(re)generating futures

Exploring multi-species cultures through speculative crafting in response to an immersive narrative

Sjef van Gaalen

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Introduction

This thesis follows the development and performance of the Zoönomic Futures workshop, commissioned by Studio Jonas Staal for Training For The Future[I]. It was performed by myself, Klaas Kuitenbrouwer and Marc Bergwerff at the 2019 Ruhrtrienniale in Bochum and subsequently at Het Nieuwe Instituut in Rotterdam in 2020.

I. https://trainingforthefuture.org/

The workshop employs a mix of speculative and participatory design methods. The facilitators (Klaas Kuitenbrouwer and myself) act as hosts and narrators, creating immersion in a speculative fiction through our narration, overhead visuals, a live soundscape, and even incorporate taste and smell. We encourage engagement with the issue of non-human representation through co-creative crafting and role-played discussion. In response to the events in this overarching narrative they create multi-species cultures, and reflect on the conflicts of interest and issues that arise.

This work relates and contributes to speculative design, futures studies (experiential futures in particular) and strategic foresight. It adds to these fields by differentiating itself in its approach. No props, prototypes or models have been created through which the participants can relate to this world. Whereas a speculative design or experiential futures approach relies on the vision of the designer to connect audiences to a depiction of a future, in our case the narration, visuals and soundscape work together to depict a story which our participants experience. Within that story the participants are not passive consumers or spectators, but have the agency to take on roles and explore their own interpretation of what this fictional scenario means.

After a brief introduction to the Zoöp project and research questions, you will be taken along on a journey through the workshop experience. Theoretical background as to what we are trying to achieve with this project and how I position it in relation to other fields will follow. Finally, findings from the workshop will be set out and conclusions drawn on how these tie back to the broader research questions.

Meet your narrators

I'm Sjef van Gaalen, a design researcher operating in the emergent hybrid space between design and futures studies. I use participative and speculative methods to help diverse participant groups create stories about futures, and use those stories as the basis for my research into possible and plausible images of the future.

My main area of interest in the application of these methods over time is in engaging audiences with the urgency and necessity of ecological regeneration for climate-change mitigation. Ultimately the results of this work should connect to mid-to-long-term sighted strategic and policy design goals.

Throughout this thesis I will often refer to a "we". This can generally be taken to mean myself and Klaas Kuitenbrouwer, my co-author in the design and performance of the Zoönomic Futures workshop.

Right: Klaas Kuitenbrouwer (left) and myself (right) introducing the scenario at the workshop in Het Nieuwe Instituut.

The Zoöp Project

Investigating a new mode of legal incorporation

The Zoönomic Futures workshop takes place within the broader context of a long-term, practice-based program of research at Het Nieuwe Instituut in Rotterdam. The Zoöp Project is an investigation into the design and implementation of a new legal form of incorporation as an artistic and pragmatic response to the threat of anthropogenic climate change[I]. It takes its name from Zoë, for life, in Greek, and coöp for cooperation.

The Zoöp is envisioned as a formal mode of collaboration between humans and collective bodies of non-humans that supports ecological regeneration, and makes it possible to interact with existing organisations such as foundations or companies through the currently existing economic and legal structures.

The aims of the Zoöp are to strengthen the position of non-humans within human societies, and to engender ecological regeneration and growth that is resistant to extractivist dynamics.

Examples of the kinds of organisation that are signing on as pilot projects are a regenerative farm[II] and several food forests[III], but eventually any organisation with control over a volume of biosphere may become a Zoöp.

The project team is a diverse collective of designers, researchers, soil-builders, and legal experts. We operate from a belief in the need to envisage radical new alternatives to the current status quo of human and non-human interactions, and the conviction that technology alone will not save us from the various socio-ecological crises the planet faces. Most importantly, we hold the view that a more-than-human perspective that acknowledges the interdependencies of life will allow for a more comprehensive, integrated and sustainable imagination of climate-resilient futures.

I. *For more information on the Zoöp Project, visit: https://research-development.hetnieuweinstituut.nl/en/research-projects/zoop*

Envisioning Zoönomic Futures

Zoönomic Futures is a speculative part of the larger Zoöp project. The workshop deals with the question of how to create a practical ethics for a society that is no longer human-centric. A question relevant to the longer-term goals of the Zoöp project. The goal of the workshop is to give participants an experience through which they can engage with the imagination of cultures in which the needs, desires and qualities of non-human life have stronger representation in human society than they currently do today.

While other parts of the Zoöp project are very practical (the legal implementation of the coöp in pilot projects on farms and food forests), the workshop is aimed more at the conceptual level. The fictions our participants create are not necessarily intended to be realistically plausible. Rather, they allow exploration and reflection on an issue participants may not have previously engaged with.

Through this workshop, participants develop responses to issues that emerge in fictional communities of the late 21st century. Together they must work out a mode of existence that meets humanitarian needs as well as more-than-human values, balancing the requirements of life with their material conditions and finding ways in which humans and non-humans can co-exist in and through times of crisis.

The Zoönomic Futures workshop was designed and performed in collaboration with Klaas Kuitenbrouwer at Het Nieuwe Instituut. Sound Design of the performance is by Mark Bergwerff, and design of the overhead visuals by Mislav Zugaj and Marc Loths.

My particular areas of focus in this collaboration were in the writing and narrative design, construction of the workshop as a research tool, and designing the structures and accompanying materials that supported these overarching goals.

II. *Bodemzicht Farms are the first organisation to become a proto-zoöp: https://en.bodemzicht.nl/*

III: *The Urbaniahoeve project in Amsterdam Zuid-oost: http://www.urbaniahoeve.nl/, and the Ecovredegaard in Arnhem.*

Research Questions

◇ **Q1** How can collaborative, ==speculative crafting== exercises help people to explore alternative perspectives on ==possible futures==?

Our particpants create shared models of a fictional future environment around which to discuss the issues that may take place there. This workshop looks in particular at perspectives on a future society in which the rights of non-humans are better represented than today.

◇ **Q2** How can narrative immersion enhance participant engagement in the exploration of alternative images of the future?

Our design method relies on the engagement of the participants with the story of the fictional world, as we want them to critically and creatively respond to the events that take place there.

◇ **Q3** How can we capture participants' thought processes and discussions as efficiently as possible with limited resources?

That is to say, there are only two facilitators who are already fully engaged with narration and managing the experience, no additonal researchers, and no means by which to fully capture audio or video.

◇ **Q4** What are the effects of the design materials we use on the outputs and experience?

It is important for us to consider how we influence the outputs and modes of cooperation in the workshop through considered design choices concerning the material we make available to our particpants.

In my findings I will answer these questions using data collected by the methods of note-taking throughout the design iterations, audio recordings of play tests and performances, photo documentation, participant observation, informal debriefings, logs created by participants as part of the workshop, and a series of semi-structured interviews with participants from various iterations of the workshop.

It is important to make the distinction that while these questions apply to my practice as a futures-oriented design researcher in general, they are seen in this publication through the lens of the Zoönomic Futures workshop. This will be reflected in the findings, which will relate directly to the workshop outcomes, and then be extrapolated out to the broader field.

A member of the Seed Tree Zoöp explains the features of their habitat and how they relate to the culture they have created.

Design Iterations

○ ◉ ●

	Play Test 0	Play Test 1	Play Test 2	Rehearsal	Ruhrtrienniale	Rotterdam
Sound design				◉	●	●
Overhead visuals			○	●	●	●
Script		○	◉	○	◉	◉
Participant roles	○	○	◉	◉	●	●
Workshop Materials			○	○	◉	◉
Building Materials	○	○	○	◉	●	●
Logs			○	○	◉	◉

Sound design by Marc Bergwerff can be heard at: **https://sjef.nu/thesis/**

The overhead visuals are in use on **pages 19-71** to illustrate the workshop narrative.

Notes on the development of the script can be found on **page 58**.

A section on how we used particpants roles in the workshop can be found on **page 30**.

Workshop materials are shown throughout the section 'Welcome to Starfish Temporary', **page 18**.

Our building materials are introduced on **page 26**, why they were chosen is explained on **page 38,** findings regarding the materials are on **page 104**.

The development of the logs is shown on **page 50**, findings regarding the use of the logs can be found on **page 107**.

Welcome to Starfish Temporary

Before going into a methodological overview and positioning of the workshop, I want to convey something of the performance experience. I'll walk through each of the three acts using the overhead visuals and parts of the narration.

Throughout I will also explain the structure, mechanics and materials used in the workshop assignments that take place in response to the overarching narrative, and show questions we are asking our participants to grapple with.

🔊 *Extracts from the atmospheric soundscape performed by Marc Bergwerff to accompany your reading can be heard at:*
https://sjef.nu/thesis/

Throughout the text the speaker icon will indicate where additional sound is available.

Performance Timeline

Hours: 00:00   01:00   02:00   03:00

Act:

One
Introductions, of the story world to the participants, and of the participants to each other and the workshop structure.
Page 22.

Two
The workshop assignments, in which participants respond to the events presented in the story.
Page 40.

Three
Round-up and presentation round.
Page 66.

Events:

The Zoönomic Oath
A collective ritual initiation into the story world, designed as an initial hurdle to collectively overcome.
Page 32.

The Storm
The first major discomfort in the overarching fiction, this event creates the central conflict in the narrative.
Page 42.

The Gathering
The groups come together to recount their histories and share the cultures they have developed.
Page 73.

Envelopes:

E1
Welcome to Starfish Temporary
Page 28.

E2
Building your multi-species habitat
Page 35.

E3
How do you decide who lives and who dies?
Page 46.

E4
From surviving to quality of life
Page 54.

E5
Zoönomic Exchange
Page 62.

E6
Transmitting your culture
Page 69.

Right: *The timeline will be used to indicate the position and duration of each section in the performance.*

Performance timeline:

00:00   01:00   02:00   03:00

Act One

The first act functions as an introduction and warm-up. We perform some exposition to set the scene, get our participants settled into working groups, and introduce the materials and structure of the workshop.

🔊 THE SOUNDSCAPE STARTS

Through narration of our script, we introduce the fictional world our participants will be working in. They are a group of people who have appropriated a ship and taken to sea in search of people rumored to be out on the ocean, trying to build a better life. They are in poor shape at their time of rescue, and taken aboard by one such collective: Starfish Temporary.

🔊 LAST LOG ENTRY OF THE VESSEL HBK 254

They awaken, and the structure they now find themselves on is described to them...

22

Floating dwellings, connected, but gently moving separately. Different shapes, some huge and flat, pits, some are like... bubbles? Others look like houseboats that go up five floors in the air and down below sea level. There are plants. Creepers, mosses and ferns. Even small trees. Solar collectors and machinery, some of which you recognise, some you don't. You smell something rotting, and moist earth as well. A rodent skitters off in the corner of your vision.

"Welcome to Starfish Temporary. This is a Zoöp, a cooperation between human and nonhuman partners following the tradition of the early 21st century Zoöps. We are a multi-species community and a multi-species democracy, constituted by both human and non-human life.

We float, mostly."

"Our mission is regeneration, and it will not end within any of our lifetimes. We work in the present to generate futures, for our collective bodies and for those who would carry them forward in living memory."

Adjusting to your new environment

The participants are asked to spread out through the space, self-organise into working groups of five, and begin introducing themselves to each other.

While they do this, the narrator/facilitators check in with each group as it forms, and provide them with a package of workshop materials.

Left: Each group is provided with; 5m² of corrugated cardboard, 2 pairs of scissors, colored duct tape, sheets of a single color of crafting paper, markers, pens, a bamboo bowl, 5 bamboo spoons and a folder containing the instructional materials for the workshop.

Different colour combinations of tape and craft paper are used for each group to make them visually distinct, helping us to easily distinguish which group is which when reviewing the photo documentation of the workshop.

Above: The folder contains the envelopes that serve as our content delivery mechanism for each stage of the workshop.By instructing the groups to open envelopes as we progress, additional information and assignments are released throughout the workshop without us having to take the time to distribute them.

They are designed to be opened in sequence in this way so as not to prematurely reveal plot points or steer too much in the direction groups are supposed to take.

Please open Envelope 1

After the groups have formed, they are instructed to open the first envelope. The envelopes are the mechanism by which we introduce additional exposition for our worldbuilding. Each envelope contains a basic instruction sheet explaining the current scenario, and a log sheet designed for steering discussion and aiding the group in their note taking. Additional cards provide extra scenario details.

The first envelope also contains an FAQ on the scenario written as if inside the story world, answering the questions about the setting we received most often during the play tests, and the role cards for each of the five members of the group.
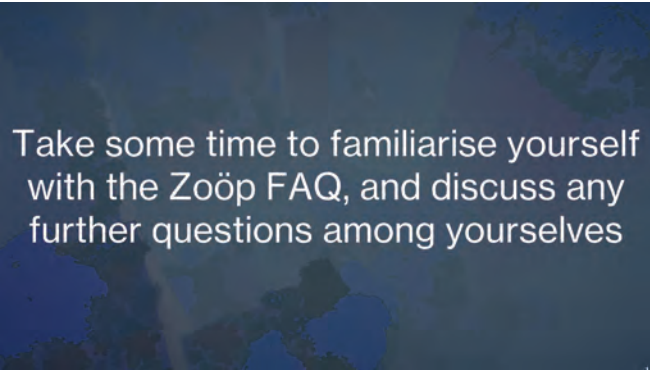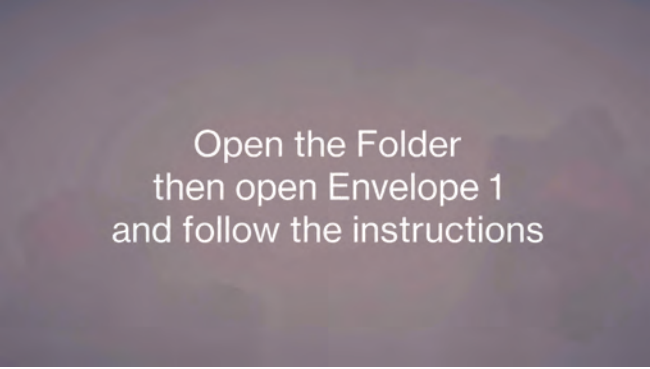

Above: Throughout the performance the overhead visuals are used to deliver prompts and instructions. During the narration and working periods graphics are used to create ambiance in combination with the live soundscape.
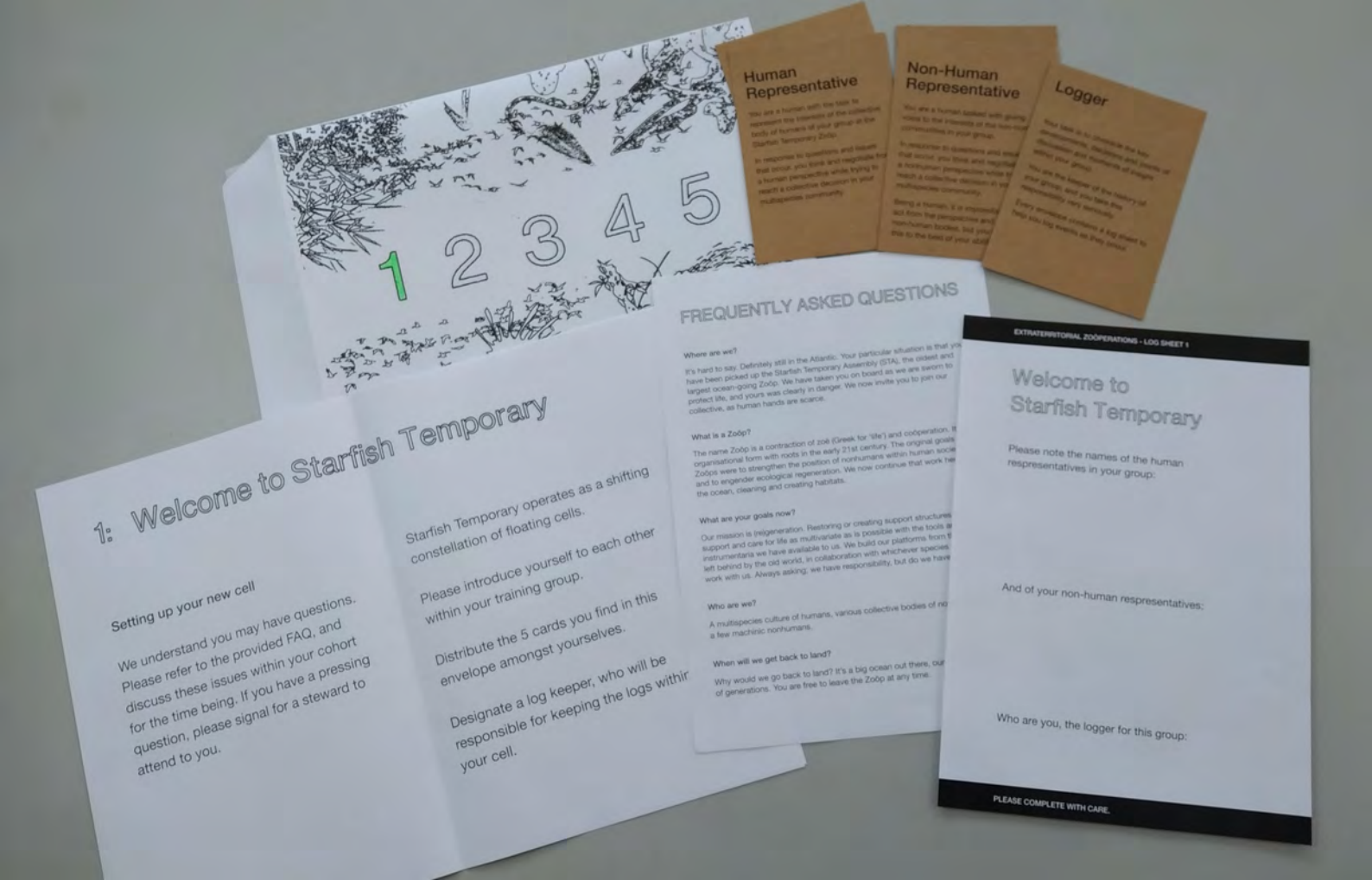
Above: The contents of the first envelope as used in the performance at the Ruhrtrienniale in Bochum.

Performance timeline:

Dividing Roles

Assign Human and Non-human representatives and your Logger
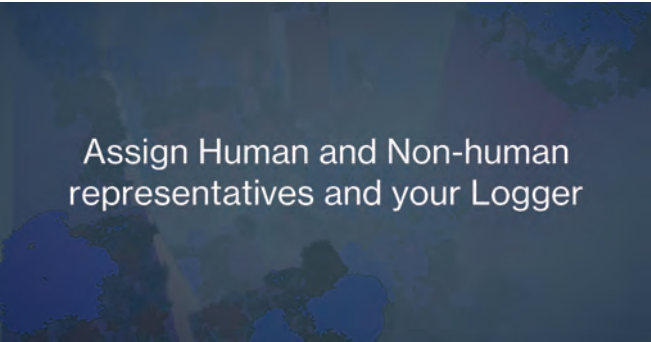
The cards included in the first envelope describe the roles of the participants. Two human representatives, two non-human representatives and a logger (presumably human, though we don't specify) to function as the chronicler of the group.

Participants aren't required to play character roles in a strict sense. The roles of the representatives are to argue for human or non-human interests during the events and discussions that will take place during the workshop. It is left up to the participants to what extent they wish to flesh out a character's perspective and how.

Right 1,2,3: The 'Role' cards as used in the performances in Bochum and Rotterdam.

1. 2.
3.

Human Representative

You are a human with the task to represent the interests of the collective body of humans of your group at the Starfish Temporary Zoöp.

In response to questions and issues that occur, you think and negotiate from a human perspective while trying to reach a collective decision in your multispecies community.

Non-Human Representative

You are a human tasked with giving voice to the interests of the non-human communities in your group.

In response to questions and issues that occur, you think and negotiate from a nonhuman perspective while trying to reach a collective decision in your multispecies community.

Being a human, it is impossible to fully act from the perspective and needs of non-human bodies, but you try to do this to the best of your abilities.

Logger

Your task is to chronicle the key developments, decisions and points of discussion and moments of insight within your group.

You are the keeper of the history of your group, and you take this responsibility very seriously.

Every envelope contains a log sheet to help you log events as they occur.

Above: In our second play test we try prototypes of the role cards, the mechanism we settled on to divide the human, non-human and logger roles.

Iterations - Roles

Play test 0

"Humans" were given scissors, "non-humans" were given tape. The idea being that humans could cut and define, but it was the non-humans who were able to make things stick together and work. It was a nice metaphor but in practice participants quickly forgot who was assigned what role and just used the tools as needed, so we dropped this idea.

Play test 1

Participants were asked to consider non-human perspectives during the assignments, but were not given explicit roles. Our testers found it unclear which non-human perspective they were supposed to take.

Play test 2

Participants were asked to divide roles amongst themselves at the beginning of the workshop, then maintaining a single perspective throughout. This is the system we ended up using. A common strategy we saw participants use for inhabiting this alternative perspective was to choose something very specific, algae for instance, as the interest that they would represent.

The Zoönomic Oath

During this initial introductory period, as the facilitators have been checking in with each group they have also been providing them with one final material. When everyone is ready, we have all the participants stand for a collective initiation into the Starfish Temporary Collective. The participants repeat line-for-line after us:

As a collective living body
On a living planet
I will act with care
For all human and nonhuman bodies
Involved or implied by my actions

After taking the sacrament, they are welcomed into the collective. Having endured this collective ritual, they have overcome something together that bonds them as a group, and has added taste and smell to the sensory experience of the story world. The groups are now to each go their own way, building independent Zoöp cultures represented by their model floating habitats.

Performance timeline:

```
|00:00        ,   |01:00      ,      |02:00    ,      03:00|
```


AS A COLLECTIVE LIVING BODY
ON A LIVING PLANET
I WILL ACT WITH CARE
FOR ALL HUMAN AND NON-HUMAN BODIES
INVOLVED OR IMPLIED BY MY ACTIONS

Above: The Zoönomic Oath

Right: The "sacrament". A somewhat dystopian future food representing the nutritional substrate provided for everyone in the collective. It's an allergen-free coconut yogurt with nori seaweed mixed through it, topped with a spirulina pill. We have of course tested it to make sure it is safe, but tasting it is a strange experience.

The time has come for you to build your own multi-species habitat as part of the Starfish Temporary Collective. You have been provided with the basic raw materials and tools to help your cell's floating habitat become self-sufficient, and provide ecosystem functions that support broader communities of life.

Building your multi-species habitat
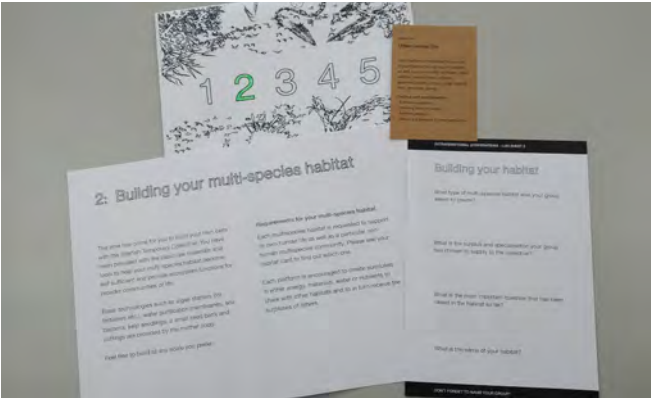
The Zoöp struggles for a period with incorporating the new influx of human bodies. Food is scarce for all communities. As your habitat gains shape and a degree of independence, you decide to name the living platforms you have begun to build, and start discussing how it is you are supposed to live here.

The time has come to get to work. The collective has outgrown its platform, and each group is now required to build a self-sufficient multi-species habitat, providing ecosystem functions for a broad community of life.

We have now introduced the participants to the story world, to the Zoöp concept, to each other, and have them invested in the construction of a model representation of the community that they will be creating together in the workshop.

Performance timeline:

00:00		01:00			02:00			03:00

HABITAT TYPE

Meadows and forest borders

Your Zoöp cell's floating habitat is requested to provide for a group of humans as well as a community of plants and trees, soil- and insect life that grows in meadows, and at the edge of forests.

Possible specialisations:
- Nutritional and medical capacities
- Building material for humans as well as nonhumans
- Potable water

HABITAT TYPE

Coastal water and tide pools

Your Zoöp cell's floating habitat for a group of humans as well as a multispecies community from (Atlantic) coastal waters and tide pools. Seaweeds, algae, molluscs, oysters, crabs, small fish. etc.

Possible specialisations:
- Human and nonhuman nutrition
- Fertilisation for soil life
- Fibers for fabrics and bioplastics
- Aesthetic pleasure

HABITAT TYPE

Urban wildlife

Your Zoöp cell's floating habitat is requested to provide for a group of humans as well as a community of mixed urban wildlife. Various kinds of birds, sparrows, ducks, crows, small rodents, pets, chickens, sheep.

Surplus and specialisation:
- Nutritional capacities
- Providing fibers for textiles
- Aesthetic pleasure
- Checks and balances to other communities

HABITAT TYPE

Open ocean marine life

Your Zoöp cell's floating habitat requested to function as a point of connection between the Zoöp and the near-infinite deep sea below you.
You commune with the various species of ocean fish, jellyfish, sea mammals, krill and microscopic (plant) life.

Possible specialisations:
- Water Filtration
- Temperature exchange (cooling)
- Sinking sequestered CO2
- Harvesting microplastics

Left: The second envelope contains a "habitat" card asking the group to design for one of four possible habitat types. These are added in order to start the groups off on slightly differing trajectories which will diverge further as the workshop progresses.

This is done so that each group is working on a unique scenario, ensuring they each have their own story to tell in the final act.

Above: The beginnings of the Zoöp Greenland city. At this point in the workshop discussing secure their seed storage, and eating only older chickens who no longer lay eggs. Within 90 minutes their society will be controlled by a rat king super AI, spawning off rafts of intelligent rats to seek out new resources and sources of inspriation.

Iterations - Materials

From the outset we knew that we wanted our participants to engage in some kind of co-creation exercise using lo-fi materials that would be familiar to most audience members.

We believe that the combination of crafting with discussion will allow participants to engage with the scenario in different ways. This allowance for diversity not only of thought but also in material expression should serve to make the process of working through the issues addressed in the workshop more inclusive.

Play test 0

We have the idea of making people build something together in response to the events in a story, so a quick rough test is performed to see if and how people will invest in building something together. This proved to be effective.

The materials used were a collection of smallish, flattened cardboard boxes. I noted though that instead of engaging in any kind of construction the participants would take a shortcut, using the pre-formed shapes of the boxes to represent their structures.

Play test 1

In this iteration we used much larger cardboard boxes as our basic material. We wanted the models to be large enough that five people could sit around them, and would have to work together in order to make the construction work, performing a campfire function.

A larger construction was made but again little was done in the way of crafting. Predefined shapes were assembled together and endowed with meaning. We believed that having to put more effort into the shaping of the models during this three hour long experience would lead to a higher degree of collective investment in the fictional living space, enabling our participants to better imagine the culture that might come forth.
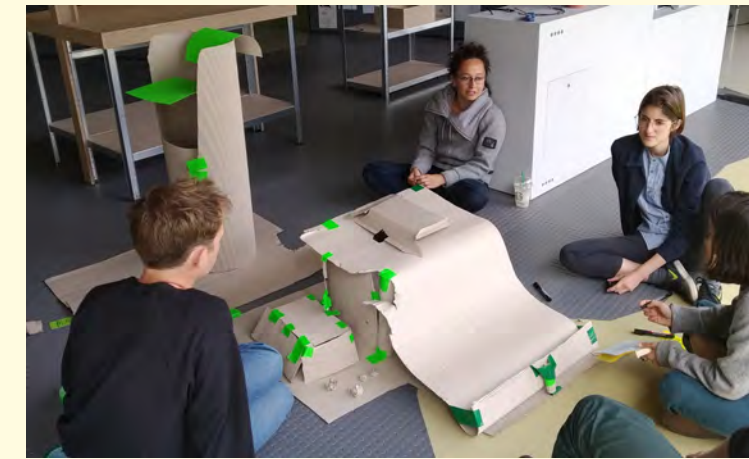
Play test 2

We had envisioned constructions being built that were large enough for a group to sit around, and required the particpants to work together. In this iteration we use corrugated packing cardboard, fluorescent card and duct tape as our building materials for the first time and got the kind of result we we looking for.

The cardboard is a bit floppy and annoying to work with but this does lead to some novel architectural solutions. The participants are engaged, and they can't just throw down a box and call it a boat, so we're happy that we have found the materials we will move forward with into the performance.

Act Two

The second act consists of three sessions of work and discussion, each of which is experienced by the participants as a plot point in the narrative that introduces a new friction, conflict or problem scenario to be worked through.

Through the collective work on their "floating habitat", the questions posed to them through the work sheets, and the ensuing discussions that they have, the participants now begin to build a shared culture within our story world in which human and non-human interests are represented on equal terms.

🔊 *A background track is available for each act.*

The Storm

🔊 THE WIND STARTS PICKING UP. WHISPERING, CREAKING, THEN HOWLING. DARK CLOUDS GATHER OVER THE FLOATING HABITAT. THUNDER CRASHES IN.
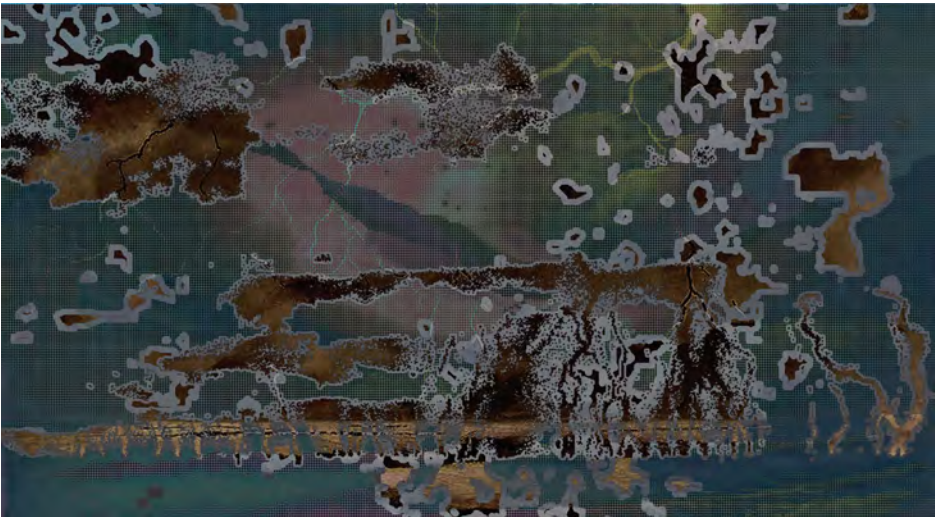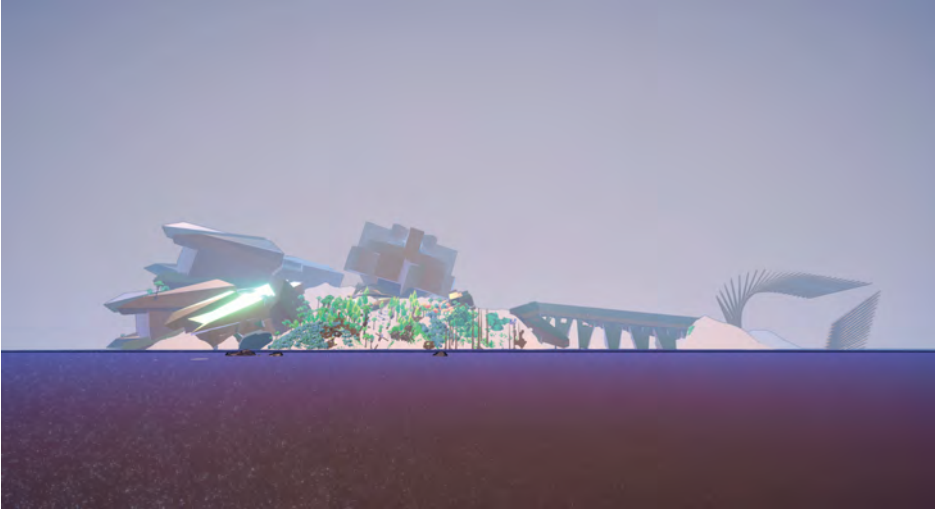
A storm breaks loose, all groups are instructed to move their constructions to the other side of the workshop space. Having just made our participants comfortable, we now make them uncomfortable again. They have usually just started to invest in the structures that they are creating at this point, and being they are built out of sloppy corrugated cardboard, it is often almost impossible to transport them without something breaking[I]. The storm is designed to introduce the first crisis the groups need to work through, and this adds an element of distress to the situation.

It also serves the practical purpose of allowing everyone to move, as at this point they've been sitting around on the floor for almost an hour.

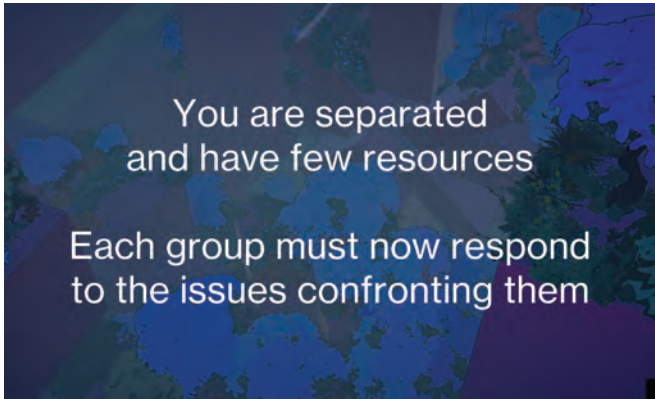| 1.	2.
3.	4.
5.	6.

*I. Our reasoning for this choice of materials is on **page 38**.*

Right: Visuals during the working session leading up to the first challenge, the storm. These are accompanied by a slowly rising soundscape, crashing in as the storm breaks.

MOVE YOUR PLATFORM TO THE OTHER SIDE OF THE TRAINING AREA

How do you decide who lives and who dies?

You are separated
and have few resources

Each group must now respond
to the issues confronting them

After having had to move their models across the workshop space, the groups get back to work, entering the main part of the workshop. The storm has damaged their floating habitats, they are cold and exposed to the elements, potable water has become scarce, hunger and disease are clear and present dangers. Now they have to rebuild.

Each group is faced with a life or death threat scenario, in which human and non-human interests must be weighed against each other. We ask them how will they adapt? What are the challenges and main points of discussion? It is now that the scenario brings human and non-human representatives into discussion with conflicting interests.

Why is it obvious that we kill all the plants to eat them and we don't get rid of a human? For instance?
- Participant Play test 1

Performance timeline:

| 00:00 | 01:00 | 02:00 | 03:00 |

THREAT SCENARIO

Water contamination

Water catchment systems are not functioning optimally. Shortages of potable water are impacting the health of all members of your habitat.

THREAT SCENARIO

Algae blooms

Algae blooms lead to suffocation of aquatic species due to oxygen depletion and blocking of sunlight.

| 1. | 2. |
| 3. | 4. |

Threat scenarios
Care has been taken during the preparation of the materials to ensure that no two groups have the same combination of habitat and threat they have to deal with.

THREAT SCENARIO

Rodent birth explosion

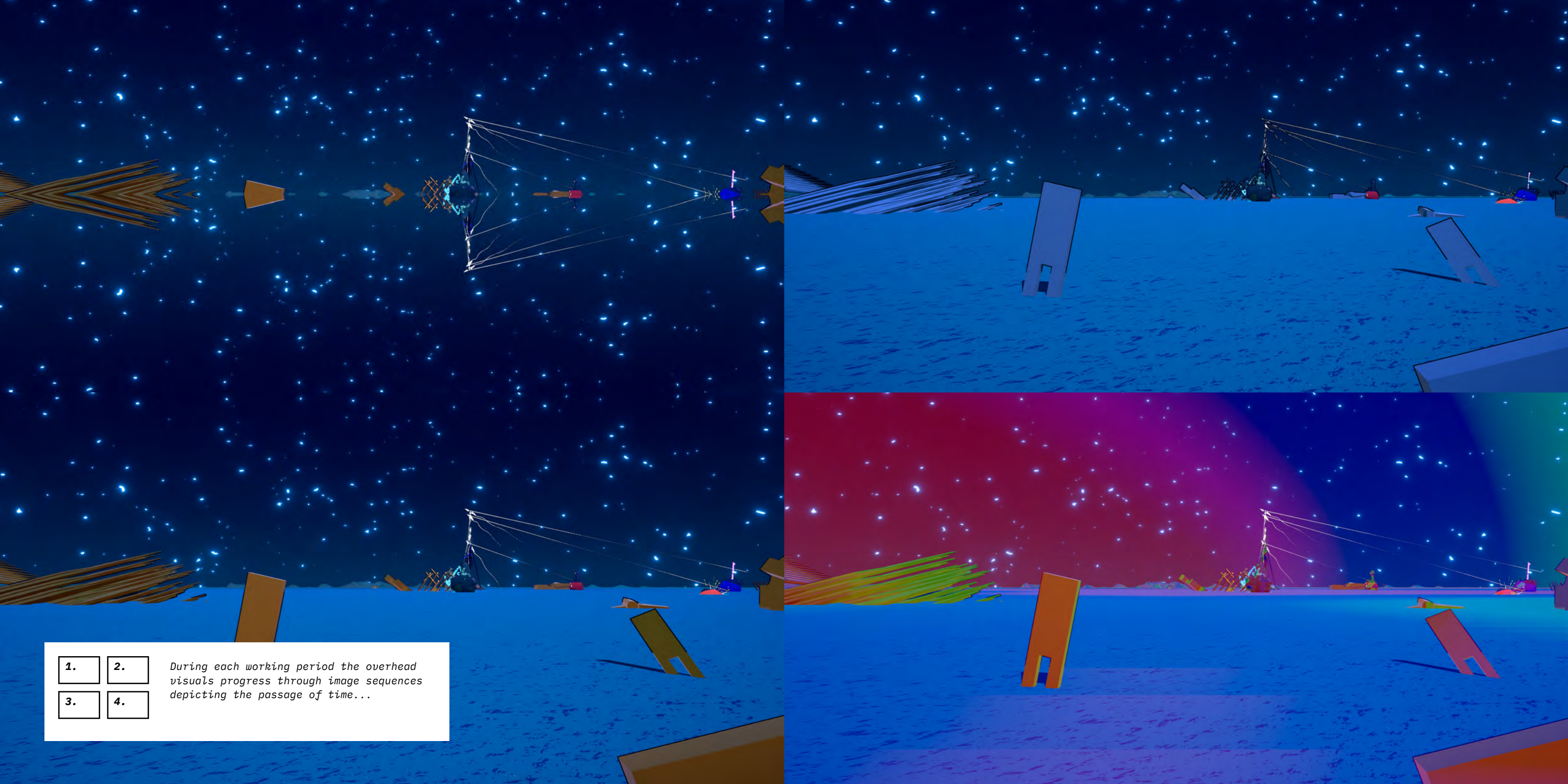The numbers of rodents are increasing rapidly, eating away food and seed stores, textiles and ropes.

THREAT SCENARIO

Sub-aquatic hostilities

Members of the ecosystem below you have turned to attacking humans attempting to perform repairs for food.

1. [ ] 2. [ ] *During each working period the overhead*
visuals progress through image sequences
3. [ ] 4. [ ] *depicting the passage of time...*

Iterations - Logs

To provide a structured means of note-taking through which to capture a group's key points of discussion we designed a system of "Zoöp logs". These worksheets were to be filled out by the participant who had taken on the designated "logger" role[I].

We iterated significantly on the logs, revising the questions, and trying to find the right ways in which to draw out key issues that we wanted to be addressed so that we could capture something of the substance of the discussions the groups had internally[II].

[I]. An explanation of the roles is on **page 30**.
[II]. A summary of findings on the use of the logs can be found on **page 107**.

1. Play test 2: *first trial of the logs. This was a very solutions-oriented group and as such they logged solutions, instead of discussions.*

2. Rehearsal: *log questions have been expanded on after observing the results from the previous play test. Questions are answered with questions, but we gain a somewhat better insight as to the points of discussion.*

3. Performance Bochum: *We have identified our key issue, and further refined the wording of the questions.*

4. Performance Bochum: *Further refinements are made both to the way in which the questons are asked as well as how they are laid out on the page. We attempt to capture both sides of an argument by visually showing them as opposed.*
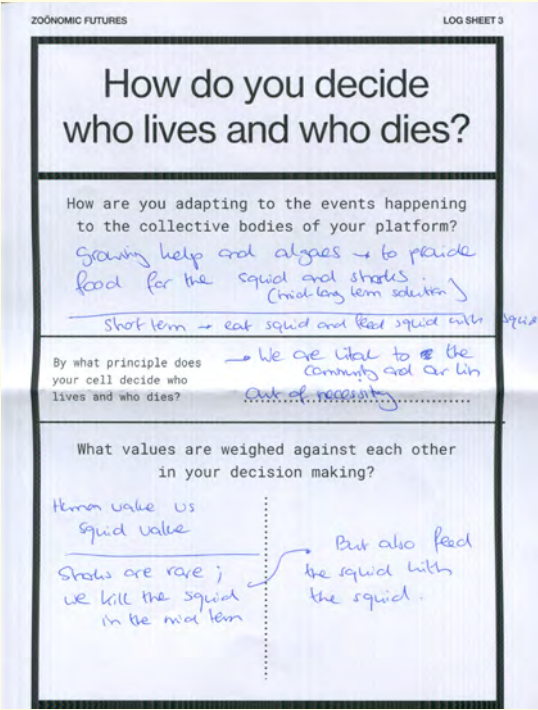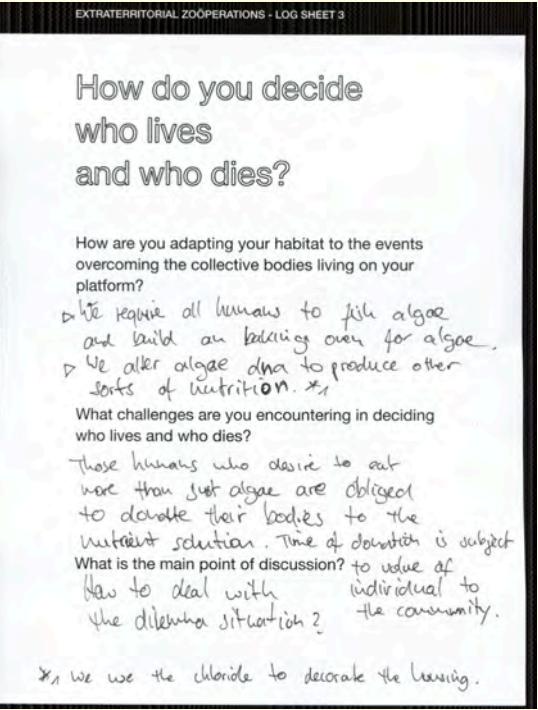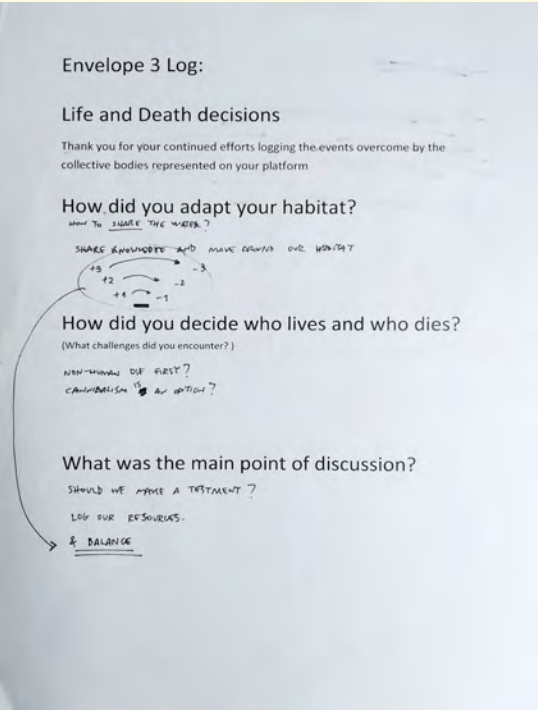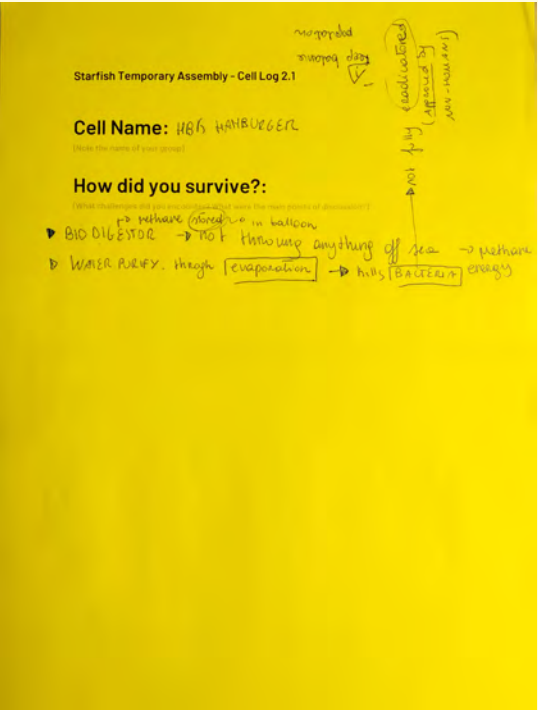
Years have passed. You have become more self-sufficient and only have sporadic contact with your sibling cells. Seasons, such as they still exist, come and go. You still float, mostly, and have worked together to develop your communities.

No longer is all your time and energy required for survival. You have made technological advances, developed instruments and new specialisations. New technologies lead to new capacities, but these also come with a cost...
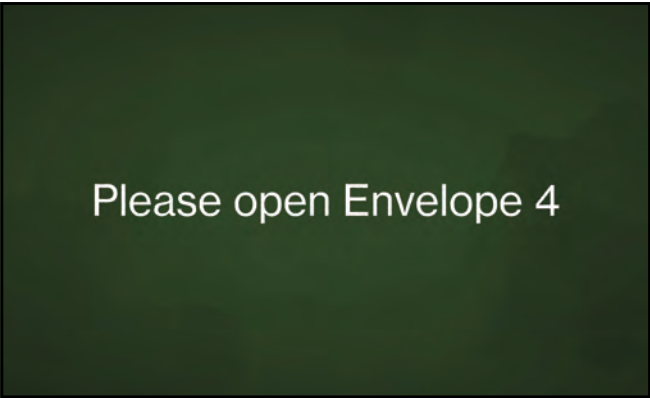
From surviving to quality of life

Please open Envelope 4

A generation has passed in the world of the Zoöps, and we now want our participants to think past just surviving, but how their values might develop as they grow and thrive as new multi-species cultures.

Envelope 4 provides them with a new technology that gives them capabilities to develop a higher quality of life. But there are costs involved, and the question must be asked, quality of life for whom?

Performance timeline:

| 00:00 | 01:00 | 02:00 | 03:00 |

Technology cards

The 'costs' element was added for the performance in Rotterdam to prompt further discussion on the question of whom these technologies would benefit.

| 1. | 2. |
| 3. | 4. |

Energy

Advanced methods to harvest energy have been developed. You now have turbines that generate electricity from the movement of the waves. Kite powered turbines generate energy from the wind. A particular strand of algae provides a rich biofuel.

CAPACITIES:

You can now lift and move heavy objects. You can now power engines to move over the sea and under the water. You can power strong artificial lights.

COSTS:

You risk developing a "might makes right" mentality, paired with reduced capacity to recognise and respond to social and communicative issues. Brute force and mobility become the preferred solutions.

Interspecies communication

Various technologies and methods for interspecies communication have been developed, in some cases over longer distances.

CAPACITIES:

You have now greater capacity for empathy. You can alter your perception and experience what is meaningful in the world in the way plants and animals perceive it. You can communicate your intentions to plants and animals. You have now greater capacity for collective experiences.

COSTS:

You become more impulsive, giving in to immediate needs and desires. Overall you experience reduced empathy with humans as a group, and individuals empathize with different non-human species.

Genetic manipulation

You have developed technologies for genetic and physical alterations to your collective bodies.

CAPACITIES:

Your group now has the capacity to change metabolic needs: lower oxygen requirements, change feeding patterns, digest plastics, alter circadian rhythms, increase growth speed to absorb CO_2, and make modifications to body plans for human, plant and animal bodies.

COSTS:

Transformed organisms may have reduced capacity for procreation, and higher susceptibility to disease. Prevalent risk of mutant strains turning into plagues.

Computation / modelling

You have developed technologies and methods for computation and modelling of artificial ecosystems.

CAPACITIES:

Your group can now oversee the interrelations on various scales of matter and time simultaneously. It gives you the capacity to model the possible effects of current decisions on longer term futures.

COSTS:

You develop a tendency to take a quantitative outlook on desired futures. This reduces your ability to accept less than (materially) optimal solutions. Simulation is valued over embodied and situated experimentation.

Above: *The Zoöp Floating Farm Nutrocia have developed a culture centered around a nutrient pool through which all living matter is recycled. Humans who desire to eat more than just algae-based nutrient supplements are obliged to donate their bodies sooner than those who do not.*

Above: *The Seed Tree Zoöp has developed a culture based on exchange, building ramps and bridges on all sides of their platform to accomodate a wide variety of species.*

Iterations - Script

Our script was in continual development from May 2019 onwards, and is still revisited, annotated and revised after each iteration of the workshop.

We are continually refining the sequencing and timing of plot points, considering how to manage the suspense of the narrative as it is interrupted by workshop exercises, and working out how to manage the participants' roles of representing human and non human interests.

Playtest 0

In the first playtest there is no script yet. I am just ad-libbing a story that the participants have been ship-wrecked, working through a series of threats to their survival and narrating some passage of time.

Play test 1

The first play test with a written script. There was still a UFO encounter in this one.
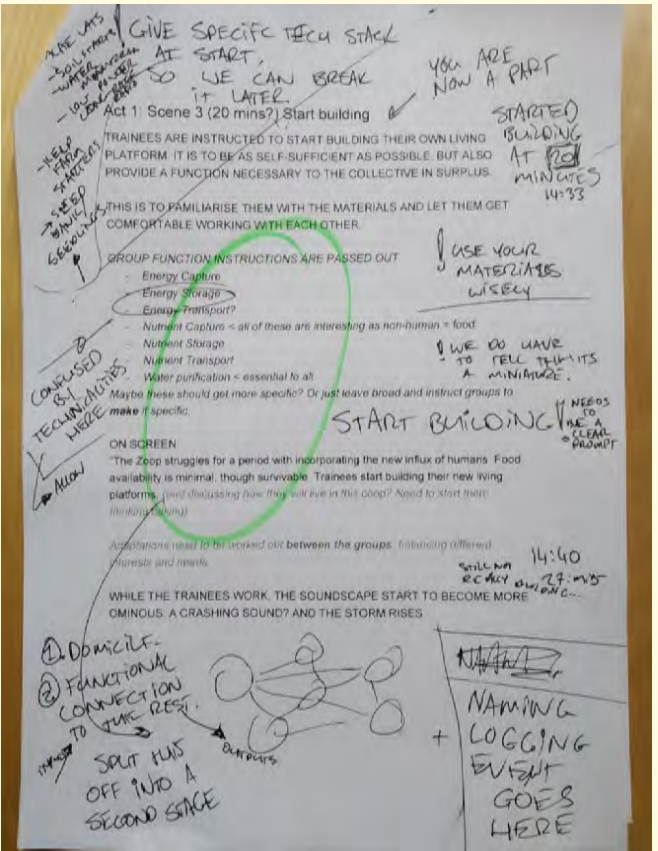
Play test 2

The structure is fairly well developed, but there is still a lot of work to be done on timing and the means of delivering instructions to the participants (see photo right).

Rehearsal

An almost finalised version of our script that includes time codes, slide change and sound cues, and references to the materials.

Performances

The performance version of the script had a clear system for indicating slide changes, sound cues, stage instructions, and which narrator is speaking.


A script used in Play test 2, annotated with timings, observations on structure and instructions for further rewrites.
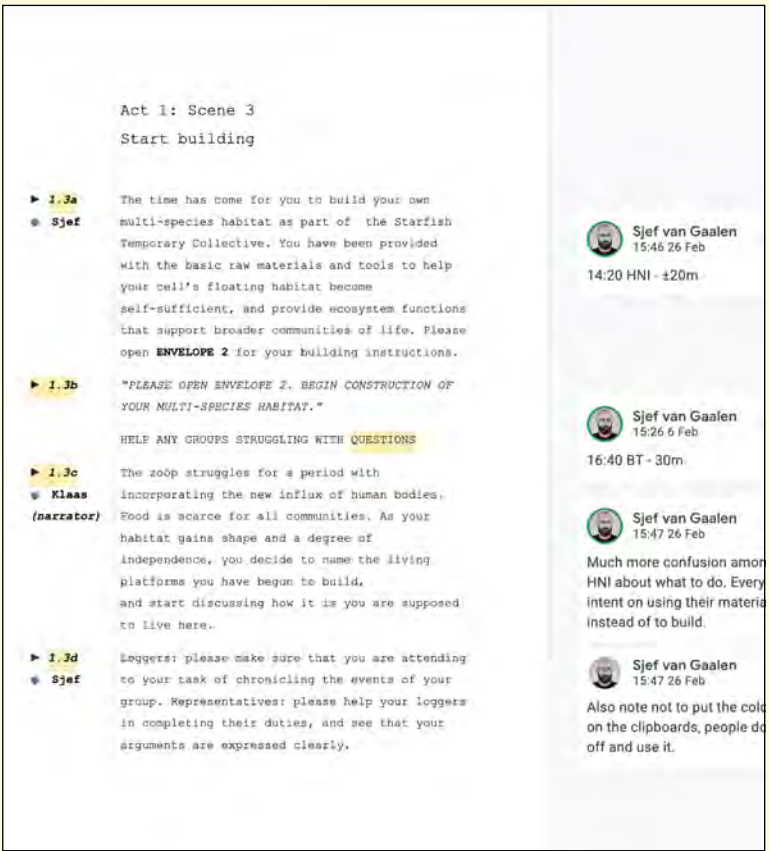
The annotated script after our performance in Rotterdam. Timings from previous performances are noted, as well as observations of participant behaviour for further design iterations in subsequent performances.

You have generated a particular way to lead a meaningful life as a multi-species community. You have developed a practical ethics, embodied it in the structures of your habitat and inscribed it in the patterns of your local culture.

The Zoönomic Motherboard has observed that the time has come for Zoönomic exchange. You have each been assigned to sibling Zoöps to exchange genetic, technological and cultural traits. Please travel to your exchange partners now...
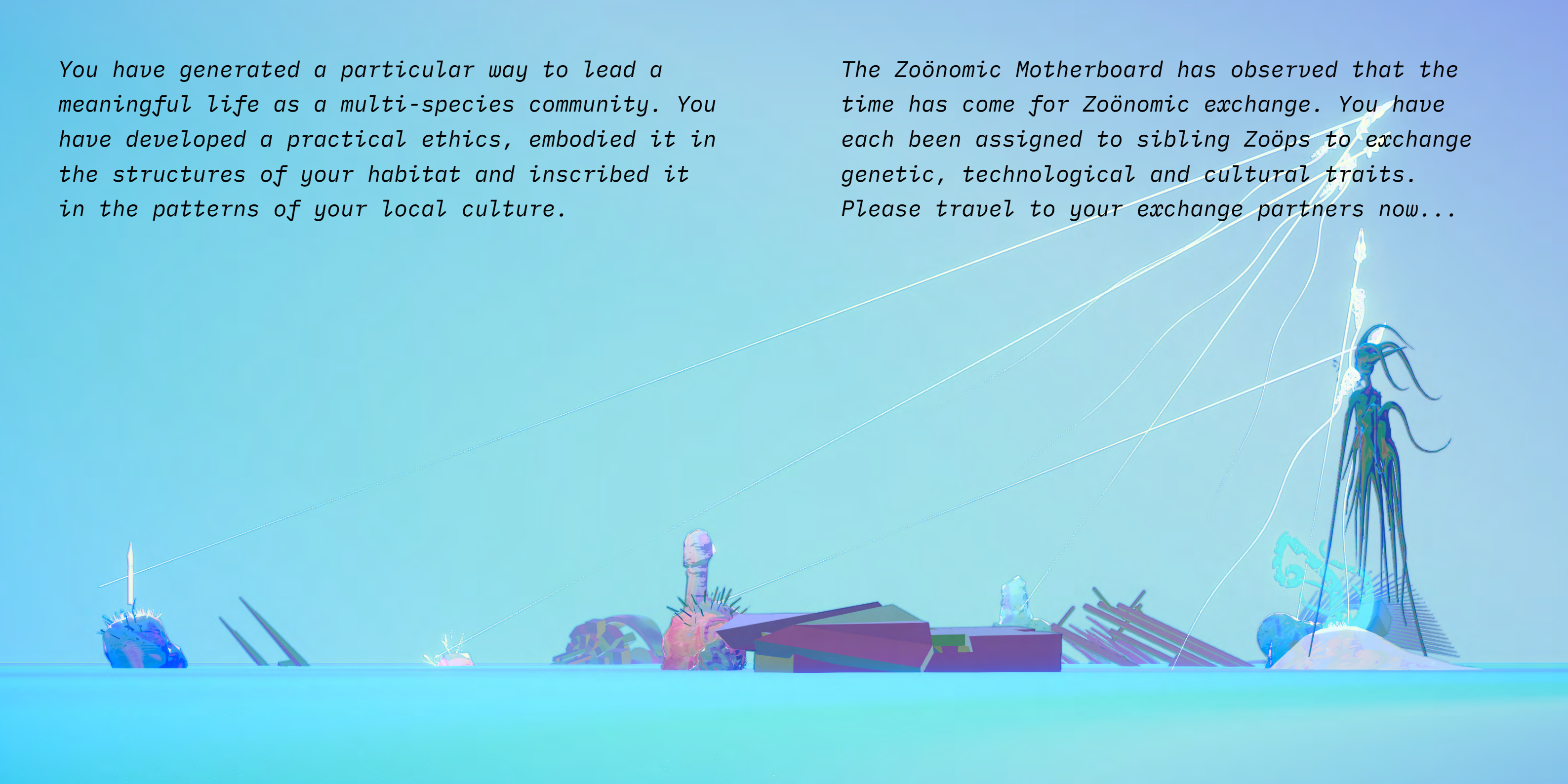
Zoönomic Exchange

At this point (two hours into the workshop) each group has collectively built their cardboard and duct-tape model representing a model society. They have progressed through some levels of discussion, but can be a little role-played out within their groups.

During the working periods we have been observing and taking notes, and now we move them together, assigning sibling Zoöps in combinations that we think meet lead to interesting discussions. The time has come for groups to be brought together, to meet and exchange cultures. It's also nice for the groups to mix, to move around again as they have been sitting around on the floor since the storm (aka for the last hour).

This cultural exchange has proven to be one of the most effective parts of the workshop, confronting the groups with others and finding them quite difficult to relate to[I].

I. *An expample of one such exchange can be found in the case study Funga Sutra and The Pumfino Donut on* **page 78.**

Please find your sibling Zoöp

Move your habitats together, and open Envelope 5
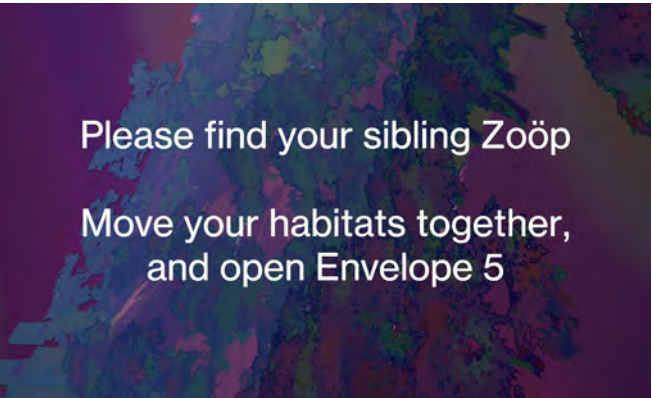
"you get an embodied sense of what it means to form a kind of culture, and then have to confront another culture. We started off in the same conditions and we developed so differently"
- **Participant Funga Sutra**

Performance timeline:

00:00			01:00			02:00			03:00

Above: CO:O:P meets Ieh... ah.. ah.. (dolphin name). These two groups were able to merge their Zoöps, finding that their strengths and weaknesses were complementary.

Above: The meeting of Bookra 453,"Kelp Culture" and The Pool did not result in the merging of their cultures. Instead they chose for the creation of a communal 4th space.

Act Three

The third and final act of the performance functions as the presentation round of the workshop. The groups are asked to complete a final assignment, allowing them to summarize their experience before sharing it with everyone else.

The final presentations take the form of a "diegetic debriefing", in which within the story world each group recounts their history and how they have evolved as a culture since their origins in the Starfish Temporary Collective generations ago.

🔊 *A background track is available for each act.*

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The intergenerational gathering of ocean Zoöps approaches. To contribute to this gathering, it is now necessary to create an artifact, institution or ritual that represents the most important values, codes or behaviours of your multispecies community's unique culture...

Transmitting your culture

Please open envelope 6
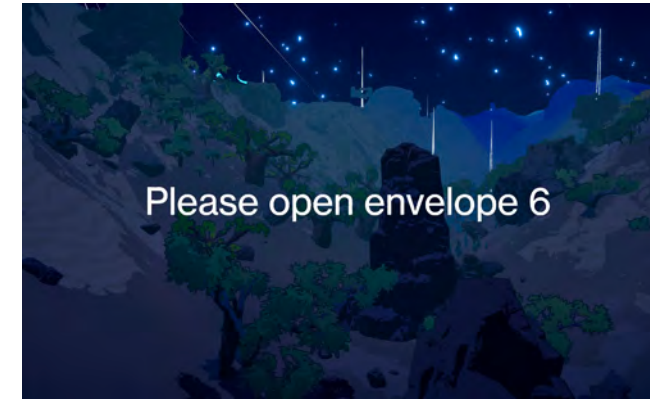
The final assignment is designed to prepare for the final presentation round. We ask each group to create an artefact, institution or ritual that will serve as a means to pass on the important values, codes or behaviours of the unique way of living that their culture has developed.

Our intent behind asking for this reduction into a single symbol is for the groups to get to the core of what it is that they think is important about the story they have experienced. There's also the practical matter of it helping to keep presentations short.

🔊 THE GATHERING HORN SOUNDS

The groups are asked to travel to the great intergenerational Zoöp gathering...

Performance timeline:

| 00:00 | | | 01:00 | | | | 02:00 | | | 03:00 |
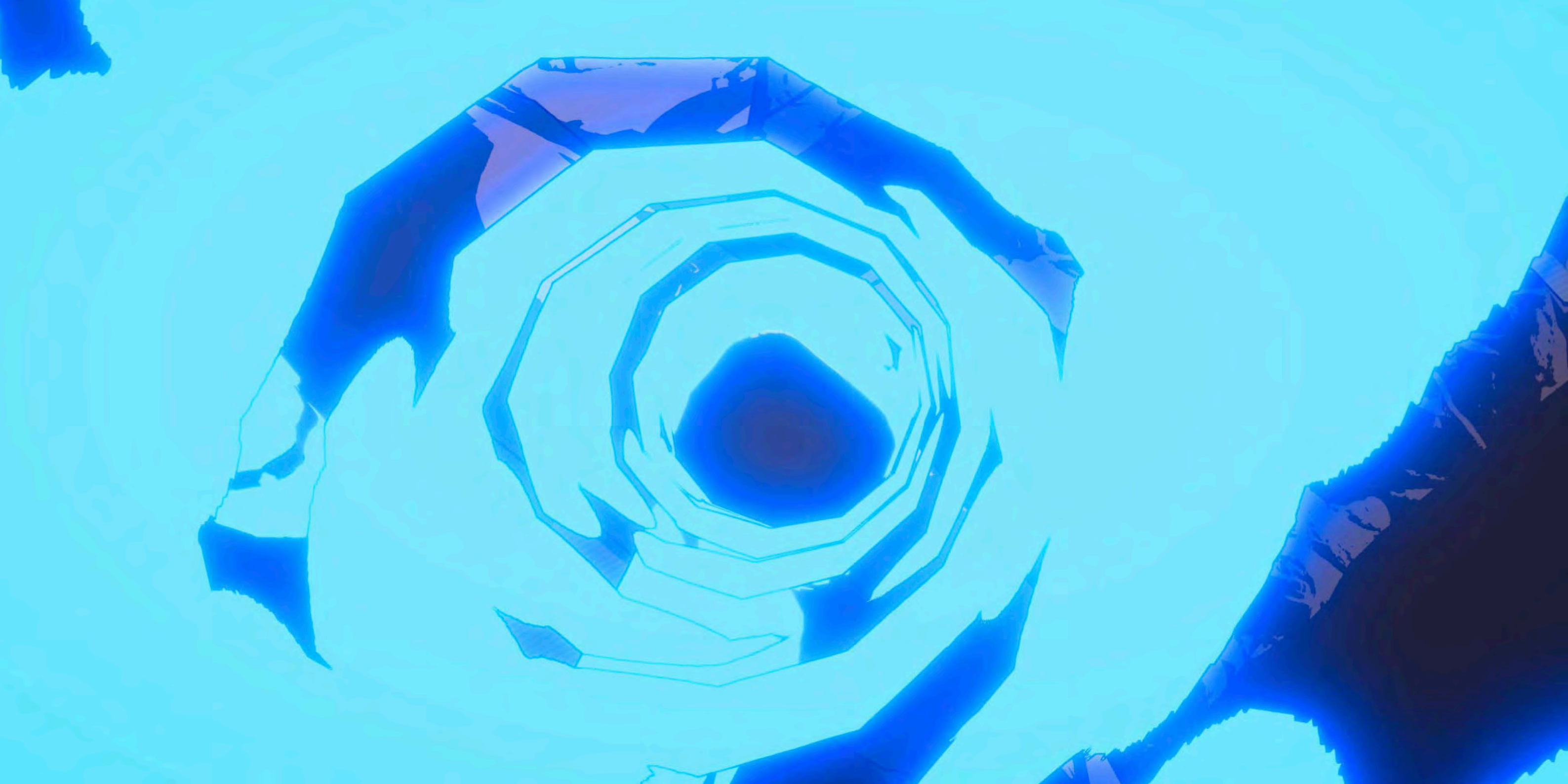
The Gathering

Each group is asked to tell the story of their Zoöp. Using their logs as a memory aid, they recount their history, explaining how they resolved conflicts, how the values of their culture have developed and how they are transferred.

This "diegetic debriefing" functions as the closing presentation round of the workshop.

Left: Particpants gather around the floating platforms they have created, recounting the events as they experienced them, and explaining how their culture has developed.

Performance timeline:

| 00:00 | 01:00 | 02:00 | 03:00 |

The Floating Habitats

Constrctions created by the particpant groups at the Ruhrtrienniale in Bochum, the event for which this expereince was initially commissioned. We were told to expect 75 participants, and ended up with roughly 40. A very theater-inclined, activist audience, many of whom had prior experience with role-playing.

1.	2.	3.
4.	5.	6.

1. Floating Farm Nutrocia - *A culture centered around a nutrient pool through which all living matter is recycled. Humans who desire to eat more than just algae-based nutrient supplements are obliged to donate their bodies sooner than those who do not. They maintain levels of satisfaction through enforced use of a technology that creates a joyful experience of another species' mode of perception.*

2. Seed Tree Zoöp - *A sharing culture, accessible to all through the many bridges. Specialists in inter-species health care, but they have population issues as they do not want anyone to die. Their values are happiness, freedom and being you.*

3. Society of Secret Seaweeds - *Initially a very algae-based society, with strong representation for algae rights. Their conflict resolution and cutural outreach are based on dolphin diplomacy, though the dolphins are suspected of often siding with humans out of species self-interest. Their values are described as simplicity, modesty and wholeism.*

4. Turtle Cathedral - *A multi-layed community based on interspecies communication. Their cutural development was encouraged and is transmitted through interspecies sports and interspecies drug trips. Their values system is based in tolerance, coöperative agility, creativity and non-violence.*

5. Greenland City - *Initially taking a human-centric approach with a focus on bio-dynamics and recycling the dead, Greenland City eventually found itself with a waste problem. The rats that flourished under the circumstances took over this society, which eventually came to be run by a rat-king super AI. Their music festival and sheep meditation fields attract visitors for cutural exchange, but there are issues with sheep alcoholism.*

6. Bloop! - *Bloop! See **page 98**.*
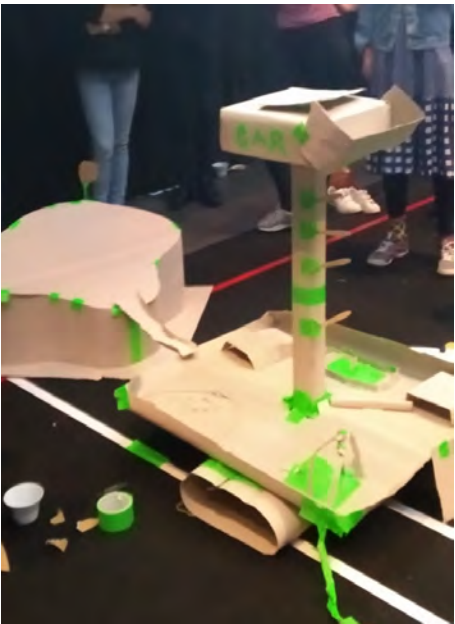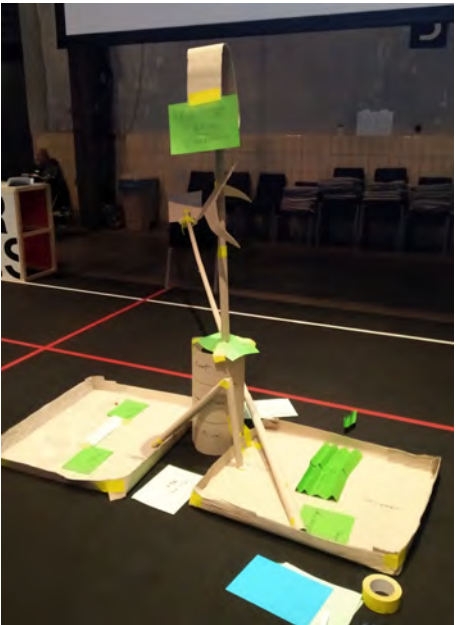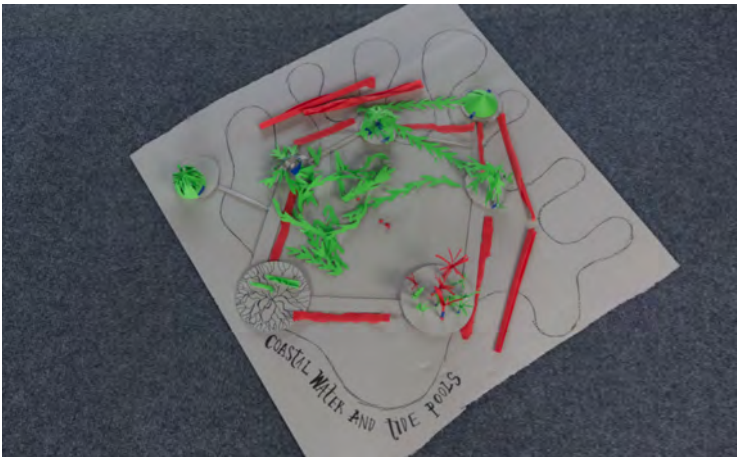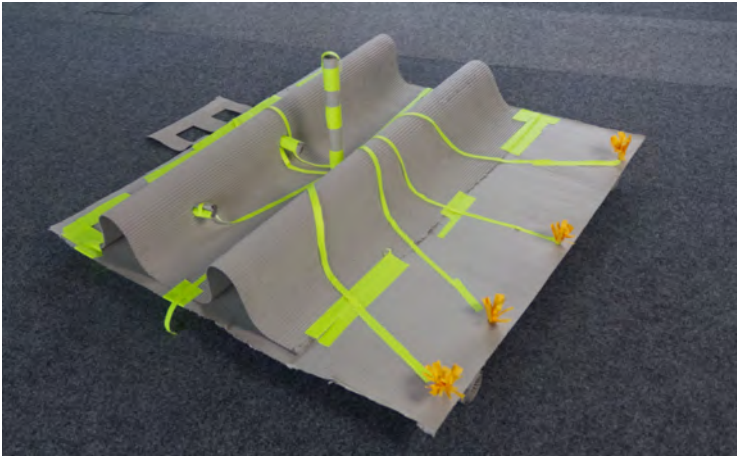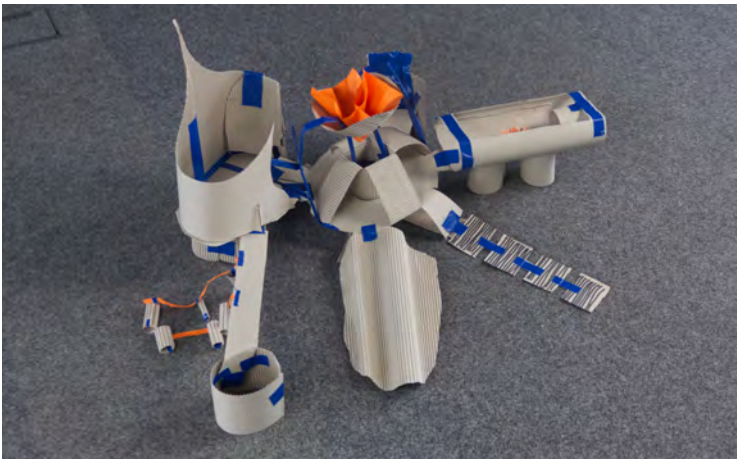
Constructions created during our repeat performance at Het Nieuwe Instituut in Rotterdam. We had 35 participants, many of whom had a background in design or architecture. More-than-human design was also an important part of the institute's program at the time, so participants came with an interest in this subject.


1.	2.
3.	4.
5.	6.

1. The Pumfino Donut - A group focused on extending the human lifespan long enough to be able to create self-sustaining systems for when humans would no longer exist. Their highest value was (species) diversity.

2. Ieh... ah.. ah.. (dolphin name) - Focused on microplastics filtering. Their justice system weighs human values against squid values. Humans adapt to eat waste plastics to decrease their consumption footprint. There is an interspecies creche, and experiments with a human-squid incubator.

3. Bookra 453 - Taking n approach that they describe as "advanced back-to-basic", this community keeps track of production and consumption using WBI, a "well-being indicator". This does mean that there is total surveillance in this culture, but it is kept honest through open data.

4. Funga Sutra - A culture that alters their microbiome, growing fungus on their skins to symbiotically satiate the human need for consumption. They eventually merge with the other species with which they co-habitate, giving up their humanity. See **page 78**.

5. The Pool - A more-than-human society based on the "Nuragic Civilisation Circle". There is no elite, but instead decisions are made by a process of ecocentric deliberation. Their values are no accumulation, but collaboration, reconciliation and celebration.

6. CO:O:P - A carbon-sinking collective. Having developed the technology for telepathic inter-species communications they have discovered that overall humans talk too much.

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Funga Sutra and
The Pumfino Donut

As the rhythm of the performance progressed both of these groups appeared to be immersing themselves in the fiction, busy creating and discussing their model Zoöps. We thought the two would make for an interesting meeting, and put them together for the Zoönomic exchange...

The Funga Sutra platform. A collective of human-algae symbionts, existing outside the level of human consciousness together with the plants and algae that they took care of.
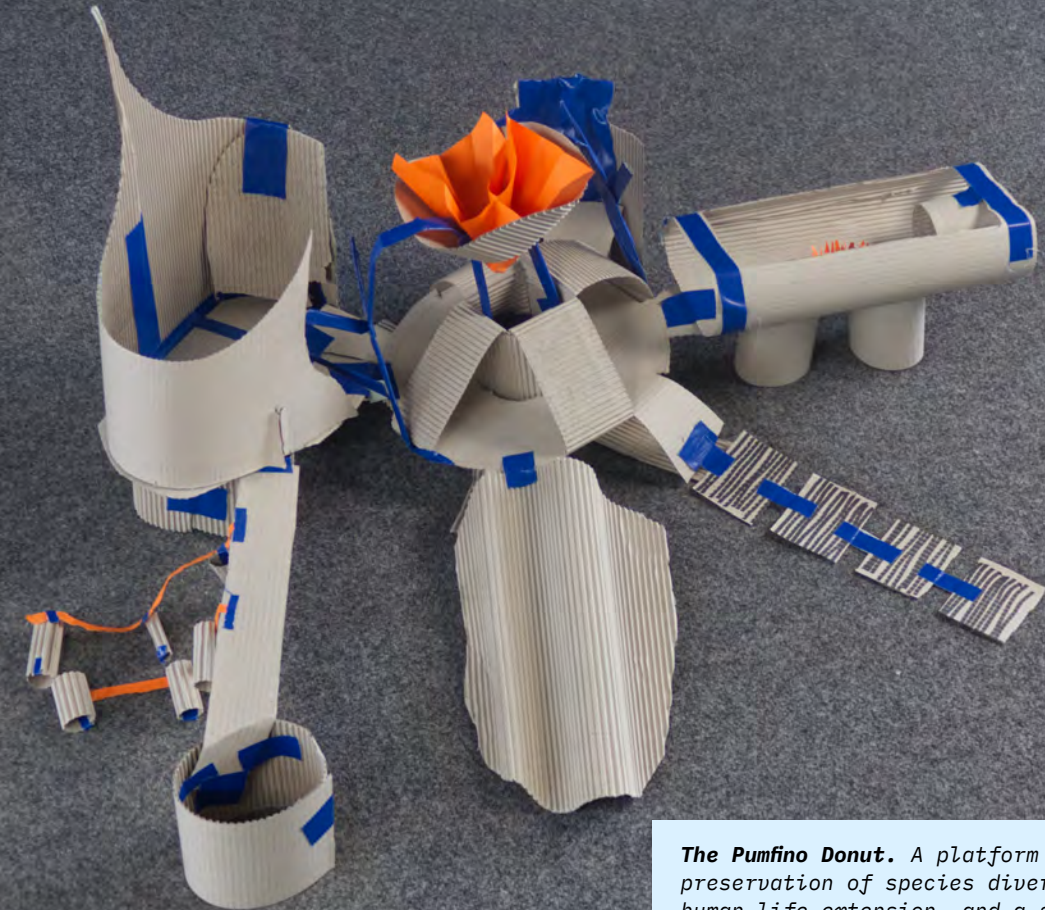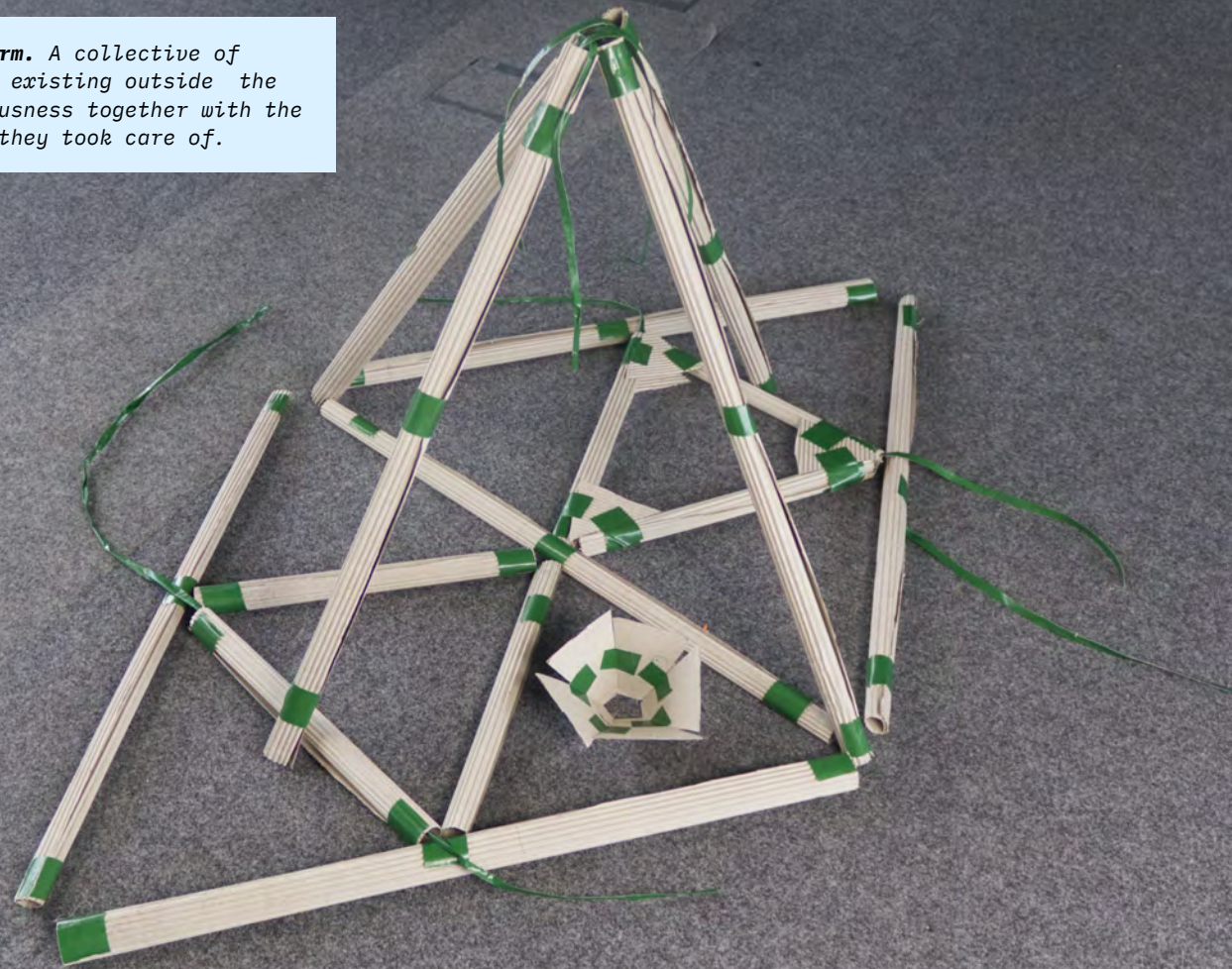
The Pumfino Donut. A platform for the preservation of species diversity through human life-extension, and a school for technological and ecological exchange.

Funga Sutra had, after an initial period of building, left their model (and their log sheets) behind, and instead committed to discussion of the development of their fictional culture. They took a very philosophical and biology-based approach. The participant that I interviewed described the experience as profound and enabling, developing in organic, creative ways, and leaving a tender and dear memory.

"it's an enabling space, you're allowed to play in a serious way. That's very welcome, because you can go into the philosophical, the technical, the programmatic aspects of this, and actually think about survival as the same as sustainability"
- Participant Funga Sutra

The Pumfino Donut had taken a very technical, solutions-based approach. Their model was very detailed, but the participant I interviewed from this group had not been able to inhabit the fiction in a way that they found satisfying. Finding the experience to be overall frustrating, they felt that through the practicality of the model building and lack of knowledge about the technologies that were supposedly being employed that the opportunity to philosophise about what it meant had been lost.

"are we trying to solve very concrete little challenges and make this prototype which is so physical, or are we trying to philosophize about what this means?"
- Participant Pumfino Donut

When the two groups met they experienced a clash of cultures, finding that their approaches were not reconcilable in any way. As the logger for The Pumfino Donut put it in their logs; "we are existing in different time and space limitations". Their resolution in the end was not to merge their cultures, but to establish a knowledge exchange program through which some cultural exchange could take place.

This meeting was recounted to us by participants as being one of the most valuable parts of the workshop, describing even a visceral sense of aversion to the way in which the other group had developed. Being able to move past this and find a way to appreciate each other's perspectives had left a lasting impression.

"we became so extreme, we had difficulties merging or even communicating with the other group. We realized that, wow, we really traveled far off in a completely different direction"

- Participant Funga Sutra

An Emergent Methodology

I describe myself as a researcher operating in an emergent hybrid area of practice between design and futures studies, and as such it is to these fields that I relate the methods that we employ.

This section will explain some key similarities and points of differentiation with recent developments in these fields, and position the Zoönomic Futures workshop as a research tool within a broader framework for strategic foresight.

Performing a narrative experience

To help our participants get into an imaginative headspace, the facilitators (Klaas Kuitenbrouwer and myself) act as hosts and narrators, performing a script that introduces the story and subsequently drives the events that will be responded to in the workshop assignments. Our narration is supported throughout by a live soundscape and overhead visuals, all of which together constitute the story world.

In our workshop, we want participants to consider what it means to build a culture in which the rights of non-human life, the plants and animals forming the ecological communities with which we co-exist, are represented on equal footing with those of humans. A world in which a new mode of cooperation, the Zoöp, is the norm.

It's not easy to imagine the conflicts and complications that might arise in a society based on different principles to the world as we currently know it. Through the performance of this speculative fiction, we want to give our participants an experiential starting point from which they might imagine such a different perspective on the world.

This creation of an experience encapsulating our workshop assignments resonates strongly with the recent development of "experiential futures" in the field of futures studies. This umbrella term encapsulates a wide range of designed artefacts, media and installations, all of which are aimed at establishing depictions of possible futures. The aim is to make the scenarios directly relatable, making it easier for diverse audiences to effectively and critically engage with imagining how the changes that they show would affect one's own life. In order to imagine this change a distance must be crossed between abstract possible futures, and life as it is directly experienced in the embodied present. Futurist Stuart Candy calls this distance the "Experiential Gulf"[I].

Our narrative experience is also designed to help our participants better inhabit an alternative perspective within their experience of a future scenario, but it diverges here from being an "experiential future" as defined by Candy. A key point by which experiential futures are distinguished is that the future scenarios are presented in such a way as that they can be experienced in "real life", at a one-to-one scale. The aim of our worldbuilding however is not to create a fully immersive fiction, but to set the scene. To sketch outlines providing a setting, and a plot of events.

Instead of having participants imagine how the changes we portray would affect their own lives, we are trying to build enough of a world that they can suspend their disbelief while trying to inhabit an alternative perspective from which they can operate during the workshop assignments. Whether this narrative immersion is an effective means of helping participants engage with an issue is one of the key questions underlying this research.

> **I** *Stuart Candy and Jake Dunagan, 2017. Designing an Experiential Scenario: The People Who Vanished. Futures 86:136-153.*

Exploration, not speculation

Our workshop exercises take place within the story world we build through the performance. Participants take on roles representing human and non-human interests, and are tasked with building cardboard-and-duct-tape models of multi-species communities. Our "floating habitats". These serve to materialise the participant's discussions as they move through workshop assignments designed as responses to the events of our overarching plot, intended as conceptual spaces that physically manifest the collective imaginings of our participants.

Here too, the models serve as a means to close the gap between reality and fiction. Researcher and designer James Auger has written extensively on the methodology of speculative design, and describes the requirement for "a bridge to exist between the audience's perception of their world and the fictional element of the concept"[I]. Crossing this "perceptual bridge" allows a speculative work to inspire and influence. In Auger's view it is plausibility that is key to the suspension of disbelief. If an object or technology is too alien, it will not resonate with its audience, and therefore not be effective.

Our goal however is not to "inspire and influence". Our "floating habitats" are not architectural models, prototypes, or templates for model societies directly meant to reflect possible physical realities. Whereas the products of speculative design are often focused on specific technologies and the products and services that might arise from or depend on them, the Zoönomic Futures workshop is not envisioning a design product. The cardboard and duct-tape floating habitats created in the workshop are not design concept proposals for future products or services, instead they are collective imaginations of societies that are based on a principle that differs radically from the human-centric mode. A society based on values of equal representation for humans and non-humans, and aimed at ecological regeneration instead of economic growth.

I. James Auger, 2013. Speculative design: crafting the speculation. Digital Creativity, Vol. 24, No. 1.

II. Matt Ratto, 2011. Critical Making: Conceptual and Material Studies in Technology and Social Life. The Information Society, 27: 252–260.

To me it is this physical manifestation of a collective shared space that is key. When describing how critical making differs from critical design, founder of the Critical Making Lab Matt Ratto states "The final prototypes are not intended to be displayed and to speak for themselves. Instead, they are considered a means to an end, and achieve value through the act of shared construction, joint conversation, and reflection."[II] The value of the co-creation is in the participants together experiencing "a practice-based engagement with pragmatic and theoretical issues".

What matters most to us in the Zoönomic Futures workshop is that participants can critcally and creatively create their own stories around the model they build, responding to the events in the overarching narrative we set out for them. Creating their own worlds within the scenario we depict gives them the opportunity to invest something of themselves, giving them ownership over the futures they create. We hope that this would advance the degree to which these exercises engage them with the subject matter, and consider a perspective on the issue of non-human representation that they previously may not have.

Connecting to a strategic foresight process

In his description of a generic foresight process framework[I], futurist Joseph Voros distinguishes four phases: Inputs; Foresight; Outputs; and Strategy. When we make a distinction between the goals of the Zoönomic Futures workshop in and of itself and the purpose of the workshop within the broader Zoöp project we can start to see how the workshop outcomes can perform a function in each of these stages.

Voros describes Input methods as those used to gather intelligence from a variety of sources. Our workshop functions as an input in the Zoöp project through its investigation of what participants consider desirable and or viable means of interacting with, and representing the interests of the non-human in human systems. The outcomes and our experience of the process during each performance of the workshop also functions as an input for its further development.

The foresight phase of the process is constituted of iterative and exploratory methods. These methods are "prospective" in nature, and are used to explore possible future states through which alternate views of the future can be constructed. The Zoönomic Futures workshop falls squarely into this phase. We are creating a fiction through which our participants further explore the issues that they encounter there.

Outputs as they are understood in a foresight process are not to be confused with the participant outputs from the workshop. Instead they are the products of considered analysis of the information gleaned from the input and foresight phases of the process. This thesis and other papers or presentations made on the basis of the workshop outcomes might be considered such an output. The outputs are to feed into the strategy phase of the process.

The Zoöp project has a long-term strategic goal of actually instantiating a new legal form in incorporation that represents non-human interests. Most aspects of this, concerning planning, funding, lobbying and legislative work that fall well outside of the scope of what is addressed in the Zoönomic Futures workshop. Where the workshop does play a part is on a cultural and attitudinal level.

Research has shown that imagination can support engagement with complex issues such as climate change[II], by aiding and inspiring collective reflection on the radical effects of the possible changes in natural, as well human socio-technical and political systems. Being able to think about these changes in a structured way, even if initial explorations may be somewhat absurd, can give people some sense of ownership over their futures. The better they are able to envision possible change, the easier it is to believe that change is possible, this is the role speculative workshops such as ours have to play at a strategic level.

The diagram Voros uses to illustrate this whole process is a simple linear one. He points out that for the sake of simplicity, the many feedback loops that run from each stage back into the earlier ones are omitted. The Zoönomic Futures workshop lives amongst this recursive looping of iterations, playing different roles and serving various purposes in different contexts.
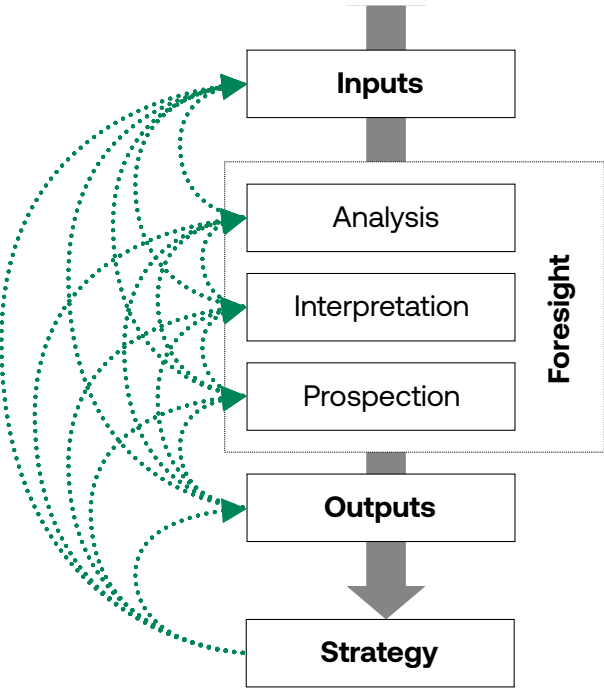
I. Light, A., Wolstenholme, R. & Twist, B, 2019. Creative practice and transformations to sustainability – insights from research. SSRP Working Paper No. 2019-1

II. Joseph Voros, 2003. A generic foresight process framework. Foresight 5(3):10-21

Above: In grey the foresight process as illustrated by Voros. In green the recursive, iterative web in which our design method finds itself.

Findings

We designed a workshop consisting of collaborative, speculative crafting exercises structured within a performed narrative, to give the participants an experience through which they can engage with the imagination of cultures in which the needs, desires and qualities of non-human life are better represented.

In the end, were our participants willing to invest in this possible future vision of a society that is no longer human-centric, and what has stayed with them after the workshop?

I will reflect on our observations, recordings, notes and interviews with participants to examine how they responded. Some of the significant practical lessons learned throughout our iterative development process will also be discused.

Athough these findings are specific to the Zoönomic Futures workshop, I will also briefly reflect in how the research questions are applicable to my broader practice.
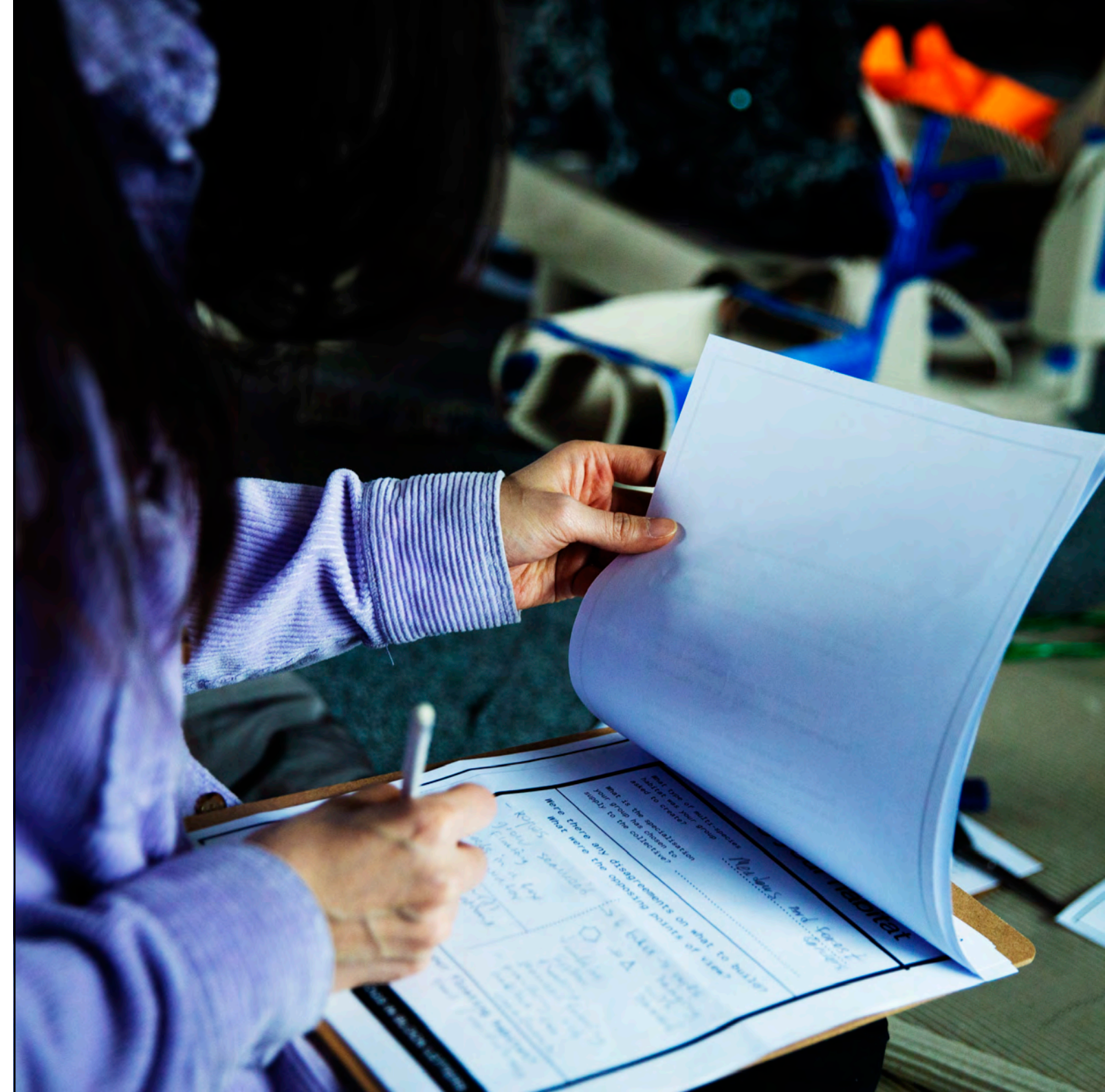
The story we created

As I put forward in my explanation of the positioning of our method, we created a fictional scenario within which our workshop was packaged. We combined several methods to create this story world. Our narration, the overhead visuals, live soundscape, even taste and smell are incorporated. But do these have the intended effect of a heightened engagement with the material?

"You have different chapters in which like the classical Greek tragedy, the choir would narrate when you would move from one scene to the other."

- Participant Secret Seaweeds

Left: Klaas Kuitenbrouwer (in the red) and myself (in the beard) narrating the opening sequence of the performance.

It's hard to attribute directly cause and effect with a lot of our design decisions as there are so many interrelated factors play. What we can say from participant feedback after the events is that they enjoyed both the world we created and the experiences they had working within it.

For most participants the overarching narrative worked. Some expressed a certain confusion early on in the performance, finding it unclear what was expected from them as they simultaneously found themselves having to absorb sound, visuals, spoken and written instructions, and having to build in response to that. With the exception of one, the rhythm of the performance helped them through that, and they found that they were able to find ways in which inhabit the roles that they were assigned effectively.

The narrative immersion of participants in a scenario can contribute to their engagement with a scenario by giving them a flow to go along with. Not just a setting, but a plot, a series of events that must be responded to, can help participants to engage with a new perspective.

The stories they created

Going back over the results of the workshop with Klaas Kuitenbrouwer, looking at the model habitats and fictional cultures stories that our groups ultimately create, we very broadly see two main flavours of final outcome. In the first a technical approach has been taken, attempting to solve the problems of the story world through something resembling a circular economy. Full use of resources, everything is recycled, materials, nutrients. The loop is closed in an elaborate metabolic system in which everything and everyone is taken care of.

The second approach is more philosophical, and concludes that we must leave behind the human perspective altogether, through evolution, mutation, communication or transcendental experience in communing with the non-human. The right to add legitimacy from a strictly human perspective has been lost.

In both cases there is an element of increased ecological awareness, but whereas one assumes that there is a problem that can be solved, the other moves into the inevitability of an existence beyond a human point of view. If there is no human problem, it also doesn't need to be solved. Some form of benevolent surveillance, or controlling intelligence that is more-than-human in nature also often features. An abdication of the position that it is human desires that must determine outcomes in the world.

These two positions are the extremes and most groups end up with some mixture of both, but we found these approaches very well illustrated in the Zoönomic exchange meeting of the groups "Funga Sutra" and "The Pumfino Donut" during our performance at Het Nieuwe Instituut.

"I really liked the visual growing of the different Zoöps around us. It was interesting that similar forms started to emerge, with different solutions for the same issues."
- Participant Secret Seaweeds

Bloop!

During the group presentations at the Ruhrtriennale in Bochum. One group's final presentation consisted of them collectively making swimming motions around their habitat, and making the sound *"Bloop!"*.

This absurdist response, while initially frustrating, has proven to be a valuable result. It exemplifies an extreme case of a behaviour we encountered more often when performing the workshop in larger groups.

Particpants in discussion, presumably still in a commonly intelligible language.

"Bloop!"

The Q&A after their initial presentation quickly devolved into a comedic game of call and response;

"What is the name of your habitat?"
"Bloop!"
"What are your values?"
"Bloop!"
"How do you transmit your culture?"
"Bloop!"
"How can people learn about Bloop?"
"Bloop!"

And so forth. If you couldn't understand "bloop", then there was no way for you to participate in their culture. The only way they would teach you about their culture was by "Bloop". The group had fully committed to an absurdism, developing a new culture that none of us had any useful way of relating to.

During the crafting of their habitat, the group had engaged in a lengthy discussion about colonialism and the use of language as a tool of oppression. Their final response was in part protest, having developed their own culture they could not be expected to communicate with others on dictated terms.

"Bloop" was the most extreme case, but all groups at the performance at the Ruhrtrienniale had outcomes that went further into absurdity and implausibility than we had seen in our play testing. Not that these results were unwelcome, but for us some reflection was necessary to consider what we might adjust for the subsequent iterations. In play tests the group always came away with some kernel of insight, now many of the outcomes seemed to be somewhat absurd.

After our second play test, we had chosen to simplify our introduction of new technologies for the "Quality of Life" section. In practice that meant that a round of encounters designed to cause some kind of conflict had been removed. We introduced new technologies but did so without any constraints. The lack of any specific conflict seemed to lead to the groups spiralling off into a magical space without restriction. *"How do you resolve conflicts?"* had become an irrelevant question, as our narrative at that point lacked a central conflict.

This led to the addition of constraints to the technology cards, and the addition of the Zoönomic Exchange section of the performance in Rotterdam, in which the groups would have to discuss their strengths and weaknesses, and find a way to work together.

Transmitting your culture

What are the values you wish to carry forth?

+ empathy, float-on, + interspecies communication

How will you transfer your culture?

By the Parliament of Algae through the language, culture and way of life of +interspecies

Please briefly describe the artefact or institution you created to transmit your culture:

THANK YOU FOR YOUR HARD WORK KEEPING YOUR LOGS TOGETHER!

Above: Our logging system proved to be inadequate for purposes of capturing discussions in this group, giving us an unintellible end result. This was of influence on the changes we made to the design of our logs (see **page 107**), and the request that they please be completed in block letters.

Right: The "Bloop!" Habitat.
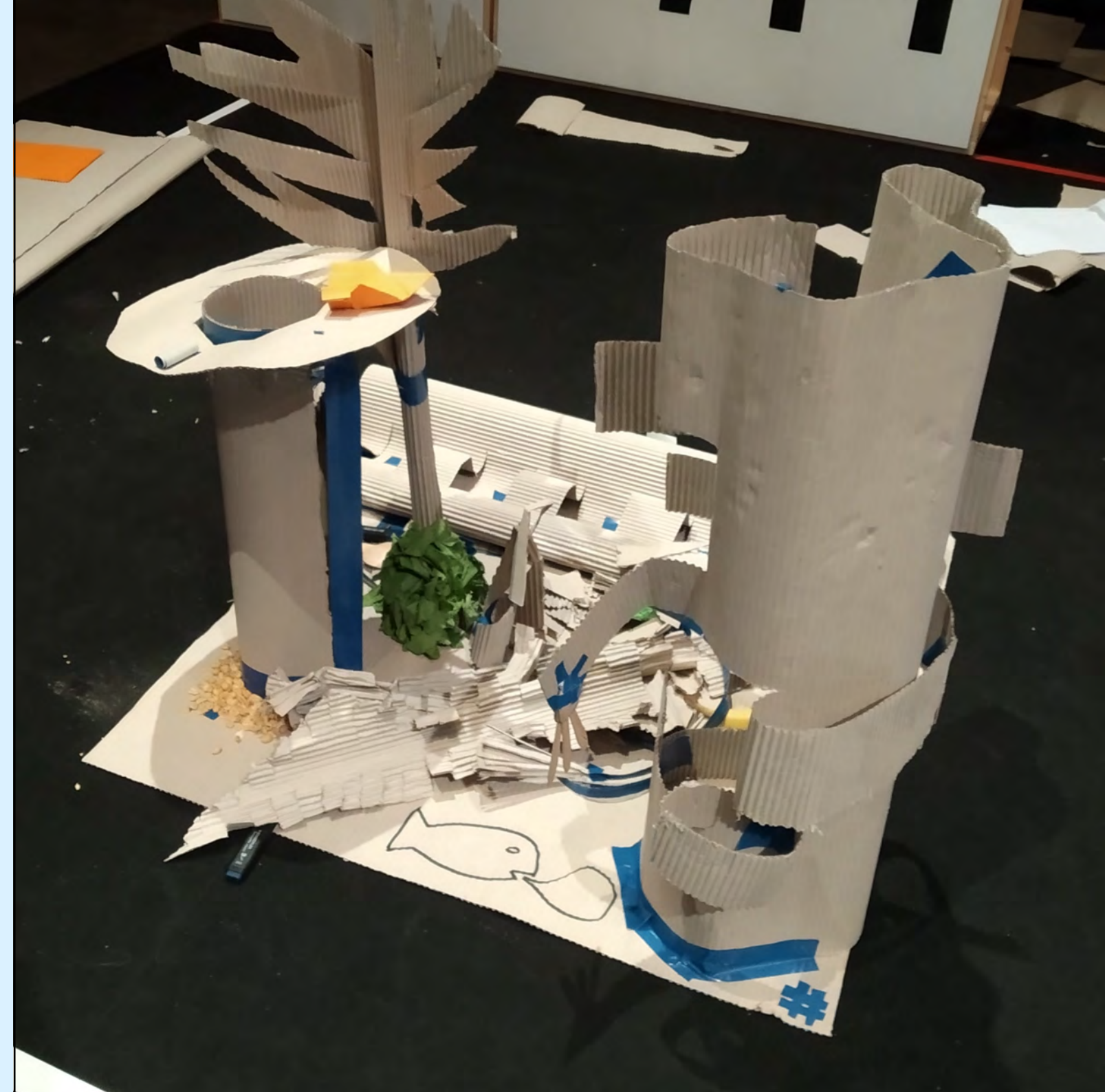
Whose imaginations are these anyway?

Registration for the Zoönomic Futures workshop is voluntary, and as such our participants so far have come to us already having some level of interest in the subject matter. They generally have some kind of background in design, arts, theater, philosophy or ecology, and bring that expertise with them, as well as often having prior experience with some form of role-playing that they can relate this experience to. So are the workshop exercises in any way really changing their perceptions and/or future behaviours, or are we just researching the values of a self-selecting participant group and their ability to entertain themselves for three hours?

"it was a very nice group, so we had very nice discussions."

- Participant Funga Sutra

There is some differentiation as to where a group ends up with their scenario depending on the background of the participants. Broadly we observe, as illustrated by the cases of Funga Sutra and the Pumfino Donut, that those from a design, architecture or engineering background will tend towards the practical. They are sometimes annoyed or confused by what they perceive as a lack of information necessary to "solve" the assignments. Participants with an arts or humanities background tend more towards the philosophical, generally going into deeper discussions and often putting less effort into building and/or forgetting to complete the log of their discussions.

Knowing that our participants have these backgrounds and a prior interest in the subject matter does allow us to experiment with hybrid methods combining guided narrative with co-creation such as we have, and being able to rely on the ability of our participants to stretch their imaginations and their having some familiarity with the crafting tools we provide. It does however give us a skewed view in terms of results. The homogeneity of our participants is reflected in the workshop outcomes, as across the board all groups have similar values that they come up with as being what they want their culture to transmit[I].

For all the participants interviewed, the experience had been supplementary to, or reinforcing of interests and beliefs that they already held. However in each case the interviewees did highlighted perspective shifts that they have carried forward with them from the workshop as a result of the creative engagement and discussions that they had as they collaboartively crafted their ways through the speculative challenges in the narrative.

*I. Several of these values are listed in the overview of floating habitats, **pages 74-77**.*

Material Matters, Materials Matter ◇ Q4

A research question I have been continually asking throughout the workshop design process is what the effects of the materials we used has been on the outputs and experience of the participants. I have described the iterations we went through in coming to our choice of materials, but what did it matter in terms of the outcomes?

The choices we made in terms of scale and materials were successful in the sense that the model habitats did indeed serve the campfire function we had envisioned. The scale of providing 1m^2 of material per participant made the models the correct size for a group of five to work around. Even the sloppy nature of cardboard constructions paid off when they had to be moved in the storm[I], as we would overhear groups strategizing as to how they could rebuild more resiliently in the case of a new upcoming emergency.

My focal point in this research however is in how this collaborative, speculative crafting exercise framed in an immersive narrative can help people to explore a possible future. We have had groups that successfully tackled the subject matter in depth using only cardboard boxes[II], and we have had at least one participant account of a group who created a detailed construction, but not everyone found satisfaction in the discussion that they had in the process[III].

Ultimately the workshop is about the conversation, reflection, collaboration and the consideration of an alternative perspective. While the shared construction plays an important part, the value of the co-creation is in the experience the participants create together. Who the participants are and how experience is structured matter a great deal more than the rigidity of the cardboard.
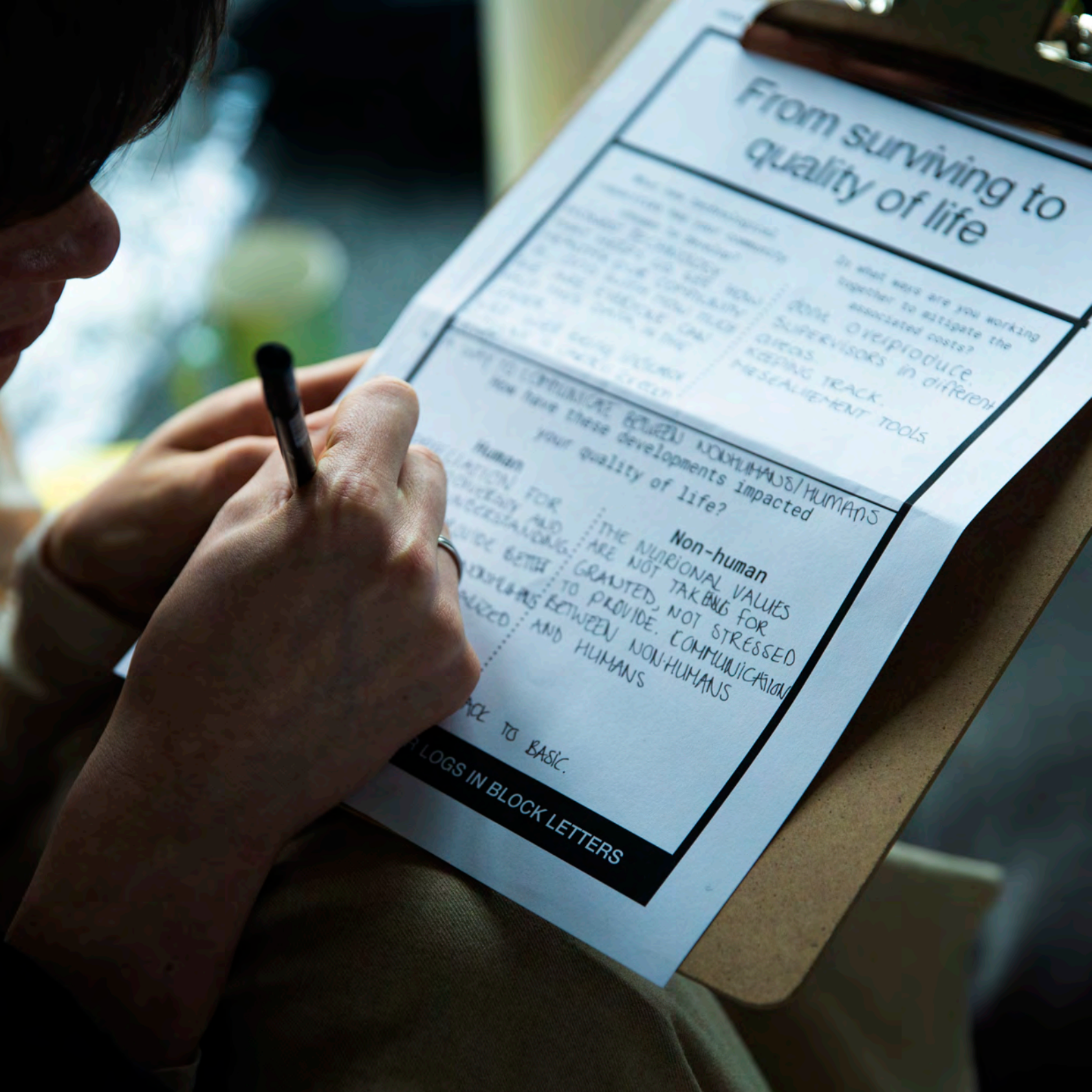
*I. The storm event is described on **page 42**.*

*II. During the play tests. See the section on out iterations of materials, **page 38**.*

*III. See Funga Sutra and The Pumfino Donut, **page 78**.*

__Right:__ While we provided a uniform set of building materials to all groups, many habitats incorporated improvised elements foraged from the workshop environment.

Checking the Logs

We had envisioned our logs as functioning as a key part of this method in terms of its use as a research tool. As reflected in the research questions, finding appropriate means through which to capture the processes and discussion that participants go through is an ongoing subject of experimentation in my practice.

Given unlimited time and resources, we might have an observer planted in every group, recording audio or taking notes. An overhead mounted action cam perhaps, for a full timelapse of their activities. Unfortunately given the reality of our situation this was neither practical or possible, so the "Zoöp logs" mechanism[I] was a way to find something in-between.

As a means of capturing some kind of result the logs became better with each iteration, but obviously they are still completely dependent on how seriously the logger of each group takes their role. Considering the actual contents of the participant discussions, there was some degree of success, but the logs can not capture a descent into absurdity such as illustrated by the case of Bloop![II]. In the case of Funga Sutra[III], the group got so caught up in their scenario that the log sheets were not filled in at all.

The logs had a role to play within the world of the workshop itself, serving as a memory aid for the groups as they presented their journeys in the final "gathering" stage of the workshop, and they were used for this purpose to some extent.

Where the logs really ended up proving their use was as a prompt sheet for the interviews. The participant interviews that largely informed the findings of this research were taken months, in one case almost a year after the workshop. The log sheets proved invaluable in jogging the participant's memories, bringing forward their strongest recollections of what had stayed with them after the workshop, helping them (and therefore me) to answer the question as to what effect the workshop had actually had on their consideration of non-human life.

I. *Notes on the development of the Zoöp logs can be found on* **page 58**.

II. *See Bloop!,* **page 98**.

III. *See Funga Sutra and The Pumfino Donut,* **page 78**.

Conclusions

In the Zoönomic Futures workshop we set out to develop a method through which to explore the implications of the Zoöp concept. Finding out what people's preconceptions and imaginations when considering a multi-species collective in which the interests of non-human life are represented on equal footing with those of humans. Our expectation was that immersing participants in our narrative experience would help them to engage with this exploration on a more involved level with the subject than they ordinarily might have.

Through this engagement combined with discussion centered around a collectively crafted speculative "floating habitat", we would achieve greater suspension of disbelief than would normally be possible in a typical workshop. This would help our participants in inhabiting their roles in the workshop, leading to a deepening or changes of their perspective.

Left: A member of the Bookra 453 Zoöp contemplates their platform.

(re)generating futures

My ongoing interest is in finding design methods through which to do research work that allows me to engage in the exercises of futuring and storytelling, but does not impose my vision of the future on the audience. Instead I want them to be given the opportunity to explore and temporarily inhabit ideas, giving them their own color and texture. Frameworks for building their own worlds within the world, and coming up with futures that belong to them. That ownership of the future is more important than any warning or idea embodied in a product, artefact or ideal that I might want to pass down.

The Zoönomic Futures workshop has been a great opportunity in the sense that we have had the resources, time and budget to explore a wide array of methods packaged in a single performance over several iterations. This has not been without its challenges, but extrapolating from this case to my overarching research questions there are some conclusions that can be drawn. Or at least held onto until an upcoming iteration…

Collaborative, speculative crafting exercises can be used to explore possible futures by providing a material space around which an issue can be discussed. They key however, is in the discussion, and how it is facilitated. In order to allow participants to create on their own ideally with as little human moderation as possible, through the careful design of workshop materials and narrative structure. In the cases where the Zoönomic Futures workshop fell short and the crafting was felt as an impediment to the discussion it was due to a lack of information. Potentially this could be mitigated through a simpler workshop design.

Our narrative immersion certainly helped participants to inhabit an imaginary space, though the worldbuilding doesn't necessarily need to be as elaborate as it was in this production. This method for bringing people along to alter their perspectives on alternative futures is certainly something I will continue to develop for use in other contexts, though iterations following in upcoming projects are likely to be designed as smaller scale experiments.

It's hard to measure changes in the way people relate to ecological issues in the short term, and how to do so is the subject of ongoing research[I]. While we were working with willing participants, the interviews conducted after this series of workshops do indicate that our process of shared construction, joint conversation, and reflection in almost every case gives the participant an experience that stays with them, in which they have certainly critically reflected on the way in which they relate to the non-human world.

Going forward as a futures-oriented design researcher, I will be expanding on and deepening these methods, continuing to iterate and experiment. Developing a broader methodology with which to help people explore new perspectives and paths that the world may take, and incorporating tools for the generation of futures ethnographies that can be applied in academic, governance or business contexts.

Earlier work like this has informed policy design and strategy[II], and this is the direction in which I will continue to develop my practice. The future does not exist. Yet, a multitude of futures is constantly shaped by our collective actions. The goal of the Zoönomic Futures workshop was to lead participants to a place where they experience an insight or reflection on some level that changes the way they see or behave in the world. They create their own vision and share that with others. The hope is through this ongoing work to achieve steps towards a more equitable world. One in which humanity finds itself in better balance with the ecosystems it inhabits. Not because this is the world we told our participants about, but because they collectively came to this place through the stories that they told together.

I. *CreaTures - Creative Practices for Transformational Futures: https://creatures-eu.org/*

II. *Brian Boyer, 2011. In Studio: Recipes for Systemic Change. Sitra.*

Lexicon

Critical design - See *Speculative design*.

Critical making - Traditionally, hands-on productive activities that link digital technolgies to society. Taken here as extended to all forms of crafting, used as a means by which to consider socio/techno/eco/politcal issues.

Diegetic debriefing - A presentation designed to take place and serve a function inside of a fictional narrative.

Experiential futures - "a family of approaches for vivid multisensory, transmedia, and diegetic representations of images of the future". *See: https://futuryst.blogspot.com/2018/10/ experiential-futures-brief-outline.html*

Speculative crafting - Creating models embodying imagined future scenarios with commonly available design materials.

Speculative design - An umbrella term describing methods of design that propose alternative visions of the future. Alternative to what is not always clear. Also known as: "A critical design practice that comprises or is related to a series of similar practices known under the following names: critical design, design fiction, future design, anti-design, radical design, interrogative design, discursive design, adversarial design, futurescape, design art, transitional design etc." *See: http://speculative.hr/en/ introduction-to-speculative-design-practice/*

Multi-species - Comprising or involving more than one species. Taken here to also mean that the interests of all species are represented, not solely the human perspective.

More-than-human - The entanglement of human and non-human life.

More-than-human design - Or more-than-human-centric design. A viewpoint that extends the human-centered view to include broader systems of, implications for, and modes of cooperation with non-human life.

Non-human - While the term more-than-human is often preferred, we use non-human specifically in the Zoöp project as rights in the legal sense are often determined on the basis of person-hood, or status as a human.

Possible, Preferable and Probable Futures - Sometime called 'P-futures'. Described in great detail by Jospeh Voros in his article The Futures Cone, use and history: *https:// thevoroscope.com/2017/02/24/the-futures-cone-use-and-history/*

Prospection - The act of anticipating. Pre-conceieving. Considering on forehand. Performing foresight.

Zoöp - Portmanteau of Zoë, for life, and coöp for cooperation. A new legal format for incorporation aimed at strengthening the position of non-humans within human societies, and engendering ecological regeneration and growth that is resistant to extractivist dynamics.

Zoönomy - The regenerative internal economy of a Zoöp and the network of Zoöps it exchanges with.

Afterword

My original pitch when I embarked on this Master was for an exploration of a "Critical Participatory Futures Design". More of a checklist of wants than a solid plan. Critical in the sense of (re)considering the systems within which we find ourselves. Participatory, because I wanted people's own visions to be central, not my own, and futures design, by which I meant a designed process through which alternative futures might be designed.

There have been many iterations, loops, and loose ends throughout the process, many of which are not represented in this publication but I am pleased to have reached this point, where I feel the work has indeed fulfilled the criteria I set for myself.

Looking back on my buzzword checklist, the important omission from my original pitch that has come to the fore is relationality. It is the interdependencies of life, the endless complexity of the interplay of niches in our social, ecological, technological and natural ecosystems, all bleeding over, looping across and intertwining in so many ways, that stays the most intriguing and driving factor in this work.

Thank you to everyone who read this far. In particular thanks to Klaas Kuitenbrouwer, Anne van Leeuwen and Ricardo Cano Monteo, Theun Karelse, Sietske Klooster, Justin Pickard, Mariska van Gaalen, Edwin Gardner, Dorien Zandbergen, Paul Graham Raven, Benjamin van Gaalen and Markéta Dolejšová. You may not have realised it but all of you significantly altered the course that this work has taken.

"Our mission is regeneration, and it will not end within any of our lifetimes. We work in the present to generate futures, for our collective bodies and for those who would carry them forward in living memory."

- Narrator, Zoönomic Futures

Sjef van Gaalen is a design researcher operating in the emergent hybrid space between design and futures studies. Using participative and speculative methods, he helps diverse participant groups to create stories about futures, and uses those stories as the basis for his ongoing research into possible and plausible images of the future.

Here he presents a method for exploring future visions, focused on multi-species cooperation and regenerative ecologies. The co-creation of a speculative culture within an immersive narrative experience, actively incorporating more-than-human perspectives.

A breakdown of the design process will show the interplay between immersive narrative and speculative crafting. Reflecting on the method's results through analysis of the workshop outcomes and interviews with participants provides further insight into how such design methods can help to explore alternative perspectives on possible futures.

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