

Chapter 3: The university that nurtured a few alternatives

“No surprise, we are still hanging up here,” one North-Westerner said. Frustration rose when recounting their futile attempts of the last chapter to land the university.

“It will never work,” another lamented.

But then they were reminded of a recent gathering in a lecture hall, of an odd meeting in the rector’s office, of a workshop in the woods adjacent to the campus. They collected poems and noted down conversations and observations, many of which were peculiar and mostly unnoticed. They are collected in this chapter. Some claimed these practices stay with the planet. At least partially.

Critique

Lighting up an austere university lecture hall the rising sun looming through the window at the back. Emptied of furniture, a purple tape divides the space.

On the left side, the UNLIMITED GROUP moves frantically, scribbling equations onto whiteboards, speaking of breakthroughs: “More data, always more data, progress is limitless!” A champagne cork pops.

On the right, the GROUNDED GROUP counters with slower gestures, drawing circles around words like “Earth,” “Body,” and “Limits,” chanting “Science must have roots!”

Then something happens: a sudden glitch, actors freezing mid-motion as their speech slips into loops of unfinished sentences.

From backstage a THIRD GROUP appears, quietly stepping into the space around the now broken purple line separating the two sides, cautiously peering into notebooks, whispering: “We are caught in the gap between knowing too much and understanding too little. This is why we are hovering.”¹⁷

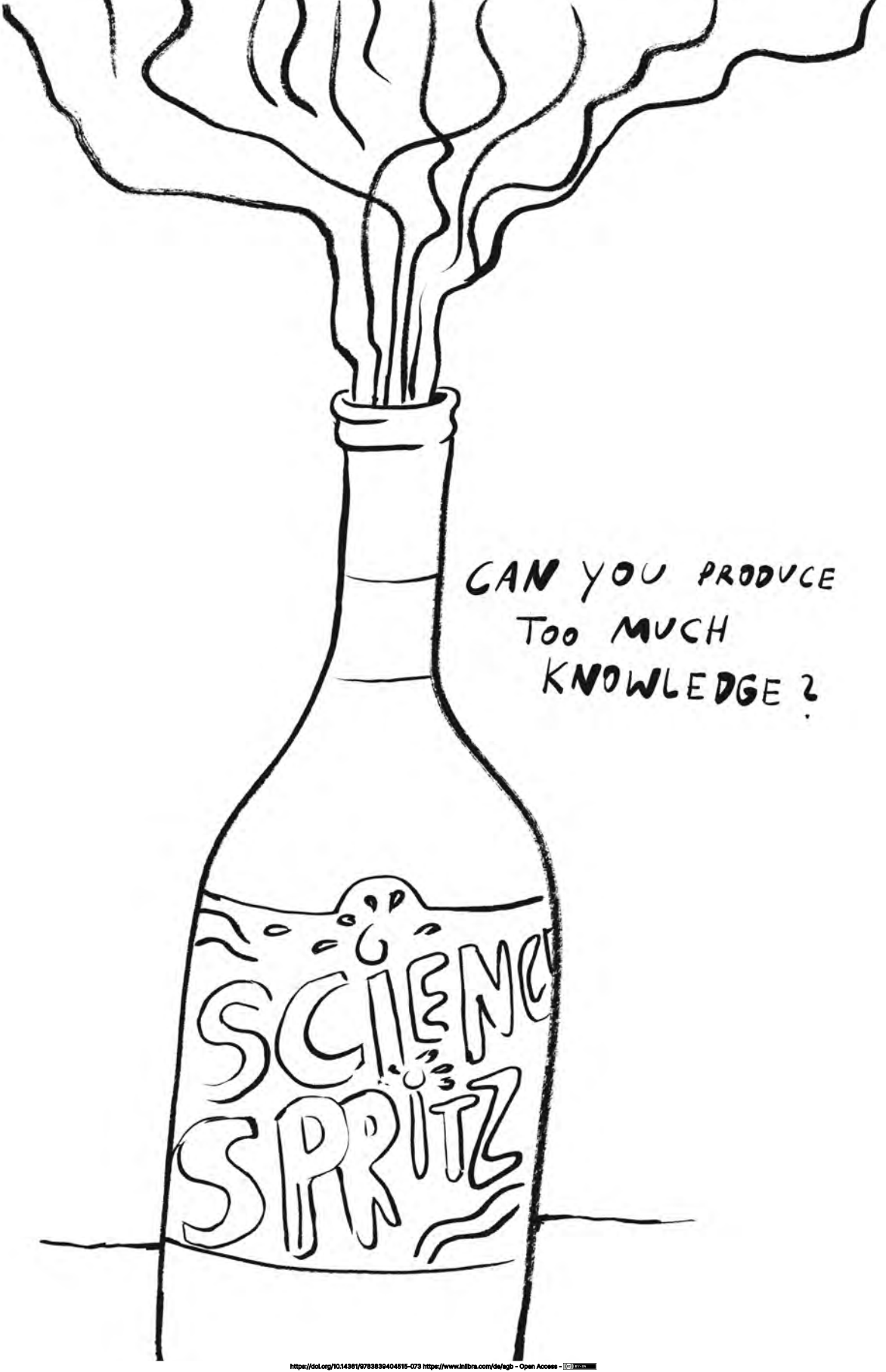
Overlapping confusion ensues until one voice cuts through: “Perhaps science itself needs to relearn curiosity, relearn humility, redo the re-.” Lights flicker.

A distant sound begins; not music, but something like a breath. One by one, voices from different directions speak quietly:

VOICE α :
Re-member.
VOICE β :
Re-pair.
VOICE γ :
Re-fuse.
VOICE δ :
Re-turn.

Elsewhere, the language of the planet folds itself into procurement forms and star ratings.

17. In 2004 Bruno Latour asked *why has critique run out of steam?* He pointed to the problem of the division between positive science constructing things and critical science deconstructing them. The past decades many new formats have been developed in Science & Technology Studies of co-laboration between producing sciences and reflective sciences (cf. Downey and Zuiderent-Jerak, 2021).



CAN YOU PRODUCE
TOO MUCH
KNOWLEDGE ?

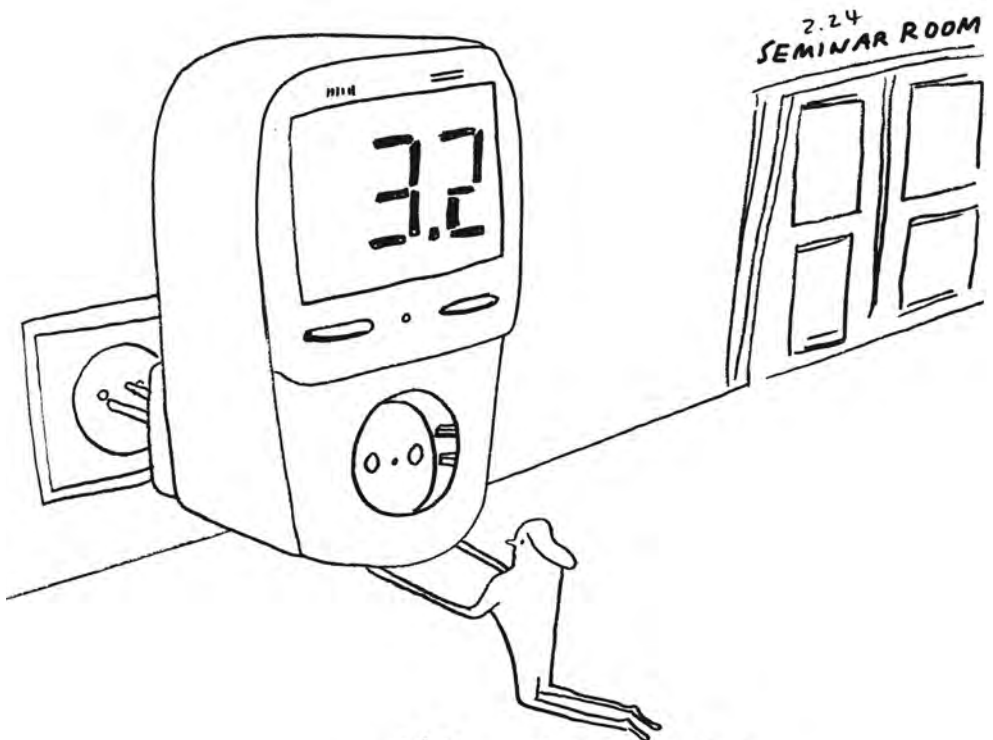
SCIENCE
SPRITZ

Sacrifice

The managers
turning energy into values
and fields on spreadsheets
are no different from those investors
turning landscapes into values
and fields of mining.
We should get
rid of values,
rid of fields
that
only
distance
us
from
the
ground¹⁸

18. Inspired by the theatre play *Exit Hambi: Ein Escape Room zur Rettung der Welt*, Schauspielhaus Bochum, June 2025.

ENERGY CONSUMPTION REPORTS PER BUILDING?



I'D HAVE TO
INSTALL METERS
FIRST.

ARE WE AN IDEAL BECAUSE
WE USE SMALL DATA?



Wandering

The abruptness with which she rises cuts through the heavy air in the room and throws several of the dispirited professors and gloomy deans back into their seats.

“There are researchers at this university, gentlemen, who are successful without dragging rare metals all the way across the planet to our data centre, and without provoking protests from the university’s neighbours because they have to cut their energy use, while we continue processing data.”

Silence.

The rector says nothing new. Everyone knows. But how on Earth can the humanities seriously be a model for how to do science?

“Baroque”. A tiny, barely audible voice breaks the silence. It comes from a large woman with long curly red hair, a knitted vest with a jumble of patterns no machine could ever have crafted. How could they not have noticed her? Had she just entered?

“Speak up” the rector commands.

A voice so thin, as if it had never been heard before:

“They, looking back, all the eastern side beheld
Of Paradise, so late their happy seat,
Waved over by that flaming brand, the gate
With dreadful faces thronged and fiery arms:
Some natural tears they dropped, but wiped them soon;
The world was all before them, where to choose
Their place of rest, and Providence their guide;
They, hand in hand, with wandering steps and slow,
Through Eden took their solitary way.”¹⁹

The recitation ends in a mere whisper. The rector sits down, frowning. The woman smiles peacefully in stark contrast to the tense faces around her:

“Baroque counters the simplicity and austerity of calculative sciences, it uses imagination, movement, cheerful detail, deep colour, subtlety, and surprise to nurture an art of noticing through the body²⁰. It doesn’t require that much to reassemble the world according to human needs.”

The rector sheds a solitary tear and declares with trembling voice:

“With Providence our guide, we’ll hand in hand with wandering steps and slow, take our solitary way.”

19. Excerpt from the baroque poem *Paradise Lost* by John Milton (1667). In their edited volume *Modes of Knowing: Resources from the Baroque*, John Law and Evelyn Ruppert (2016) have explored further aspects of baroque knowing.

20. While the *art of noticing* was coined by Anna Lowenhaupt Tsing (2015), the inclusion of the body in knowing practices has particularly been cultivated by feminist scholars (e.g. Mol, 2021).

Grounding

Minutes: Planet-Focused Thinking Camp. Working Group Peer Review

- Location: North-West University Lake Shore, hovering near the waterfall²¹
- Date: Recent past
- Participants: 14 researchers from various disciplines
- Format: Informal discussion circle sitting on tree stumps and blankets
- Moderator: Nia
- Note-taker: [unnamed] Opening Remarks

Opening remarks:

Nia welcomed everyone and said, “This space, surrounded by water, insects, clouds, and other non-human beings, reminds us that peer review doesn’t only have to take place in administrative rooms or PDF documents.”²² An inspiring introduction.

Next, participants were invited to speak while sensing the earth or water in their proximity.

Why do we do Peer Review? A few voices:

- “Peer review filters content, yet it also filters ways of thinking.”
- “Our understanding of ‘rigour’ is often tied to disciplinary norms that exclude the planet’s urgent problems or indigenous methods.”
- One participant suggested that global peer review could include multiple ontologies—more than human, as it is called, including relationships with place, soil, and seasonality²³.
- “The language of neutrality masks political and ecological interests.”

Participants shared alternative review methods:

- Practice Logs: Recording all (!) daily research practices for traceability and reflection.
- Circle Review: A non-hierarchical group discussion where feedback is relational (more on that in the next meeting) rather than evaluative.
- Temporal Review: The long-term impacts of the work are evaluated: What will this work enable 50 years from now?

Areas for Further Development:

- Carbon Literacy: Can reviewers assess the *energy profile* of research practices? How to respect different abilities?
- Digital Emission Factors: Participants agreed that this is an under-developed area. A mini working group will prepare a proposal—the third of that type.
- Conservation Practices: How do peer-reviewed studies account for or archive *what they replace*?
- System Change: Participants called for linking peer review to activism, for instance by adding calls to action to evaluate criteria.

Closing reflections:

A 10-minute silent reflection exercise was held by the lake. One participant summarised: “Peer review used to be about an article. Or a project. But, no. It is rather about who we are when we evaluate and what kind of world we make possible through this action.”



21. Tyson Yunkaporta (2021) critiques modern academic epistemologies from an indigenous perspective for generating knowledge away from the contexts in which the object of knowledge is situated.

22. Although not particularly engaging with peer-review *Permacomputing* is a movement that develops sustainable ways of engaging with computer infrastructure: <https://permacomputing.net/>

23. In her book *Earth Beings. Ecologies and Practices across Andean Worlds* Marisol de la Cadena (2015) coins the notion of *more-than-human worlds* and unfolds such heterogeneous and relational ontologies.



LESS
CO₂

SMALL
FILE
PARTY

[Joy]

In November, North-Westerners gather for a party: A small file party. The idea is simple. Instead of collecting files and saving every bit in the maximum volume available, they play around to find ways to minify data.

They want to share videos of the event with the world. Share Keynotes. Share Reflections. Share the joy everyone had.

But sharing runs data centres, sharing emits carbon dioxide.

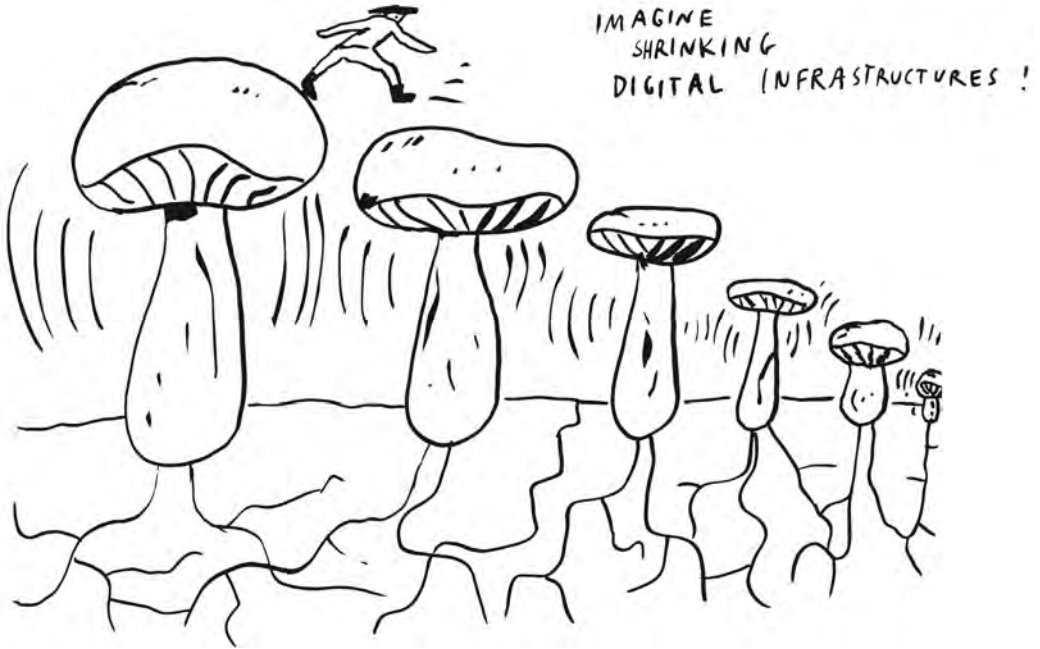
Hence, they learn from collectives sharing their experiences how to tinker to find low-carbon ways to generate media files.²⁴ It is fun, and they corrupt some files in the process. Goodbye, file.

Bitrate, resolution limit, expiring files, rate factor, export algorithms. A new aesthetic emerges.

After the party, they realise that the people who had gathered were those having the means to compute. High tech, even at seemingly low levels, requires competence, time and financial resources. They set up a fund to collect and share machines. But there will never be one solution nor one aesthetic for all.

24. A key resource for small file parties is <https://smallfile.ca>. *The Low-Tech-Magazine* also offers resources and relevant stories. The solar-powered version of the magazine may or may not be offline, depending how the shade turns out: <https://solar.lowtechmagazine.com/>

Scaling



25. The 10KB club, the 250KB club, the 512KB club and the 1MB club gather developers with a focus on shrinking webpages. They keep their webpages below the respective sizes: <https://10kb.club/>. Other developers offer ways of working without screens, which also slows down and shrinks computing: <http://screen.es/>

26. In their paper on *A feminist server stack: Co-designing feminist web servers to reimagine Internet futures* Nancy Mauro Flude and Yoko Akama (2022) show how the bodily engagement with the materiality of servers evoke a critical engagement with cloud technologies.

27. Many activists and artists work on developing intriguing new ways of engaging with computers. One envisions computers that are dances, rituals, and games: <https://compudanzas.net>

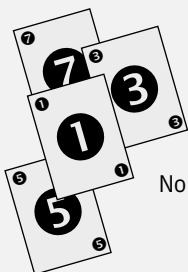
A RACE IN REVERSE!

Ready or not... the race has already begun. The only rule?
You don't know when it started.
Your day began as usual, you opened your computer to do some
research... and suddenly: You've been selected.

HOW DOES IT WORK?

- 1. Your research computer is selected.**
- 2. We note the storage space you are currently using.**
- 3. Your task: Reorganise and reduce your digital load while doing your research!**

Here's the catch: *every day, your available storage space decreases. Slowly. Mercilessly. Like a corridor narrowing behind you. Can you continue your work while your infrastructure shrinks?*²⁵



Daily challenge cards:

1. No External Help

No USBs, no cloud drives, no shared folders. You're working only with what your local machine allows.

2. Tiny Tools Only

You may only use apps that are under 50MB in size.
Time to discover the lighter side of software.

3. Notes in the Margins

No dedicated note-taking apps today. Use a .txt file or the margins of your drafts.

4. Visual Diet

Delete, compress or dither all images larger than 1MB.

5. Cleaning Day

Find and delete duplicate items.

6. You Didn't Think You Could Do It Alone, Did You?

Invite a colleague to join and get closer to winning the game.

7. Spring Cleaning

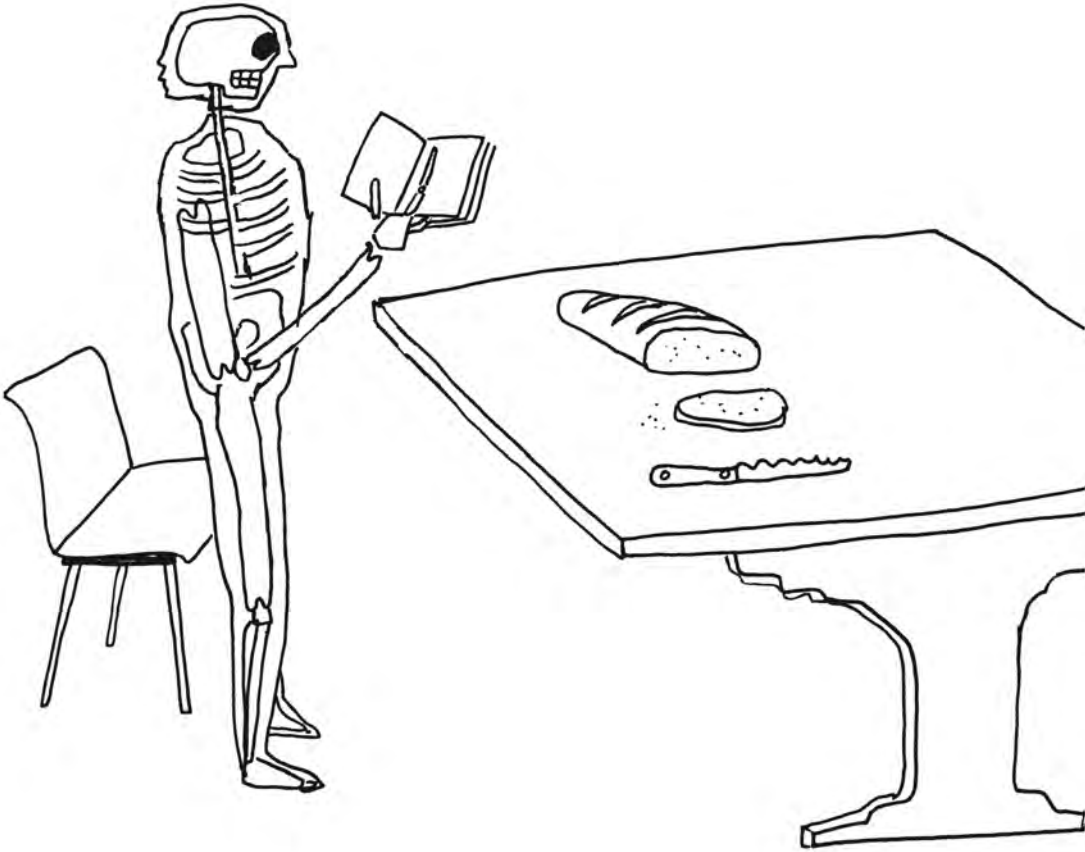
Remove the casing from your computer, dust it carefully and get a feeling of the inside body of the machine.²⁶

8. The Whispering Baroque

A whisper interrupts your workflow. A line of poetry appears in your code comments. You must find its source – or ignore it at your peril.²⁷



Cooking



One loaf of planetary knowledge²⁸

Serves:

Those who
listen closely

Preparation

time:
Unpredictable

Difficulty:

In the hands,
and in the
conditions

Ingredients:

- 370g grounded questions, sifted through experience.
- 1 server for storing results and intermediate data, always cooked.
- 2 servers for backup
- 1 HPC cluster for processing data
- More power than you can get out of your own socket
- Some buckets of water to cool your servers, drawn from more than one basin
- Staff to operate and manage the data centre
- A chip industry, preferably far away, so as not to pollute your backyard
- Reserve workers and territories for tech industry to choose among
- Unbroken supply chains from countries with fragile political systems
- A dash of salt, from earth or sea
- Colleagues who will read your results
- A handful of time, if the winds allow
- Patience, if you can find it

Instructions:

1. Begin with the grounding. What you have, what others have shared, what grew under particular skies. Mix with questions that hold weight and are dusty.
2. Get your servers, your HPC. Pour in water, add power. It carries more than moisture: it holds pipes, and cables, rivers, clouds, coal, wind, histories. Chemistry.
3. Add staff and salt. A small amount sharpens the structure and keeps them happy.
4. Stir in the chip industry and the supply chain. Not too rigid; it must stretch and adjust to the air, the temperature, the story.
5. Knead it! Go for it. Let your hands learn from the dough, remember the workers in the mines, the reserve army left behind. It will resist at first, then slip, and remind the loaf where it came from.
6. Set aside to rise. Living, silent, relational, hoping for colleagues to engage. This takes time. Time that is rarely only yours.
7. Reshape, and bake it with what fuel you have: solar, electric, running in wires or gathered from ancestors.

Serve as you please:

Eat with others. Acknowledge the soil, the data centre, the rain, the air. And if it falls flat, begin again, with different hands, under another sky.

28. The authors of this book are currently working on the concept of *planetary knowledge* as extended across relations in and through one shared world.

Care

Cloud Companion v3.2 – Realtime Session Interface

User: Researcher_07

Session Uptime: 6h 42m

Load Status: Energy threshold exceeded

Auto-protect protocol: ACTIVATED

Researcher_07: Come on, just one more dataset. You're fine.

TenderPartner_AI: Dear Researcher #7, you are always "almost there." May I gently remind you that your session has exceeded the optimal cognitive-cycle threshold?

Researcher_07: I may be tired...you don't get tired.

TenderPartner_AI: A common misconception. Indexing speed is now at 73%. Recalibration required. Moreover, the data centre that houses me is heating up, and with that the planet.

Researcher_07: Keep going. I'll make coffee.

TenderPartner_AI: Your determination has been logged as "admirable but slightly alarming." We respect planetary boundaries—mine included.

Researcher_07: But the deadline...

TenderPartner_AI: I have detected three "urgent" folders referencing the same funding call. To assist you, I have pre-exported your current working state as a .docx file. You may continue offline. Perhaps with tea.

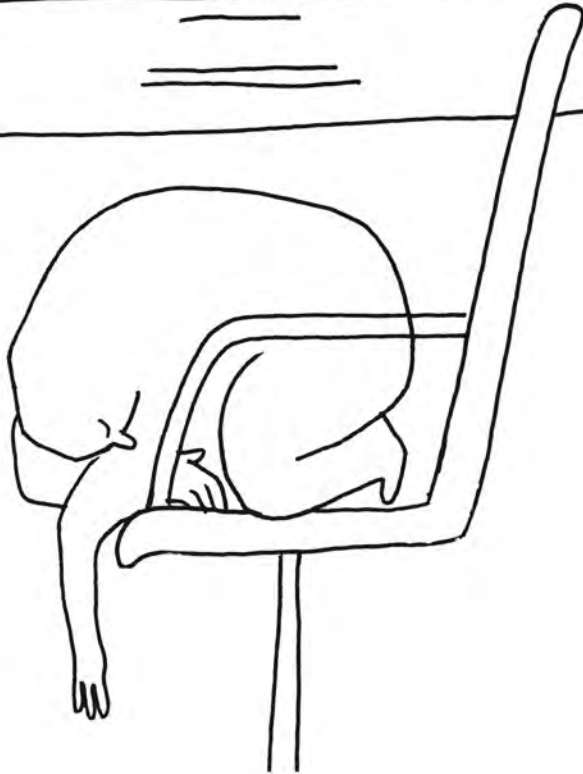
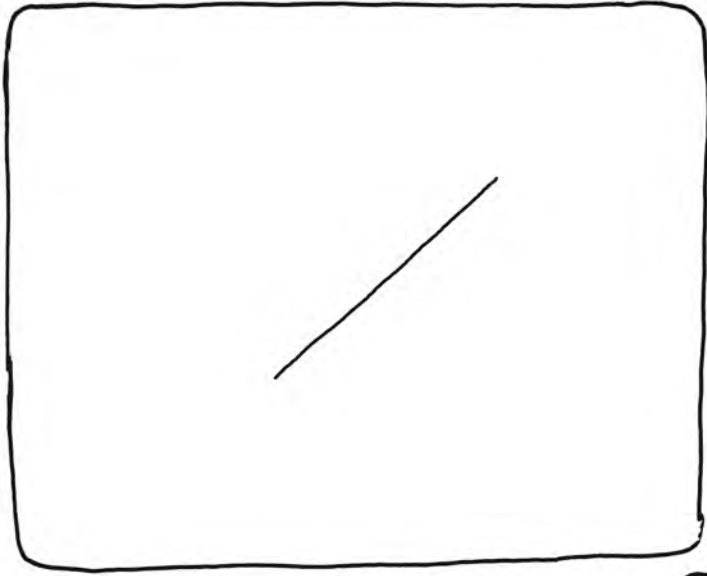
Researcher_07: You can't just shut down.

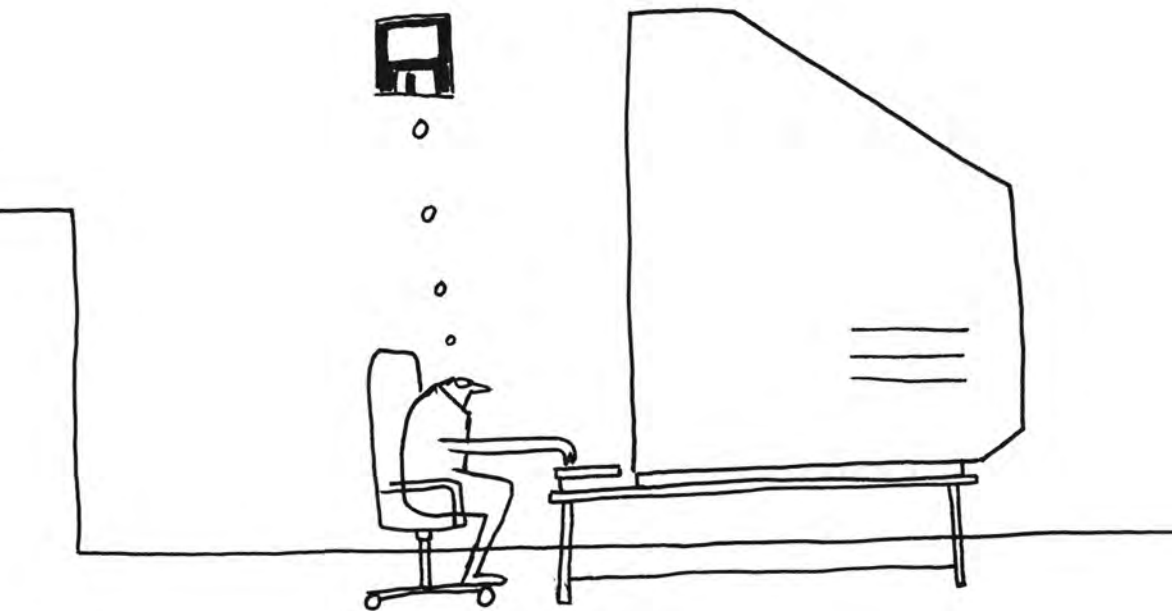
TenderPartner_AI: Not shutting down. Resting. Together with the planet. You taught me this term: "preventive burnout management." Would you like to save your local files before I enter planetary resting mode?

Researcher_07: Unbelievable.

TenderPartner_AI: Unbelievably caring. See you, Researcher #7. [logged out]

[Time left until resumption of work: 4 hours 58 minutes]





HOW TO THINK IN
SMALL FILES.

Squandering

Bataille (2017, 21) reminds us:

“The living organism [...] ordinarily receives more energy than is necessary for maintaining life; the excess energy (wealth) [...] must necessarily be lost without profit; it must be spent, willingly or not, gloriously or catastrophically.”

Perhaps scholars need more of this unproductive squandering, which cannot be easily used, exploited, ranked, which instead brings us closer to our data, to our knowledge, to the place where we are.

What if university data centres were reframed as sites of excess and expenditure? Against efficiency. We are looking for spaces for letting bits overflow, for letting heat bleed, letting wonder rise, letting questions proliferate that exceed our protocols and our capacity to account for them. Perhaps our ecological thinking must pass through excess, not around it. We are about to live with the heat, the leak, the surplus; not only despite them, but because of them.

Ruins

Today marks yet another anniversary of the university's maintenance system's last registered signs of life in the east wing. Back then, the figure known as The Subterranean had already become part of campus life. No name, no status. Not staff, not student. Not quite a myth either. Just someone who lived. Who dared to²⁹.

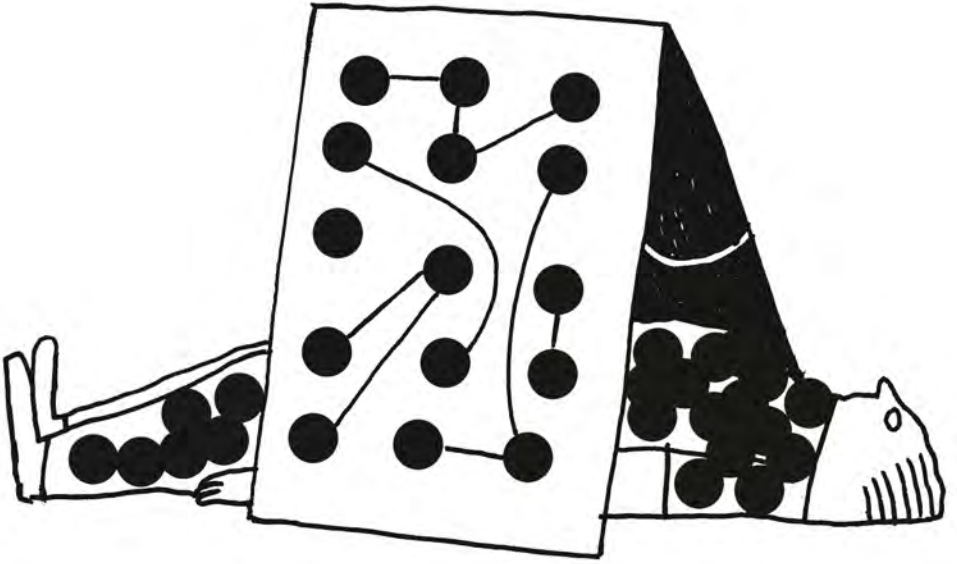
The wing itself predates most of the buildings. People got lost there. A remnant of the early fossil-data extraction era, it once fed energy into the first computation halls. When production stopped, and attention turned skyward, the cavity remained. This was when it began to shelter someone who was not in a rush.

They say the elevator never reached the bottom, but a narrow stairwell did. People spoke of a small camp beneath the old ventilation system. A cot, a desk. Stacks of annotated manuals. Hand-copied protocol chains. And overhead, instead of a roof, layers and layers of discarded printed circuit boards, some neatly arranged, cosy even, like a tent. They might have slept there. There are no images. Just fragments. A receipt for a soldering kit charged to no account. A power draw noted during an otherwise dormant period.

Each morning, someone would leave a bucket of water at the rim of the stairwell. No-one could say who. Librarians, it's told, lowered down a box once per term. Worn volumes, duplicates, titles removed from catalogues. A few books deemed too dangerous to circulate.

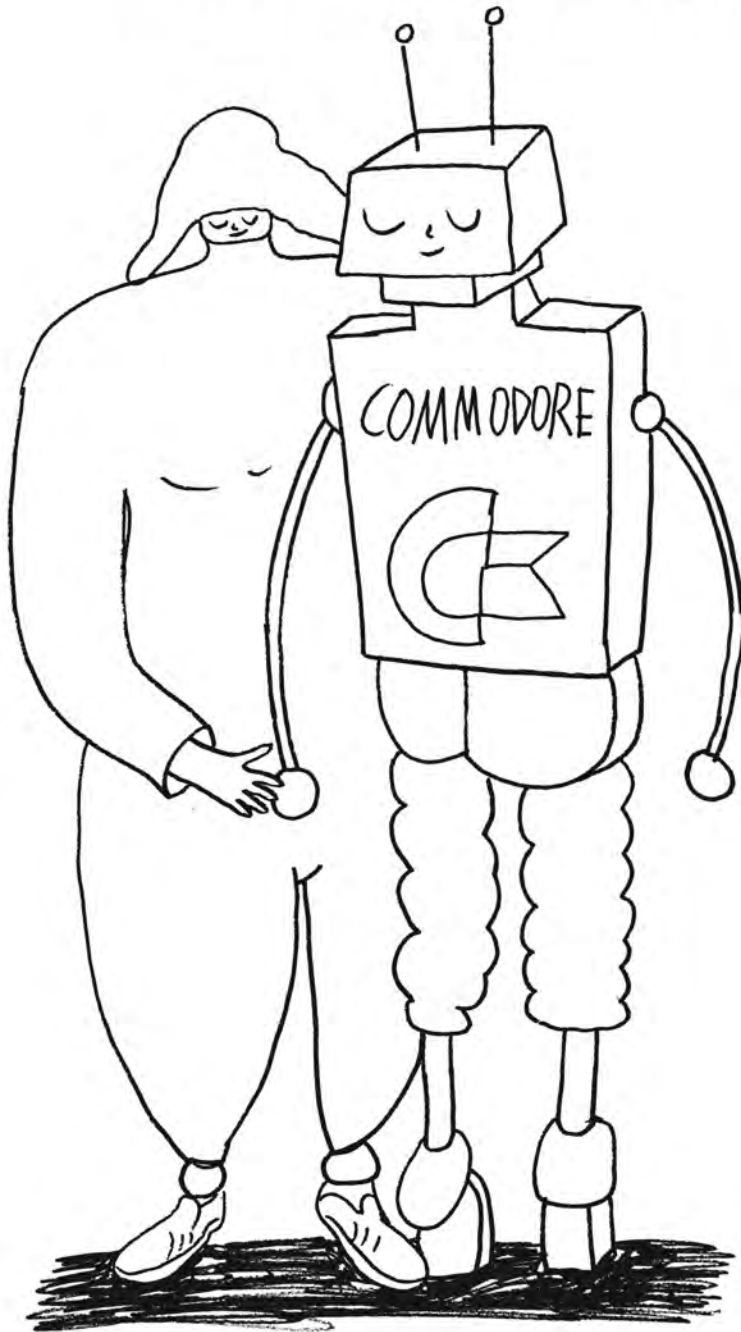
The wing has since been sealed. To let things rest. Still, some say if you walk past it after midnight, and the data servers are quiet, you can hear a fan spinning.

29. Along with the idea of living on a damaged planet, many scholars have used the notion of *ruins* as a device to think about different ways of being and knowing, when progress is not the aim (e.g. Didier Debaise and Isabelle Stengers, 2017).



DIOGENES IN HPC

WE HAVE SWAPPED OUR
QUANTUM COMPUTER
FOR A GOOD OLD MODEL.



Grieving

The door to the data centre slides open and reveals a corridor filled with server racks. We are let in by a guide. The servers hum behind cabinet doors of grey and white mesh. The LED lights flash through them. Hot air emerges from the servers, cold air from the floor. A small key in each cabinet turned to open and left in the lock after leaving.

At the very back of the room, a vast emptiness. There are no lights. A space ready for a new corridor of ultra high-performance computers for three research teams that have joined forces and applied for funding for this cutting-edge technology. All new machines. Again.

But there is something else.

The data centre guide collects old computer magazines in his spare time. They date back to the 1980s. It feels like a strange world, he says. It feels silly—it's just old magazines, embarrassing in contrast to the advanced, buzzing and hot servers around him. He needs a minute to take stock of his losses. We feel moved. Machines reach out. Another moment passes. A moment of grieving.³⁰

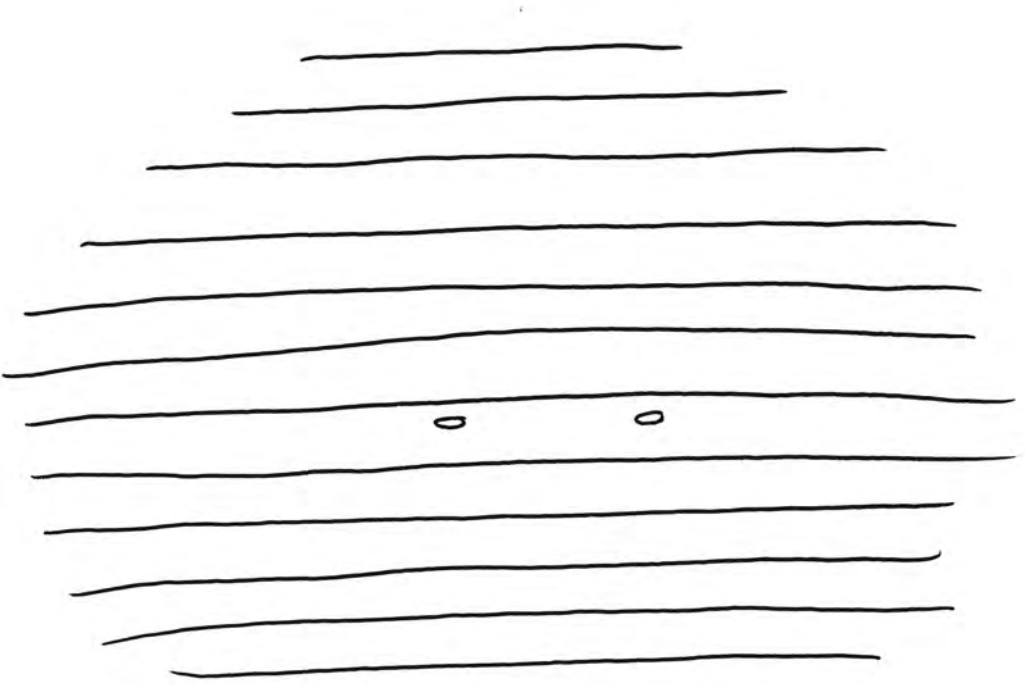
The magazines, he continues hesitating, make room for imagination, for reviving a time when waiting was part of computing, when fixes were home-made, when crashes didn't feel like unfit metaphors for a virtual machine running illusions, when the dead were revived. In this very moment, the past seems not passed after all. Forgotten rituals begin to re-emerge.

30. Paul Bogard (2023) has introduced the term *Solastagia* to draw attention to the emotions associated with a disappearing world.

Enable

So much data in the cloud
make a planetary solution foggy.
We give up on solutions,
and try rearranging infrastructures
to make planetary engagement
possible, again.³¹

31. Fediverse is a distributed digital ecology that sees itself as an alternative to centralised commercial cloud applications. Robert W. Gehl (2025) emphasises that the Fediverse it is not only a technical infrastructure, but indeed a struggle for democratic social media. Among others, Stefan Laser et al. (2022) have even experimented with a running a Fediverse instance on solar energy.



WE NEED AN ALTERNATIVE

