving imprint on the ground.

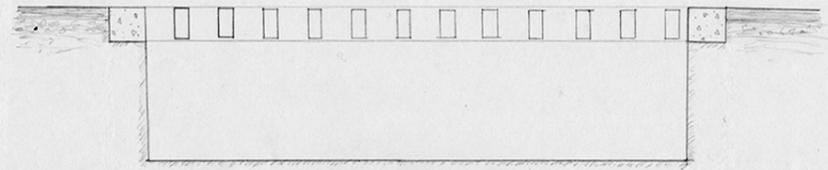


Habitation viaduct

Orust hen

Bohuskulla

Helsing sheep



Section of cattle grid

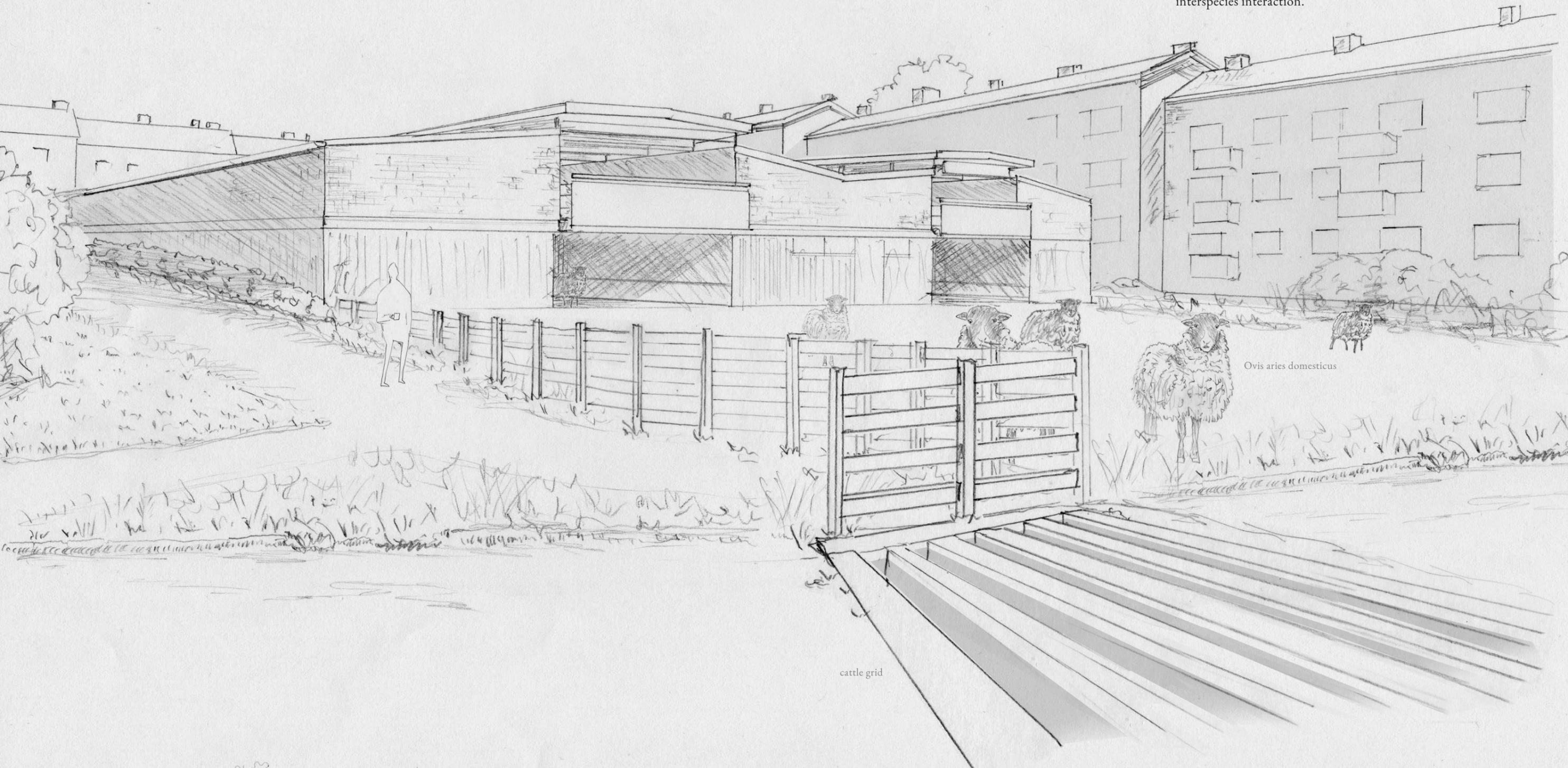
Transhumance

Early 20th century from French, from the verb transumer, based on Latin trans- 'across' + humus 'ground'.

- 1 The action or practice of moving livestock from one grazing ground to another in a seasonal cycle, typically to lowlands in winter and highlands in summer.

Transformation

The new nomadic district makes the threshold lower for integrating other species as important urban actors. A garage building in the central parts of Gothenburg goes through a transformation to become suitable as a stable. Livestock stays in the stable during periods of the year as a part of their urban-rural transhumance. Connected to the stable area is a large yard for grazing in between houses. The visit is a part of the fossil free maintenance of the lawn as well as building new relations. Digital fences, necklaces with gps worn by the animals, might make new pen configurations in denser areas possible. The normalisation of animal presence closer to cities increase the acceptance and infrastructure and creates platforms for interspecies interaction.



Ovis aries domesticus

cattle grid



4. Discussion

Conclusions and reflections

The starting point for this thesis was in the questions of humans separation from nature and how to connect this to questions of sustainability. The discourse entered through the theoretical field of posthumanism to find other perspectives and shed new light on other species agencies.

Research questions

How can architecture strengthen the connection between human and non-human everyday life?

By dissolving the strict separation of indoors/outdoors, human/non-human, rural/urban, in the structural interface, while creating clearly defined spatial borders in conflictual situations and visual readability of the ecological context, architecture can support rather than obstruct non-human agencies. If urban districts would consist of every second block being a meadow or grove, and allowed to be undisturbed, a mutual situation of interspecies urban dwelling would appear. To emphasize the shaping of the landscape and how buildings thoroughly connect to and enhances existing habitats is important. Borderlines that defines when and where human/non-human agencies can take place is important, the infrastructure between different parts of the (non-human/human) habitat could benefit from a temporary shifting access for shared use. Some species are active during parts of the day and humans mostly move between work and home during some parts of the day, a division of access during the day could be a possibility. An example of a feature shifting between agencies would be street lights that are time-regulated and not active when not needed during night hours.

To be connected is perhaps not necessary to have a relationship. It is not rare that humans have a weak relationship to or do not even know who they neighboring humans are. This kind of anonymous cohabitation is perhaps the most fruitful for interspecies connection because it allows others to live without asking for something in return. To revive the integration of domesticated species in cities, perhaps primarily smaller ones such as hens and ducks, but also pigs and sheep but during periodic time, could strengthen the human-non-human bond. Citizens have to deal with their presence and probably appreciate and learn much from creating a relationship to other species. Some have to feed the animals, some have to manage the noise or smells, but perhaps it develops an understanding for not taking for granted that humans should control and change everything in their environment to suit the human agency.

Interspecies connections in the everyday life comes with both advantages and disadvantages, but the reconnection is vital for the long term survival for humans and the friction could actually enhance the quality of the urban life. What is

needed is to create space and share it and compromise, this then becomes a task for architecture, to house and plan this spatial negotiation.

→ How can a small scale diversity be achieved in the architectural interface between humans and non-human habitats?

By supporting multiple small scale initiatives and local care of ecological structures, the city can be more allowing for other species. There needs to establish bridges between larger green areas and smaller more central areas, and because of the complexity of the multitude of different agencies in central locations, each situation needs its own solution for supporting ecological structures. This small scale would require some citizen interest in taking care of and maintain, but it seems to be coveted as giving more purpose to the urban dwelling.

The reoccurring phenomenon of cleaning the city from natural effects could be revised. Lawns could turn into meadows, impervious surfaces such as asphalt roads could be shared and have a lower traffic pace to then let green areas expand and swell where it previously have been depleted. Piles of logs and biodegradable material could be arranged in an accepted way to give space for decay and species habitation. If this is made strategically, a multitude of cohabitation is possible.

If the future goes toward a more circular economy and citizens becomes more involved in urban farming, the natural cycles and processes are necessary. Pollinators, fertilizers, water management etc. are needed to be planned for and integrated in the cities. To reconnect to the seasonal cycles is part of creating a stronger local society.

The natural cycles, which have often been neglected and hidden because the view of it as dirty, need to be connected to on a new communicative and knowledge gathering way. New and closer day-to-day relationship is possible with digital tools to create a new interface for communication and understanding.

→ How can architecture support cohabitation and dissolve the borders of architecture and landscape and curate ownership between species?

It is of course hard to design for other species and to create a suitable environment for certain species. In many cases is the opposite of designing the best solution. An acceptance for the lack of control and allowing other species to cohabit and design in their own way is fundamental. A way for architecture to

support is to view upon the constructed materials as elements of nature. A more handcrafted construction of architecture could create a more natural relationship. Integration of green structures such as green roofs and walls are ways to increase surfaces accessible for non-humans. To have distinctly defined borders of where humans should express their agency and dwell and where non-humans should is important for it to work. By creating thresholds or passages and design the accessibility and infrastructure of certain features of habitats, architecture and landscape architecture can cooperate to curate the patterns of life of different species.

Reflections

Negotiations

From a human perspective, sharing resources and space is for many people seen as a downgrade but for others just common sense. Some objects and spaces are empty and unused for large parts of the day and depending on the need for urgent access, these can be shared by others. The unrealistic demand on a high degree of individual ownership puts high pressure on the shadow places affected. Shared resource banks should be a common part of a neighborhood. A separation from the ecological world is not possible but as an artificial reality, which perhaps is the reality of today. The sometimes uncomfortable negotiation with other actors is a part of existential reality.

In a more digital society, where you can shop groceries or clothes online and have them delivered to your home perhaps put an even more urgent demand on the physical surroundings close to the home to strengthen the connection to production cycles and visualizing natural cycles and logics. Everybody can't be expected to participate and enjoy householding work but everybody should have a part in sharing the spatial responsibility. If different knowledge is stored within different individuals in the local community, the presence of competence and sense is part of the everyday life.

A house is mainly built to constitute a human habitation but traditionally often have been used by other species as well. Common swifts that lives underneath roofing tiles, bees living in the cracks of timber houses, hedgehogs living in rocky foundations. The "dirt" or disturbance that other agencies comes with is part of allowing diversity and a democratic society. Perhaps our attempts to get away from nature has to do with the fear of the existential questions. When we have to eat an animal or plant to survive the process makes us aware of the ephemerality of life.

Temporality

The application of temporary structures and land use in this thesis speculates around how to mimic the dynamics of ecological succession. A wildfire is an example of a disturbance of an area with a rather short recovery time, grass and small bushes grow back first and then fast-growing trees until it is somewhat restored to a similar state as before the fire. This takes place during a timespan of decades, which in ecological time frames is quite rapid. Could human activities learn from the logic of disturbance? This would then require a more temporary situation for letting nature find its balance. Could the human urban dwelling follow the same principle as crop rotations, to have more semi-short-term housing in certain strategic areas and then move to another area and let the former area recover.

This kind of slow-nomadic living could have a purpose in close to urban settings. During certain parts of peoples lives a small apartment for a short period of time is wanted. It could be before moving together with someone, raising a family or moving to another city for work. Temporality is not a new phenomenon in the urban context of human dwelling. But even if the human urban moving patterns and lifestyle suits the logic of natural dynamics, there will still be a constant demand on housing in certain urban areas and hence the city is a permanent supply of housing. If temporary structure strategies would be implemented in strategic urban situations, they could constitute a complementary housing that compromises with non-human agencies and shares space.

It is important that the temporary structures can be dismantled and stored nearby so that they do not have to be demolished and turns into waste. The effort and resources needed could otherwise turn into an unsustainable and unhealthy temporality. If there is no need for ground preparations the construction can more easily be made. If the equipment and construction elements are stored and available at the site, a user-based building community can more easily be coordinated. This could make it more economically and socially sustainable. The downside with a temporary housing area could be that the citizens do not have time or feel that it is worth the effort to establish a strong community and maintain the area and participate in creating a lasting identity. Knowing that you own your house and would benefit from taking care of it for a long period of time are reasons for putting more effort and money into the home. Hence an agreement on subsidies for participating in maintenance and other voluntary community work could be a motivator.

This living situation mostly supports a new lifestyle that is more based on resident participation and circular economy. More participation in various tasks develops more knowledge about household issues. If the community provides a bank

of local resources such as furniture, tools, competence, there would be a more nomadic scale of private ownership of things and a lower entry cost for people moving to a new home for the first time. There would appear more house related experiences for life that could increase the sense of identity and confidence with citizens.

Some problem with temporality and the repetition of dismantling parts of the society is that the local knowledge disappears unless there are people continuously being a part of the semi-nomadic network. A nomadic city is a contradiction in itself and hard to achieve and perhaps not even possible to design due to the ephemerality.

When the district is in the non-human season, it is allowed to fallow. It then becomes a rather large and central nature reserve field with a supported ecological infrastructure that over time could connect different areas. The area still functions as a stormwater park and cool and oxygenates the air and hence fill important human purposes in urban settings. The footbridges also allows people to move across the areas and it have an active role in the urban context, but foremost for non-humans which creates synergies. Walking becomes the main way to reach the area as a way to revitalize the bodily scale in accordance to the architecture and the home. The lowered accessibility also have cons in excluding the span of people that can live in this area. But local light neighbor assisting transport systems could be addressed in many ways.

If matter, rocks and architecture, constitute the base for organic life, humans, plants, animals, to define the landscape, is then urban a cultural phenomenon? Is a festival camp or a caravan campsite urban when it is highly dense just during a limited period? Urban also carries cultural spatial configurations that are of significance and an attractive character. Diversity in ways of living and ways of dwelling in cities is part of building a complexity and by doing so allowing diversity in humans and non-humans participation in a multispecies city.

The human settlements is not proposed to be wrong or unwanted. And many people would not like anything else than to finally settle and find piece after the uncertainty of temporary dwelling. Others want to change environment often to access new experiences and possibilities. The differences is what unites all living. The cities are places of possibilities and with a shift in mindset and changes in prioritization, cohabitation could be a part of a sustainable future.

Reflections on method and delimitations

Diving into a new and complex field such as biology and ecosystem question goes of course with a lot of insecurity and hardship. Delimitations is needed in order to be able to speculate more freely, hence the questions of the quality of habitation for certain species and how to arrange or plan for wild species becomes difficult. An interdisciplinary cooperation would increase the credibility and application of strategies.

The timeframe limited the number of iterations possible to make for the designed parts of the project. Hence, parts of the design that could have looked in different ways have a limited amount of exploration. The architectural appearance and design outcome is secondary and should be read as open for alterations.

As a method animated material have been explored, foremost in the initial parts of the project. Both due to the digital format of the thesis and as a way to investigate the animate as animals and plants are. It has been interesting and opened up new ways to use early sketches and integrate process material more actively.

Reflections on the outcome

This thesis does not claim to propose answers and solutions to biodiversity loss and the disconnection of humans and nature, but rather tries to explore the field theoretically and try to find and imagine platforms where negotiations could occur.

The result have been a collection of knowledge and understanding of issues for different species agencies. The project could be interpreted as a strategy for where and how to apply a larger scale of future building community districts.

The rewilder aspects are controversial as they oppose the economical logic of today but are here explored as a way to talk about the actual value of economy. The design project would have benefited by an extended time frame to connect more detailed to the theory.

From this point, this thesis collects a body of references and knowledge that together with the design project awakens thoughts on a new way of defining urban.

The outcome is not meant to be a realistic proposal to be applied today. Neither is the outcome a supposed utopia or dystopia, the design is not perhaps the wanted scenario. But it is possible to see a horizon of possibilities when opening up the scenario of seasonal dwelling related to negotiation.

Conclusions

Humans have such a great impact on the planet that a new geological era is measurable. Human behaviour and decisions have been compared to a force of nature and this should require an increased responsibility and ambition on a global scale to protect and preserve non-human interests. The increasing loss of species and depletion of habitats makes the ecosystems more vulnerable to climate changes. To do our best to maintain space for diversity in all parts of the construction of our common future society should be prioritized, this to make it more resilient so that the damages of the uncertain future and unpredictable changes does not becomes too critical. To do what we as humans can to preserve our fellow earthlings is the best safety net and insurance for our own best future.

To recognize architecture as a vital part of the landscape and humans as a vital part of the ecosystems is important for finding solutions where human exploitation is not necessarily on the expense of non-humans.

Connections

In a way is the best interspecies encounter the one you did not knew occurred. But there is a strength and possibility in when a meeting happens, that it creates a situation of contemplation (or action if there is a conflict). Visual spontaneous meetings with wild species can be supported by intersecting habitation structures. But it requires that all actors human/non-human can go on with their own business undisturbed for a major part of the important parts of their day. Domesticated species have a high potential of working as a bridge between humans and non-humans and increase attentiveness for the surroundings.

Small scale

The local is a phenomenon that have the potential to have an expanded meaning for the future. If a transition towards a more circular economy is a part of a negotiation with nature, then new demands on user-based knowledge, services, and small scale householding in polycentric communities would enrich the local neighborhoods. A lifestyle where citizens are more involved in repairing, maintaining, constructing, gardening etc. would probably create more solid social nets and respect and awareness of the values of features in everyday life.

An increased user-control of the surroundings in everyday life would require time from the ordinary work schedule, and the week would probably partially be divided into ordinary paid work and local unpaid maintaining work.

A settled agreement with the surrounding environment and nature lets humans be a part of the landscape. A guiltfree productive relationship with other species is the best way to start something new.

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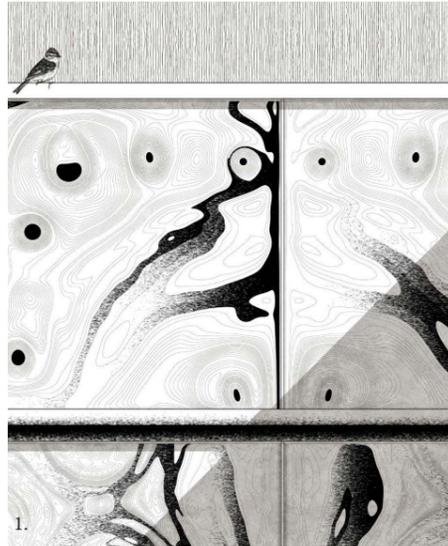
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A. Appendix

References and sketches



1. The Birds and The Bees,
Harrison Atelier.

2. Ducklands,
Cedric Price.



3. Perches for Humans and Birds,
Studio Ossidiana.

4. Variations on a Birdcage,
Studio Ossidiana.

References

projects of human-non-human interfaces



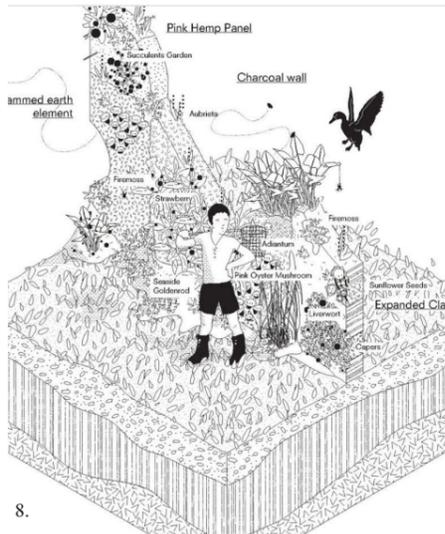
5. Beebox,
Harrison Atelier.



6. Pigeon tower,
Esfahan



7. Oyster-tecture,
SCAPE



8. The Garden of Intersections
Studio Ossidiana

References

projects of human-non-human interfaces



9. Pigs in the city, Stadsjord.
A couple of projects in Gothenburg where pigs have been released in urban housing areas to prepare the ground for urban farming.

10. City farms, England.
There are around 200 city and school farms and 1000 community gardens in the UK. They serve as both educational and recreational centers as well as a catalyst for social action.

11. Cow release in Sätorskogen, Stockholm.
One of a couple of examples of using farm animals in close to urban situation for fossil-free maintenance

12. Conservation grazing, Bulltoftaparken Malmö.
Cows have been used to graze and maintain the park close to densely populated urban areas.

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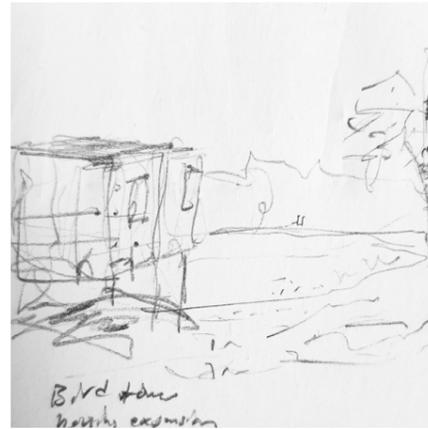
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Sketches



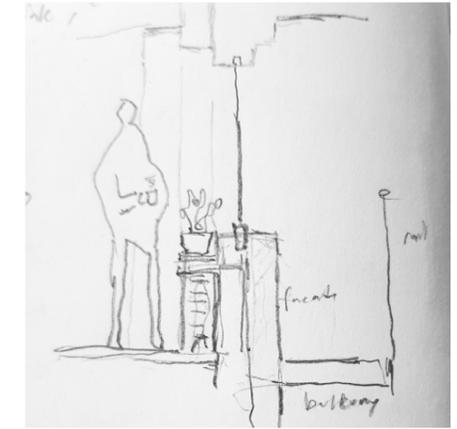
sketch, method iteration



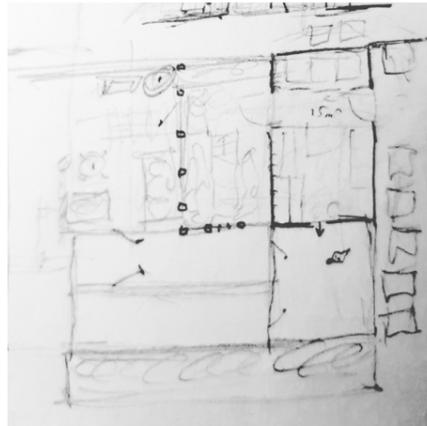
sketch, bird tower extension



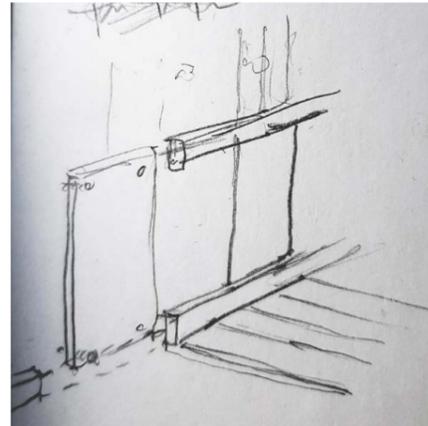
sketch, guano irrigation



sketch, window



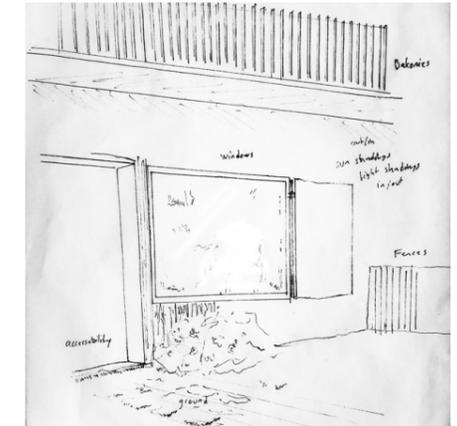
sketch, cycle house plan iteration



sketch, dismantle system



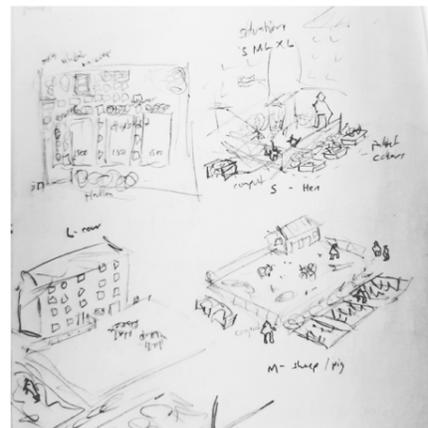
sketch, volume scenario



sketch, design elements



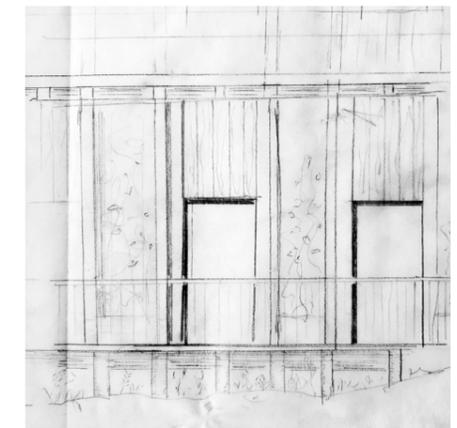
sketch, integrated bird house



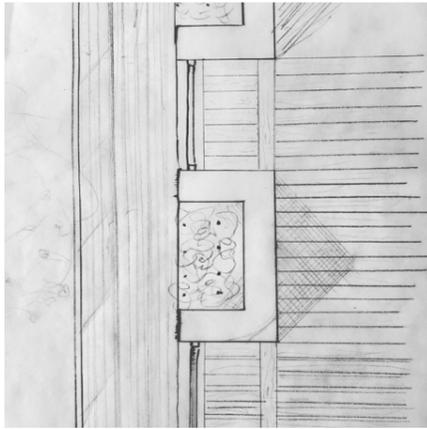
sketch, scales domesticated species



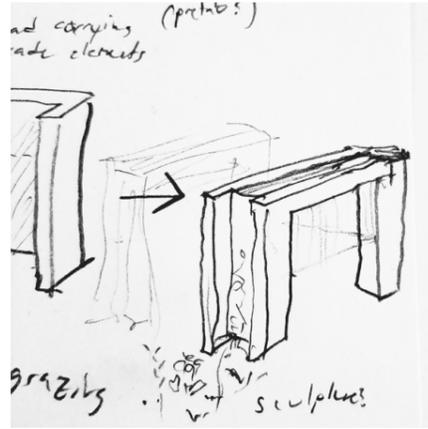
sketch, facade gardening



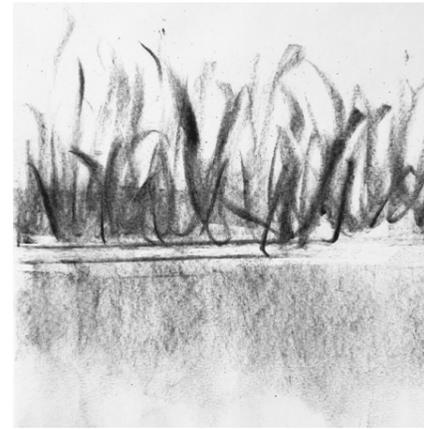
sketch, facade, ground



sketch, facade elements



sketch, structural element



sketch, reflection



sketch, roof



sketch, meadow entrance



sketch, ventilation



sketch, foundation



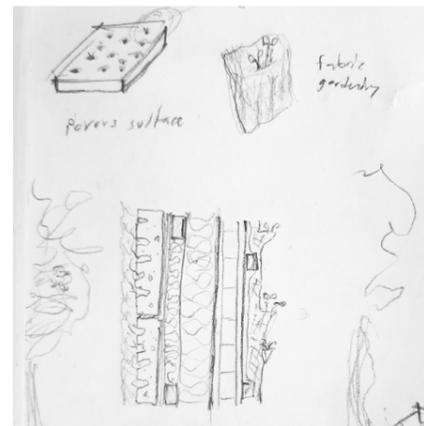
sketch, shieling, agroforestry



sketch, site visit



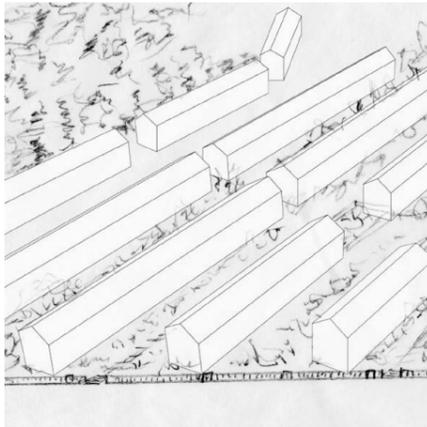
sketch, accessibility



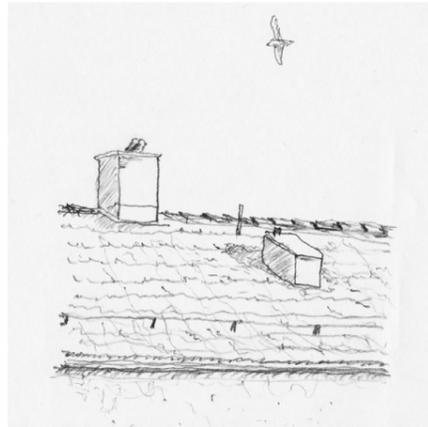
sketch, wall detail



sketch, volume structure



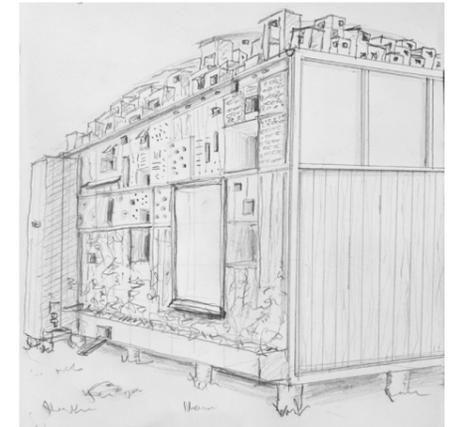
sketch, city block



sketch, birds on roof



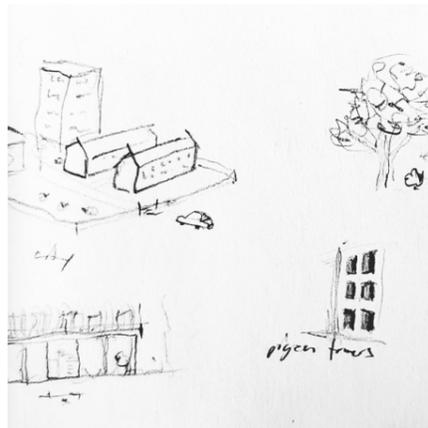
sketch, method



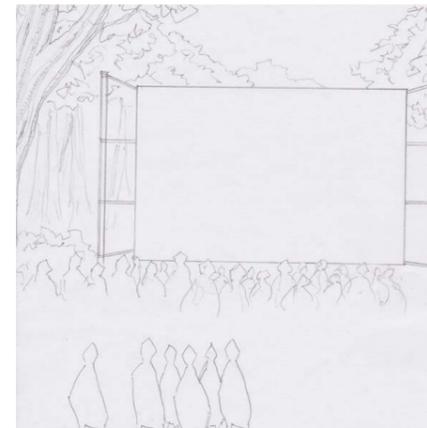
sketch, porous envelope



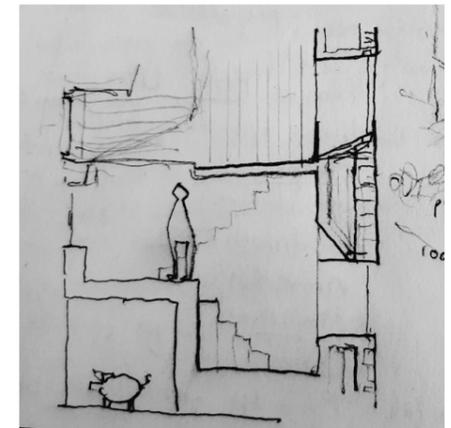
sketch, city-forest



sketch, road, pen block



sketch, concert



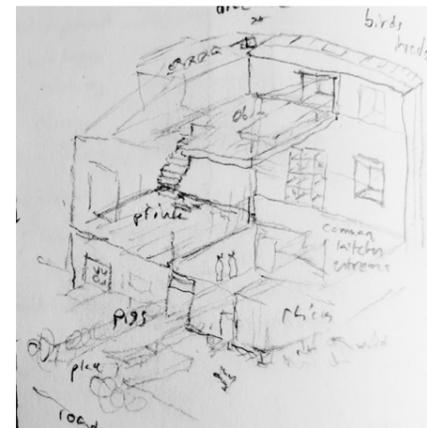
sketch, cohabitation



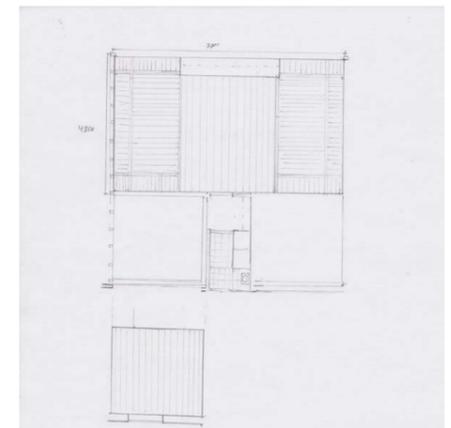
sketch, maintenance



sketch, shieling



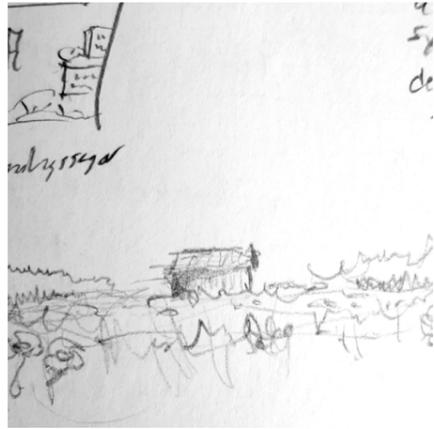
sketch, cohabitation overview



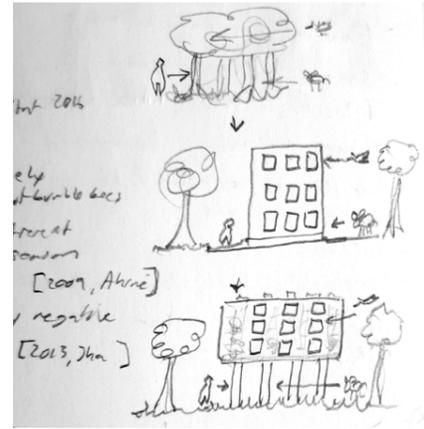
sketch, plan cohabitation



sketch, flower, annual plants as fashion



sketch, the summer house on meadow



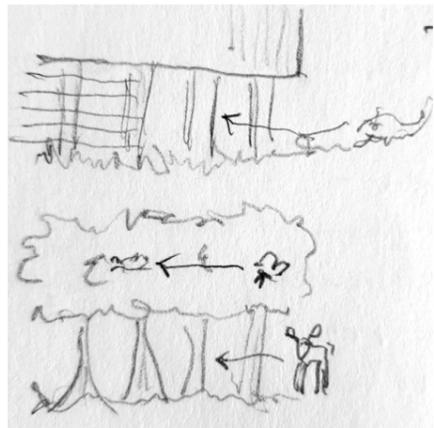
sketch, accessibility volume study



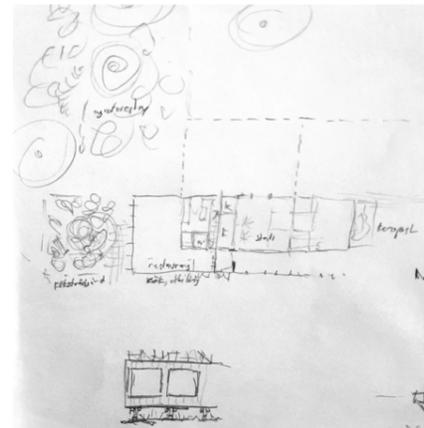
sketch, footprint and volume



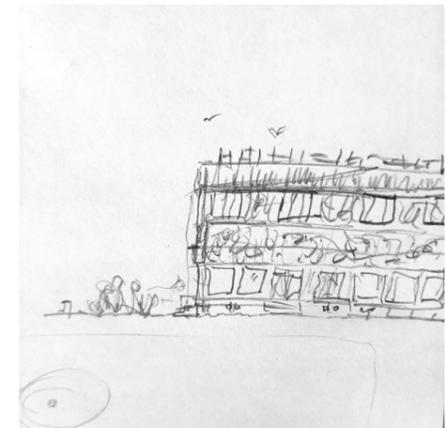
sketch, technology as part of ecosystem



sketch, accessibility on different levels



sketch, building program



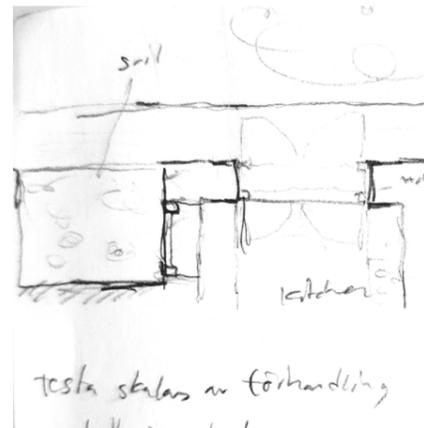
sketch, facade



sketch, the low footprint farm



sketch, skanstorget rewildered



sketch, interface relations



sketch, balcony



B. Appendix

Species

Jämtland Goat

Jämtget

Originally from Jämtland and is one of three allmoge goats in Sweden. They produce around 500 litre milk a year. It is an endangered species.

Food: Bushes, bush wood, bark

Habitat: They are well adapted to the nordic climate and survives on lean forestry grazing.

Area measures: Stable area minimum 1,5 m²/goat.



Helsinge sheep

Ovis aries domesticus

A landrace sheep from Helsingland. They are varied in color and markings and the rams have horns. They usually are friendly to their owners but can be reserved to strangers. They graze on bush wood rather than grass and serves well as care takers of forests.

Food: bush wood

Habitat: Meadows, forests

Area measures: Stable area minimum 1,5 m²/sheep, lean nature pasture 2-3 sheep/hectare, field pasture ca 20 sheep/hectare



Orust hen

Orusthöna

Native breeds were outtrived in the mid 20th century by imported hens from abroad. They are well adapted for the local climate but are not as competitive in egg- and meat production and therefore endangered.

Food: Omnivorous; worms, seeds, grains, grass, shells

Habitat: Used to be common on Orust and Tjörn, where they managed to live on the scarce food on rocks and cliffs. Hens prefer vegetation that protects them from sun, wind and predators. They also want sand to take a bath in.



Scania goose

Anserini

The heaviest landrace goose in Sweden. Generally calm and establishes a good relationship to the people they know. Alerts when strangers approach, guard ducks.

Food: Grass, grains, sprigs and leaves of herbs.

Habitat: The wild goose often builds its nest on islets or peninsulas next to the water. Preferably on a small hill with unobstructed views of the water. Also the tame Skånegås prefer access to a pond and keeping track of the surroundings.



North Swedish horse

Equus ferus caballus

The North Swedish horse was bred for forestry and agricultural work and can fill many purposes for humans. It is strong and rather small and generally has good health and longevity.

Food: Grass, hay, ensilage

Habitat: Open plains, lives in groups



Linderöd pig

Linderödssvin

Forest hogs were common in Sweden as tame pigs until the 20th century when their numbers rapidly decreased. One breed was kept in Skåne from which all of today's Linderödssvin has their heritage. It is the only Swedish landrace of pigs that remains.

Food: Omnivorous, roots, fruit, leaves, worms etc.

Habitat: The Linderödssvin is well adapted to the Nordic climate and lives outdoors all year round. During summer it needs access to a pond or water source for cooling.



Hedgehog

Erinaceinae

The hedgehog is spread across most parts of Europe. It can live in different areas and close to humans. It was red listed in Sweden 2020, and the reasons are decline in rural areas due to more homogeneous landscape, roadkills, maintenance of gardens, etc. They nest in piles of leaves or branches.

Food: Omnivorous. Insects, snails, mushrooms, grass roots, berries.

Habitat: Wide range of habitats. Woodlands, grasslands and parks or gardens close to human settlements.



Red Squirrel

Sciurus vulgaris

Greek skiouros, from skia 'shade' + oura 'tail'.

Food: Hazel nuts, seeds from spruce cones, seeds from pine cones.

Habitat: The only rodent that nests above the snow sheet. The nest is around 30 cm in diameter, often close to the tree trunk, 6-10 meters above the ground.



Badger

Meles meles

The badger lives in most parts of Sweden except in the fells and at Gotland. It prefers forests or spaces covered with trees and bushes but also appear in parks in cities. They live in setts under the ground and leaves it for searching for food. It is mostly just active during the night.

Food: Omnivorous. Worms, rats, insects, fruit, seeds.

Habitat: Wide range of habitats. Woodlands, grasslands and parks or gardens close to human settlements.



Red fox

Vulpes vulpes

The red fox is common all over Sweden. Active at dusk and night. Lives in setts under ground, often in a sett previously used by hares or badgers. They often live in the same setts for generations.

Food: Rodents, hares, birds, fruit, carcass.

Habitat: Wide range of habitats. Woodlands, grasslands, meadows, cities.



Wild bees
Solitary species

There are around 230 species of wild bees in Sweden, some of them are endangered. They are solitary and live alone, even though they often live close to other bees, compared to honey bees that live in hives and social constellations.

Food: Pollinators, some species specializes on different flowers.

Habitat: Sand, existing holes, reed roof, timber houses and barns. Dig narrow tunnels to live in.



Common swift
Apus apus

A common and wide spread bird, but that has declined in Sweden in the last 24 years and are now an endangered species.

Food: Insects, spiders. Hunts flying in the air.

Habitat: Lives underneath roofing tiles, cracks in walls or similar. Height between 6-30 meters. Couples stick together their whole lifes and can live in the same house for over 15 years.

They need open space in front of their homes, because they fly with high speed immediately into the house.



