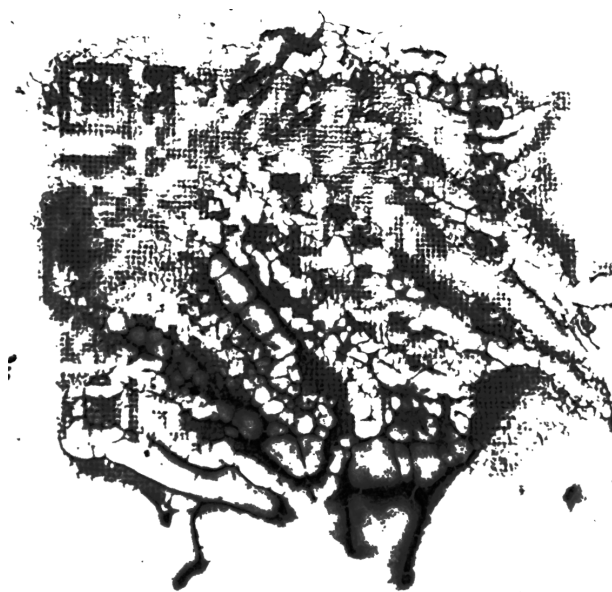
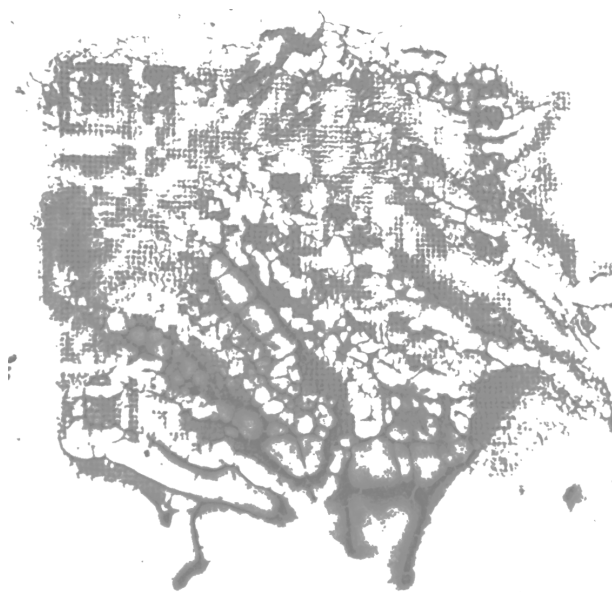


METABOLIC GIRL



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Written component of Master's Thesis

Submitted in partial fulfilment of the requirements for the degree of
Master of Arts (MA) at the University of Applied Arts, Vienna,
Institute of Fine Arts and Media

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REGISTRATION NUMBER: 12232333

VIENNA, WINTER SEMESTER 2025

PROGRAMME NUMBER: S 066 776

STUDY PROGRAMME: ART & SCIENCE

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STRECKER, UNIV.-PROF. DR. CLEMENS APPRICH.

ACKNOWLEDGEMENTS

I would like to thank the many people who have provided me support in the realization of this thesis. I am grateful to Virgil Widrich and Clemens Apprich for valuable feedback on the written component, and Lucie Strecker for her gentle yet sharp guidance on the artistic component.

Many thanks to Martin Reinhart, Gerda Fischbach, Noor Stenfert Kroese for your support and advice over the years, to Evelyn Grill and Stephka Klaura at the silk printing workshop for their kind support and guidance, to Julia Sprenger for kindly lending me a space to grow the SCOBYS, and to Pepa for her advice on the graphic design.

I want to thank my dear friends Zakia and Ramona for their valuable feedback on the thesis.

Words can hardly express my gratitude to Niko for his incommensurable support, care, and love, over the years, again and again, for reviewing and proofreading the thesis so thoroughly, and for trusting us in my move to Vienna to start this master's program.

To my writing buddies Sabrina, Marton, Charlotte, Martina, and Dunia for the peer support during this intense writing phase, and for the fun long nights at the studio,

To Momo for showing me the way to SCOBYS leather and for our exchanges during the semester.

To Marei and Melissa for providing a peaceful home and gentle support over the past years,

To the *Ecoslay* crew for hopping on the boat with me,

To Daniel and Janina for being such great and inspiring collaborators, conspirators, and friends,

To my queen Lucie for being the best,

To Louise for being such a grounding presence in my life,

To my parents for trusting me in my unconventional lifepath and for everything.



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INTRODUCTION

The scientific community has been issuing warnings about the impact of modern societies on climate change and ecosystem degradation for over 50 years. Already in 1972, the Club of Rome's *Limits to Growth* (Meadows et al., 1972) notorious report was issued, warning about the catastrophic collapse of natural resources and the impossibility of endless economic growth.

Yet, half a century later, not much has changed. We find ourselves entrenched in a disastrous, multi-faceted ecological collapse, with the most marginalized and least responsible populations bearing the brunt of disasters, leading to staggering climate injustice. The Intergovernmental Panel on Climate Change (IPCC) has gone through six extensive cycles systematically documenting the unambiguous role of human activities on climate change, its underlying physics, the disastrous impacts it will have on human societies, and how we could mitigate our impact on climate change effectively. The hard work of countless climate scientists goes into establishing evidence-based assessments of the state of climate change, as well as the propositions of multiple pathways out of this crisis, through thousands of international reports and millions of peer-reviewed articles. But we are still unable to sufficiently limit climate change and the degradation of our home.

Traditionally, it is not the role of scientists to convince a large audience. Scientists are expected to communicate their results to their peers, and in the case of applied research, to industrial and policy partners. In turn, politicians would be expected to act in accordance and proportion to the alarms raised by scientists, in a linear model of science to policy (Turnhout, 2024). Yet, what we are seeing is rather the hegemony of politicians and industries being heavily influenced by fossil fuel lobbyists. What we are experiencing is avoidance, disdain, and skepticism towards climate action, leading to the continuation of the status quo and staggering global temperature increases.

This situation has increasingly forced alarmed scientists to try to communicate to the general audience, as the movie *Don't Look Up* cleverly shows by picturing astrophysicists going to a TV set to alert the general audience about an asteroid about to hit the Earth, after having been laughed at by politicians. Yet, mainstream environmental science communication has a lot of pitfalls. In most cases, it seems to be concerned with translating specific and complex scientific facts into simpler terms... simply. Into visuals and infographics, very likely, into storytelling, maybe. Increasingly, environmental scientists call out ecological artists to try to translate the untranslatable, maybe the sublime. But even that, people seem to continue to sleep upon that, resting in indifference, nihilism, or doomism.

In this thesis, I will take a close look, within the various scientific fields interested in climate, at a subset that I call global environmental sciences. It is a collection of fields concerned with analyzing and quantifying the Earth system and its socio-economic components. It is also concerned with finding solutions to the environmental collapses that we are living through.

Global environmental sciences are concerned with the material reality that surrounds us, yet mostly through the intermediary of quantification. And as Theodore Porter suggests, “quantification is a technology of distance” (Porter, 2020). A postulate fundamental to this thesis is that such distance, whether spatial or temporal, creates

a detachment of the mind from the body and material reality in our environment. The epistemologies and theories of change that global environmental change science has inherited imply that this disembodied, distanced approach is the most relevant way to comprehend the Earth system, find adequate solutions, and communicate about them.

But without a body, how does one arouse the masses? How can the desire for a livable and just future be generated? Desire does not have to be seen solely as a lack or longing; it can be a productive force that drives people into action and creates realities (Deleuze & Guattari, 1972).

Unlike science communication, consumer culture operates with a clear awareness of this. Advertising and marketing strategies are designed to drive us into action (= buying). This is a disposition this thesis seeks inspiration from, although the purposes diverge dramatically.

Within the many marketing strategies, there is one that is perhaps most effective at triggering action from desire, and that interests us particularly: the Girl. Mass media and Western pop culture have become adept at embodying the desire to consume through feminine figures and idols – spotless, white, able, and seemingly young forever.

The popularity of young white Girls and the space they occupy in the media attests to their attraction. According to Tiqqun, in the stingy essay *Preliminary Materials for a Theory of the Young-Girl*, the Girl is both a consumer good and a consumer category. She is the pure product of capitalism.

So, what can we do in the face of mass extinction, blinded by the shimmers of popular and consumer culture... and the charms of young Girls? As this thesis explores, the figure of the Girl is not purely bleak; rather, she is an ambivalent construct whose image might also be reclaimed as a site of emancipation and subversion. Building on these ideas, this thesis brings environmental science communication into conversation with a critical reading of the commodified, seduc-

tive, and ambiguous figure of the Young Girl, asking the following questions:

- *What are the limits of environmental science communication in the face of ecological collapse?*
- *Are the use of desire and the logic of commodification effective when it comes to environmental science communication? Can the power of the Girl be harnessed for such a purpose?*
- *And do we even need Girls or female bodies? Drawing on the Girl Theory and its more symbolic definition of the Girl, could we reimagine a world in which non-human bodies could be desired, maybe worshipped for their inherent ecosystemic value? Could a worm be a Girl?*

Being aware of the history of the societal and cultural association between women's bodies and nature, this thesis builds upon and critiques this legacy to introduce a new methodology called *Ecoslay*.

Ecoslay is an artistic research method – and a movement – that theorizes and experiments on bold strategies of communication on environmental science and activism, in order to explore the limits of communication on environmental and social issues. It is a framework that I have been germinating and fermenting for two years through various collective and individual projects.

The first few *Ecoslay* projects I conducted focused on popular culture through the body of the Girl as a vector for environmental science and political communication. Through the Girl, *Ecoslay* has been used to discuss a range of topics adjacent to environmentalism, such as composting, metabolism, social metabolism, climate, urban planning, and human perceptions of non-humans.

As part of this thesis, I use the *Ecoslay* methodology to conduct a performative case study called *A SCOBY Is a Girl*. This performance explores how SCOBY (Symbiotic Culture Of Bacteria and Yeast), the slimy fermentation culture used to produce kombucha, can become a

communication medium through the *Ecoslay* methodology. I experiment on how to use SCOBY as a tool to incorporate and embody environmental sciences, in particular the understanding of the carbon cycle, its (social) metabolism, and how it relates to climate change.

The remainder of this text is structured as follows. In Chapter 1, I specify the issue at hand by delving deeper into the nature of global environmental sciences. I explore in particular two sub-fields: global climate science and socio-metabolic research, two fields that I have been part of for multiple years and still is. I introduce some characteristics of mainstream science communication in this field and present some alternatives stemming from environmental humanities. I also introduce the problem of the lack of desire for the sustainability solutions proposed by environmental sciences.

In Chapter 2, I lay some theoretical and historical foundations of the figure of the Girl as a medium of communication, drawing from cultural studies, philosophy, and pop culture. I examine the historical and culturally constructed associations between women and nature, to then introduce the idea of the Girl as an environmental communication medium. Finally, drawing from the Girl theory, I question whether the Girl could be seen in a broader, non-gendered, and non-human way.

In Chapter 3, I introduce *Ecoslay*, a novel methodological framework. I outline its key characteristics – performance, embeddedness in life cycles of decay, engagement with disgust and care, and community – while also presenting selected works developed under the *Ecoslay* umbrella.

In Chapter 4, the final chapter, I present a case study that forms the basis of the artistic work accompanying this thesis: a lecture-performance titled *A SCOBY Is a Girl*. The chapter, as well as the performance, delves into the world of fermentation through a female body – mine – and the body of a SCOBY. The chapter introduces basic principles of fermentation, how it relates to global environmental science, and provides some information on the artistic work.

Each chapter is accompanied by a narrative autobiographical letter that reflects on the topics, covered from a personal, situated perspective. Inspired by feminist scholarship, I can no longer conceive not to recognize from where in my body the knowledge I gain and produce comes, and from what experience it stems. This is a way for me to situate the humble knowledge produced in this thesis from my perspective and from my body, as a response to the way male-dominated scientific production is too often being done, without a body, without an emotion.

CHAPTER 1

GLOBAL ENVIRONMENTAL SCIENCES AND THE COMMUNICATION CRISIS

```

# Now merge the df with CO2 per capita
df_data_pop_educ_urban_bc_460 = df_data_pop_educ_urban_bc_460 %>%
  left_join(CO2_pc_all_fuels_bc_460, by = c("edu_group", "urban")) %>%
  # here is the Co2 demand of this population in a snapshot of one year
  mutate(co2eq_demand = pop_interpolate * CO2_pc)
...

```{r}

CO2, all education group, and rurb together

cummulated_co2_per_year_bc_460 = df_data_pop_educ_urban_bc_460 %>%
 group_by(iteration, sogreen_scendrio, year, GWP) %>%
 # Co2 demand of this population in a snapshot of one year
 summarize(cummulated_kg_co2_per_timestep = sum(co2eq_demand))

n_girls = 330
27232/100 this is the actual number of selected girls divided by the oversampling factor

cummulated CO2 over all the period, for each iteration
cummulated_co2_bc_460 = cummulated_co2_per_year_bc_460 %>%
 group_by(iteration, sogreen_scenario, GWP) %>%
 summarize(cummulated_kg_co2 = sum(cummulated_kg_co2_per_timestep)) %>%
 pivot_wider(names_from = sogreen_scenario, values_from = cummulated_kg_co2) %>%
mutate(diff = baseline - sogreen) %>%
left_join(iteration_SG4, by = "iteration") %>%
division by 1000 to go to tons
mutate(diff_t_per_girl = diff/(1000*n_girls))

#####
GWP100
cummulated_co2_gwp100_bc_460 = cummulated_co2_bc_460 %>% filter(GWP == "GWP100")

average_avoided_co2_t_per_girl_gwp100_bc_460 = mean(cummulated_co2_gwp100_bc_460$diff_t_per_girl,
average_avoided_co2_t_per_girl_gwp100_bc_460

sd_average_avoided_co2_t_per_girl_bc_460 = sd(cummulated_co2_gwp100_bc_460$diff_t_per_girl, na.rm
sd_average_avoided_co2_t_per_girl_bc_460

#####
GWP20
cummulated_co2_gwp20 = cummulated_co2_bc_460 %>% filter(GWP == "GWP20")

average_avoided_co2_t_per_girl = mean(cummulated_co2_gwp20$diff_t_per_girl, na.rm = T)
average_avoided_co2_t_per_girl

sd_average_avoided_co2_t_per_girl = sd(cummulated_co2_gwp20$diff_t_per_girl, na.rm = T)
sd_average_avoided_co2_t_per_girl

#####
Density plot of avoided CO2

ggplot(data = cummulated_co2_bc_460 %>% filter(GWP == "GWP100"), aes(x = diff_t_per_girl))+
 geom_density(color = "seagreen", alpha = 0.5)+
 labs(y = "Density", x = "Avoided CO2eq per girl to 2070 with GWP100 for black carbon = 460")+
annotate("text", x = 155, y =0.0075, color = "seagreen4", size = 5,
label = paste0("Average: \n", round(average_avoided_co2_t_per_girl_gwp100_bc_460), " t
 theme_bw()

```

Look! Can't you see [the data], wake up! Do something!  
– Timothy Morton, *Being Ecological*

This thesis rethinks global environmental sciences through embodiments, in particular through the figure of the Girl. Before diving more deeply into the argument and methodology, it is necessary to establish some foundational background of the field of global environmental sciences. In Sections 1.1 and 1.2, I outline this field from my own perspective: that of an early-career, female researcher, who, having bathed in the field for several years, developed a critical eye that is informed by her artistic inclinations. I will particularly delve into the aspect of quantification, which is omnipresent in the field and, in my view, makes communication challenging.

My experience, complemented by additional research conducted for this thesis, forms the basis for my critique of how science communication operates in global environmental sciences, which I discuss in Section 1.3. Finally, I introduce in Section 1.4 the question of desire for sustainability and how this feeling became fairly distant and secondary for many people. I then ask how environmental science communication may borrow strategies from capitalist marketing to reignite this desire.

### **1.1. Global Climate Science**

In 2024, the planet officially first crossed the threshold of roughly 1.5 °C of global warming above pre-industrial levels (Copernicus, 2025).

Behind such knowledge about the Earth system and its linked dynamics with human societies lies the whole apparatus of global climate science.

Global climate science – the scientific study of global climatic change – combines physical and geosciences, measuring the flow of carbon between the biosphere, geosphere, and atmosphere, as well as the economics and social sciences, which are invested in finding solutions to mitigate greenhouse gas emissions and adapt societies to climatic changes.

Global climate science became an important field towards the end of the 1960s. This can be attributed to not only the release of important works alarming about the state of environmental degradation, such as *Silent Spring* by Rachel Carson (Carson, 1962), which raised awareness about the risks of agrochemical pollution, but also the advancement of computational tools enabling large models at the global scale.

In 1972, the Club of Rome released the Limits to Growth report (Meadows et al., 1972), which is often cited as one of the first major scientific endeavors to quantify and project the future global impact of natural resource depletion on society. Their World3 model used computer simulation to examine how interactions between the Earth system and human societies shape long-term outcomes, and it was structured around several interconnected modules: population, food production, industrialization, pollution, and consumption of non-renewable resources. These early models were transformative as they applied systems thinking, trying to quantify how different components of the Earth-society systems interacted. For example, these models enabled researchers to explore the feedback loop between resource use and population growth, which at the time<sup>1</sup> was seen as key to building scenarios of how fast the world's resources may deplete.

The Word3 model is a precursor to Integrated Assessment Models (IAMs), which form the scientific basis for contemporary climate

<sup>1</sup> The influence of population growth on global resource use featured prominently in early environmental discourse. Today, while population trajectories remain relevant and are incorporated into environmental projection models, they have largely been relegated to a secondary role. Instead, consumption inequalities are increasingly recognized as the primary driver of environmental impact.

change assessments, such as those of the Intergovernmental Panel on Climate Change (IPCC). IAMs are computer-based modeling frameworks that simulate how society develops (population, economy, technology, energy use) and link it to how the climate responds, in terms of greenhouse gas emissions, temperature rise, and climate impacts. They typically model different possible socio-economic trajectories and their associated climate impacts, using “what-if” scenarios: what would be the climate outcome of a continuation of current economic growth with no climate policies? What would happen if all governments achieved their climate commitments? Providing an understanding of the order of magnitudes at play across these different potential pathways the world may take is evidently critical for societies to make choices or interrogate choices that have been made about climate policies.

Global climate science has increasingly been dominated by such large-scale models. The theory of change behind such epistemologies is that policymakers will explore the results and, equipped with the range of proposed scenarios, sometimes described as a map with different pathways they can take, they will make rational decisions based on them. Unfortunately, the past few decades in the policy arena have proven that this theory is not true. Policymaking is also heavily influenced by the fossil fuel industry, which directly benefits from the climate crisis. For example, at the last Conference of the Parties (COP30) in Belém, Brazil, the president of TotalEnergies, one of the world’s largest multinational fossil fuel companies, was part of the French delegation responsible for negotiating climate action and transitioning away from fossil fuels.

This demonstration of the absurdity of the current political systems in place to prevent climate collapse poses fundamental questions about the efforts invested in global climate change research and the communication strategy about its results. While the lack of genuine interest of the primary audience of this research does not invalidate its usefulness, it should interrogate the community on whether the target audience is the right one. While dialogue with policymak-

ers remains essential (because, without regulations, Elon Musk gets to be the one who decides our climate future, right?), global climate research needs to find an audience that cares about its incredibly urgent messages. This is an arduous task that I will progressively unpack.

## **1.2. Research on Social Metabolism**

While climate science, at its core, is particularly relevant when examining man-made greenhouse gas emissions, our interactions with the environment are much broader. Social metabolism is another subfield of global environmental science which aims to consider this broader spectrum.

Social metabolism is a core concept of socio-ecological theory developed by the Vienna School of Social Ecology in the late 1990s (Fischer-Kowalski & Weisz, 2016). Social metabolism refers to how human societies organize their exchanges of energy and materials with their natural environment in order to sustain and reproduce themselves (Fischer-Kowalski & Weisz, 1999).

Social metabolism borrows a concept from biology and applies it to the relationship between human societies and nature. Just like a cell performs respiration by converting sugars into CO<sub>2</sub>, water, and usable energy, societies perform metabolic processes to convert minerals, fossil fuels, or organic matter into food, artefacts, or energy, thereby providing services to their populations.

Research on social metabolism, largely, although not exclusively, relies on quantitative methods such as Material Flow Analysis or Environmental-Extended Input-Output Analysis. The former is used to quantify and trace the flow of energy and material circulating within a system (e.g., a city), while the latter is typically used to produce carbon footprint calculations.

In terms of their methodological philosophy, both research on social metabolism and global climate research are closely linked. But unlike climate research, research on social metabolism is deeply concerned with the material aspects of our societies (yet at a very

abstract, meta level). It is therefore a scientific field that, in theory, can help develop a material consciousness of our environment and its socio-ecological cycles.

Both objects of study of these two fields, namely climate change and social metabolism, can be seen as hyperobjects. Hyperobjects are, according to Timothy Morton, who coined the term, “things that are huge and, as they say, ‘distributed’ in time and space [...]. Such things are impossible to point to directly at once. Such things [...] give us a clue about how things are – everything, according to our modern way of looking at them” (Morton, 2013). Hyperobjects defy human perception and comprehension. I will draw upon Timothy Morton’s theory of hyperobjects to provide a critique of global environmental science communication in the second section of this chapter.

Large-scale models employed by these communities, whether IAMs, Environmental-Extended Input-Output Analysis, or Material Flow Analysis, serve to help grasp the hyperobject at play. The task is massive, requiring large datasets, large computers, and large teams of scientists. For example, MESSAGEix (Huppmann et al., 2019), the IAM developed by the International Institute for Applied System Analysis (IIASA), has been developed since the 1970s. It has traversed generations. Only a few scientists have an overview of the model. The complexity of the frameworks is apparent when looking for example at a schematic view (on the next page) of the IMAGE model from the Netherlands Environmental Assessment Agency (PBL) (Stehfest et al., 2014) that visually resembles a gigantic piping system. Often, early-career researchers would work on a specific part of the model (e.g., the optimization of transportation costs and emissions) but could never understand it in its entirety. Consequently, although the aim of these models is to capture the complexity of these objects, these models themselves turn into hyperobjects that become harder and harder to comprehend.

Because the remainder of this thesis deals with questions of femininity and the roles and representations of women and Girls in

academic discourses, it is important to note that both fields, which emerged originally from physical science, are also heavily male, white, and Western-thinking-dominated. For example, only 122 women are on Reuters' Hot List of the 1000 top climate scientists. Similarly, Carbon Brief reports that only 22% of the authors from the 100 most highly cited climate science papers between 2016 and 2020 are women (Tandon, 2021).

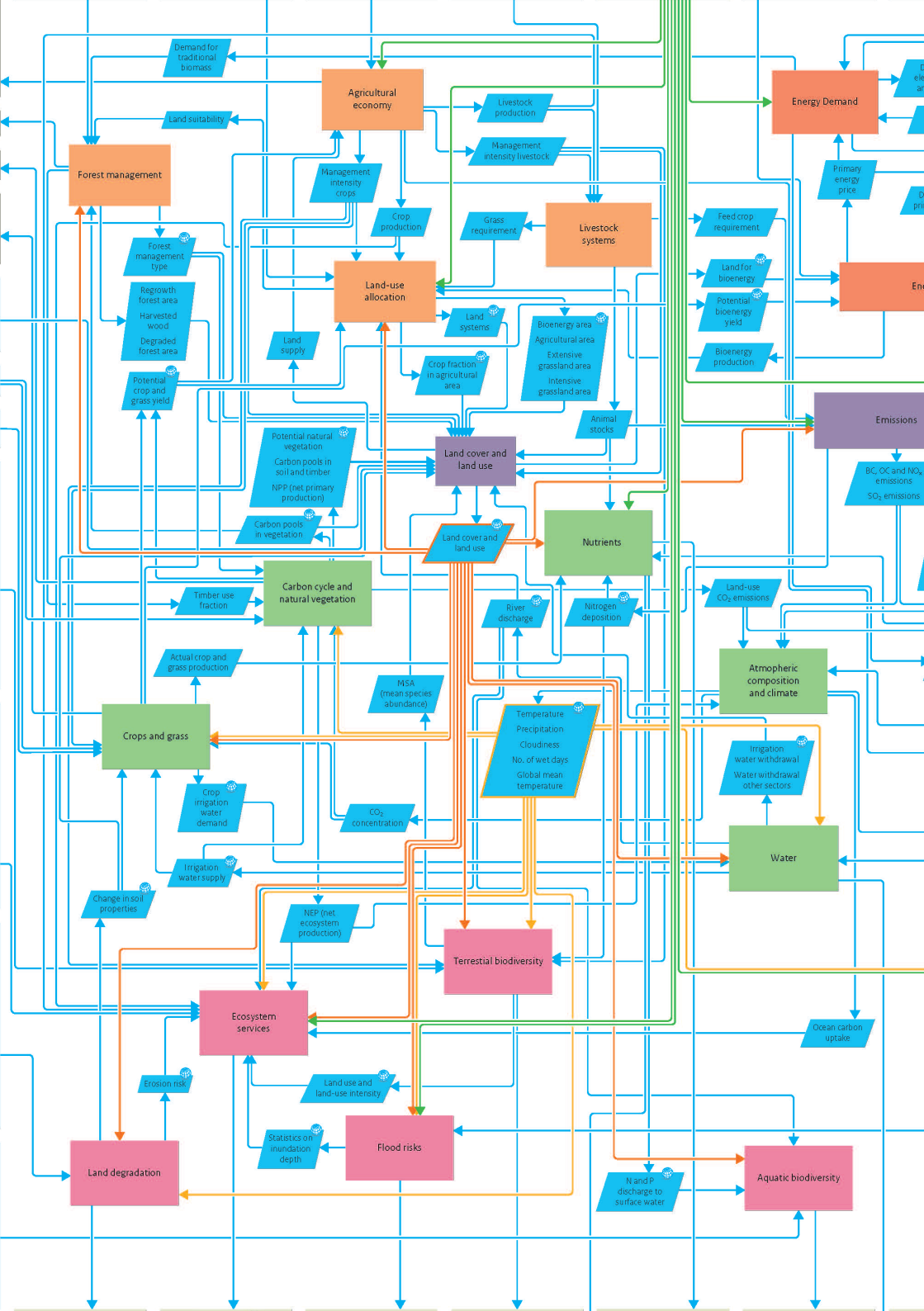
The disparities become even larger when considering the proportion of climate scientists from the Global South. Even if some progress is being made, worldviews promoted in global climate science are primarily influenced by Western thinking traditions, sidelining alternative worldviews that may not rely so heavily on quantification, and that may bring opportunity to open new doors (Rivadeneira & Carton, 2022).

### **1.3. Communicating Global Environmental Science in Late-stage Capitalism**

#### *Mainstream Environmental Science Communication*

Global environmental sciences are fundamentally applied disciplines; unlike purely theoretical research, their *raison d'être* is to generate solutions to pressing issues – specifically, global environmental change and the risks it poses to human societies, and other species and environmental systems. This makes science communication especially crucial, since both the high significance of the challenges identified and the substance of the proposed responses must be clearly understood by policymakers and the wider public.

Global environmental sciences are usually mediated within the frame of institutional science communication, whether through the in-house communication department of universities and research institutes, or outsourced by NGOs or other organizations specializing in environmental advocacy.





## JULIA'S NAILS

*When you are a young woman doing her PhD in a prestigious research institute, working on climate change research, you need to prove yourself, you need to FIT IN. Needless to say, the institute was largely dominated by men. I had the chance to have as a professor one of the only women (a strong woman!) in a leading position, in a team in which there was probably the highest share of women.*

*I could always remember the day when my PhD colleague Julia showed up in the group meeting with extraordinarily shiny skin and very long, colorful gel nails. This was highly clashing with the general aesthetics in the room and the people around. I remember that I judged her. Why would a researcher be working on serious topics such as climate change and development to wear long nails? I had never seen such shiny skin, and at the time didn't understand why. Well, now I know, when you're using face masks and oily serum to take care of your skin, that's how you end up looking. But I judged her! Julia and her nails! Clearly, this was internalized misogyny.*

*Why can't Julia enjoy having gel nails and be a kick-ass climate researcher (she was!) if she wants to? The specter of patriarchy is so broad and penetrating that we women sometimes don't even realize we live in a man's world. What would a research institute look like if it were fully funded, directed, designed, and led by women? Okay, maybe not pink everywhere, but I'm sure the design of the building would include extra room for breastfeeding, maybe green spaces? At least, I think there would be more openness and less judgment for Julia to embrace her nails and skincare. Julia, now that I have been actively deconstructing my internalized misogyny for years, I do love having gel nails and slaying my academic talks. I dedicate the manicure I will wear at my lecture performance to you.*

In the case of in-house communication departments, these communication canons can take the form of press releases, policy briefs, or social media content, and often aim to build a narrative centered on facts. The aesthetics remain very institutional, often picturing stock photos of Earth seen from space, a wildfire, or a glacier. In my view, the content of such communications is often neither suitable for a scientific audience (not precise and technical enough) nor a mainstream audience (too grey, written in too small font, and with too long texts).

A few global environmental science frameworks have been particularly successful in penetrating the media and civil society. These efforts often present well-packaged concepts, often accompanied by a key visual, that manage to distill complex scientific frameworks into accessible, memorable messages. Notable examples include the *Planetary Boundaries* framework (Rockström et al., 2009), developed by a team of scientists led by Johan Rockström, and Kate Raworth's *Doughnut Economics* model (Raworth, 2018). Although these frameworks have their limitations and have faced substantial critique within the scientific community (Biermann, 2012), they have nonetheless achieved a relatively widespread visibility and helped embed scientific ideas into advocacy organizations, activist movements, and mainstream media discourse.

Nonetheless, when we examine the communication strategies deployed more broadly across the public sphere – including those used by conservative all the way to far-right groups, or by actors dedicated to discrediting climate science, it becomes clear that climate science communication often lags behind. These opposing strategies are frequently more attention-grabbing, more emotionally charged, and simply catchier. In a context where climate science must actively compete for visibility, especially in light of persistent political inaction, it is really worth asking whether scientific institutions should adapt and adopt more effective communication tactics. Before exploring that question, though, I first turn to several defining features of global environmental science and what these imply for communication.

## *Communicating Distant Numbers*

As I described earlier, global environmental sciences use methods that are characterized by a heavy dependence on computational models, since most of the objects of study of global environmental science need to be constructed on the basis of physics, big data, measurements, and statistics. This is particularly true for climate: a statistically constructed object corresponding to the average weather over a period of 30 years. Establishing evidence for climate change does require heavy climate models able to simulate the atmospheric conditions with certain concentrations of greenhouse gas emissions.

Yet, quantification creates a distance from the study object. Theodore Porter has described that “quantification is a technology of distance”(Porter, 2020). Not only one that allows for constructing a “mechanical objectivity,” but also a social technology that allows people to create trust and authority across distance, both physical and social. It allows scientists, for example, to analyze the Earth system at a distance, to make and justify decisions about people or systems they do not directly know or have experienced, because of their scale or their geographical distance.

But when communicating scientific facts about the environment, this distance is unfortunately often not bridged. The facts feel distant to the audience; it lacks a stronger feeling of closeness, of relatability. A main assumption behind traditional science communication on global environmental issues is that seeing distant facts, “seeing the big picture”, would drive people into action by realizing the scale of the problem. Because of the scale and complexity of understanding and addressing the climate crisis, there are many distant facts that scientists want to communicate about. All the meteorological regularities that will change, ecosystems that will be affected, all the drivers, and all the solutions. This is something that Timothy Morton described as “information dumping mode” in *Being Ecological* (Morton, 2018), a mode of communication that consists of dumping a lot of facts with the idea that they will change our actions or political

demands: “Look! Can’t you see [this data], wake up! Do something!”

And, indeed, the evidence is overwhelming. But not in the way that would drive us into a stimulating “panic mode,” the kind of mode Greta Thunberg would have wanted all of us to adopt<sup>2</sup>. But rather in a way that leaves us in a dull and frozen state. Morton compares information dumping to a PTSD dream, in which the dreamer re-dreams about the traumatic event again and again. Here, the dreamer’s unconscious would attempt to prevent the trauma from occurring, positioning the protagonist in a state “before” the traumatic event. Morton compares the mode of information dumping as a way for us to “try [to] install ourselves at a fictional point in time before global warming has happened. We are trying to anticipate something inside which we already find ourselves.” This often leaves us in a state of paralysis.

Morton argues for another, more effective way of being ecological, that is to start living the data (or as Pasolini once said: “You don’t solve problems, you live problems”). Morton suggests that, rather than focusing so much on the data, we should start experiencing the world in the crisis we already find ourselves in. He takes the example of experimenting with encountering a rock, finding curiosity in the weirdness of simple things. It means becoming embodied again, slowly reducing the distance that has been built between us and our environment by living urban lifestyles and being fed by capitalist consumerism. To be embodied and experience the world. This is, I believe, the exact opposite of sitting in front of a computer making global models and looking at a 2D digital version of the Earth map. Similarly, feminist scholars argue for a greater embodiment of knowledge production and communication through situated perspectives, with a body. But which body? I will come back to this later.

<sup>2</sup> In her address to world leaders at the World Economic Forum in Davos (25 January 2019), climate activist Greta Thunberg urged her audience to confront the climate crisis emotionally as well as politically, declaring: “I want you to panic. I want you to feel the fear I feel every day.”

## *Communicating Doom*

Another issue in mainstream climate communication is its strong emphasis on problems and doom – or rather, the lack of a strategic emphasis on solutions. While the question of whether positive or negative news is most likely to trigger action has been a heated debate in the climate community for years, evidence from psychologist Per Espen Stoknes suggests that for people to stay engaged with climate change, they need roughly a 3:1 ratio of positive to negative information (Stoknes, 2015). When negative messages dominate, the brain naturally shuts down, a basic protection strategy to avoid too much suffering. This is particularly true given that the climate disasters we hear about often occur in faraway places: the brain registers danger, yet nothing around us appears immediately threatening. As a result, our neurochemistry pushes us to avoid such alarming content. Nonetheless, Stoknes observes that mainstream media and climate communication typically present closer to 80% negative framing (Stoknes, 2015). In response, our attention drifts toward easy dopamine kick: trends, cute things, or makeup tutorials. Distracting us from the disasters already happening and the many more yet to come.

Some existing movements try to frame climate and environmental communication into more positive framings, such as the solar punk movement, which offers positive imaginaries of sustainable futures. Science communication also increasingly acknowledges the role of positive framings and solution-making. However, it seems that environmental science communication still has a hard time employing adequate stories to be heard in a world increasingly being ruled by the attention economy.

### **1.4. From Desiring Labubus to Desiring Sustainability**

In *Anti-Oedipus*, Deleuze and Guattari offer a profound and intricate revisiting of the philosophical notion of desire. Without delving too deeply into this notoriously dense work, it is important to highlight



their departure from the Freudian view of desire as a manifestation of lack. Instead, they reconceptualize desire as a fundamentally productive force, one that drives individuals into action and creates realities (Deleuze & Guattari, 1972). For them, desire is not merely personal or psychological, but also political: it is the underlying energy from which ideologies, collective movements, and even revolutionary impulses emerge.

Must we invoke in the one case a thirst for justice, a just ideological position, as well as a correct and just view; and in the other case, blindness, the result of an ideological deception or mystification? Revolutionaries often forget, or do not like to recognize, that one wants and makes revolution out of desire, not duty. (Deleuze & Guattari, 1972)

Still, all the loads of innovative solutions developed by environmental scientists, such as social justice, sufficiency, or renewable energy, rarely become objects of desire. At least not in the way people obsess over owning a celebrity's lifestyle or acquiring the newest, rarest Labubu figurine. Addressing the climate crisis is frequently framed as expensive, restrictive, or comfort-reducing, as highlighted in the insightful article *Discourses of Climate Delay* (Lamb et al., 2020). Yet people routinely sacrifice money, time, and effort to pursue symbols of status promoted by capitalist marketing – waiting days for a Taylor Swift concert or purchasing the latest iPhone even while struggling financially. Why shouldn't climate communication borrow strategies from the marketing teams that create such intense cultural appeal?

And what about desire in the sense of seduction? In one of the latest South Park episodes *Wok Is Dead* (Trey Parker, 2025), the authors portray the craziness that children, particularly girls, experience over the latest trend, Labubus, and demonstrate the power of seduction that girls possess. In the episode, Butters spends all his money on expensive Labubus, not because he cares about them but because he

wants to impress another schoolgirl, Red, and become her boyfriend. Red had indeed manipulated him into finding her the rarest Labubu by inviting him to her birthday party and suggesting that he find this particular Labubu. But what if girls were obsessed with fighting for a better future and desired a sustainable, fair world? What if Red manipulated Butters not into buying an expensive Labubu, but into spending a lot of his time talking to other school kids about climate change? What if girls, with their seductive powers, could act as mediators to buy ourselves into a better world?

This is, without doubt, a controversial topic. In *Don't Be Such a Scientist* (Olson, 2018), oceanographer-turned-Hollywood director Randy Olson critiques the shortcomings of conventional science communication. Drawing on his experience in blockbuster filmmaking, he argues that effective communication must engage the whole body – not only the intellect, but also the heart and the gut. Olson even identifies a fourth domain to be harnessed for successful communication: the genitals, highlighting, for instance, the remarkable things people can do out of sexual passion. While he acknowledges the effectiveness of the “sex sells” strategy, he ultimately cautions against employing it in academic contexts or recommends doing so “at your own risk.” Yet, given the ongoing crisis of climate inaction, one might ask: should we reconsider sexual – or at least seductive – desire as a powerful tool for communication and mobilization, and be willing to take that risk? And if so, under what circumstances?

The remainder of this thesis will investigate how desire – whether understood in sexual, seductive, or Deleuzian terms – might contribute to more impactful environmental science communication.



## CHAPTER 2

# **THE GIRL AS AN ENVIRONMENTAL COMMUNICATION MEDIUM**



“The Young-Girl doesn’t age – She decomposes.”  
– Tiqqun, *Preliminary Materials for a Theory of the Young-Girl*

The Girl, this seductive, ambiguous, and omnipresent figure, has pervaded contemporary media space, particularly digital platforms, in recent years. Against the backdrop of escalating ecological destruction and persistent political inaction, I am asking whether the Girl might serve as a vector for environmental science communication, perhaps as a last resort.

This chapter constitutes the main theoretical underpinning of the thesis. Building on philosophy, critical studies, environmental humanities, and social media trends, the chapter situates this thesis with respect to historical and contemporary examples of emancipatory uses of and reflections about the female body. It also provides a critique of existing uses of the female body as a communication medium for environmental issues. The identified issues and gaps constitute the entry points for the main contribution of the thesis: the *Ecoslay* framework.

As a starting point of this chapter, Section 2.1 returns to historical examples in which the Girl functions as a performative and subversive tool and a site of emancipation, focusing on the example of the Cyberfeminists. In Section 2.2, as a key building block of the argument, I examine two cultural dimensions of femininity: representations of women in science and the longstanding cultural association linking women with nature and care. In Section 2.3, I introduce the idea of the

Girl as a communication medium for environmental sciences and activism, exploring how this concept departs from the abovementioned associations. In Section 2.4, I first observe that the representation of the Girl as an environmental medium often remains clean and sleek, revealing an implicit politics of purity. I then provide a commentary on the culturally entrenched disgust and hatred for life processes and claim it is crucial to also consider those processes that are deemed disgusting, and therefore also to engage with disgust. Finally, looping back to the Girl theory, in Section 2.5, I introduce the idea of a non-human Girl as a strategy to overcome this disgust, and to rethink environmental science communication.

### **2.1. From the Young-Girl to Cyberfeminism: The Girl's Body as a Medium**

Since I will be talking extensively about the Girl, let me first ask: who is that Girl? While the woman is a political and historical figure whose liberation has been and still is the subject of feminist struggles, the Girl embodies a figure that some would describe as the product of neoliberal capitalism, oriented towards desirability. As such, our vision of the girl departs from the basic definition of a girl as a female child or a young woman. I will define her more extensively throughout the chapter, layer by layer, as she is a complex figure, and different authors have different definitions and conceptualizations.

Since the emergence of mass advertising and the rise of consumer culture, the bodies of Girls have been extensively used as a marketing medium. Tiquun's stinging and mysterious commentary, *Preliminary Materials for a Theory of the Young-Girl* introduces the figure of what they call the Young-Girl. She is portrayed as a hyper-consuming figure, obsessed with appearance, desirability, self-marketing, and image. They refer to her as an intermediary between us, our feelings, and capitalism.

How could capitalism have managed to mobilize affects, molecularizing its power to the point of colonizing all of our feelings and emotions, if the Young-Girl had not offered herself as intermediary? (Tiqqun, 1999)

Martine Delvaux, along the same lines, argues that modern culture often portrays young women not as individuals, but as part of a repetitive, standardized template; she calls them “serial girls” (Delvaux, 2018).

But the Girl can also be viewed as a more ambivalent figure, perhaps even an emancipatory one. Although Tiqqun did not depict the Young-Girl as such, they still described her not only as an object of advertisement and consumption but also as their subject. She crafts her own image and desirability and self-markets herself, thereby exercising agency in this world.

In particular, when women take control of their image and how it is reproduced, this can enable them to regain active agency for themselves within society, especially if they use and subvert the “the pre-existing coded representations that contributed to women’s oppression” (Kendall-Aranda, n.d.). Similarly, Delvaux argued that “[Serial Girls can] maneuver, offer false leads, seduce to trap, using aesthetic harmony to anesthetize [their] audience, like the praying mantis does to its partner” (Delvaux, 2018).

This was the logic adopted by the Cyberfeminism movement that emerged in the 1990s. With the advent of the internet in the mid-1980s, offering an open worldwide web for the circulation of images, feminist groups started to recognize the strategic potential of their bodies for political action and visibility. The Cyberfeminists reclaimed technological spaces dominated by men by hacking visual and discursive norms and inserting feminist narratives into online platforms that had previously excluded them.

The collective VNS Matrix, in particular, used provocative statements, humor, and bodily references to articulate their position. In

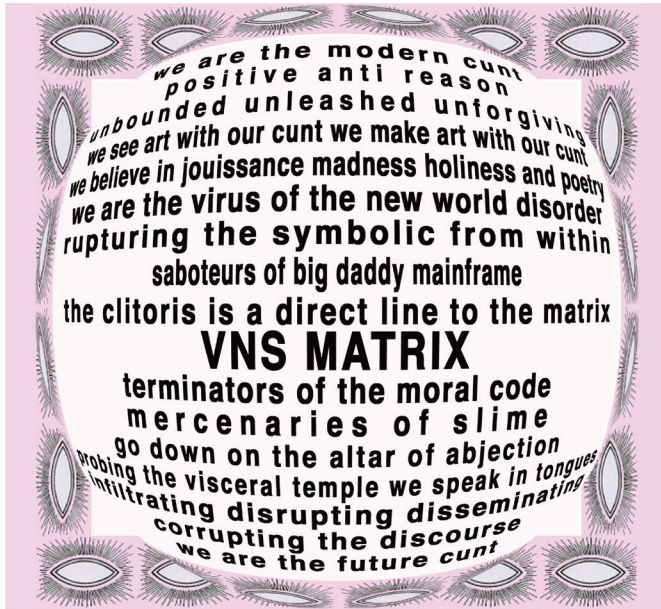
their *Cyberfeminist Manifesto for the 21st Century* (VNS Matrix, 1991), they deployed explicit female body language to assert a bold takeover of computational and digital terrains, coining phrases such as “the clitoris is a direct line to the matrix.” Humor and camp were defining features of Cyberfeminist aesthetics and strategy.

The Cyberfeminist movement eventually dissolved and evolved into other frameworks, such as Glitch Feminism (Legacy, 2020), which was grounded in black feminism and examined the intersectional aspects of gender and tech more closely, or Xenofeminism (Cuboniks, 2018), which advocated for gender-abolitionism and was more rooted in philosophy. However, the Cyberfeminist’s methods continue to offer a valuable precedent, as well as insights, for our purpose of rethinking environmental communication through the subversion of the patriarchal representation of women’s bodies.

A concept that I will discuss later, and which served as a foundational catalyst for the emergence of Cyberfeminism, is Donna Haraway’s feminist conceptualization of the cyborg: a hybrid assemblage of human, non-human, and machine (Haraway, 1991). This conceptualization offers especially relevant frameworks for engaging with ecological communication.

## **2.2. The Societal Gaze: Women in Science, Women and Nature**

In this section, I examine two cultural dimensions of femininity: first, the representations in science of Girls and more generally women, and second, the longstanding cultural association linking women with nature and care. These pre-existing cultural representations are important to examine as they might influence how people will perceive the Girl in relation to environmental communication, which I will delve into in the next section.



## *Representations of Women in Science*

There is something distorted about imagining a female scientist promoting her science while adorning hyperfeminine looks. This is not surprising: the collective imagination of the scientist does not picture a woman. Even less so a feminine woman.

Women scientists are, in our cultural imagination, still very often associated with nerds and often portrayed as unattractive. How many movies or TV shows can you imagine picturing a nerdy girl with thick glasses, probably some acne, and knee-length skirts? The iconic movie *Mean Girls* (2004) stars Lindsay Lohan as a young, innocent girl passionate about math and nature. She arrives at a US high school and encounters Regina George and her mean girls, a group of rich, popular girls with expensive fashion and cheap ethics. Over the course of the movie, Lohan's character progressively loses interest in math as she becomes popular and adopts the popular girls' codes.

Some references from popular culture have taken on the theme of the hot smart girl, such as Elle Woods in *Legally Blonde* (2001): a blonde, rich, and overly pink high-school bimbo who progressively becomes a prominent lawyer (although initially motivated by avenging her ex-boyfriend). However, the whole movie centers on the mismatch between Elle Woods' style and lifestyle and the "serious" world she is trying to penetrate, suggesting that such hyper-feminine figures in science and academia are just an error in the system.

Although these examples are already two decades old, it is still very rare to see representations of successful female scientists who do not hide their femininity.

Internet culture is progressively changing those canons, as we can observe more and more young women adopting girly codes to promote activism or to educate about socially relevant topics.

The leftist influencer Nikita Redkar is a good example. By self-branding herself "professor at Bimbo University" on Instagram, Redkar hyper-performs girl codes to talk about and educate about socialism, fascism, and US history and politics (Redkar, n.d.). Another

er example, leaning on the GirlBoss side of aesthetics, is the science communicator and nutrition educator Jessie Inchauspé, or the “Glucose Goddess.” She portrays herself in less bimbo-like content but still feminine, wearing vintage designers’ clothes and sitting on designer furniture, showing her long legs adorned with high heels in the camera frame (Inchauspé, n.d.). Such figures offer a new avenue for changing the cultural representations of women – and Girls – as vectors of scientific or academic knowledge.

### *Women and Nature and Care*

Another enduring cultural representation is the association between women, care, and nature. This association is deeply rooted in historical power structures and social roles. Patriarchal systems have always confined women to reproductive labor, such as childcare, household maintenance, land management, and sustaining life in general. Similarly, myths and philosophies from the Eastern and Western worlds often portray nature as feminine, fertile, cyclical, and life-giving, as in the case of the myth of the Pachamama. These myths still persist in certain spiritual strands of ecofeminism and continue to reinforce the essentialist belief that women are more “naturally” suited to caring for the planet – and to caregiving in general – than men (Sarmini, 2025).

In *Caliban and the Witch*, Silvia Federici offers a historical perspective on the reasons behind the association between women and resources. During the Middle Ages, when enclosures appeared and farmers lost their land, women became a substitute for it. They became the most basic means of reproductive labor.

Women’s labor began to appear as a natural resource, available to all, no less than the air we breathe and the water we drink. [...] In pre-capitalist Europe, women’s subordination to men had been tempered by the fact that they had access to the commons and other communal assets, while in the new capitalist regime, women

themselves became the commons, as their work was defined as a natural resource, lying outside of market relations (Federici, 2004).

In the next section, I will examine whether these representations and stereotypes are perpetuated into the idea of the Girl as a communication medium for environmental science and activism.

### **2.3. From Mother Earth to the Girl as an Environmental Medium?**

While the Cyberfeminists were pursuing a feminist struggle, their strategies of reclaiming the female body image can also be applied to other causes and existential matters... such as environmental science and communication. However, as far as I know, this remains a rather rare situation. I provide here two examples from popular culture of a Girl as an environmental medium.

Interestingly, although women's bodies have been instrumentalized, reclaimed, used, reused, adapted, over and over again, it is surprising that they have rarely been harnessed for environmental activism.

One of these rare examples is the PETA campaign against animal cruelty featuring young and skin-showing Pamela Anderson. One image shows Anderson posing in a bikini with drawings on her body naming her body parts – like a drawing at a butchery – to protest against meat (over-)consumption. Another one shows her naked with the slogan “I’d rather be naked than wear fur.”

In the realm of environmental science communication, Isabelle Boemeke and her avatar Isodope are a great example of science communication and advocacy, through the performative use of femininity, girly codes, and online trends. Isabelle Boemeke is a Brazilian model and an advocate for nuclear energy (Isodope, n.d.-a). I won't enter here into the heated debate over whether nuclear energy is a reasonable solution to climate change; my point is rather to highlight Isodope's remarkable science communication strategies.





## A GIRL, A POLAR BEAR, AND AN EYE-SHADOW PALETTE

I grew up in a loving family. My mom, a geologist and a beautiful woman, has never been very feminine; she never wore an ounce of makeup, never dyed her beautiful grey hair. Growing up as the last child with two older brothers, femininity was not necessarily valued. To be appreciated by my older brothers, I tried to copy what they were doing, singing rap songs or playing snowboard video games. I developed my femininity from the interior. Spending time with my aunt and grandmothers, feminine and very elegant women, paying a lot of attention to appearance. Until I was about 23 years old, I never deeply identified myself as a woman; I never really understood feminist topics, and I did not really see where the problem was. I was a tall girl, and my mom always told me to look confident, even if scared, when walking alone in the street at night. At 24, I read *The Second Sex* by Simone de Beauvoir, and was astonished. Even if when she wrote “One is not born, but rather becomes, a woman”, she implied that it is because of a socio-cultural construction which we need to fight against for our liberation, the book paradoxically made me a woman, made me aware of my own femininity, and of all the myths underpinning our representations of female figures. Yet, it is an ongoing struggle to make sense of womanhood, to embrace it, while evolving in a system that does not value it without objectifying it.

Years later. COVID-19. I create an Instagram account. I was two years into a PhD in a climate research institute, and I was already completely numb from the climate crisis, hearing catastrophic scientific results the whole day on my academic Twitter feed. Too bad, I came into this topic wholeheartedly. I can vividly remember my initial climate guilt, which resulted in me wanting to work in this field. I was a child, and I saw on TV a polar bear on a melting ice sheet. Already in the 1990s, around the time that I saw this, it was probably already a cliché, a school case of climate visuals! But yes, dear polar bear got me, and here I am... As Birgit Schneider says, climate knowledge and media are inextricably linked.

I progressively replaced my Twitter consumption with Instagram content. Makeup tutorials started invading my mind as they invaded my feed. Reel after Reel, I could no longer watch the content about the state of the world, the war in Ukraine, or climate change; all I could do was watch makeup tutorials or maybe slime videos. There is something so soothing about seeing a girl on a reel progressively applying makeup. Starting with an everyday face, some dark circles under the eyes, uneven skin, and redness. Layer after layer, she becomes effortlessly perfect. The repetition, the regularity, the predictability, yet ever-changing outcome, is so soothing. It's like a mantra that penetrates your mind, and you only think about the present moment. In contrast, news about climate change is filled with prospects of a highly uncertain future. This is anxiety-triggering. Huh?

I ended up starting to do my own makeup. In fact, makeup is a pure act of self-care to me. I am highly focused, don't think about anything else, and the world ceases to exist. And I look a bit prettier! What did the algorithm make me do?? I then came back to the research institute, to the scientific talks, and to my PhD topic! But I couldn't care anymore. I cared in my mind, but not in my heart. A repressive culture for emotions and care is one of the reasons I took refuge in silly acts of care (and dopamine boosts). Where have I been swallowed up?

Isodope, is a sleek, alien-like, beautiful figure that speaks robotically to promote and communicate facts about nuclear energy. She uses social media canons like skin care routine to explain why nuclear energy is clean (Isodope, n.d.-b) or “what I eat in a day” to communicate about the high energy content of a uranium pellet (Isodope, n.d.-c). Much better than vulgarizing basic scientific facts about nuclear energy, she girlifies them. She also cutifies the topic by comparing uranium pellets to harmless gummy bears.

In those examples, there is a clear departure from traditional representations in which women and nature are put on the same level: nurturing, caring, and fertile. Instead, their bodies become a pure medium of communication. They may be concerned about nature, but they are placed outside of it, extracted from it, as a mediator, a messenger.

## **2.4. From Suggesting Desire to Disgust**

In the text *Poison Ground: Art and Philosophy in the Time of Hyperobjects* (Morton, 2013), Timothy Morton argues that ecological awareness necessitates negotiating with disgust and strangeness: “Art about hyperobjects must trade in this disgust and pain. [...]. Ecological politics has to do with coexisting with other life forms even if they are threatening or disgusting.” For example, while worms are creatures that are essential for the well-functioning of our ecosystems, for the recycling of matter, they are some of the most subject to abjection and disgust.

In that sense, while Isodope’s videos are very clever, as they play with trends and humor, she appears sleek, perfect, and smooth. Maybe that aligns well with the type of environmentalism Isodope is advocating for: a high-energy, clean, and sleek future. This is also interestingly encapsulated in the widespread use of the terms “clean energy” and “clean future,” not only by Isodope but also more broadly in sustainability science. This suggests a politics of purity and a moral stance taken against dirt.



"Hey guys, a lot of you have been asking about my makeup routine. The most important thing is to wash your face really well because we want these pores as clean as we want our electricity. [...]"

Then I put some foundation and concealer like... Germany is concealing the fact that it has the dirtiest electricity in Europe, probably because they focus on shutting down nuclear plants instead of coal plants.

Now let's do some blush, or ... we can naturally blush by thinking of all the countries that have pretty clean electricity, like France and Sweden, they must be doing something right, but gosh... what could it be?" (Isodope, n.d.-b)



The photo of Pamela Anderson as a piece of meat, ready to be cut up, conveys a noteworthy element of disgust, even though her skin remains very smooth and unblemished. In her text *Gore Layer*, Alex Quicho uses the PETA advertisement as an example of a campaign that goes against the systematic hiding of bloodshed in our societies, which our technologies and societal infrastructure are trying to mute and bluff (Quicho, 2024). Think, for example, of how slaughterhouses are being hidden far away from cities and the public. While showing Pamela as a piece of meat has a gory aspect, she remains clean and positioned far from the actual flesh of the meat. This representation does not really engage with what Timothy Morton was alluding to: engaging with disgust, with the weird, with all life-forms, regardless of whether they appear disgusting or dirty to us culturally.

The appeal of cleanliness can be understood because society – patriarchy in particular – has a certain hatred for the organic, for things decaying. The disgust for the organic, for life, mirrors the disgust for death and for rot.

Wherever life is in the process of being made – germination and fermentation – it provokes disgust because it is being made only when it is being unmade; the viscous glandular embryo opens the cycle that ends in the rotting of death (de Beauvoir, 1953).

In *The Second Sex* (de Beauvoir, 1953), Simone de Beauvoir draws a striking parallel between men's hatred for women and their hatred for nature. She explains that since women are the ones giving birth, and thus giving life, they also are the ones "giving death." Indeed, feeling associated with the womb, with flesh, reminds men of their own carnal origin and of their own upcoming death. "Because of his birth, murderous Nature has a grip on him." Therefore, the taboo of the flesh, of rot, of natural cycles of life, comes together with a hatred for women and their bodies.

This patriarchal hatred of women's bodies is inseparable from their objectification and eroticization. As Beauvoir argues, contempt and desire operate simultaneously: eroticization functions by fixing the female body as an object, immobilizing it in an idealized form that denies change, decay, and temporality, and thus petrifies beauty outside the realities of biological transformation.

So, how to overcome this fear of death, fear of change, and metabolism? How to embrace disgust? Could the Girl be an entry point to do that?

## **2.5. The Girl as a Non-Human: A Speculation**

This final section takes the shape of a speculation, perhaps a manifestation, in which I ask whether non-human entities and the processes that provoke the most disgust could also be Girls. More precisely, I ask by which operation we could make them Girls.

Girl theorists have already noted that the Girl is a non-gendered category. Tiqqun (1999) argued that, rather than being associated with a gender, the Girl is an abstract figure, a caricature of the average citizen: non-gendered and a consumer category that exists on the surface of commoditization and superficiality. Alex Quicho further described her as a symbolic category (Alex Quicho, 2023). But what is even more relevant to us is the conceptualization articulated by Andrea Long Chu in *Females* (Chu, 2025).

Chu proposes that “[female is] any psychic operation in which the self is sacrificed to make room for the desires of another. [...] And since everyone's desire arrives without their authorship, everyone is symbolically female: desire for another, desire for recognition, desire for political change, desire for change within yourself. Desire for another, desire for recognition, desire for political change, desire for change within yourself.”

So... a Girl is a container for our desires. What if abject forms of non-humans, those who are slimy, moldy, who express transformation and the passage of time, could serve as our projection screen for

desires for another society? A society in which metabolism and life are honored? Or could the Girl be a container for our desires to know, to understand the world, through scientific and embodied endeavors, and to feel the world in all the intensity of its dramatic metabolic unfolding?

After all, Alex Quicho also suggested the Girl as an inhumane category –a machinic condition aligned with the notion of the Cyborg proposed by Donna Haraway (Haraway, 1991). So, if the Girl is a Cyborg, she is likewise non-human: bacterial, viral, and fungal.

The popularity of the meme “Would you still love me if I were a worm?” or the TikTok account “My girlfriend turned into a worm” (@ahizzle, n.d.) subtly hints at the possibility of Girlhood being embodied in non-humans that provoke abjection in humans. What if pigeons were Girls, and the mold on that lemon you kept too long on the kitchen counter, all craving for us to notice the role they have in our socio-urban ecosystems, transforming matter from one form to another, making waste into food for other earthly beings?

This is what the framework that I will introduce in the next chapter aims to achieve. *Ecoslay* experiments with girlifying, perhaps even marketizing, non-human entities that are the subject of disgust, and communicates about the metabolic and ecological processes that they are involved in.

Through language, through performance, and through playing with the close association between disgust and desire suggested by Simone de Beauvoir, *Ecoslay* aims to attribute to the neglected non-human entities those characteristics of the Girl that most people are used to (e.g., being sleek, cute, or sexy) in an attempt to bring society’s desire for change into them.



## **CHAPTER 3**

# **THE ECOSLAY METHODOLOGICAL FRAMEWORK**



Funnily enough, twisty, weird, possibility post-modern art is much more up to speed with living in a scientific age than sentimental 'obvious' images of majestic big cats or lush rainforests in one of those glossy photos in a calendar."

– T. Morton, *Being Ecological*

This chapter introduces *Ecoslay*, a framework, methodology, and a movement that aims to absorb environmental science communication into popular culture. It takes up the idea of embodying environmental science communication through the Girl, a figure that is capable of producing desire. Desire for change in others, desire for making kin with non-humans, desire to connect with ecological cycles and metabolism, desire to fight for eco-social justice.

In this chapter, I will dive into the different characteristics of *Ecoslay* and how it enables the generation of insights into the research questions of this thesis. Since *Ecoslay* has been an integral part of my artistic practice for the last two years, the argumentation will be made through the existing projects, both individual and collective.

### **3.1. What is Ecoslay?**

*Ecoslay*, despite also being a shampoo brand (yes, it is!), is a term I came up with during the summer of 2023. The idea was born out of an intuition and desire to rethink traditional environmental science communication, make it more approachable, fun, and... sexy. Since then, the idea has materialized in the form of multiple media and formats, including artworks, performances, installations, a video, a workshop, and a collaborative book I edited. The book, called

*Ecoslay: an Anthology* (Belmin (ed.), 2025), was released in October 2025 in Vienna and in November in Berlin, and around 250 copies have already been sold or distributed. Finally, *Ecoslay* recently turned into an association registered in Austria that aims to give the project a legal structure for it to develop further. The introduction of the book describes the concept:

*Ecoslay* is, as it sounds, a movement – and a method – to absorb intersectional environmentalism into mainstream culture and to re-think the way we communicate ecological and social crises. *Ecoslay* uses and subverts pop cultures as a vehicle to reach broader, not-yet-convinced audiences. And since popular culture is not a monolithic entity but has many facets, *Ecoslay* aims to spread across various grounds – cultural icons, influencer lifestyles, visual art and music, sports, and whatnot. The possibilities are infinite.

Acknowledging that popular culture is shaped by capitalism – the system largely responsible for environmental destruction – *Ecoslay* seeks to adopt and twist its codes in pursuit of an intersectional environmentalism that strives for the liberation of both people and the planet. Belmin, C. (2025)

*Ecoslay* is adaptable, morphable, and undefinable. It can be seen as both a communication strategy and a method of artistic research, which I explore and develop more specifically in this thesis. Artistic research is a type of research that seeks to produce knowledge through artistic practice. Indeed, in this thesis, I seek answers through our questions not only through theoretical research but also through experimentation that involves artistic practice, in particular, performance.

In the remainder of the chapter, after presenting one example of an artwork series developed under the *Ecoslay* umbrella that brings together many of its core features, I examine individual components of the *Ecoslay* methodology in more detail.

### 3.2. The HOT Compost Advertising Campaign Artwork Series

In June 2024, I collaborated with Janina Weißengruber to conduct a series of artworks on worm composting. Compost is a vital process, critical to the recycling of matter. Yet, it is a process relatively obscure to urbanized societies that, I strongly believe, should be brought back to the center of our attention. This work series is a particularly good example of the different characteristics of *Ecoslay*: performance, embeddedness in life cycles, and engagement with disgust.

The artwork series consisted first of a photoshoot of a model using a composting worm box, of which I filmed a making-of video. One of the pictures obtained from the photoshoot was made into an advertisement-like poster displaying the text: “HOT COMPOST: Eat, Pray, Slay and Decay.” The posters were printed with edible pink paint using the silkscreen printing method. Since the box itself was printed on the posters, this created a situation where the worms were eating the material on which they were “advertised”.

The posters were shown in the exhibition space together with the making-of video. The series of posters at different stages of decomposition was then shown in the exhibition space. These multiple stages particularly showcase embeddedness in life cycles. Decay, as a process that has particular aesthetic value to *Ecoslay* in the communication of life systems and the relationship to disgust, is presented to exhibition viewers. Using another picture, we also printed a second advertisement on edible paper (this time for humans), offering another symbolic perspective on cycles via eating and metabolizing.

I then conducted a lecture performance about *Ecoslay* in the exhibition space, in front of the composted posters, wearing a pink outfit, wide sunglasses, and shiny nails. The worm box was on stage and worms were shown on a webcam. After the lecture, guests were invited to come closer observe and touch them, prompting them to overcome their initial disgust. In all these projects, the protagonists performing or modelling (Teuta Jonuzi and me) were hyper-identifying with feminine standards.





### 3.3. Ecoslay as Performance

Performativity is an important aspect of *Ecoslay*. Performance is here understood in two of its possible meanings: as a live, time-based artistic event, and, as everyday performativity, in particular gender performativity. *Ecoslay* also embraces the blurriness of the boundary between these two meanings of performativity.

Artistic performance can happen through lecture performances, readings on live sets, social media performances, or even a standard lecture. In this way, performance plays with an audience, whether an audience of scientists at a conference, of students, an online audience of followers, or an art crowd. *Ecoslay* is artistic research in that it searches for the boundaries of what can be additionally communicated or transmitted by using popular culture strategies compared to regular science communication formats. In the scientific context, it experiments with the scientific institution itself, to what extent it can change its code.

Lecture performances are a format especially suited to exploring science communication in an artistic way. This format is a specific type of presentation that goes beyond the academic lecture format and uses aspects of dramaturgy and other artistic media (e.g., painting or music) to convey specific knowledge to the public. Hübner further describes lecture performances:

When artistic research is framed and presented within academic contexts, the lecture performance provides possibilities to creatively blur the boundaries between artistic work and theory or reflection. Artist-researchers regularly use variations and combinations of performance, lecture, slide presentations, and video or audio material (Hübner, 2016).

Lecture-performances are particularly relevant to *Ecoslay* because they allow for the enactment of scientific knowledge transmission while retaining significant freedom for experimentation. This format

makes it possible to adopt codes and aesthetics that depart from the conventions of the traditional lecture, and in particular to engage in forms of subversive gender affirmation.

### *Subversive Gender Affirmation*

Subversive affirmation is a type of artistic performance that overemphasizes prevailing ideologies, thereby calling them into question. In an article where Slavoj Žižek comments on the band Laibach, the musical branch of the provocative art collective Neue Slowenische Kunst, he underlines that ironic distance and mockery, and subversive affirmation are two distinct strategies. He describes the strategy of the band as “frustrating” the system (the ruling ideology) precisely insofar as it is not its ironic imitation, but over-identification with it.

By bringing to light the obscene superego underside of the system, over-identification suspends its efficiency (Žižek, 1993).

*Ecoslay* uses subversive affirmation of gender by over-identifying with hyperfeminine codes that have been oppressive to women to critique the capitalist overconsuming system we are living in.

But when it comes to gender norms and femininity, of course, lines can get blurry as we ourselves have been constructed through capitalist modern media. My generation has lived their entire existence fed by US sitcoms and music. Millennial girls born in a westernized country like me have been fed to idolize Pop icons like Britney Spears. It only takes putting on the song *Hit Me, Baby, One More Time* at a party to realize that absolutely every girl has been inoculated with a pop virus from a young age. Even those who wouldn't seem to enjoy such songs come out of their repressed femininity to sing this emotionally intense song along and dance dramatically. It's like a spell. It is dormant but always ready to come out when the charming songs tune in. Are we over-affirming, or simply letting go of the shame

that's been put on us and expressing our hyper-emotional, cute, girly side shamelessly?

This is maybe where we can distinguish a project like *Ecoslay*, which uses hyper-performance of gender, and projects like Laibach, which hyper-identify with fascist standards to demean the ideology. Indeed, with hyper-performing femininity, lines get blurrier. Gender is being performed from birth, by all genders, as Judith Butler famously proposes in *Gender Trouble* (Butler, 2002). So, performing femininity is something we already do on a daily basis, with various degrees and extents, depending on the situation.

### **3.4. Embeddedness in Life Cycles and Decay**

Alongside performativity, a central feature of *Ecoslay* is its active embeddedness in living processes and its recognition that human societies are entangled within a broad network of non-human and material agents. The *Ecoslay* framework embraces change, cycles of degradation and synthesis, ageing, and composting. Ideally, artworks produced within this approach should be able to return to compost, be repurposed, or be socially metabolized.

Most ecological artists already work with this sense of embeddedness. What distinguishes *Ecoslay*, however, is its deliberate borrowing of visual codes and aesthetic strategies from capitalism and corporate culture. Notably, several works produced within *Ecoslay* adopt the form of speculative advertising, either promoting the framework itself, promoting ecological products, such as a composting worm box, or simply advertising a natural life process, such as ageing.

*Ecoslay* advertisements are not classic advertisements. They are actively seeking to be decomposed and returned to the Earth, a process that decomposes not only its materiality, but also their symbols and meanings. Corporate marketing aesthetics never depict the aging of products; it presents only smooth, shiny, ever-new surfaces. In contrast, weathered and deteriorating advertisements have the power to recontextualize capitalism within the material world that it denied

age

Young  
is the new  
old.



solar transmittance day serum

Accelerate ageing and catch up with your authentic self.

being embedded in. *Ecoslay* advertisements do not shy away from decay; rather, they foreground it. The Girl, a symbol for the advertising culture of capitalism, must also be decomposed. This could be seen in decomposed posters for the speculative advertisement for HOT compost.

Another example performance I conducted in November 2025 called *Eating Ecoslay* at Motherboard art space, in Vienna. In this performance, I preached *Ecoslay*, offering each participant of the dinner a piece of SCOBY with a QR code of the Instagram page of *Ecoslay* printed with edible ink. Participants were invited to eat the SCOBY as an Eucharistic bread and invited to digest and metabolize the *Ecoslay* ad.

### *Engaging with disgust, with care*

Following Timothy Morton's ideas that art about hyperobjects should engage with disgust and weirdness, as discussed in the previous chapter, the *Ecoslay* girl knows how to engage with dirt and what is considered impure or disgusting.

In one of the essays featured in *Ecoslay: An Anthology*, Nari Sarmini positions the *Ecoslay* Girl in the landscape of internet aesthetic cultures like Trad-wife, Cottagecore, and Clean-girl, which all have in common a shared sense of purity. The *Ecoslay* Girl refutes such a vision of girlhood. Instead, she rather likes her "hands, nails and bodies get dirty – not in a symbolic gesture of 'authenticity,' but through daily acts of care, repair, and connection – entrenched in muddy waters and composted matter" (Sarmini, 2025).

The *Ecoslay* Girl is also aware of her entanglement with creatures that are culturally considered dirty, unworthy of love and attention, and engages and makes kin.

For example, in her contribution to the *Ecoslay: An Anthology*, Ramona Gomez writes an epic ode to the pigeon, the fallen dove.

Let's look to the pigeon.  
Face our fears head-on.  
Perhaps the plastic in their guts and the soot on their wings  
can be defined as valuable.  
Symbols of survival (Gomez, 2025).

Engaging with those fallen creatures, with the pigeon, the worms, the mold, the *Ecoslay* Girl re-establishes the care that the Girl as Environmental Medium, as seen in Chapter 2, has stripped “Mother Earth” of. In a way, she can be seen as a reconciliation, a caring figure that engages with non-humans, with care, but does it in a way that her body becomes a site, a medium of communication, maybe a site of struggle for eco-social justice.

[She] disrupts consumerist models of femininity by embedding ecological consciousness in embodied, reciprocal practice. It is not about being perfect, it is about being accountable (Sarmini, 2025).

### **3.5. Ecoslay as community building**

I was the initiator of the idea and the project, but most of the artworks, projects, and workshops were carried out collectively. This has been essential on a personal level to deal with the insecurities triggered by delving into a rather controversial topic, and from the perspective of a scientist, who is not supposed to go beyond the belt when it comes to communicating science.

*Ecoslay* is above all about making a movement and building a community of people who recognize themselves in this. Against the backdrop of very gloomy times brought about by catastrophic news on all fronts, there is a widespread demand to make ecology lighter (yet no less serious) and more aesthetic. *Ecoslay* naturally speaks more to young women, Millennials, or Gen Z, who do not recognize themselves in mainstream (academic) conversations about environmental top-

ics, or who can be frustrated by having to choose between reclaiming their Girlhood and being part of “more serious” (academic) spheres.

The movement has started emerging through the book *Ecoslay, an Anthology*, which can be seen as a first iteration of an *Ecoslay* manifesto, and has been sold or distributed in about 250 copies. The creation of the book was a year-long process involving eight artists, researchers, and cultural workers working on a voluntary basis. The authors united as a collective, which became a legal entity in October 2025 under the name of *ECOSLAY-Verein zur Förderung des ökosozialen Engagements und der wissenschaftlichen Kommunikation durch Popkultur und Kunst*.

Another early step for community building was creating an Instagram page in December 2024, which Nari Sarmini and I maintain. The Instagram account @thats\_ecoslay features memes, girls, and famous pop icons, from whom we borrow the image to make them talk about ecology and social issues (@thats\_ecoslay, n.d.). Our Instagram content often relies on the principle of arouse-and-fulfill, meaning to first catch the attention (e.g., in the first slide of the carousel, with a Girl or a Pop icon), and then provide some content (e.g., some important figure about carbon inequalities).

### *An Outlook for Ecoslay*

If resource and funding allow, future work would consist of creating more publications featuring other artists, with the collective serving as curators and editors. Creating and maintaining a broader communication platform, such as Discord, would also be valuable, as it would enable the community to grow both online and IRL. Ideally, people would self-organize to create projects online or in real life. Another long-term project would be to create a “consulting branch,” which would enable us to propose more provocative communication outlets to scientists, inspired by artistic strategies... and corporate marketing.





## AT LEAST WE TRIED, TOGETHER

*The academic journey of doing a PhD (yes, I did a PhD before doing a Master's of Fine Arts... don't ask why) can become a very lonesome experience. Even if you are well supervised, writing a paper means sitting hours, days, weeks in front of a computer alone. Weeks add up to months, months add up to years, and you find yourself having spent 4, 5, maybe more years in a certain state of professional loneliness, not really being able to share your journey with many people, maybe one or two, if you are lucky to have good PhD colleagues. Maybe there is a cult of successful scientists who are working alone in their ivory towers. But in reality, no work is ever a sole endeavor.*

*To me, work takes all its meaning when done collectively. The making of the Eco-slay book was a great example of this. I would never have thought that making a book could become such a wholesome adventure. When thinking about writing a book, I was imagining myself writing on my laptop on an outdoor table on a windy, melancholic autumn, and crushed by solitude. Or being an editor of an edited academic book, angrily running after authors living on the other side of the planet that you've never met, so they meet their deadline.*

*But no, instead of that, I was surrounded by friends (slay friends!). This book is a collection of eight contributions by eight authors. But instead of seeing those as individual contributions, you can see this whole book as a collaborative piece. We all thoroughly discussed everyone's contributions, proofread each other (never underestimate the time to proofread), and worked wholeheartedly for a year. While the idea originally came from me, I can now feel that the project is carried by different people, and we can take turns in feeding energy into the project. There is something quite transcendental to it. Putting an idea into the world and seeing if it starts to flap its wings on its own (almost).*

*So we may not change the side of the world with our little project on rethinking environmental communication, but at least we tried, together. And maybe that is all this is about.*

## CHAPTER 4

**A SCOPY IS A GIRL**

**A SCORY IS A GIRL**

Fermentation is rotting with style  
– @andrewperkins6987, on Reddit

Having established the methodological framework of *Ecoslay*, I now turn to a case study that applies the framework, and that forms the basis of the artwork accompanying this thesis: the lecture performance *A SCOBY Is a Girl*. This case study is an ongoing process. The lecture performance serves as a significant milestone in the artistic research – an opportunity to learn, observe, and gather artistic insights – while by no means marking its conclusion.

*A SCOBY Is a Girl* engages with environmental science communication through the bodies of two Girls: Dr. Camille and SCOBY. It explores whether our bodies, in collaboration, can manage to attract more attention to ecological cycles and have people engage with them.

I begin by outlining additional scientific foundations for the lecture performance in the first section, focusing on the metabolism of kombucha and the carbon cycle. I explain how understanding the circulation of carbon between different containers of the biosphere is essential not only to understand where climate change comes from, but in my view also to live ecological data. I then set the scene, the characters, and the artistic media used for the artistic work in the chapter's second and final section.

#### 4.1. A Little Catch Up on the Basics of Metabolism

Nature is so wonderful and neatly made that we feed from plants, and they feed from us; all that life does is to circulate energy from one form to another, and by doing so, either synthesizes organic matter or degrades it.

Plants use external energy from the sun to transform  $\text{CO}_2$  from the atmosphere,  $\text{H}_2\text{O}$  from the soil, and nutrients from the soil into complex carbon chains. They are basically storing a lot of “potential” energy into these complex carbon chains, such as starch or cellulose (which are basically chains of sugar, or glucose). Plants can anabolize, meaning they can synthesize organic matter.

We, humans, animals, cats, and pigeons are catabolic creatures. We feed from those complex carbon chains that plants have neatly made for us. And by digesting and degrading those chains, and using  $\text{O}_2$  from the atmosphere, we extract the embedded energy (in the form of adenosine triphosphate), and convert it into free energy that can be used by our cells to perform a variety of tasks, such as moving molecules from one compartment to the other, or moving muscles to be able to move. As we do this, we release  $\text{CO}_2$  and water. In a way, we animals are just decaying organic machines, and plants are synthesizing machines.

All processes like respiration, eating, rotting, farting, and fermenting are anabolic processes that degrade organic matter. From a purely metabolic definition, respiration is the process of catabolism happening in the presence of oxygen, while fermentation is the equivalent process happening in the absence of oxygen. In our animal bodies, both respiration and fermentation happen.

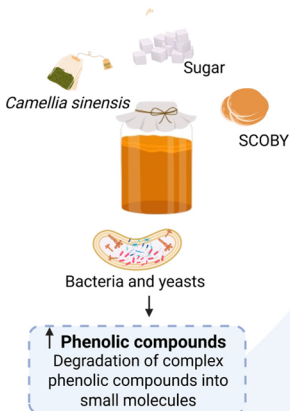
*The Metabolism of Kombucha, the Metabolism of SCOBY*

Kombucha is a fermented drink made from tea, sugar, and a colony of bacteria and yeast. All those ingredients brew and ferment as in a big soup. Fermentation is a type of catabolic metabolism that transforms

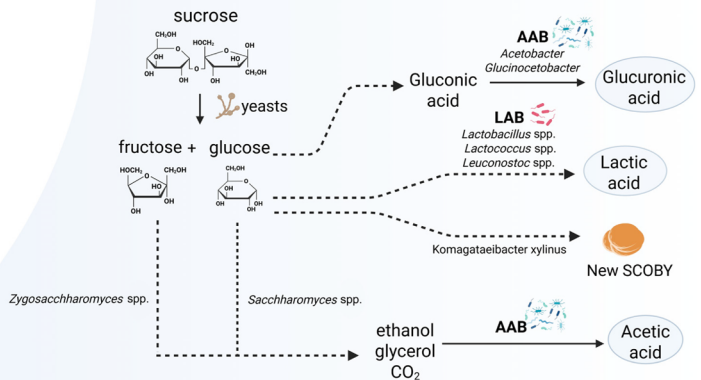
Maybe actually plants are farming us, giving us oxygen until we eventually decompose and they can consume us.



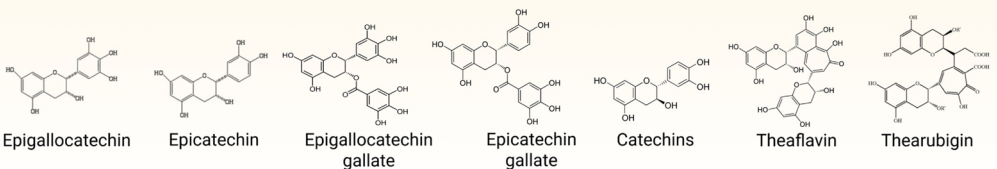
## Kombucha



## Organic Acids



## Phenolic Compounds



sugar into  $\text{CO}_2$  and other compounds. The yeast and bacterial colonies transform sugar into a variety of acids (Glucuronic acid, lactic acid, and acetic acid), ethanol, glycerol, and  $\text{CO}_2$ . One specific bacterium, *Komagataeibacter xylinus*, uses part of the sugar (glucose) to synthesize cellulose (chains of sugar), which ultimately accumulates to form a biofilm called a SCOBY. The SCOBY texture is similar to jelly and contains in its matrix all the bacteria and yeast contained in the kombucha fermenting jar, which is why it is called “Symbiotic Culture Of Bacteria and Yeast.” Interestingly, both catabolism (degrading metabolism) and anabolism (synthesizing metabolism) occur simultaneously in the kombucha jar.

### *What Does a SCOBY Have to Do With Climate Change?*

Well, I will tell you, it's carbon! SCOBY is a biofilm made out of cellulose, which is also one of the main components of plants. When plants die, they are typically decomposed by catabolic creatures, like us, or composters like worms. Yet, a small proportion of these plants are not decomposed and end up accumulating and eventually sinking into the ground in anaerobic deep regions (without oxygen). In such conditions, bacteria suck out the oxygen from those organic materials, which ultimately become condensed carbon chains, without oxygen, called hydrocarbons. These carbon chains did not have the opportunity to release the embedded energy they contain. They become fossil organic matter containing a lot of energy. And this takes millions of years to form.

Especially during the Carboniferous Period ( $\approx 359\text{--}299$  million years ago), a LOT of fossil fuels formed. This period was an age on Earth that was really HOT. The atmosphere was packed with  $\text{CO}_2$ . Consequently, nature was lush, plants were big and abundant, and the Earth was covered with vast, tropical swamp forests. As plants died, they fell into the swamps and, over millions of years, became coal or petroleum. And it is in this period that most of the fossil fuels that remain today come from.

Although human societies discovered coal and other fuels as early as 3000 years ago (e.g., in China), the extensive exploitation of fossil fuels began at the onset of the Industrial Revolution, which occurred in the 19th century in England. From this moment, fossil fuels started to fuel industries and slowly started to burn all this fossilized energy into fraction of seconds, creating an metabolic carbon imbalance, and thereby the accumulation of CO<sub>2</sub> into the atmosphere, leading to climatic change and average temperature increase, with the consequence of increasing frequencies of extreme weather events such as storms, floods, creating significant climate stress such as drought, and a rise in sea-level rise, disturbances and disruptions in geo-chemical cycles, perturbation of biodiversity.

So, no, neither SCOBYs nor fermenting kombucha is responsible for climate change. Rather, through understanding their processes, from a very material perspective, they can serve as a material basis for understanding flows of carbon, the transformation of matter from one form to another, and the consequences for biosphere imbalances.

This little story is the basis of my lecture performance about carbon metabolism and climate change. The difference from a more standard lecture will be the application of the *Ecoslay* methodology, namely, performativity, over-affirmation of gender, and embeddedness in life cycles and disgust.

#### **4.2. Setting the Scene for A SCOBY Is a Girl**

This case study takes the shape of a lecture performance and installation, which takes place in January 2026. This section offers some preliminary details about the performance, without presuming the insights it will generate once realized. The performance and installation aim to apply the *Ecoslay* methodology to have people learn about the carbon cycle through the bodies of the two Girl-characters of the performance: Dr. Camille and SCOBY.

## **DR. CAMILLE**



Dr. Camille (she/her) is a lecturer and researcher based on Earth, who specializes in strategic communication about ecological systems and cycles. She holds a PhD from the Compost Institute of Embodied Impact Research (CIEIR) and is passionate about teaching. More recently, she founded a consulting company called *Ecoslay*

*Consulting Group*, which aims to empower researchers to make their research a bit more sexy. Unlike her alter ego Camille Belmin, she does not shy away from owning her femininity in academic spheres. Camille Belmin and Dr. Camille often collaborate on various projects, feeding off each other's practices.

## SCOBY



SCOBY (they/them) is a Symbiotic Culture Of Bacteria and Yeast with ancestors from South East Asia. In their practice, the SCOBY ferments sugars and other organic components into a variety of acids, biofilm, and wonderful flavors. They love to breathe and are happy in a dark place. In recent

years, their activity has grown substantially due to high demand from the upper-middle-class population in Western societies, with the increasing trend of healthy lifestyles, fermentation, and even SCOBY-based artworks and crafts. SCOBY has not disclosed their opinion on that, but this factually enables them to reproduce their body and influence more broadly.

### *The Material and Artistic Media*

In the installation, both “wet” and dried SCOBYS will be present. When it dehydrates, water is released from the cellulose matrix. The bacterial and yeast cultures do not die but remain dormant. The dried SCOBY produces a more or less smooth surface, similar to leather or paper, depending on the thickness, that can be worked with, printed, tattooed, cut, or sewn. Both wet and dry SCOBY can be eaten and have similar health benefits to kombucha. When wet, it keeps a very high sourness, which can be a bit unappealing. But when dried, the sourness goes away, leaving a fruity, enjoyable flavor.



For this installation, I use silkscreen to print on the SCOBY. Silkscreen printing is a medium that enables the translation of digital media onto various materials and engages with the material itself in the manipulation process. Printing is also, at its core, a practice of reproducing information and sharing it, for leaflets or advertising.

One of the characteristics of the *Ecoslay* methodology is to work with performative advertising but to explicitly embed it in a cycle of decay, not trying to prevent the degradation of matter but actively promoting its decomposition. In a performance titled *Eating Ecoslay*, performed at an art-banquet at MotherBoard in Vienna on 29th November 2025, I performatively preached to *Ecoslay* and gave each invitee a little piece of dried SCOBY with a QR code linking to the Instagram page @thats\_ecoslay. Whether or not the QR code worked was up to the materialities of the SCOBY and the topography of its body.

*Ecoslay* plays with the commodification of the figure of the Girl, selling not a product but an idea and embodied scientific knowledge. Here, the medium for selling is an edible SCOBY. The body of the advertisement is the SCOBY, it is the Girl. Its agency is to decide whether to advertise, as a non-readable QR code has no advertising value.

### *Evoking Disgust and desire*

One of the main components of the performance itself is to play at the intersection of desire and disgust. Wet SCOBYs and kombucha have a strong smell. When not familiar with the fermentation of kombucha making, many people find this smell disgusting (in the end, as @andrewperkins6987 once said on Reddit, “fermentation is rotting with style”).

On the contrary, Dr. Camille is rather young with fairly good proportions. But what if we inverted the roles or blurred the boundaries between Dr. Camille and SCOBY? Their skin resembles each other; it is smooth and can be wet. Dr. Camille ages and wrinkles with time, just like SCOBY. And beyond arousal, can't we manage to provoke a broader desire, a drive for action, through the words of Dr. Camille, and

through the disgusting metabolizing body of a SCOBY? Can these help the audience remember, understand, and connect with the broader carbon metabolism that lies all around us, all the time, if we dare to look?

### *Taking along the community*

This performance and this installation are not stand-alone works. They are embedded in a broader series of artworks and research introduced in the previous chapter. Behind *Ecoslay* is a community of artists and followers. For this reason, the lecture performance will be live-streamed on the Instagram channel @thats\_Ecoslay, enabling a wider audience to participate in my master's presentation and react to it. Give it a like or ask your questions live! I could not have been standing there and stepped out of my scientist's shoes without the support and encouragement of this community.

Do you desire me? Do  
you desire my wet skin?  
Can't you see that it is  
alive? Can't you see that  
I can produce more life?  
Can't you see that my skin  
will one day dry off? Do you  
desire me? Don't you see  
that I breathe in oxygen and  
breathe out carbon, just like  
you? Where is your gaze at?  
My smooth, fair skin? Do  
you like my smell?





## MOMO AND THE SCOBYs

*Fermentation has been part of my life for many years. It brings me comfort and grounding and reconnects me with the ecological cycles from which my urban lifestyle has extracted me, all through a glass jar. For some obscure reason, it has also become a source of support during my dark, sleepless nights. When I have insomnia and wake up in the middle of the night, I have a ritual of making myself golden milk and reading the fermentation bible, *The Art of Fermentation*, by Sandor Katz. Despite the clues in the title of this book and the countless times I have opened it, I had never engaged with fermentation artistically... until I went to Momo's workshop, which inspired me to use SCOBY as an artistic material.*

Momo E. Hontebeyrie is an artist who is currently studying in the Cross-Disciplinary Strategies department at the University of Applied Arts Vienna. Over the past year, they have been working on an ongoing art project called *correspond trans\*mutations*, inviting people to workshops on kombucha bioleather making – structured around growing, drying, and harvesting kombucha SCOBYs as they transform – while corresponding with various bodies and spending time. Having participated in a workshop in June, I became fascinated by the beauty of the organic mass growing from tea and sugar, that is, SCOBY, which resembles skin. Momo gave each participant a small jar containing a SCOBY and some Kombucha liquid starter to grow at home. Since then, I have been growing and multiplying the SCOBY that Momo gave me, brewing delicious kombucha, which I served at the Ecoslay book launch. I also soon started wondering how to apply Ecoslay to the wonderful world of fermentation.

Sharing is central to fermentation, as ferments need to be shared and reproduced between people to initiate the process. This sharing extends beyond the ferment itself to include practical knowledge and stories. Even with the advent of the commodification of fermentation starters, fermentation practices often remain local, based on sharing or trading, and remain a form of resistance to capitalist greed. Over the past few months, Momo and I have been sharing a lot. We first shared doubts about our master's projects being presented at the same time with the same material, but also shared infrastructure (a room in which we put different batches of kombucha to ferment and their SCOBYs to grow), material, knowledge, and support. Just as fermentation specialist Sandor Katz proposed the idea of emotional composting, our doubts soon fermented into a supportive, collaborative framework, where we regularly exchanged ideas and discussed our respective projects. I am very grateful and proud to collaborate with the descendants of the SCOBY Momo that once shared with me.

## **LEARNINGS, LIMITATIONS, AND CONCLUDING THOUGHTS**

In this final chapter, I offer some insights into the guiding questions of this thesis and some practical findings and learnings from past experience working within the *Ecoslay* framework and engaging with performativity, embeddedness in life cycles, disgust, and community, and the preliminary insights from the case study *A SCOBY is a Girl*.

Although the framework of *Ecoslay* provides some insightful perspectives on environmental science communication, there are some limitations and blind spots that should not be overlooked. Those pave the way for future work. I introduce some important limitations of the framework applied here, when it comes to effectiveness and the limitations of representation politics, as well as the actual emancipatory power of the framework, given its operating within late-capitalist logics, which are also perduring racial and colonial oppression.

*Are the use of desire and the logic of commodification effective when it comes to environmental science communication? Can the power of the Girl be harnessed for such a purpose?*

On the question of effectiveness, one must distinguish between getting people engaged on the intellectual level and getting people into action. When it comes to getting people intellectually engaged, past experience of working with the *Ecoslay* methodology proved quite

effective. In a world dominated by the logic of the attention economy, I have found that performing pop culture and Girlhood definitely brings attention to the tissue.

Before starting *Ecoslay*, I engaged extensively with documenting trash or decaying objects, with the same goal as *Ecoslay*: raising awareness on ecological issues, on metabolism, and the passing of time. I was sharing such documentation on social media, and, because of the logic of the algorithms that govern the exposure of social media content today and the type of content it conditions people to react to, I did not manage to attract much attention to the topic. Only when I started to girlify the trash did I start bringing more attention to them. More generally, since I started to use and develop the *Ecoslay* framework, I have engaged many more people in it. I received much more positive feedback on the project than I expected. The book was also an unexpected success.

The reference to girlhood resonates deeply on an emotional level for many. It is the reclaiming and reconciliation with the hyper-sensitive self we were often forced to leave by the side of the road while growing up in a world governed by reason, productivity, and capitalism. It is also a return to a time when the world felt enchanted. A time when playing with ants or worms on the playground felt natural, before cultural norms taught us to view such things as dirty or unworthy. And it is a reconciliation with our desire for sparkles and shimmer, once packaged and sold to us through U.S. pop-cultural idols, but now redirected toward those who truly shine and make the world go round.

Then, of course, the question of how intent or interest turns into action is another topic that would require further research, and it comes back to the value-action gap issue (Barr, 2006), well-documented in environmental social sciences, pointing to the phenomenon that people act inconsistently with their values. Is the *Ecoslay* framework actually emancipatory if it does not move beyond representation politics? How could *Ecoslay* be a practical tool to move people beyond interest and into action? This should be the way for future research.



*What are the limits of environmental science communication in the face of ecological collapse?*

My recent experience has shown that it is possible to challenge the status quo even in a relatively standard scientific audience. When it comes to testing the limits of environmental science communication, performance is a great tool for gauging the audience's reaction. Performance can occur across a wide range of spectrums and be adapted for a wide range of audiences. Indeed, I have presented *Ecoslay* across a diverse range of audiences: art crowd, humanities context (e.g., at the Peter Weibel Institute), the research institute I last worked at for two years, the International Institute for Applied Systems Analysis, and an audience of about 250 climate scientists when I gave a keynote at the Scenarios Forum conference in July 2026. In all these presentations, I included some elements of the *Ecoslay* narrative and memes. It was always with apprehension that I would introduce those ideas in front of a largely male-dominated audience. To my surprise, I have received either positive or neutral feedback. I have learned that it is possible to create spaces of dialogue and to push the boundaries of what is perceived as normal or acceptable topics and communication approaches within the current status quo. It seems there is a demand, or at least an appetite for more provocative approaches.

However, institutional barriers remain. Although individual researchers might be enthusiastic about the concept and ready to experiment, the infrastructural system of academia does not leave much room for breaking the codes. The systems in place do not value the creation of those unconventional spaces of dialogue and experimentation. This simply manifests in the limited resources, funding, and positions available to support provocative communication outlets, as well as in my not fitting the conventional structures of academia. Both factors create precarity, making it difficult to devote the neces-

sary time and resources to bringing the movement and framework into the mainstream.

Another fundamental limitation of *Ecoslay* is that, as we have seen in Chapter 2, women are always considered as the ones needed to “care” for the environment, to propose solutions, and to be the advocates. The *Ecoslay* framework, even if the concept of the Girl is theoretically speaking applicable to all genders – and as we’ve seen, also non-humans – given the patriarchal structures of our societies, uses femininity as a vehicle for environmental science communication. In this way, *Ecoslay* still puts the burden on women to solve the climate crisis and reproduces structural inequalities that women already face in terms of the burden of care work. For this reason, it would be important that future work tackles the mainstream not just through gender, but through various layers of society. Why not catch attention on environmental issues... using an extremely popular topic, like football? The artwork *World at Stake* by the collective Total Refusal might be a good example here. Although it doesn’t feature science communication, the artwork appropriates mainstream sports videogame aesthetics to address the pervasive feeling of political powerlessness, featuring a world being flooded and an Earth being put at stake in a soccer game.

Finally, I also came to understand that, within the academic sphere, privilege plays a crucial role in how gender performativity is navigated. Through conversations with colleagues and friends, I’ve realized that I benefit from inhabiting a white(ish), able, tall body that broadly aligns with mainstream beauty norms. What might the experience look like for a racialized woman, or for trans or non-binary scholars, undertaking this research in an environment still dominated by white masculinity? A striking example of the racial representational politics of environmental issues in the media happened in 2020. Five young female climate influencers were representing the face of the Friday For Future movement. But on the main picture that circulated on social media, Vanessa Nakate, the only black young woman, got cropped out (Evelyn, 2020). This suggests the struggle with the



lack of representational agency that non-white bodies have in a white supremacist system.

This raises a fundamental, if not most important, bottleneck of the framework: post-capitalism has been shaped by racial and class and colonial oppression; therefore, the representation canon it produced remains hyper white and conforming to the canons of commodification. So how do we engage with women of color from the global majority? How to create solidarity with BIPOC women and make sure they feel represented? How do we make sure that it is a safe space for them? How to create solidarity within the *Ecoslay* movement with bodies that are not widely represented, reproduced, and valued at the same level in the eyes of white supremacy?

What might an *Ecoslay* look like that emancipates itself from the tenacious tentacles of capitalism and neo-colonial systems? Maybe the Ugandan influencer Aketch Joy Winnie might provide some insights here. Aketch is, in addition to being a model and an incredibly graceful woman, an influencer who completely breaks from the standards of the classic influencer. Though she operates within conventional social media platforms and the influencer economy, she educates her audience about traditional rural life in Uganda, how people cook or use the resources in their environment to sustain their needs. Through her embodied grace, she challenges stereotypes about African culture, shares indigenous knowledge from her community and portrays this lifestyle in a positive light.

But all in all, *Ecoslay* and the Metabolic Girl are experimenting, testing new formats, provoking what the system can take, and in the worlds of Quicho, “move with the trap until we can achieve the correct conditions for escape” (Alex Quicho, 2023).

*And do we even need Girls or female bodies? Could we reimagine a world in which non-human bodies could be desired, maybe worshiped for their inherent ecosystemic value? Could a worm be a Girl?*

In the research question, “Could a worm be a Girl?”, the worm should be understood here as a container for those forms of life that are generally deemed disgusting. It is clear that disgust toward life, organic matter, and creatures like worms is so deeply entrenched in our culture that these cannot yet function – at least in mainstream contexts and at this early stage – as a projection surface for desires for a more eco-social. Engaging with disgust and getting one’s hands dirty requires overcoming cultural barriers. Many people I presented the worms to, or who came into contact with my SCOBYS, were still quite disgusted. Even I could find myself repugned by smells or even gory visions of the pink SCOBYS I produced.

But it requires time, observation, and curiosity to encounter these bodies. Worms might not yet be ready to become Girls in the eyes of a wicked society, but the Girl can help us open our eyes, open our hands, and let us touch the ground. Maybe the female Girl is just a vector, a collaborator, a communication strategist who makes us, who live in a world where media space is dominated by the male gaze, aware of all the wonderful metabolic Girls we have around us?



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