Designing the unfamiliar
Exploring design practice and individuals’ interaction with artefacts and use

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Abstract

Designing the Unfamiliar is a master thesis project that explores how design practice would be able to adapt towards the necessary changes regarding artefacts and how long of a leap design could take in the notion of unfamiliarity. This is done by focusing on water consumption with connection to the climate and ecological emergency, and artefacts such as water distribution systems, and how the individual interacts with the unfamiliarity in both aesthetics and use.

The report contains three parts that go through the different processes of the project. The first part of the report starts with an introduction to the project, the background, and where it began. How we, humans, have become familiar with our way of life as we know it and all the materialistic artefacts surrounding us. By analyzing how design practices would be able to alter the way of working towards a sustainable future, the individual must be able to get used to the unfamiliar changes necessary in the process. This continues as an exploration of design practices that are artefact-aimed combined with how individuals might interact and accept the changes in products.

While analyzing the climate and ecological emergency, the result of our impact, and climate change, especially water scarcity, there is an exploration of what kind of water distributive systems are on the market now and how design is currently aimed towards sustainable alterations. By speculating on alternative water systems and comparing what is already on the market there is a way of researching how people would react to radical changes in artefacts, not only the artefact supplying the water but also the use of it. To be able to explore how design practices will adapt towards necessary changes regarding artefacts, there is a need to explore how the individual will react to the unfamiliarity of change. This leads to a deep dive into the unfamiliarity section, where exposure to the unfamiliar disrupts the comfort of the familiar. With speculation, reaching out to individuals, exploring behavior, and with the uncertainty of how it affects humans on a psychological level there is a question on the possible positive or negative impacts on changes that humans experience.

The second part of the report is the design process of the project, where the chain reaction towards change is explored by looking at the supply and demand and how individuals would have to become comfortable enough to either purchase something that is to them, unfamiliar, or to change the ways of using artefacts. This means that becoming aware of one's actions and positively altering the interactions would eventually lead the unfamiliar to become familiar. This is done by engaging with people and asking them questions to establish what people think of the unfamiliar and how or why they choose to interact, or not, with it. By alternative approaches, a set of illustrated prototype challenges are explained. Where individuals, both adults and children, pieces of knowledge, choices, and actions are meant to be
tested. During the design process, a conceptual intervention is explored where speculative futuristic water distributive systems are displayed for interaction purposes. This combined with the challenges previously mentioned and gathering of perception of behavior, comments, and notes from the chosen target group.

The third part of the report is an interpretation of the whole process, both the evaluation of the project, a description of the process, to critically evaluate, the result, and a discussion of the author’s thoughts.

Keywords

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Unfamiliar
Artefact
Climate and ecological emergency- CEE
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Part 1 Analysis Phase
1 Introduction

This project started with myself questioning the design practice, and how it relates to my education, interests, morals, and future. I started my journey as a designer when I applied for my bachelor’s in industrial design where the focus where mainly aimed at product design, working with different artefacts, and how to design these in the sense of sustainability. Early on we discussed climate change and how that is affecting the world, and why it is important to have that in mind when designing. I was excited and saw the importance of minding our resources, and important steps in the process to ensure that we are handling everything as sustainably as possible. During the studies, the focus was to look at it from an ecological perspective and to consider the environment while including different steps in the process of making, such as what resources to use, material choices, manufacturing methods, material waste, and the importance of ergonomics and inclusiveness.

The knowledge I gained during my master’s education shattered the worldview I had from a designer’s perspective. During the start of my master’s, I gained wider perspectives on sustainability, the issues of climate change, and the climate and ecological emergency we all experience in different ways. The knowledge nudged me in different directions and the realization that creating products in the view and perspective of the climate emergency has a great impact on the planet, even though I thought I learned to work in sustainable ways in my bachelor’s. The realization of the world we live in today, and the adaptation needed to change how we live opened my eyes to the moral struggle as a designer and how to “act” knowing that things I would design would also harm. This insight is what led me to start this project and to question both myself and the practice I have chosen. Who am I as a designer? What is a designer? And how could design contribute to a more sustainable future? Specifically, artefact-aimed design practices. Through this lens, questions and directions started to appear in my mind. Would it be possible to tie all of this together in some way and how should I start to approach the practice I studied, to meet the issues of the world regarding the climate and ecological emergency, while still having the opportunity to work in a way that I love? Creating, designing, and processing new innovative ideas.

We have become familiar with our way of life as we know it, the owning of the materialistic and the use of it. If that would be to change then I, we, need to adapt to the changes necessary for sustainability. We as individuals, the consumers, would have to get used to the unfamiliar changes that would be
worked towards for us to have a sustainable future, in the sense of appearance, mindset, aesthetics, consumption, and use. Design practices would need to alter the way of working towards a sustainable future and be mindful of the impacts it could have on the consumers, users, and target groups, including the non-human aspect. There is a need instead of designing for humans, to design for life.

During this project, there is an exploration conducted on how it is to work as a designer geared towards artefact-aimed design practice in the climate and ecological emergency, which will be referred to as CEE, and how changes toward a more sustainable future have already been altered or could adapt further in the many stages in the chain reaction needed to create this. Such as alterations in design practice how to think as a designer, and how manufacturing and consumption are seen both in practice but also by the individual. To be able to research how the individual would meet the alterations and how far and in which directions design practice would take, the notion of the familiar and unfamiliar aspects will be explored and taken into consideration when establishing a ground on which the evaluation of the project lands on. This is an important aspect as to how this would change the design industry and eventually a sustainable future, by meeting the unfamiliarity and speculation of future artefacts and use. The focus of the project and the subject that I am conducting and researching through the project is on one aspect of the effects of climate change, water scarcity, and the consumption of water in Swedish households. The research will be focused on water resources, water use, and water distribution systems as artefacts in the home, such as water taps, showers, and faucets amongst other everyday objects handling water in the household. By exploring, speculating, researching, and testing it out, this would become a process not only for myself and how to work as a designer, but how accepting these changes would be and how that could affect our future.

Speaking from my starting point and basing a lot of the insights from my view, looking at the societies, mindsets, and structures I decided to start by looking at the place which I am from, the Scandinavian country Sweden. Therefore, interaction with individuals within the project is based on people living in Sweden. Thus, I will go into important aspects of how artifacts and the sustainable and unsustainable notion of that are affected in other parts of the world, not only materialistic wise, but the change in the climate and the problematic climate emergency, related projects, and how some of these issues are met. However, mentioning societies and infrastructures, trends, consumption, and use, the context of the thesis will be based on Sweden if nothing else is mentioned, sight sources or related in the text. This is only my
preference of how I would like to build my thesis and with the available means I have access to. The project is a process itself and research on an ongoing question of how the outcomes would look for designers working for sustainability and how the change in artefacts would affect individuals, by designing the unfamiliar.

2 Consumption of water

2.1 Issues Regarding the CEE

The climate emergency is something I think most of us are familiar too and while there are many combined effects of climate change, water scarcity is one of the bigger ones, affected by floods, droughts, and extreme temperatures (Carella, M.A, et al. IPCC, 2022). Many are affected by severe water shortages and with the climate emergency escalating water scarcity there is a need for change.

According to the UN, water scarcity is also affected by demand, and the supply is afflicted by the growing population where many countries are failing to provide the infrastructure and water resources to meet the needs. There is also the issue of decreased quantity and quality of water (UN, 2021).

Many are affected by severe water shortages and with the climate emergency escalating water scarcity there is a need for change. Water conservation
projects and smarter water systems are designed and worked on in different parts of the world, K-water has created a smart-water management system to monitor South Korea’s supply by improving the efficiency of water management in the whole process of the water cycle which ranges from source to end users (K-Water, 2020). Another project is China’s “Sponge City” initiative in 2015 by replaced concrete pavements with wetlands, green rooftops, and rain gardens to be able to collect and re-use 70% of their rainwater (Roxburgh, 2017).

With some exceptions, we have had plenty of water most of the time in Sweden, but this has changed in the last couple of years in many places (2021). We use both the surface and groundwater in Sweden for our public drinking water supplies and private wells (et al., 2021). Of the combined effects of climate change and the increased competition for available water because there are more inhabitants, water scarcity could increase and therefore create more difficulties with the water supply. Currently, the water is reduced right before the snow melts in the northern part of Sweden and during the summers in the southern part (2023). In Sweden today we use on average 140 liters of water per person in the household a day (2021).

Fry argues that because of the consequences of the CEE, and the redistribution of the human population, the dispute over natural resources, especially water, will likely increase and the world we live in will become even more dangerous than it already is (Fry, 2019). With this in mind, there is action needed now, both in the design practices, from individuals and
manufacturers. Not to say, that there are no improvements in working toward a sustainable future, but the mindset, habits, and use would need to alter more for it to make a real change.

2.2 Artefacts- Water Distributive Systems

There are artefacts on the market to reduce water use, adapters to attach to your water tap or airflow systems in your shower head, where some manufacturers are referring to the flow rate issues and focus on designing reduction in water use (Hunter, 2015). They are often portrayed as recycling systems or the most efficient model, and while designing for sustainability, efficiency, and natural resources are crucial, most of them feel very familiar with the interaction aspect, but not to change the view on the use itself. It might prove to become counterproductive in the sense that the use of an adapter to the water tap to reduce water might as well trick or misguide the user into thinking that it would be okay to keep the water running for a longer time, therefore wasting more water than before.

New innovative designs on different water distributive systems could have some unfamiliarity to them by both aesthetics and through interacting with it, but mostly the use of water would be the same once you figure it out. An example of the “digital water tap” that I sketched shows familiar parts, such as touch to change settings as in something we are used to considering the technology surrounding us. Mobile water taps, and separators of the sink, which is existing in many of the designs of a kitchen sink already, but by combining all the various parts, the design becomes somewhat unfamiliar. You would recognize that this is something that supplies water, but it could take some getting used to. What it is lacking is the most crucial part, the use of water. This would only mean for the user to re-familiarize with the artefact itself without becoming aware or changing the behavior regarding the use of water.
We, humans, are used now to being surrounded by materialistic things such as artefacts and there is an alarming rate of how much humans are affecting the planet with our way of life (Caretta, M.A, et al. IPCC, 2022). The change of use of water needs not only to change by the management of water or new technologies to change the systems but also the lifestyles and consumptions of water and a need to motivate new behaviors regarding water distribution
systems and usage. Human-centered design has been a design process for decades, where the main purpose is to design for humans where the focus lies in creating enticing products that are made for a better life (LUTZ, 2022). The issue with the lifestyle that we have built for ourselves and the overconsumption that has been going on for years is that life is only improved by the businesses and the main target users of the artefacts, humans, with no intention of focusing on the life surrounding us, the non-human, or the future ahead.

Perhaps the recognition of wanting to have more feels familiar, the “want but not need” type of feeling that could be a common feeling that we share. We are surrounded by commercials, and with the buy more mindsets and trends circling it is not surprising that materialistic things are a part of our lives, not just only the necessity of things but things we just feel that we want in our life. Tony Fry states that design is a part of our world and a part of us where we take it for granted, where we just accept how things are designed and work in our favor (Fry, 2019).

It is not strange that our societies and the infrastructure we built are affecting us in that way, but it is also something that is contributing to the climate and ecological emergency. Almost everything, if not all, we manufacture has an impact on the climate and as it is seen today it is not sustainable if we continue this path a sustainable future is far from happening. Why not just stop mass-manufacture artefacts at all? Problem solved, nothing to worry about, right? Unfortunately, we have built our way of living this way and a whole lot of societies and infrastructures depend on this. By only looking at design as adding value to artefacts and how it is consumed, Fry argues that there is a very restricted way of seeing and understanding what design is and does. “The very way design is reduced and presented in relation to bringing goods into being fails to grasp designs ambiguity as an agent of both creation and destruction.” (Fry, 2019).

2.3 Water Usage and Consumption

We must make some changes to the way of our lives, not just only to save ourselves and the world we are living in, but also for the other species, ecosystems, and natural environments that we also depend upon (Caretta, M.A, et al. IPCC, 2022).

Most people expect to have access to clean water and we take for granted that clean drinking water is available at all times (et al., 2021). Looking mostly at Western societies, but foremost Sweden. There are some radical changes needed when it comes to the consumption of water. Fry argues that
it is not a matter of finding solutions. The challenges we are facing are huge and solution-wise there are possibilities for us to face some of these issues in both the short and the long run, but the crucial and most important thing is for us to find alternative ways to adapt to the changed circumstances (Fry, 2019). By adapting to the situation regarding the CEE, which we are all experiencing differently but still all affected by, we would be able to face the challenges both as designers, consumers, and individuals.

To break the familiarity of artefacts, the distribution of water, and the use by designing the unfamiliar in artefacts and to change the interaction itself and how that would affect the view on water use and design for a sustainable future regarding water. How accepting would people be of radical changes in not only the artefact supplying water but the use of water that would change with it?
3 Design VS Use

The questions I am asking myself throughout this project are connected,

-How will design practice evolve towards necessary changes regarding artefacts?

-How long of a leap could design take in the notion of unfamiliarity?

-How will the individual react to the unfamiliarity of change in both aesthetics and use and could that change the design industry?

How could design contribute to a more sustainable future? Specifically, artefact-aimed design practices. By exploring how design practices will adapt toward the necessary changes regarding artefacts, there is a need to explore how the individual will react to the unfamiliarity of change. An individual might be okay with changing some actions connected to the use of water with the help of familiar artefacts, as in this example (fig. 4) where an attachable water can is to be assembled in the shower and turned to face the cold water that you often wait out before it gets hot. You could then turn the water can to the side and use the water later to water the plants. But by being able to change design practice towards more sustainable directions, the designs would have to be not only of the design itself, but all the notion of the interaction, and alternative ways of using our resources. Therefore, the water can in the shower could be compared to what is already on the market today, it helps reduce water use but not changing the view on the use itself. One could argue that the person using this design does not feel the need to water the plants at the time, or it feels unnecessary to save the water for a later time, because the task, of watering the plants, has just been done, the person would just ignore the interaction with the water can and let the cold water be running as always.
By altering our way of life and becoming more aware of how we treat the world around us, Fry argues that it is all decisive and a way of changing the outcomes of our future, to sustain our life and being on this planet we must be conscious of our actions and how that will affect our life over time (Fry, 2019).
To be able to create some familiarity with the changes needed in design practice, we humans need first to become familiar with the use and to change our habits of unsustainable living. If only the design changes whereas some unfamiliarity is expected, the use and habit would remain the same. The future cannot fully be predicted, nor can we say what will happen, but that is not a reason to be ignorant of the facts being presented to us, both in scientific reports that have statistics and measures of the harm that we have caused the environment surrounding us, and the climate change causing natural disasters worldwide. Even if we feel that we are not directly affected, or experience or witness these events, Fry argues that this does not take away our responsibility of precautionary action, being that it is exactly the actions we choose are the result of what we bring into being (Fry, 2019). The world as we know it today is the direct impact of our choices, therefore, the awareness of one’s individual actions needs to be focused on.

Would the perception change if you could see the amount of water wasted, the time used, and the money spent as seen in this example sketch? Would you then treat the water you are using, more as an income and plan of how much you could afford or how much you would afford to waste? If you could be aware of your actions toward water consumption, would that change your behavior? (fig. 5)
Figure 5. Unfamiliar showering. Illustration by author.
4 The Unfamiliar

4.1 The Focus Point of Unfamiliarity in the Project

To contribute to a better understanding of how design practices can change towards more innovative design proposals regarding a sustainable future, and how interactions, in the form of familiar and unfamiliar, could have an impact on the possibilities of changing that. How accepting would people be towards radical changes in artefact-aimed design practices and the result it would give facing a sustainable future? In the stages of change, how long of a leap could you take between the familiar and the unfamiliar in artefacts?

By exploring artefacts on the market that have the purpose of reducing water usage, you get a sense of where the leap in design is now as seen in innovative objects created for sustaining and encouraging awareness of our natural resources. The designs on the market, some of them which I mentioned earlier, the adapter for your water tap where the purpose is to reduce water flow as an example, are familiar to us in the notion of artefacts. It is recognizable shapes and materials, and the interaction and use of the artefacts are not something new to us. It is in this familiarity of artefacts surrounding us, the habits, our lifestyle, and trends that would affect how we would relate to something we have never seen before or are not used to.

If we would get the choice between purchasing a familiar water distributive system, such as a water tap as seen in many homes, or an unfamiliar water tap that has the function of not only reducing water but also changing the whole idea of using water itself, the choice would most likely go towards the comfort of the recognizable. This is where a choice of our actions would emerge, to interact with an artefact that is unfamiliar to us, both in the sense of aesthetics and use, and it would be something that would create some unease in the sense that it disrupts the comfort of the familiar. Therefore, it is interesting to speculate and explore if interaction with unfamiliar artefacts, where the consumption and use are aimed towards sustaining the world we live in, and if that would have some consequences in the process of working for a sustainable future. To challenge the view on innovative design proposals on artefacts in a speculative way while creating awareness of the use and purpose of daily artefacts, and how we humans choose to act and interact with things, without the sense of the affecting impact most of our creations and our actions have on the environment, ecosystems, and non-humans.
Solving this takes collective effort, shifting collective behavior which would require individual sacrifices. With the use of speculation, reaching out to individuals, and exploring behavior as a part of the process of seeing interactions in artefacts and the notion of familiar and unfamiliar in a different perspective, there is a way of determining or getting a sense of how changing design practices, aimed mostly towards artefacts, could have either a positive or negative impact of the necessary changes of designing things that work for life and not against it. By establishing a ground in the aspect of how the unfamiliar can become the familiar, a lot of important points can be touched upon, and essential highlights on the issue at hand, but not solved in its entirety because that would require a shift in many systems, such as bigger companies, politics, and our way of life in general which would take time to shift.

A change, even a small one, could trigger the possibility of changing the bigger picture. Analyzing the unfamiliar and how the reactions towards it could alter perspectives on design and use it, would benefit the exploration of how to work as a designer aimed towards artefacts, that are sustainable and innovative, and so that companies would be able to alter their manufacturing process because it is accepted and most of all welcomed by consumers. If the unfamiliar becomes familiar, the supply, as in companies, would have to accommodate the demand, as in consumers. From the ecological perspective, the way of changing artefacts in the foundation of both how the individual will react and how design practice could change, the goal would be that the environment is not negatively affected, and in that sense, we wouldn’t be either, looking at how climate change and the destructions of important natural aspects affects everyone’s way of life, and wellbeing, human and non-human.

By looking at already existing artefacts to innovative and speculative ones and the interactions from different points of view, a picture of the breaking points emerges as in where knowledge, reasoning, and thinking process could either lead to a change in the chain of unsustainability or a continuation of the same. I could argue that the context-sensitive factor would determine whether the desired effect of change would take place, meaning that we are responding, behaving, or interpreting differently depending on the circumstances given to us.
4.2 Why is it unfamiliar?

In this project, by designing artefacts that are unfamiliar to the user there is an uncertainty of how the encounter with unfamiliarity will play out. By looking at types of interactions and how they affect humans on a psychological level, there is a science that points towards unease and cognitive conflict in interaction with something unfamiliar (Spackman et al., 2016). Humans tend to feel safe with the familiar and reserved and hesitant with the unfamiliar, but also in some cases spark interest and it will become a way a process of learning, a motivation to re-familiarize.

Humans have a need for knowledge which is related to understanding something or learning, this is connected to the aesthetic emotions and is also called “knowledge instinct” (Schoeller et al., 2018). But as mammals, we also have the trait of being ready to react when met with an event or a thing that we have never encountered before. By encountering distinctive unfamiliar events or things we do not understand it provokes activity in our brain which leads to autonomic responses (Kagan, J., 1997). The part of our brain, the hippocampus, deeply embedded in our head with the major role of memory and learning, detects the discrepant events you are faced with (Anand & Dhikav, 2012). The amygdala, another part of our brain that is our core for processing fearful and threatening stimuli connects to the projections from the hippocampus and therefore creates neural structures in which we respond to the unfamiliar (Baxter & Croxson, 2012). Various amounts of hormones and other things such as dopamine and cortisol as examples establish how intensely you will react to the unfamiliar, and a lot of things influence how a person would react to the same thing as another person would encounter (Kagan, J., 1997).

We are used to certain things in our lives, objects, events, and functions amongst others. There is a habit of interacting with things that we are familiar with and by things we unconsciously are not feeling threatened by, this puts us automatically in a positive affective state. This is also called the “mere exposure effect”, meaning that by being encountered by repeated exposure to something it will be attached to stimuli, and we will raise unconscious preference for the experience (Zajonc, R. B., 2001).

The interaction with something unfamiliar can differentiate on how the person encountering it will react. By recapping previous facts about how our brain works with the confrontation of the unfamiliar a set of possible actions and responses can be established. At first, to face something that you have never seen before there could be two directions on a spectrum. Instead of depending on the rational choice, which we in some way have control over,
the conscious part of us. The more primitive part of our brain, the unconscious part, is what can lead us to the feeling of having specific preferences. There is no positive or negative reinforcement for the individual in this state, the exposure to something unfamiliar simply affects us depending on exposure and previous experiences. The exposure and the unconscious reaction make stimulus accessible to our sensory receptors, in such a subconscious state that the individual is not aware of it happening (Zajonc, R. B., 2001).

This is where rational choice, knowledge, and common thought could be used to have an open mind towards the unfamiliar, to become more curious, adapt, and meet the uncomfortable. The same goes with everyday events happening, we all have experienced it sometime during our life, to have to face something that feels uncomfortable, scary, and hesitant. Driving a car for the first time for example, you might be used to seeing vehicles and know the concept of driving, but you have never experienced it for real until the first time you sit behind the wheel. Getting a driver's license might seem scary and unfamiliar at first, but in the end, it’s the choice of facing that uncomfortable feeling to reach the goal of eventually having the license and the freedom of a car. It eventually comes down to the individual’s choice and actions. To become more aware of our actions and habits that are affecting our planet might not feel as important or maybe that close as the example of the driver's license, in the end, a driver’s license and a car are more strived towards comfort and convenience while living more sustainable, thinking of the climate might disrupt convenience living and alter the comfort and familiar. This is where the awareness of one’s actions, rational choices, and knowledge must take a bigger place to be able to create the impact needed, the mere exposure effect for it to make the unfamiliar become familiar. To alter the relation and expectation of our way of living for it to become sustainable.

Imagine if a specific amount of water you could use for a day was allotted to you and everyone else, and the only way for you to access your water is by using your fingerprints to identify yourself and thereafter see the amount of water you have left and how much you would like to spend (fig. 6). It is not only the artefacts that we have been accustomed to and expect certain behaviors or reactions from it is also the resources and the use of them that are something we have established a certain relation to and expectation.
4.3 Familiarity with expectations

Seen from our, human, perception of the world we have established some sort of familiarity with artefacts surrounding everyday life as we know it, as seen from Western societies where this type of living is usually of the ordinary to expect. Fry argues that we are allowing humanity a higher standard of living because of our lack of recognition that our unsustainable ways of living are part of our nature. We blindly trust in technology and science to save the planet and our resources without taking any responsibility for the fact that we and nature are all one, and our choices and our way of life are impacting the rest (Fry, 2019).

In households, we have gotten used to being enclosed with artefacts that play important roles in the idea of well-being or convenient living, which we strive for. Some are seen as more essential for our way of living or an idea of
what is seen as necessary in our homes. Kitchen supplies to be able to prepare our food, such as a stove and an oven. The fridge and refrigerator contain food fresh for long-term storage, which seems to us as a specific part of your home that is undoubtedly necessary to have access to. Electricity plays a big part in how the home and artefacts would be able to function at all, and of course water supply. The water distribution systems that are normally accessed in the kitchen with the water tap and the sink, make it possible to do the dishes or fill a glass of water to quench the thirst. There might even be a dishwasher assembled, lucky you, and let us not forget the toilet. A water tap with a faucet and a toilet that, hopefully, you could flush. All of this described is very familiar even in written form and we know how they work. Even if a water tap in a public restroom would be different from one that you are used to, the basic knowledge of how it works and the behavior surrounding it would make you figure it out.

Martín Ávila argues that “hospitality and hostility constitute each other by defining each other’s limits...”. Which compared to this project could be translated into familiarity and unfamiliarity which both is weighed by each other, by the individual's experience, reaction, and eventually choice. Ávila continues to argue that “foreignness however manifests itself in different ways and degrees”. “They are all forms of relation, in which the knowledge (or lack of it) of the foreign agent, of its presence, opens up to the possibility a re-cognition of hospitality-hostility.” (Ávila, 2012). The unfamiliarity that might be experienced in both the use and the design on account of either the knowledge, norms, or habits could be met with unease and therefore there is a need to recognize one’s actions.

We are so familiar with the access to water and the use of these artifacts that the consumption of water and the waste of it also becomes a familiar part of it. When suddenly, water does not flow through the water tap the feeling becomes unfamiliar with how the artefact behaves. Through the behavior and act of turning the tap on, you would expect water to come. This is something that you might have experienced before and interacted with, a pipe leak nearby disabling water resources to housing nearby. So, the event itself might not be that unfamiliar to you but the interaction with the water tap and the result is not what you expected because you are familiar with how it works and normally should work.

It is not only the artefacts that we have been accustomed to and expect certain behaviors or reactions from it is also the resources and the use of them that are something we have established a certain relation to and expectation.
Martin Ávila describes behavior related to hospitality and that the sharing itself of knowledge, in my case interacting with water distribution systems, would be a set of implicit or explicit signs to be communicated.

“That is, the designing of an artefact which is in harmony with a range of predictable human behavior… the act of sharing might lead to the experience of hospitality or hostility” (Ávila, 2012).

By sharing our knowledge and lived experiences about what for us is seen as familiar as opposed to one that sees it as unfamiliar, the reaction might shift for the person feeling hesitant because someone is sharing experience and comfort surrounding the uncomfortable. This could be regarding both the artefact itself or the habits of use or consumption that one is pointing out, sharing the awareness of one’s actions. By working on designing various versions of artefacts connected to the use of water there are interesting points in this and how the unfamiliarity might be an obstacle to conquer in the sense of designing for the future.

Martín Ávila writes about framing and the relations to artefacts that “informs” us, constitute, and affect our modes of engagement with and in each environment (Ávila, 2012). By encouraging change in the individuals’
actions, new innovative ideas of unfamiliar use of water could bring in “hostility” or unease towards the unfamiliar within the use and not only the design itself. How we choose to interact with something unfamiliar comes down to whether we can accept that our expectations might not be met.
Part 2 Design Process
5 Chain Reaction Towards Change

It comes back to one of the questions I am asking, how will the individual react to the unfamiliarity of change in both esthetics, use, and consumption and could that change the design industry?

To be able to make a change in the design practice and how it could evolve towards the necessary changes, it is connected to the consumers and the change of use itself would need to be adapted to and become familiarized with. Individuals must change expectations, therefore the will to adapt to new innovative designs where the purpose would be to make a change, in our lives, our way of living, and a way of using resources sustainably, would not feel as challenging because the thoughts, actions, and norms surrounding use or consuming would already be familiar.

It will become a question of supply and demand and whether the supply would be familiar enough for people to feel comfortable purchasing or changing the ways of using the new artefacts in their homes. The design practices beg to be redirected and transformed, as Tony Fry argues, though unsustainable design activity will continue, the transformation needs to move through different levels (Fry, 2019). Not only in the different design practices but in every part of the chain.

If the market introduces new innovative designs that aren’t just unfamiliar in the design, but also the use, the unfamiliarity could result in uncertainty about the product and the demand would be pointed toward the safe familiar. Fry argues that for it to be possible for design to change, and the practice of designing, the designer would have to become another kind of designer. In which design could lead to a directional force in enacting and enabling other practices (Fry, 2019). The design could play a huge part in the chain reaction of change, to be able to alter the ways how we live and our relations to artefacts, both the consumption and the interaction, as in use. Though, some improvements are made in designing artefacts and what we can see on the market, Fry argues that it is not enough, even though it is significant it does not contribute enough to sustainability. The focus on sustainability lies on the artefact itself, such as how well it can be recycled, material choices, and the efficiency of the energy, while it should be focused on the relations to the artefact. “The task thus becomes the designing of the object of design so that, in turn, can design sustaining ‘relations and effects’, to which form and function are subordinate.” (Fry, 2019) It starts with the individual, me, you,
to become aware of our actions, and the habits surrounding the use of our resources, for it to eventually become something familiar to us. We would be united in the sense of how water could be used more sustainably for it to proceed and become a norm for the world. By becoming aware of our knowledge and the facts presented to us, should determine our actions, as Ávila states numerous times in “Devices”.

“It is impossible to invent a pure, innocent object, just as there is no innocent human being. It is only through acknowledged guilt that progress is possible.”

“The sacrificial however, should be understood as effort rather than renouncement” “But also, whatever choice we make demands an effort: a social and psychological investment to achieve desired forms of knowledge and behaviour.” (Ávila, 2012)

Circling back to one of the questions again, the design practice would need to become aware of how long a leap it could take between the familiar and the unfamiliar so as not to take steps that could lead to resentment towards new innovative ideas. This is something that has many parts to the chain reaction needed for the development, where manufacturers, the use, and the design, would need to alter the ways of meeting the demand and to make sure that the inclusivity in the design not only is made for humans but also regarding our planet, our natural resources.

Therefore, I decided to start digging deeper into the demand category, as in individuals who would be the consumers and make the choices of what is seen as “purchasable”. By categorizing and trying to establish a ground of the familiar vs the unfamiliar aspect, I could with the help of questions figure out and do some research on where individuals' preferences lie and their thoughts on the unfamiliar.

5.1 Approach with Questions

It comes down to the individual to be able to change habit and behavior so that it will become familiarized evolve in society and become normalized. By working on designing various versions of artefacts connected to the use of water there are interesting points in this and how the unfamiliarity might be an obstacle to conquer in the sense of designing for the future. By asking a handful of people; what would be the unfamiliar use of water for you, in regards to saving water?
The various answers showed that most people are aware of how they could save water by changing their actions, but the thought of using water that way is unfamiliar.

People are aware of how they could save water, but the actions to do so feel unfamiliar. From setting a timer for when you shower, never letting the water be running while brushing your teeth, to using a set amount of water when doing the dishes are things that people know, but do not do. The habits, expectations, and norms need to shift to re-familiarize by actively trying out different actions or becoming more aware of the habits and expectations to be able to use water in more alternative sustainable ways.

5.2 Answers to the Second Question
I also asked what people think of what words come up in their mind when thinking of unfamiliar artefacts (objects, products, things) and the responses were very different, some of the words mentioned were weird, inconvenient, curious, and stressful. During the research on the individuals and the answers brought to me, it was clear that many were conscious of their actions and aware of what they could do when they thought about it. By giving individuals examples of tasks that could be done, in a simple way to meet the more sustainable actions, I figured that it would provide a notch in the right direction and connect the conscious knowing towards the active doing.
6 Alternative Approaches

By changing the conscious knowing towards the active doing, I decided to choose two sets of target groups in these illustrated prototypes. The first one is directed at adults, doing household tasks. The second prototype was aimed at children in elementary school, helping with household tasks and additional challenges. This approach aims to expose individuals to alternative actions and by doing them enable other habits and expectations, adding more knowledge and insight into one’s own choices.

6.1 First Challenge

Throughout the project and while exploring, speculating, and researching, while trying to answer the questions and find connections, I created a challenge to save water and become more aware of the habits and expectations in daily life for adults. On the front page, there is information about water consumption and some facts about how much water you waste by doing things in the household, also three questions to start the thinking process of how you use water, and an explanation of the challenge.
Saving water

In Sweden, we have had most of the time, with some exceptions, plenty of water, but this has changed in the last couple of years in many places. We use both the surface and groundwater in Sweden for our public drinking water supplies and private wells. Today it occurs reduced water flows during the summer in southern Sweden and right before the snow melts in northern Sweden (2023). Water scarcity today could increase due to the combined effects of climate change, more inhabitants and increased competition for available water. In Sweden today we use on average 140 litres of water per person in the household a day (2024).

How much water do you use per day?


Are there artefacts (objects, products) in your home that could help you save water?


Could your actions change somehow and therefore save more water?


1 minute use from the faucet in bathroom is 6 litres water.
Bathting in a bathtub is 150 litres of water.
Showering for 3 minutes is 36 litres of water.
Showering for 10 minutes is 120 litres of water.
0,2 litres of water per second while showering (in general).
Doing hand dishes with the water running is 36 litres of water.
Doing hand dishes with a dish tub is 5-10 litres of water.
Using the dishwasher is 15 litres of water.
Using the washing machine is 50 litres of water.

(2022)

Challenge yourself

Test out your habits of using water in your home by flipping the paper. Count points during one day and see which score you get. Do you need to change your water consumption or do you have it all figured out? Try it out! The higher the score, the more sustainable is the water usage.

References:
[1](https://www.axelrod.com/slide-show-water/linnaeus UNIVERSITY/savedwater)
[2](https://www.axelrod.com/slide-show-water/linnaeus UNIVERSITY/savedwater)
[3](https://www.axelrod.com/slide-show-water/linnaeus UNIVERSITY/savedwater)

Figure 9. First page on the first challenge. Illustration by the author.

The challenge is on the backside of the paper, where six questions of tasks are asked, and by answering how you performed that task in the household for (say a week) you collect points, the higher the point the more you have saved water.
I intended to establish a collaboration with Mot Nya Höjder, Region Kronoberg to make a similar challenge as the first one but aimed towards children in elementary school, unfortunately, the collaboration did not happen, but this is my prototype and how the project would have proceeded in that direction. I wanted to have some alternative ways of using water on the front page, not necessarily logical, but fun and intriguing, making the target group get some ideas for one of the challenges in the sheet.

### 6.2 Second Challenge

<table>
<thead>
<tr>
<th>Points</th>
<th>6</th>
<th>Try again</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>Okay</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

- **Shower** less than 3 min: 5 p
- **Shower** less than 10 min: 4 p
- **Shower** more than 10 min: 3 p
- **Shower** more than 20 min: 2 p
- **Shower** more than 30 min: 1 p

- **Hand washing dishes** with dishub and saved up water: 5 p
- **Hand washing dishes** with dishub, no water running: 4 p
- **Hand washing dishes** with no dishub, water running occasionally: 3 p
- **Hand washing dishes** with no dishub, water running lowflow: 2 p
- **Hand washing dishes** with no dishub, water running highflow: 1 p

- **(If dishwasher is used)**
  - Dishwasher full machine ECO program: 5 p
  - Dishwasher full machine no ECO program: 4 p
  - Dishwasher half machine ECO program: 3 p
  - Dishwasher half machine no ECO program: 2 p
  - Dishwasher below half machine no ECO program: 1 p

- **(Using the faucet in bathroom for "tasks" such as toothbrushing, washing hands/face)**
  - Saved water from before for doing tasks: 5 p
  - Turn off water while doing tasks: 4 p
  - Turn off water occasionally while doing tasks: 3 p
  - Keep the water running/lowflow while doing tasks: 2 p
  - Keep the water running while preparing and doing tasks: 1 p

- **(If bathtub is used)**
  - Bathing in bathtub less than once a month: 5 p
  - Bathing in bathtub once a month: 4 p
  - Bathing in bathtub every third week: 3 p
  - Bathing in bathtub once every week: 2 p
  - Bathing in bathtub everyday: 1 p

- **Washing machine** full ECO program: 5 p
- **Washing machine** full, no ECO program: 4 p
- **Washing machine** half ECO program: 3 p
- **Washing machine** half, no ECO program: 2 p
- **Washing machine** less than half, no ECO program: 1 p

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Figure 10. The backside of the first challenge. Illustration by the author.
The first challenge would be conducted similarly to the first challenge I made but more targeted toward children. It would still be an informative part so they could take in knowledge about water consumption and the issues of the climate. The challenge wouldn’t be about doing ordinary tasks in the home, but more aimed towards missions they would try to perform during one week. When the mission is done they can tick that box and count the points.
they have collected in the end. On the opposite side, there is a challenge where they are encouraged to imagine an alternative way of using water sustainably and to either tell a story about this or draw a picture. Mot Nya Höjder has collaborations and competitions in their challenges, and by connecting this challenge to them by using a QR-code where children could upload their contribution, my idea was that someone could win a prize for the whole class, an educational class trip to a hydroelectric plant for example, including some fun activities regarding water.

6.3 Different Approach to Interactions

By discussing and reflecting upon the challenges I made and connecting them to designing the unfamiliar, there is more of an educational aspect surrounding the challenges. The change would start with the individuals familiarizing themselves with other habits on use. The reason the challenge would be more fitted towards children is connected to the expectation of the world that grown-ups have already established habits, making it more difficult for change. In that aspect, where the first challenge is more aimed towards adults, you could argue that the challenge would feel unfamiliar for people leaning towards the hesitant and unsure spectrum, where comfort and convenience take up most space. For people who are more open-minded and curious, it could perhaps be rewarding and fun. With children often being more open-minded and curious, they are the better target group for introducing new ways of thinking. Children are our future, and with them learning, imagining, and projecting their experiences through the challenge to people they know, and their families while carrying it with them, the future might not feel as unfamiliar.

While the challenges are a good starting point, there is a need to bring the individuals closer to interactions with the unfamiliar. To determine how design practice could make a change there is a need to investigate the individual’s reaction to it. By doing the challenges, there is a start of encouraging changed behavioral patterns and creating more awareness. By letting individuals experience unfamiliarity firsthand, a set of experiential events are taking place, where the mere exposure effect comes in handy. It enables individuals to take their own experience with them and live it not just only imagine it, and by being exposed to it once or more creates preference and familiarity. As Ávila describes “In evolutionary terms, the structural coupling of humans within environments evidences a capacity to adapt to alternative conditions without precedence for mammals. Humans’ semiotic capacity and strength provide a possibility to overcome challenges.” (Ávila, 2012)
7 Familiarize Unfamiliar Interaction

Instead of imagining unfamiliar artefacts, I would argue that it would be easier to interact and experience something unfamiliar personally, as a water distributive system where you could try it out yourself. This is the next stage of the project, where I have created a conceptual intervention that is combined and based on the concept of the challenges. Individuals would experience different speculative artefacts based on my categorization with the combined familiar and unfamiliar and would be able to become more aware of their habits using water. Furthermore, I would argue that an intervention would be more educated as a learning experience, where the experiential impact could create more action-based change.

Ávila discusses the act, reaction, or interaction with artefacts as something that relates to the individual's earlier experienced interactions and how the outcome is determined by that and the expectation the person has, facing the artefact (Ávila, 2012). This connection to expectation, as mentioned earlier in the report, how we relate or expect an artefact to behave, or function is another point in why an intervention would be necessary. This would make it possible for an individual to shift their knowledge and to alter their expectation of the use of water.

By conducting an intervention where speculative alternative artefacts are interacted with, Anthony Dunne and Fiona Raby state that “The best speculative designs do more than communicate; they suggest possible uses, interactions, and behaviours not always obvious at a quick glance.” (Dunne & Raby, 2013).

The conceptual intervention would use speculative artefacts, as in installations for the audience to interact with. To be able to make the message or the point of the intervention, which is to alter the mindset of conscious knowing to active doing, while at the same time gathering research and information on the interactions towards the unfamiliar to create a base for how design practice could meet the issues with the unfamiliar. There is a need to both let the audience interact with the artefacts and for the designer to engage with the audience, as Bruce M. Tharp and Stephanie M. Tharp argue,
“Designers can engage with the audience during exposure and use to ensure or enhance communication, but the object itself can be a focus as well. This can be understood in terms of alteration or adaptation. The designer can change aspects of the artifact(s) in response to the audiences particular use of the product-to improve it—or this can be part of a deployment plan occurring in stages.” (Tharp & Tharp, 2018)

Therefore, a combination with the challenges would be one way to guide the audience through the intervention, both so they can experience the artefacts themselves firsthand and to try out some of the challenges. By asking different individuals who are interacting and listening to the comments, some research on both the response in the answers and comments can at a later stage be gathered and researched.

7.1 Conceptual Intervention- Unfamiliar Interactions

I named the conceptual intervention “Unfamiliar Interactions” and would have the target group of children in elementary school, or families that could experience it together. Because this is a conceptual intervention, the specific location of the intervention is not decided, but it would be optimal for an open-for-all facility, such as a library. The intervention would be commercialized through social media and posters at the chosen location with time, date, and what to expect from visiting.

There would be four stations, with the first three being the interaction of the different artefacts, and the fourth to be able to experience and try some of the challenges. The challenges would also be able to be brought home as pamphlets for trying out later or at home.

The first artefact is a combination of familiar design with unfamiliar use as seen below. There is a familiar water tap and sink with a digital clock that is counting seconds, measuring the use of water that stops the water shortly after a few seconds.

The second artefact is a combination of unfamiliar design with familiar use, where there is a leaning sink with a detachable water tap, a digital screen for water wasted, which add extra cost, and a touch screen for interaction.

The third artefact is a combination of unfamiliar design and unfamiliar use where the water distributive system is from the ceiling and with the use of scanning your hand it is determined how much water you have left and can spend.
Part 3 Interpretation Phase
8 Evaluation

This project started with me questioning the design practice and how it is to be a designer in the world we live in. During the design process of this project, there were some changes I was hoping to facilitate, by critically thinking about possible futures, involving artefacts, the use of natural resources, sustainable living, and how we interact with artefacts in the notion of unfamiliarity. How this could affect design as a practice is hard to say, but with continued research on the topic and being able to conduct more prototyping and testing, we could come closer to a more sustainable direction.

The unfamiliarity aspect is something that we must and will continue to be faced with and get used to if the world we live in is going to have a chance of changing for the better. I hope that the research and the project I have conducted have brought some insight into both how design practice could and should evolve, how it could be facing the reality of working as a designer, and how an individual has responsibility and power over actions and choices being made.

The use of our resources and as the main point in this project, regarding the climate and ecological emergency, the consumption of water, we have some issues to face together as a species. By becoming more aware of our habits at home or taking in the knowledge and the facts about climate change and how our actions are impacting our planet, we could together change the direction of the possible outcome.

The importance of seeing not only the artefact as a problem or an issue regarding unsustainability, but also the use and expectation of it, that is embedded in our choices. The necessary unfamiliar artefacts with the unfamiliar use of water that would come with it are something that we would need to adapt to. To engage as individuals to create a chain reaction toward change.

The result of this project could hopefully be one part of a small change, but it could have been expanded even more, though due to the time and necessary means now, this project will have to continue and grow at another time. At one point, the conceptual intervention could become less conceptual and more real, to be able to further research and achieve alterations in design practice and individuals’ actions. Before continuing to the discussion where the author provides thoughts and comments about the project, a quote from Martín Ávila sums up the continuation and the intention of this project. How designing the unfamiliar could not only favor design but also the chain reaction towards positive changes coming with it.
“Awareness of the symbiotic associations that we, consciously or not, willingly or unwillingly, engage in through the enactment of the artificial, brings us closer to the possibility of developing designs that acknowledge emergence as well as other forms of life. Such awareness frames design as the ethical practice that it has always been.” (Ávila, 2012)
9 Discussion

Throughout this project, I have realized that there are many directions in the practice of design and alternative approaches which have made me gain some insights. That design is not black and white, and the many ways you could work with design are not restricted to only one practice, the change needed as mentioned numerous times in this report is part of the chain reaction and includes many parts. I would have been exploring this topic further, for there is still much to be investigated, researched, and discovered.

I believe that I could have taken a different approach to the project from the start, especially focusing more on prototyping and less on deep diving into the research. The research that is done is not to say in the least bad, on the contrary, the research made this project even more interesting and fun. By connecting human behavioral patterns, habits, and interaction with design I managed to get a picture of where and how different turns in the project could have been made. More interactions would have been essential and of great value to the process I believe. The project could be developed further with what I have gathered, there is much room for expansion on both the research, the interactions, and connections with both individuals and possible collaborators.

Even though there is room to spare for an extension of the project, the insights this project gave me are only encouraging me to work more with design connected to the unfamiliar and interactions. There are endless lessons learned, knowledge gained, and active choices that I take with me from this project. The unfamiliarity in working as a designer in this world we live in has at least for me started to tilt towards the more familiar.
References


LUTZ (2022) *Life-centred design guide*. S.l.: DAMIEN LUTZ.


