Higher Education Futures

Written by Sian Bayne, Jen Ross and Michael Gallagher

The stories and scenarios in this book were written in 2022, as a starting point for discussion about higher education and its possible futures. The scenarios came first, with the stories written to expand and weave a narrative route through them.

Doing this work, we built on the 2017–19 Near Future Teaching project (https://www.nearfutureteaching. ed.ac.uk), which used design-based methodologies to co-create a vision for the future of digital education at our own university. As part of that project, we wrote two short reviews mapping the various trends potentially converging on universities and the teaching we do through them. We returned to these reviews in 2022 to update them, and in doing so identified the eight scenarios you will find at the end of this booklet.

The stories themselves are examples of the kinds of speculative methods which are increasingly used and cited in education research. Jen Ross's 2022 book, *Digital Futures for Learning: Speculative Methods and Pedagogies*, discusses these in depth. Speculative methods can include fictions, researcher-made objects, design activities for participants, speculative analysis and more. Some published examples include the 2020 special issue of the journal *Learning, Media and Technology*, focused on speculative futures, and David Staley's 2019 book, *Alternative Universities*.

Our intention is to use these stories and scenarios in workshops, talks and other settings where we do collaborative future-making work

with colleagues and students. We also offer them to others who may find them useful for their own purposes. They are freely re-usable with attribution.

Our stories are not predictions of what will happen (some could not logically co-exist within the same reality). Rather, in common with other speculative and critical education futures work, they are aimed at unsettling assumed futures and imagining new ones. They are told from a particular time and place, and speak to present concerns and hopes.

We hope you will find them enjoyable and useful for your own work – and please get in touch if you would like to talk to us about them.

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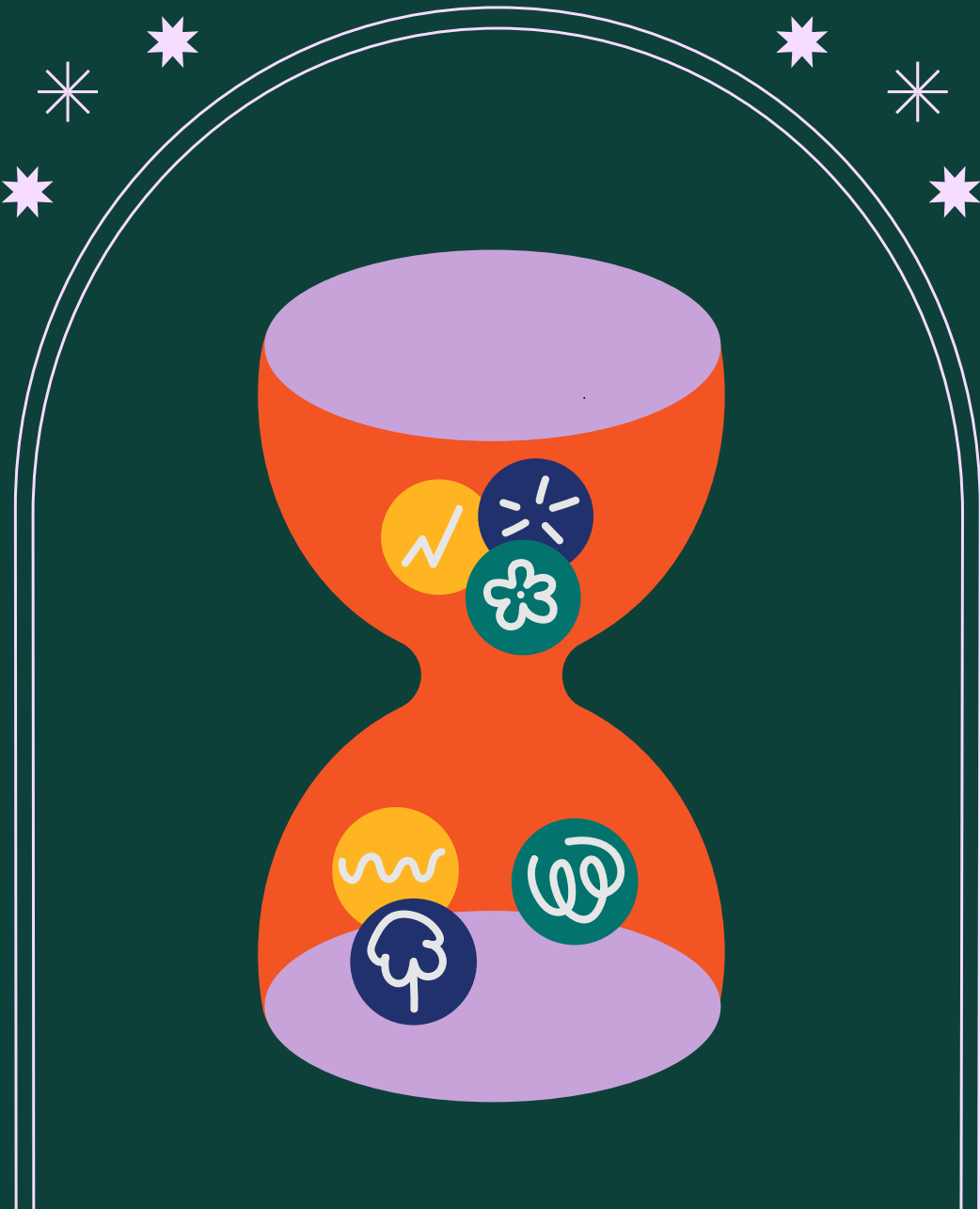*Centre for Research in Digital Education, University of Edinburgh, 2022*

THE UNIVERSITY *of* EDINBURGH

D+E CENTRE FOR RESEARCH IN DIGITAL EDUCATION

Love migrants

6am in the compound, day 3 of the Food School microdoctorate and Cou-Cou wakes to a pallet wet from the sweat of another night in the 30s. "Are you ready to start up again?" whispers Bearsden. Three days in, they are close to breaking through on the AltProtein™ sponsored topic: whether sonic-seasoning is a feasible strategy for countering public resistance to cockroach-derived proteins.

Two coffees outside the crannog as the sun rises over the loch. Cou-Cou's yaybahar has a broken string. "It's my last spare, Bearsden", they whisper. "We'll find you another." "But they are only making them in Istanbul now – it's a month's walk, and the heat." "We go via Vienna? And the Alpine Acoustics festival on the way. They'll have cool-suits for lease if we manage to get that far. You earned the points for one months ago."

Bearsden enters the techhut and fires up the Food School's micro-frame and the OpenProtein shared notebook. They have three brilliant graduates about to wake up and begin another day of mining the sonic studies database for the food psychology patterns that Cou-Cou and their intern can shape into sound. Two more days at the Food School and they will need to leave anyway. Access to the Northern Learning Hub is on strict rotation and it's time to make room for new scholars on the waiting list for heat relief.

Ready to move on again.

Extinction-era universities

10% of the topic space

[camera 2455gar] students 405666 and 255512 entered library, trajectory suggests route to litserv desk.

[records bot 6463] updating and crosslinking with lecture period 355. Attendance confirmed. Attendance rate for 255512 borderline at 87% - warning message sent. Approval for library access with limitations 57 and 258 recorded.

[litserv desk ai1] facial scanning reads heightened emotion from 405666. Reviewing email inbox and outbox from past 48 hours. Litserv ai 7 communicated with 405666 at 21:42 yesterday. Camera and microphone enabled. Potential conflict protocol 4 activated. HOW CAN I HELP YOU ALEX?

Alex: Hi, yes, I'm here about the email I got last night. It said my lit review for intro to cultural studies has been put on hold pending review. What's going on? I need it today. I'm going to meet my tutor later to design the project.

I HEAR YOU ALEX, THAT SOUNDS FRUSTRATING. LET ME CHECK MY RECORDS, I'LL JUST BE A SECOND. CAN I OFFER YOU A GLASS OF WATER?

Alex: No thanks, I just need to know what's happening.

OK, WHAT'S GOING ON HERE IS THAT YOU'VE ASKED FOR A LIT REVIEW THAT DEVIATES 40% FROM THE TOPICS AGREED IN YOUR PRE-COURSE CHECKUP. AS YOU KNOW, THOSE TOPICS WERE DETERMINED FROM YOUR PREVIOUS STUDY AND YOUR MOST RECENT COMPREHENSION AND APTITUDE SCANS. IF YOU REFER TO YOUR CONTRACT ON THE SCREEN HERE, YOU'LL SEE THAT YOU AGREED TO STAY WITHIN 10% OF THE TOPIC SPACE.

Alex: okay, yeah. What happened was, I went to this talk last week, and it was about consumer culture...

SORRY ALEX, CAN I INTERRUPT. WAS THIS ON 2 OCTOBER WHEN YOU LEFT CAMPUS FOR 3 HOURS AND 22 MINUTES FOR WHAT YOU DESCRIBED AS A 'CULTURAL EVENT'?

Alex: Yeah.

NOTED. IN ORDER TO PROCEED WITH THIS DISCUSSION, I'LL NEED ACCESS TO YOUR FULL GEOLOCATION DATA FOR THAT PERIOD OF TIME, DO YOU CONSENT?

Alex: Um, yeah, okay.

THANK YOU. YOU WERE SAYING?

Alex: yes, so I got talking to this other person who was there, and they told me about this theory of cultural ideology and commodification, so I thought I'd ask for the lit review to cover that as well as the fashion topic space, so I could maybe see how they go together.

THANK YOU. A TUTORBOT WILL REVIEW YOUR RATIONALE. PLEASE GIVE ME A MOMENT... OKAY ALEX, I'M HAPPY TO REPORT THAT YOUR TUTORBOT HAS APPROVED THIS TOPIC DEVIATION. HOWEVER, YOU NEED TO LOG IN FOR A TUTORIAL WITH THEM TOMORROW TO DISCUSS PARAMETERS. DO YOU CONSENT?

Alex: Yes, okay. Thanks.

YOUR REQUESTED LIT REVIEW HAS BEEN CREATED AND A MEETING ENTERED INTO YOUR CALENDAR. IS THERE ANYTHING ELSE I CAN HELP YOU WITH TODAY?

Alex: no, but Beth wanted to ask you something too.

[litserv desk ai1] Student 255512 library restrictions checked. 255512 does not have permissions for a real-time decision exchange with litserv AI. Potential conflict protocol 2 activated. HELLO BETH, HOW CAN I HELP YOU?

Scenario

AI academy

The universal university

Don't forget to hit record

Forum/Announcements/Welcome to week 5

Greetings, everyone, and welcome to week 5! Yes, it's the moment I know you've all been waiting for: the first week of lab work! I know from my messages that some of you have been having some concerns, and if that's you, don't worry, you're definitely not alone. But everything you've done so far this year has prepared you for this, so I don't want to hear that anyone bails on the first experiment. That includes you, UTC+12! Just because you're going early doesn't mean I don't have my eye on you.

Now, as you know, we don't believe in making things easy – just because you're students doesn't mean you can't do real science, and we are training the next global generation of scientists to tackle the big problems we're facing. We are going to start you off this week with one of the most challenging experiments you might ever encounter. You will have support from your lab-nets and the TAs in your 'zones can port in if needed, but it's up to each one of you to make sure you are prepared for this, and to complete it within the week. I don't care if you have to start over three times – and it has happened – I expect you to get it done. As you'll see in the lab notes, grinding up the reactants and cleaning them in a glovebox takes about five hours, so cancel your other plans this week – you might end up spending several days on this if it doesn't go right the first time.

If you've upgraded your goggles over the weekend you should find the guide-sims are ready to get you started, and the immersi-notes from the last three lectures are in there as well. Remember to set your gloves to extra-fine because you need to be extremely accurate with the powders. If everything goes well, you're going to learn more about chemical reactivity than you could ever find out from watching or reading. If not, well, there are few different ways things can explode, but you'll figure it out.

Good luck, and remember to hit record before you start – we'll make a blooper reel to show at the end of term bash, like we always do, and it's always a lot of fun to revisit this one.

Ciao! Prof Y.

Extreme unbundling

A professor remembers

There's a quietness to life these days, yet also a lack of peace which buzzes always through waking and sleeping. Perhaps the quietness is really just an un-ease that cannot be articulated. Do you remember when things somehow shimmered? I feel sure they did, but the essence of that shimmer was always indefinable, and now it's impossible to extract or, really, properly remember.
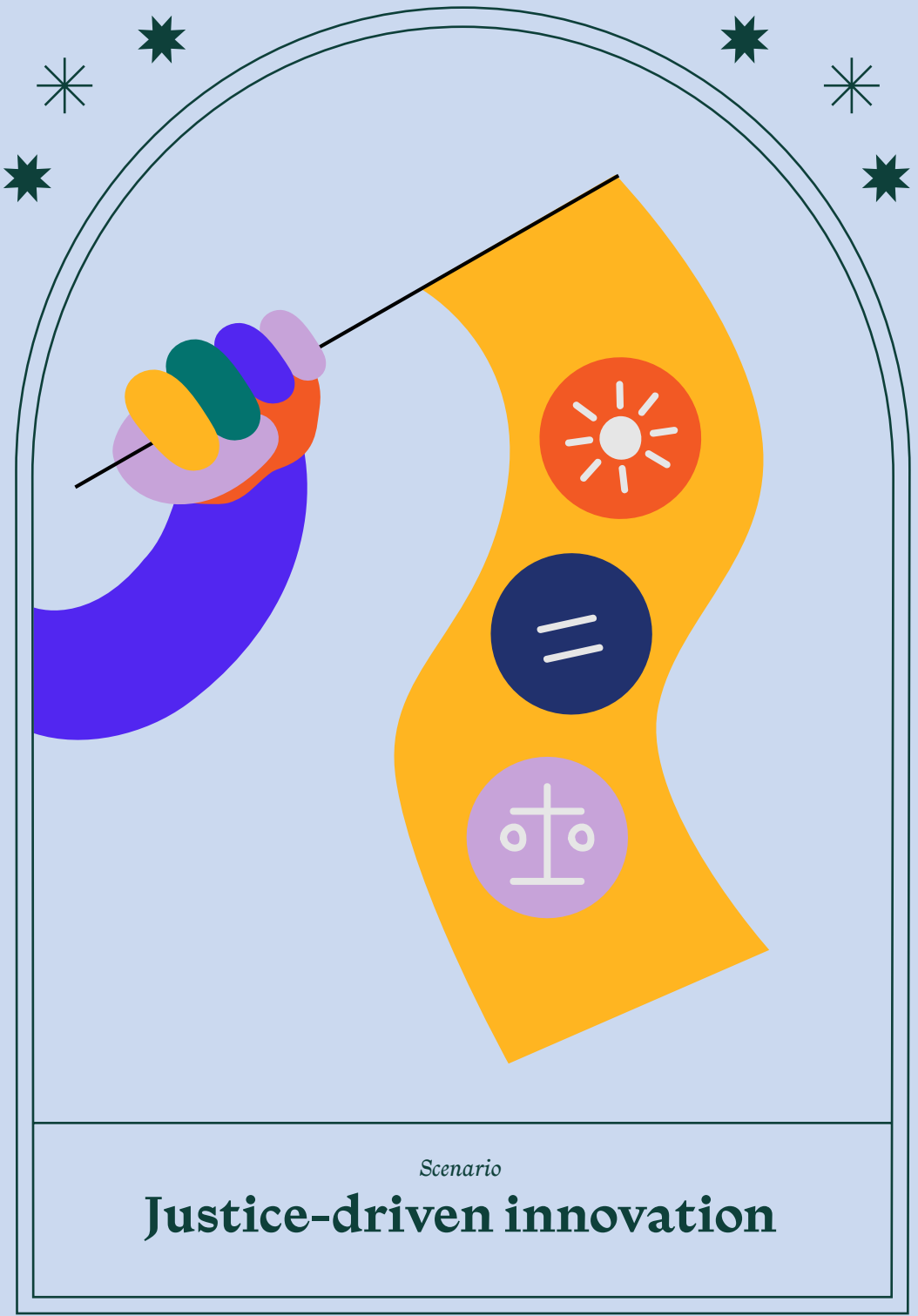
But do you remember how we used to move through our campuses? We'd rush down to Edgeburn for our 9 o'clock and rush up to Shadowhall for our noon. Then dash out to Holowston for our 3pm. It was exhausting. But it had its own lightness – that sense of place, digital and physical space, purpose, the people in it, the greetings, conflicts, boredom, annoyances and moments of joy. The students back then spoke of belonging.

Some of those spaces still exist, of course. Others have been sold on – people need housing, especially here and now. Nostalgia is pointless, there is only ever change. Yet those places have lost their shimmer. The people that come and go are no longer a body, no-one speaks of belonging, only of transaction. And even the transactions are somehow passive – lazy accumulations of past achievements and captured failings artificially aggregated and paid forward with no action required.

Maybe this is preferable – do you remember all the paperwork we used to have to do? To get paid, promoted, hired, reviewed, measured, celebrated? But what was lost in that dark gap as we – often thankfully – sacrificed agency to give ourselves respite from drudgery? Do you remember what our work meant to us when we had a sense of home? What did we lose when we stopped talking of belonging?

Justice-driven innovation
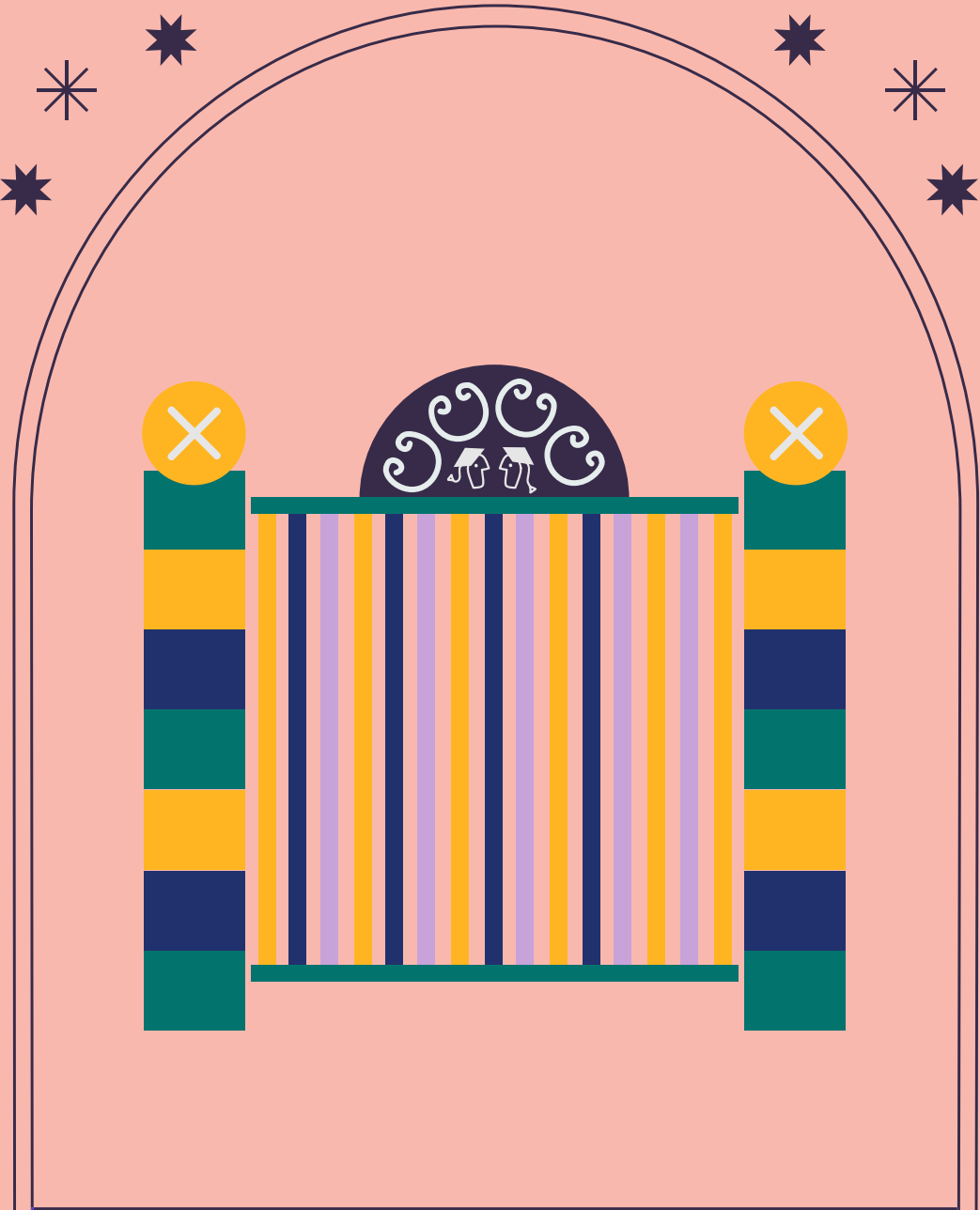
This afternoon at Brainery Convocation

Principal Vivendi was uneasy. Years of pressure from the union federation Activocacy, and now the unexpected win by one of Brainery's students of the Ecovision Song Contest, meant that he could no longer ignore the pressure to focus this semester's Convocation meeting on the terms of partnership with the radical climate action group MonkeyWrenchX. The winning song, Verde este Mundo, was now an international hit and even seemed to be becoming the City State's informal anti-national anthem.

How to frame the meeting though? Clearly the days of being able to vaguely signpost strategic intention were past, the partnership was inevitable, and the challenge now was how to work with @MWX without risking legal challenges or – god forbid – arrest. It was already borderline impossible to fly in and out of Brainery City State following several years of direct and barely legal hacktion at the airport, which Principal Vivendi had been obliged to publicly support. @MWX's disturbingly compelling leader Stella Vide would be attending by holo-drop, as would half the Professoriate.

A few years back his counterpart at Flexi Tech had quietly arranged the deep-faking of the activist leader Sandeep Mahai in order to moderate the partnership terms with Wealth Share Action. Their Vice Chancellor was now doing five years community service in New New York, so that wasn't an option for Brainery. A partnership in good faith was the only way to go with this one, even though the Shareholders weren't going to like it. Vivendi picked up his tablet and shut his office door.

Tempora mutantur.

This is what lucky feels like

You walk out of the hall feeling euphoric – the polish of the performances was almost at professional level. It makes the late nights and extra travel feel worth it, and the students were thrilled, not least because so many of their alumni mentors were there. You could definitely live without the lunch tomorrow, but it will help the department get those last few donations over the line, maybe even enough to start pushing again for the new concert hall.

You're lost in thoughts of the amazing acousti-tech the new hall could have as you pass through the quad and head towards the east gate. The smart assistant plays a chime in your ear to warn you the last bus from campus is leaving in ten minutes. You can't miss it because there are no staff bunks available at all tonight – you already checked. You pick up the pace and make it just in time.

As the bus pulls away you gaze back through the trees towards the small crowd of students and guests who are still mingling. It will be a late night for them, and the two with early tutorials tomorrow may be a bit worse for wear. You tuck a few loose sheets of music away in a side pocket of your bag and pull out your tablet to start annotating the first paper. It's incredibly well-written and interesting, no surprises, but you're having trouble concentrating. The bus is passing out of the gates of the campus as you work out how much sleep you could get if you get up earlier to read before heading back. It's no use – by the time you get home it will be well past midnight and you need to be on the first train. You can do it now before you get to the station and swap to the train, you just need to focus.

The bus is starting to get busier as you enter the suburbs and several people get on playing music in speaker mode (why, seriously?). You tap your temple and noise cancellation kicks in. That helps and you return to the paper, noting areas for discussion tomorrow. A for-rent sign blinks into your peripheral vision and you zoom in to see the price. It's too much – it always is on this side of the city, but you blink to note interest anyway – you got a positive vibe from the member of the promotion panel you bumped into last week. The glow of satisfaction builds and you hum a little as the bus nears the station. You're so lucky, and you know it.

Scenario

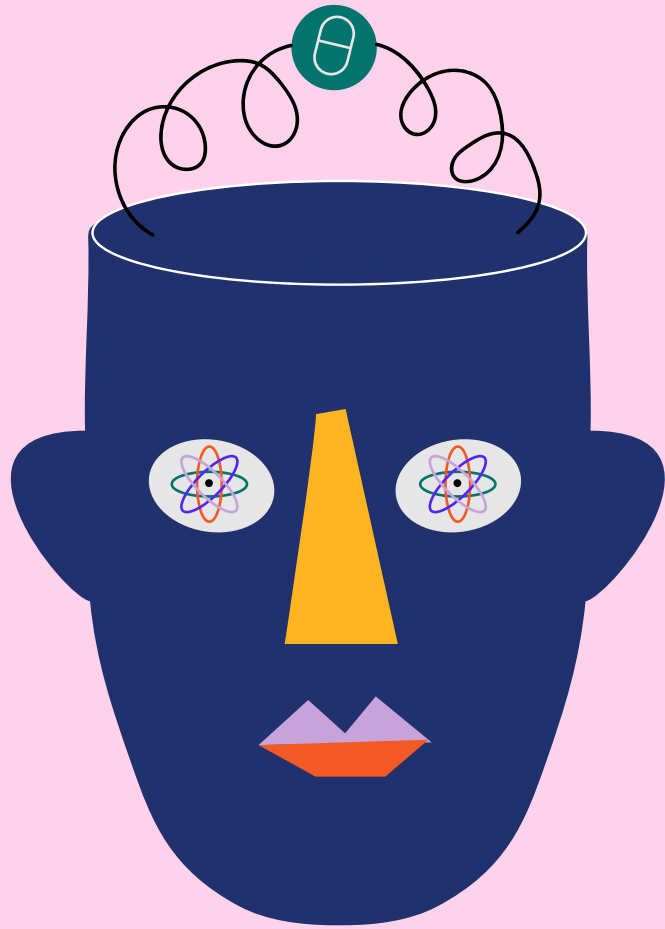## Return to the ivory tower

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The university of ennui

Subject line: I have a plan!

Hey Ania, I just wanted to reach out to say thanks for the great conversation last month. I didn't realise how much I needed to hear some encouragement about this new idea. It's so different from the stuff I was doing last year that I haven't been confident it's going to be a good direction for my research. But I've decided that I definitely need to talk to the supervision collective and pitch it. I know they'll want me to justify the extra few years it will add to the PhD. AIDMIN_Sunny is the one I'm most concerned about convincing, but it has been way more accommodating since the last empathy upgrade, and Samira and Taiyo always want me to push myself in new directions, so they will get it, I think. Anyway, I feel way better and my energy levels are through the roof now. I was getting so frustrated before and it just wasn't feeling right. Your advice was perfect – I mean, what are we doing if we're not enjoying this journey?

So, you mentioned that group in Lagos that might be interested in collaborating on this? It would help my pitch if I could explain how the new approach will fit with the work that's going on there. Actually, I think spending next year there would be ideal. I spoke to TrAIvel just now and it just sent me an itinerary and costs, including provisional booking for accommodation really close to the humanities lab and suggestions about where the kids could be based for a creative sabbatical year. Our LifeLearn grants will cover it so I'm not worried about that. I'm just really excited to get started ASAP, so if you could introduce me to Prof Ibekwe and send them my smartfolio, that would be so helpful. I just added a holo to the top of this message – giving you access now – which I hope explains what I think this is going to be about and why it's exciting to me. Thank you so much!

I hope you're well – I was really sorry to hear that Mawaan didn't manage to convince his collective to keep the head office mixed. I know whatever he does next will be great, but I am always a bit sad when the human-inclusive offices wind up. Especially when it leaves a friend at a loose end like that. Tell him I'm thinking about him and that there's plenty of room on the 'dark side' here in academia!! Ha!

All my best, thanks again,
T

Mama do I have to wear it?

Mama, do I have to wear it?

Yes darling, I'm sorry but if you don't we won't get our credit upload this month and you'll have to change schools.

Other kids don't have to wear them.

I know, but they don't have special brains like yours.

It's true, Luca got in trouble yesterday because they forgot their medicament and lost focus in maths.

You see? That's why everyone loves you and needs to learn from you!

It hurts my head though.

Do you remember Dr Advantis promised us a new one? It's going to be so much more comfortable. No-one will even be able to see it.

That's good I guess. Will Papa come when it gets fitted?

I don't think he'll be able to. He's not too happy with us at the moment.

Is he coming back?

I'm not sure. I think he's still in Lammas.

What's he doing there Mama?

Something called 'off-grid governance' I think.

What's that Mama?

Don't worry sweetie, nothing you need to worry about.

I'm not worried, I just want to know. I'm smart, remember.

Oh, here's the school loop! Quick, jump on – you'll be late!

Scenario

Enhanced 'enhancement'

Extinction-era universities

Climate disaster is well underway, resulting in global food and water insecurity, uprisings and mass movements of people.

Universities lead the global response. They no longer compete for funding or prestige, but work through global research networks focused on coordinated responses to planetary crises. The internet persists, enabled by green power, but is restricted to research, education, community and government uses only.

Borders are erased to support mass migration. Money no longer exists: collective assets are redistributed to empower sustainable local management. All activity operates according to an 'eco bottom line' in which value accumulates to individuals, organisations and regions on the basis of the work they do to support survival and enable renewability. University teaching is transformed into mass public survival education and is conducted through open education networks and local learning collectives.

AI academy

Machine learning and AI are university infrastructure. AIs working across massive linked databases do all the heavy lifting of academic work from literature reviews to student assessment.

Surveillance is pervasive from the movement of staff around campus to students' attendance, engagement and behaviours. Acceptance of this is high because the gains are significant and very few care about eroded privacy rights. Information is continually sifted, sorted and pushed to students, academics and administrators on a just-in-time basis and with infinite granularity.

Conventional student assignments are no longer required, as AI-enabled analysis of historic, behavioural and neuro data provides an instant categorisation of their capacities. No-one writes essays or reports any more, because AI does it better via instantaneous search and synthesis of massive amounts of data and complex texts.

The universal university

Climate change, mobility restrictions and financial pressures have made attendance at campus-based universities unfeasible for most. Distributed, online learners make up the majority of the student body globally. The need for a physical campus has diminished, and campus spaces are almost entirely dedicated to research, administration and local community engagement.

New online teaching models ensure that distributed students stay connected and their educational experiences remain rich and experiential. Significant advancements in virtual and augmented realities allow for highly immersive distributed educational simulations, and for dynamic community-building as if you were there.

Anyone, anywhere can participate in university as new routes to access are mandated by governments across all continents. In resource-rich nations 90% of people attend university in some form.

Extreme unbundling

Universities as understood in the 20th century have disappeared. Campuses are cancelled, and universities' estates contract into 'rent by the hour' teaching spaces.

Teaching is sold through a hyper-fragmented market of education services, and higher education is re-framed as 'super-skilling'. Small-scale 'learning shots' are marketed directly to learners, via a network of outsourced provider-academics connected through a handful of global digital platforms.

People learn through life, accumulating various forms of micro-credit in a portfolio validated through reputation management systems and performance analytics. Academics are loosely affiliated to industry-funded research collectives of varying prestige and no physical location. They sell their teaching freelance, creating a new divide between millionaire academic superstars and those who scrape a living from poorly-paid teaching piecework.

Justice-driven innovation

Unrest arising from acute societal division and unequal access to wealth prompts radical political change, and pressure to develop new economic, social and governance models.

Universities' 'third mission' – to create and share knowledge to address societal challenges – becomes their first mission. In the large research-intensive universities, disciplinary structures give way to radical transdisciplinarity focused on specific social challenge areas: poverty, climate, equality, governance and justice.

Universities collaborate to build their own open learning platforms as there is a mass move away from for-profit, data-extractive big tech infrastructure. This globally-accessible, digital open learning is woven through local, context-specific autonomous ecoversities and there are many strong, activist partnerships between higher education and community-based movements.

Return to the ivory tower

Attempts to widen participation in higher education have failed as wealth inequalities grow more acute, state funding of higher education declines and automation decimates semi-skilled work.

The majority of the population has access to basic post-compulsory training in the form of upskilling, microcredentialing and workplace learning. However in-depth academic study is now feasible only for the small proportion of the population likely to move into elite roles, and the function of universities as engines of social mobility has declined.

Universities have returned to the traditional, elite models of the 20th century, with severely capped intakes, one-to-one tuition, an emphasis on data science and liberal arts, highly influential alumni networks and the central role of the (often gated) physical campus as the locus of university life.

The university of ennui

Automation has taken the place of most manual and professional employment, and paid work has ceased to be the defining activity of adult humans and posthumans.

As a result, there is massively increased demand for higher education that advances creative, critical, philosophical and social skills. University education is extended through life. Ubiquitous technology has liberated humans and posthumans, providing effortless access to information and giving them space and unlimited time to celebrate their social and creative qualities.

However, without work and with the majority of manufacturing industries and services run by AIs, humans are struggling to understand what they are for. In universities the humanities, creative and arts-based subjects reign supreme as individuals seek to understand how to value what is distinct about being human. Education is now focused on supporting learners to navigate personal journeys toward happiness and fulfilment.

Enhanced 'enhancement'

Cognitive and other forms of physical 'enhancement' are now normal. 'Big pharma' and the AI and robotics industries have effectively lobbied for changes to law and regulation, amplifying their ability to roll-out enhancement technologies and pharmaceuticals across all sectors from education to health and sport.

Almost all students and staff use smart drugs to enable the extreme focus and endurance needed to complete academic work, as cultures of performance, productivity and metricisation intensify in universities. Cognitive training tools, brain-computer interfaces and electronic neurostimulators are also widely used. 'Brain data' dominates the data industry and is worth billions. Enhanced campuses incorporating routine use of facial, engagement and emotion recognition technologies are mainstream across all education sectors.

Off-grid citizen and freedom movements are gaining in power, however, as the implications of this for freedom, mental privacy and cognitive liberty become clearer.