



# A TALE OF A WISE CITY

A SPECULATION ON ENTANGLEMENTS OF NON-HUMANS AND HUMANS IN AN URBAN SPACE.



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## ABSTRACT

This paper proposes methods for imagining a future which includes non-human stakeholders. The particular scenario is built on the concept currently known as Smart City. This exploration proposes a speculative fiction of a future where technologies in a Smart City are serving human and non-human citizens. The final outcome is a fictional documentary that illustrates life in the city from the viewpoint of its human citizens. To develop the concept of the city one of the primary challenges was to coordinate the many different scales, from the entire city structure to the interactions between the individual citizens. To address this, I used rhythm as a method. For the resulting prototype, storytelling was chosen as a medium to allow the concept to be articulated on multiple scales. Both, the rhythm, as a method, as well as storing, as a prototype, are methodologies I will present in this paper. I suggest that these methodologies can be seen as tools for helping to reimagine the future of relationships between humans and non-humans. By using this speculative design approach I suggest that we can better reflect on the relationship with non humans in the future.

## INTRODUCTION

Fluid Assemblages as described by (Wiltse and Redström, 2019, p.17-18) are a new form of things that define our world and our everyday life. Under this term,

Wiltse and Redström identify connected devices, apps, digital platforms, etc. These ‘things’, unlike their predecessors, are never singular. They are an accumulation of different components. Hence assembly. This assembly changes depending on who is using it, when, where, how etc. Hence fluidity. Fluid Assemblages hold the potential for solutions, as well as the potential for problems, equally.

One thing that is clear is that Fluid Assemblages, via platforms, via devices, and via large scale IoT systems are already rendering the reality of the future to come. This becomes problematic when we think about whom or what this world of Fluid Assemblages does not include. And what it does not include is almost everything which is not human or directly connected to the human experience. They are—as so many ‘things’—a fruit of human exceptionalism and the tale of never ending progress. They are an abstraction of an already abstract human world that managed to ignore its permanent dependency on the interconnected mesh surrounding it. Fluid Assemblages therefore reflect the ignorance of their makers. Making plain the fact that their existence is dependent upon an environment which is unaccounted for in their systems, and that they have become active participants in that environment’s ruin.

As the last two decades have taught us, Fluid Assemblages have an extreme influence on the human experience. Social media platforms significantly changed the ways in which we interact with each other, from the personal to the political, it has even influenced how we interact with the world around us. That is why it is crucial to start including non-human actors as a variable and a stakeholder in those systems and offer alternatives to the self-destructive, one-way-track of the modern human experience. The aim of this paper is to offer a perspective of how Fluid Assemblages could serve the interests of non-humans or as Ursula K. Le Guin puts it: “...how to put a pig on the tracks.”(Guin, 1989).

## BACKGROUND

To understand some alternatives that break away from this rigid, human perspective, we might consider the

concept of Polyphonic Assemblages as it has been proposed by anthropologist Anna Lowenhaupt Tsing (Tsing, 2015 p. 22). Tsing understands assemblages as “open ended gatherings” of ways of being; human and nonhuman, living and nonliving. For Tsing, assemblages “...don't just gather lifeways; they make them.” Meaning that the whole combination of different lifeways of the human and the non-human, in an assembly, has an effect on the lifeways of its many parts. In describing these assemblages as polyphonic, she clarifies this idea. In polyphonic music, independent melodies are played parallel to each other. The various melodies sometimes come together in synchronization only to separate into different rhythms again. Tsing uses this melodic phenomenon to propose a way of existing between humans and nonhumans.

Similarly, environmental and feminist scholar Donna Haraway (2016, p.13-14) speaks about the need for entanglement between humans and non-humans in her book *Staying with the Trouble*. Haraway offers a metaphor that describes the play of string figures. In the game of string figures, strings are formed in different constellations and are exchanged between the players. “Companion species play string figure games where who is/are to be in/of the world is constituted in intra- and interaction. The partners do not precede the knotting; species of all kinds are consequent upon worldly subject- and object-shaping entanglements.” Haraway sees in the game the opportunity for humans and non-humans to render each other capable of doing or becoming that which they could not do or be without each other. She refers to this as the relationship of “response-ability”. For Haraway, multispecies world-making is built upon these relationships and the game of string figures.

Both of those concepts share the idea of entanglement, flexibility, independence and intersection between different parties: human and non-human. This paper will hold on to those ideas presented by Tsing and Haraway, in order to start thinking about how technology could exist within those concepts. How it could become an active part in the coming together—or parallel coexistence—between humans and non-humans. Exemplifying how Fluid Assemblages can become a participant, and an enabler, of Polyphonic Assemblages.

#### A WISE CITY

This project focuses on the case of Fluid Assemblages in a city. The city is an environment where humans and non-humans already co-exist. (Haraway, 2016) describes this when she talks about relations of response-ability between pigeons and humans in an urban context.

Even though urban spaces are not particularly welcoming for non-humans, they often become sanctuaries for many species as the surrounding

countryside presents a greater ecological threat than the city area, due to sprawling industrial agriculture and destructive land development practices. For example, in Germany, solitary bees can best survive in cities as almost all the rest of Germany is agricultural land and heavily rendered by pesticides use (iDiv, 2016).

Fluid Assemblages can be found in the IoT systems that rather already exist in some cities or are about to be introduced in many others. The concept of connecting a city through smart systems is widely described as the “Smart City”. The project identified this concept for its use of Fluid Assemblages in the life of humans as well as non-humans. If you are a pigeon or a human, you will be affected by the Smart City. In both cases the participants are similarly involuntary. Surrounded by a Fluid Assemblage that is now the place they inhabit. The concept of a Smart City itself, thus remains highly problematic. Adam Greenfield (2017) warns us about the false promise of smart cities in his book *Radical Technologies: The Design of Everyday Life*. He argues that Smart Cities are simply another example of a short-sighted, technofix. The idea of a Smart City is built on the misconception that data can be used to offer universal solutions and that the data is immune to being submerged in politics. Furthermore, he explains that cities inhabit a diversity of communities with different interests and opinions. What is a gain for one community is often a loss for another (Greenfield, 2017). This becomes even more problematic when non-human communities are involved. And while the aim of the project is to present an alternative narration of what Smart Cities can be, it became important to distance it from the current concept. Therefore, the name “Wise City”—a suggestion by my tutor Heather Wiltse—was chosen to position this project away from a Smart City. A Wise City uses the possibilities of Fluid Assemblages to serve the needs of humans and non-humans and offers a platform for entanglements. The Wise City does not propose to be a solution to the socio-political concerns of different interests, or the problems of misuse of data, etc. The Wise City is doomed to be a mess. But according to Haraway and Tsing, it is a mess that we need in order to survive.

#### METHOD

So how does one conceptualize a Wise City? Tsing’s (2015, p.23-24) concept of Polyphonic Assemblages gave a basis for answering this question. It set the tonality of the piece to be written. Next, the rhythm has to be considered. Tsing (2015, p.24) describes the activities of humans and non-human as rhythms. As an example, she offers the farming techniques she observed in Borneo. Different plants “Rice, banana, taro...” were farmed together in the same field even though they had different rhythms of maturation and intersected differently with the human rhythm of harvesting. “The polyphonic assemblage is the gathering of these

rhythms, as they result from world making projects, human and not human.” (Tsing, 2015).

Based on Tsing’s experience, I started to think about the different rhythms of humans and non-humans around me. About how trees lost their leaves and about how flocks of wild geese were flying in formation to a warmer place, about mushrooms popping up for a couple of weeks and then disappearing again, and so on. Undoubtedly, the rhythms of humans are very different, and as described by Tsing: polyphonic. In polyphonic music—where Tsing borrows the term from—while melodies have different rhythms, they all are defined by the time signature of the piece. Most songs, especially contemporary western music, are written in 4/4 time. Similarly, one can say that if we pick out a fixed location—in my case a particular city—that the different rhythms of humans and non-humans are underlaid by the signature time of the day and night, as well as the timing of the seasons of the year. The signature time is universal no matter if for a bird or for a human. Based on this thinking I developed the Rhythm Board.

The Rhythm board is simply a circle of white acrylic and two rings of laser cut MDF. One ring represents the 12 months of the year, the other represents the 24 hours of the day. The rings can be turned, and different times of the day or month of the year can be selected. This selection offers a frame and provides an opportunity to find convergences or divergences, resonance or dissonances. Using the Rhythm Board, I hosted a co-creation workshop to write the melodies i.e. the different stories, needs and possibilities of the different non-human and human actors. The rhythm board can be used for different scales, in this project I used it at the scale of the city but it can be used at smaller scales as well. For example, at the scale of a park, a house, a pond, a room, a pasture, a stone, etc.

During the workshop participants got to represent different human or non-human actors and try to find ways to build the city together based on the different needs they had during the course of a ”year”. This idea of representation for non-humans in political discussion, is informed by Bruno Latour’s concept “The Parliament of Things” (Latour, 1993). Equally important was the work of (Weisser and Hauck, 2017) on the method of Animal Aided Design. This method looks into the needs of a species (e.g. a sparrow) over the course of the year. I also used some of the “species profiles” developed by

Weisser and Hauck as a source for developing the information cards I shared with the participants.

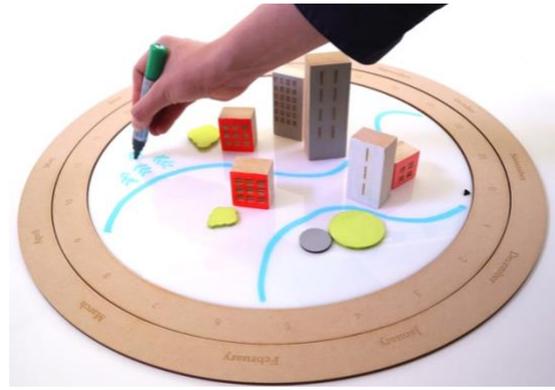


Figure 1: The Rhythm board

#### THE RHYTHM BOARD WORKSHOP

I hosted the The Rhythm board Workshop with five players (participants). Each one got a human or a non-human character to play. In this workshop the characters were: the Bohemian Waxwing (*Bombycilla garrulus*), two human citizens, a Red Admiral Butterfly (*Vanessa atalanta*) and the larger family of lichen. Each player got an information card for their character detailing their character and their needs during the different months of the year, and times of the day. The workshop was held in four parts (Fall, Winter, Summer and Spring) with a discussion and ideation session between each season away from the board. In each part, participants first were asked to come up with ideas for what their character would like to see in the prospective city. Afterwards a discussion/making session took place where participants would draw or build their proposals on the whiteboard. Following that, the participant would move away from the Rhythm board and reflect on the making session outside of their character.

As a result of the workshop, a lot of different ideas were generated of what the Wise City could look like. For example, sensors that track the coming and going of species were proposed. Other ideas were to have structures that appear for nesting when needed and are hidden for the rest of the year, special traffic lights secure species movement of certain species as well as sensors to monitor population size (for example if a decline in lichen population is registered the city would introduce air safety measures) It was also extremely helpful to discuss the lifeways (melodies) of the chosen characters with others. However a lot of the ideas introduced the implied parallel existence rather than entanglement. The human characters also expressed frustration with the changes of the city we built on the white board. In general, there was more collaboration between the non-human players. For example the lichen, the waxwing and the admiral teamed up to build a park where they all could profit from, taking away valuable space for human housing. While the human

players merely tolerated the decisions but could not see how those could profit them. A connection between humans and nonhumans was missing. As a result of the workshop, it was clear that something had to be the glue between the rhythms of non-humans and humans. Something that would lead to more acceptance in the human population.

#### LEGEND AS INTERFACE

Here I will argue that legends can be understood as an interface between humans and non-humans. However I want to distance myself from the term “interface”, as it might be limited by what one’s cultural understanding of what an interface can be. Alternatively, to stay true to the metaphor of music, I will use the word “instrument” in place of “interface”. A musical instrument is what allows melodies and rhythms to play together and to hear each other. It amplifies the rhythms of non-humans which have become hard for us to hear.

During the workshop, ideas of how the city itself could be an instrument emerged. For example, the city could change the color of the streetlights to communicate that Waxwings have come back. Or surfaces could appear and disappear making it easier for the admiral butterfly to mate, while at the same time communicating to the humans the timing of the other species. However, this still left the humans passive and did not entangle these species rhythm with human life.

How could rhythms of non-humans become entangled with the human experience instead of remaining marginalized? (Frankjaer, 2019) describes how her life became aware and adjusted to the rhythm of a plant (Calathea). She realised that the Calathea she was working with for an art installation would not be active before 11am. Thus, Kranjaer had to adjust her working hours to the active hours of her plant participant. Of course, not everyone has the motivation of a PhD thesis to go into such a relationship with the rhythm of the plant. However, I found other examples of approximation of rhythms on a much larger scale.

A classmate who is originally from Deli, India told me about Shravan, a month in the Hindu calendar during which fishing is prohibited. The reason for this is that fish are reproducing during this month. The prohibition gives the fish a window to reproduce, without the interference of humans. This tradition offers a way for humans to “listen” to the rhythm of the fish and adjust their rhythm to it. I therefore see it as an instrument which enables this synchronization of rhythms to happen.

Another example was introduced to me during a lecture on the subject of birds in Sami Mythology, given by Elina Nygard. Nygard is a Sami artist who collected bird mythologies and illustrated them. Here is one of them:

“When the stormy weather with snow and wind is arriving the grouse will warn you. Then it laughs when the sun goes down. If it only makes a quiet sound there will be only snow and no wind.” (Nygard, n.d.)

This myth about the Willow Ptarmigan (*Lagopus lagopus*) is a great example of the legend becoming an instrument. In this case, it enables humans to literally listen to the rhythm (activity) of the Willow Ptarmigan and draw consequences to the rhythm of their life. In this case a weather forecast.

Furthermore, I want to argue that the instrumentation of Fluid Assemblages today already resembles myths. As a user of Amazon’s Alexa we know as little about the actual system the device works with as we know about the complex ecosystem of the Willow Ptarmigan. Here is my take on how a myth of Alexa might be written:

“When the blue eye is open, Alexa will listen to you. If you say her name, she will answer. If you ask her to turn the light on, the light in your house will be turned on”.

As interaction designers we have been designing legends all along. My argument is not that it is necessarily a good thing. The fact that only a tiny percentage of humanity knows how Alexa actually works is deeply problematic. What is even more problematic is that an equally tiny percentage of humanity has an understanding of how the ecosystems of their immediate environment work. And no multi-billion-dollar corporation is designing legends for the latter.

#### THE CONCEPT OF THE WISE CITY

The “Wise City” is an assembly of instruments which enables human citizens to “hear” the rhythms of the non-human citizens and to play together with them. While there are different instruments involved, they function as an assembly where the parts are interconnected. The assembly has two main parts: The city’s infrastructure and the Legends.

#### THE CITY INFRASTRUCTURE

The Wise City communicates the rhythms of non-human communities in different ways. It will, for example, change traffic patterns to serve the rhythm of a migrating community which moves on the ground. In the times when reindeer herds have to cross the city, the architecture will shift accordingly. Structures appear and disappear to serve the needs of a community. For example, nesting opportunities that are needed at certain times during the year, will appear, making the rhythm of non-humans apparent to human citizens. Some are not connected to any specific function but instead are an expression of information during a particular interval of the non-human community’s rhythm. For example, city lights will take a certain color for an evening, a

sculpture that was not there before will appear, a sound will be played etc.

#### LEGENDS

The Legends can be seen as a leading instrument of the Wise City. They are powerful in creating harmonies between the rhythms of the human citizens and the non-human citizens. Legends, here, is used as an umbrella term for all kinds of traditions, festivals, superstitions and rituals that have a connection to the rhythm of the non-human. For example, “Divaki, a festival connected to the arrival of Waxwing in the city. The city light will turn red, Waxwing songs are sung and humans are supposed to put a branch of rowanberries in front of the house of the person they love.

These two main instruments find themselves in a relationship of constant exchange. A Legend's mind evolves as the city's infrastructure changes, but the city structure can also be influenced by one of the legends. Both the city infrastructure and the legends are sensitive to the rhythms of non-human communities.

#### STORY AS A PROTOTYPE

The final outcome of the project is a fictional documentary about life in the Wise City. The documentary is largely narrated through interviews with human citizens of the city in the year 2043. The documentary format allowed me to prototype the Wise City, giving the viewer some details to render an idea of the city, but still leaving enough room for discussing ideas and opinions. I see the documentary not as a final result, rather like the Rhythm Board, a tool to engage with others. For example I could imagine showing the documentary at the start of another co-creation workshop (find an other example). The documentary can be found here: <https://vimeo.com/487009739>



Figure 2: The documentary paints the Wise City from the narrative of the human citizens.

#### CONCLUSION

In this paper, I have presented the Wise City: project that aims to offer an alternative view on how technology could become an agent of entanglement between non-

humans and humans. I explained my process which was heavily influenced by the ideas of Anna Lowenhaupt Tsing and Donna Haraway. Furthermore, I presented the method of the Rhythm Board workshop, a co-creation activity based on the idea of representation of non-humans in a discussion. Generally, I suggest that the idea of rhythms is an important tool for finding entanglements between non human and humans. I am also proposing the idea to acknowledge legends as an interface, and an interface as a legend in order to enable humans to listen to the rhythms of non-humans. Lastly, I presented the design process through “storying”. The final outcome is a fictional documentary, which I see as a tool rather than a final proposal. The documentary can be used to engage others in exchange of ideas and discussion. I hope to use the documentary as a tool to situate collaborations and workshops.

Although I had the best intentions to make this project as non-human-centred as possible, it remains the work of a human, raised on the ideology of human exceptionalism. I acknowledge that my logic and argumentation throughout this paper is therefore still, unavoidably, highly anthropocentric. While I think that the generation of designers that I am a part of will probably never master the art of designing outside of our rigidly-human perspective, I do hope that the tools we are proposing today will serve as a stepping stone for the next generation of designers.

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