

Learning to live with a lively planet

Renewing the mission of the European University



Zennström Professorship
of Climate Change Leadership
Professor Keri Facer



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Cover image: Tree Roots, Vincent Van Gogh

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Learning to live with a lively planet

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I come from a little corner of the world in the north west of England, a bend in the road between the hills that I know as well as the inside curve of my elbow. It is a place of yellow gorse and old hills, rough grasses and hayfields. Down in the plains below is one of the old centres of England. Here was King Richard II's court, a land that Chaucer will have known, over which Gawain will have roamed in search for the Green Knight, where you will find Alan Garner's Brisingamen. Just north of here is the home of the industrial revolution, Manchester, and in the hills just south is Ludd's Chapel – a deep green canyon where local legend has it that the luddites and others hid during machinery breaking days. On the horizon is the distinctive shape of Jodrell Bank, one of the first radio telescopes, searching for the stars. This is also the land of Joy Division, the Smiths, of lyrical discontent with the world. It is a land where technological innovation, the deep power of place and creative imagination have overlaid each other for centuries.

A few weeks ago, just a short drive away from this corner of the world a town was evacuated overnight. This was a pretty ordinary little town, with no particular expectation that anything dramatic would happen. Yet, on this night in July, all 6000 residents were suddenly moved out by police and emergency services. It had been raining hard for days, torrential, drenching, monsoon-like rain – heavy even for this wet corner of the world. And up above the town, the dam holding back the reservoir was suddenly and unexpectedly crumbling, threatening to drown the town in the valley below. Everyone had to leave – no return for pets, for treasured possessions, no arguments.

On the hills a little further north, the year before, it had been a very different scene. Then the emergency services had been out in force, beating the hillsides, trying to stop the peat fires that had blown up and were ravaging the moorland of heather, bracken and wild grasses. Down in the valleys below you could smell the smoke. Thousands of acres of land were destroyed, huge amounts of carbon were released.

Just in this little part of the world, on a warm, wet island, in the space of a couple of years, the reality that we are living with and as part of what Amitav Ghosh calls a 'lively planet' has become strikingly apparent, a reality that has been well known to many others on the planet for years. One year floods, another fires; surplus and shortages of drinking water; polluting the air we breath; moving us out of our homes and leaving us to abandon our most precious possessions. Disruptions that radically change our ideas of home and of how we live our daily lives.

For the first time in 250 years, since the engines of Manchester's industrial revolution led Europeans to believe that we could endlessly exploit and completely master our environment, many in Europe are beginning to suspect that this might not be the case. That the old ideas of mastery and control, of ownership and extraction, might have their limits.

In their place, we are beginning to realise that we are part of a world that has ideas of its own about how it will respond to our presence. That we are part of a living, swarming, jostling, teeming, complex, rich and interconnected world whose systems we have been playing with and which, in turn, will create new conditions for us to live within. We are no longer the gods at the centre of things and the ground beneath our feet is not inert but alive.

In other words, we are beginning to realise that we are living with and alongside

what James Lovelock calls Gaia, and what Zoe Todd points out that the Inuit for many years have known as Sila, the spirit of a lively planet which requires our respect and attention and care.

This change de-centres us from our assumptions of supremacy and mastery and relocates us as a part of a living world for which we are both responsible and which exceeds our control. In other words, this is not a trivial or short-term change. Even should we succeed in reducing carbon emissions and in capturing greenhouse gases to reduce the current warming, we are still facing a new relationship with the world. It is, as Bruno Latour argues, equivalent to the change that occurred when European thought was catapulted from a Ptolomeic to a Copernican theory of the universe, when we realised that the sun no longer circled around us, but us around it. This was a change that unsettled religion and faith, that disrupted existing hierarchies, that changed our relationship with creation.

Then, we learnt that we were not the centre of the cosmos. Today, we need to learn, again, what European scientific knowledge traditions have (intentionally?) forgotten – namely, that the universe does not circle around us, responding endlessly to our rapacious needs, a site for us to anatomise and dissect; rather, we live as part of a lively world of other beings – from lakes, to hurricanes, to insects, to peat bogs, all of whom also have needs and intentions of their own.

What sorts of knowledge do we need to live well and responsibly in these conditions? What sorts of people do we need to become? What do we need to remember that we have forgotten over the last 250 years and what do we need to discover for the first time as we enter this new reality?

Answering these questions is a critical challenge for the university today. It is a challenge that raises fundamental questions about the university's role and purpose. It is a challenge that will either leave universities side-lined and irrelevant or fundamentally renewed.

This, moreover, is a long-term civilizational shift that cannot be understood only through the language of immediate action that characterises current debates about climate change – what Tim Morton calls the PTSD discourse, one that gives the impression that we can anticipate and prevent climate change and yet that implies we are somehow separate from the situation. This urgent crisis language tells us, rightly, that we need to decarbonise our universities, get a grip on how we are travelling, work out what we invest in and remember that stewardship of land and buildings also means thinking about creating space for nature, attending to waste, growing food; these are necessarily things we should be doing, and this is what activists from the Klimat students to the No Fly movements to the Fossil Free campaigns as well as sustainability managers and green offices are already beginning to work on in universities around the world. This language and these approaches, however, risk fooling us, even while we act, that in fact nothing has changed in our world. That if we just get the engineering and the economics right, then things can carry on as they have been. As though the land is not shifting beneath our feet.

What I am more interested in today, is exploring the longer-term challenge that this civilizational and psychological shift in relationship with the planet implies – and the implications for the equally long-term processes of education and scholarship with which universities are concerned. This means thinking beyond the immediate next five years carbon mitigation actions by universities, towards the timescale of human lives and beyond. It means playing, as Martin Shaw argues, *'the long game with climate change, to reveal the understory to all this'* (Snowy Tower, 2014:35)

This, then, is what I want to explore today, how universities can work not only on the question of urgent mitigation, but on the deeper understory of climate change.

Part 1: A debate about politics and economics as well as climate science

Now, clearly this civilisation-disrupting question of how we live with a lively planet isn't something that only affects universities. Unless you have been living under a hedge over the last few years you will have noticed that other people have opinions about this. The debate is on the streets, it is argumentative, polarised, angry and sometimes creative. And this debate is being stirred by the algorithms of Cambridge Analytica and other data analytics companies and their paymasters, who are actively fuelling divides and seeking to exploit divisions for profit (just ask anyone in the UK what it is like to live in a country where big data's role in politics has become toxic).

This really started to come home to me last year, when I was in the car heading to the station to get the train up here to Sweden. I was living in France at the time and we were taking the long rural road, lined with poplars, to the station. As we approached the bridge into town we saw a crowd of people blocking the road at one of the main roundabouts. They stopped the car and made it clear we weren't going anywhere soon. This was my first encounter with the Gilets Jaunes, it was their first protest against the diesel taxes that would make living in the countryside almost impossible at a time when the state has all but given up funding any other forms of transport in areas where economies are already struggling. They were pointing out, rightly, that their cars were not causing as many emissions as the flights of the people they called 'Macron's elite'. (it's worth noting that only at most 20% of the world's population has ever been in an aeroplane). Those being asked to pay for higher diesel in France were not those responsible for most of the emissions. They were also those who had already borne the costs of economic policies that have seen wealth move massively into cities, where rural dwellers are struggling with lack of medical care, health care and job opportunities.

In contrast, this summer, in my hometown, Bristol, it was a boiling hot day and we were heading through the city to get out and south to the countryside. As we walked along the river from the central market, suddenly we were confronted with a sea of people and a massive pink boat, blocking the road. Around it people were dancing, banners were waving and a field of tents had been set up. The Extinction Rebellion protests had come to town for the week. It was a festival, a party, a rave in daylight. This was a different atmosphere from the Gilet Jaune protest, and the arguments were in favour of government declaration of a climate emergency, government led legally binding commitments to reduce emissions and a citizens' assembly to debate how best this should be achieved.

Together these two protests – just some of the many thousands that are happening all around the world that are triggered in different ways by a changing climate – from the early protests that sparked the Syrian civil war to the food riots in Zimbabwe – make clear that learning to live with and as part of a lively planet is not simply a scientific question. It is a question of politics, of economics, of social justice, of identities and culture. There are tensions and alliances emerging in unusual places.

Divides are emerging between city and rural dwellers about the sorts of 'solutions' to carbon reduction that might be required, between the 10% wealthiest causing 50% of the global emissions and the other 90% who argue that they need a voice at the table, between advocates of top down regulation and those in favour of market

forces or grassroots democracy, between those who blame a changing climate on individuals and those who see structural forces at work. And as such, unsurprisingly, there are fundamental differences of opinions in what this might mean and how we should respond. Mike Hulme and Karen O'Brien have talked about this convincingly in their discussions of why we disagree about climate change.

When we attend to these protests and the questions they are raising, then, they suggest that the challenge of restoring climate has an understory that is entangled with two other equally significant challenges, namely:

- To revive democracy – creating conditions in which all voices are heard so that responses to a changing climate can be fairly and collectively negotiated; and
- To rethink economics – redesigning the economic system to ensure that it works for people and planet, and acknowledging that economic imbalances are also fuelling a changing climate.

These are non-trivial challenges. We do not have easy answers or off-the-shelf solutions. They require deep reflection on values as well as rapid experimentation, innovation and learning.

Part 2: New educational institutions asking fundamental cultural questions

Here, it is worth noting that these street protests are not simply protests. These social movements are in fact mass public educational interventions. The Gilet Jaunes, for example, on some of their occupied roundabouts across France invited people to join them for coffee, for conversations, to discuss what was going on in the world, to learn together about current economic conditions. Extinction Rebellion, similarly, is accompanied not just by dancers and music but by an encampment of tents and stalls that have workshops on everything from the nature of the climate challenge to discussions on how to restore democracy, stands offering useful reading material, as well as advice on how to lock yourself to your co-protesters during a sit-in (whether such advice is appropriate is, however, subject to some debate).

In this way, they build on long-established traditions of popular education: inviting people to convene informally, to say what they think is going on with the world, to develop demands that propose alternatives. In other words, these protests are pedagogical, they are intended not just to resist a situation but to create opportunities to learn about how to do things differently.

As Michel Callon and colleagues have observed, this educational quality is a useful characteristic of public controversy. The very nature of controversy, he argues, generates learning and new knowledge. Controversy stimulates a desire for information, a search for solutions, a marshalling of evidence for and against different positions. It stimulates research and opens up possibilities that were previously not known. Importantly, protest and controversy bring new voices and knowledge to the discussions, they pluralise the debate, enriching and deepening the conversation.

Consider the protest at Standing Rock, for example; the resistance against the pipeline brought together over 10,000 people and created a town large enough to have its own postcode. The protests both required and encouraged learning – about pipelines, about the corrosion such pipelines inevitably lead to, about the economics of oil sales, about the financialisation of nature, about indigenous ways of knowing and caring for land, about legal systems and structures and how these need to be navigated, about the failure of current environmental laws, and about the potential to transform these laws to protect the earth.

Protest, in other words, educates. It insists upon finding new ways (or uncovering old ways) of understanding the world – and in creating possibilities for change where none were seen before. Emerging from these protests are the resurgence of the Native American councils, the old decision-making bodies that were eradicated with colonialism; the sacred flame that convenes the councils has been lit again. Also emerging from and developing alongside these protests are the legal strategies of the Earth Rights movements, a convergence of European laws and Indigenous knowledge, that is beginning to transform environmental law.

These protest practices, then, are profoundly educational. They work with what can be called praxis knowledge – the development of knowledge through action, through experimentation, through the interplay of thinking and doing.

Away from the front lines of protest, however, we are seeing the emergence of educational initiatives that confront similar issues, but that also attend to more fundamental cultural questions about what it means to live on a lively planet. While coming from many different starting points and assumptions they are asking a set of questions that have resonance with each other: what sort of cultures and beliefs are able to deal with the complexity of an interdependent, relational worldview? what sorts of people live well alongside non-human beings? They are addressing not only the economic and political questions raised by the Gilets Jaunes and Extinction Rebellion, but deeper questions about the nature of the civilizational shift – the identities, rituals, values – that may be required. They point out that alongside and underpinning the demands to restore climate, revive democracy and rethink economics, is a much more fundamental demand, namely:

- To regenerate culture – to build ways of living and being that see ourselves as part of a more complex, living world, as one being in a space of beings. They remind us of our capacity to use our creativity to create what Charles Eisenstadt calls, the ‘technologies of reunion’ rather than separation.

Look at the invitation from the **Highland Lake Cove**, with its weekly supper nights and stone soup conferences, which encourage anyone who wants to turn up, to participate in ‘conversations that matter’ about how to reshape the future. Or **Ubiquity University’s** appeal to provide an education in ‘head, heart and hand’ – knowledge, self-knowledge and action – oriented toward addressing the sustainable development goals.

Consider, for example, the call for participants in the **Youth Initiative Programme** in Sweden, which argues that it will ‘strengthen young people’s capacity to take personal and collective initiative in the face of current global challenges’ through developing ‘personal and global awareness’ (website, 20.08.19). This is a year-long programme for 18-28 year olds which includes activities ranging from place-making to the art of hosting, from spiritual resilience to understanding ‘capitalism and commons’.

Or the invitation to participate in **Gorça**, supported by the Gesturing Towards Decolonial Futures collective, where the organisers envisage “a space where participants can

- step back, look at the bigger picture and “dig deeper”
- clarify, test and unpack assumptions and the implications of ideas without fear of judgement
- acquire/develop languages/vocabularies to name and productively host tensions, conflict, and paradoxes
- form relationships not mediated by knowledge, identity or understanding
- engage with difficult questions without relationships falling apart
- become comfortable with the discomfort of facing fears, contradictions and projections
- find peace and strength in vulnerability”

Consider the Ecovillage **Tamera**, for instance, that has for over 50 years demonstrated the potential for a large community of people to live collectively and at the same time, developing world leading water engineering processes to create a beautiful green oasis of abundant plantlife and lakes in the agricultural deserts of southern Portugal. They, too, are offering educational courses – hundreds of people each year turn up to take their ‘living in community’ and water management residential programmes.

These institutions and groups, and others like them, are beginning to network together globally through informal networks like the **Ecoversities** network, the **Ecovillages** networks, the **Dark Mountain** community – sharing knowledge and experience of how to regenerate cultures and collective imagination that are deeply connected with land, with place and with relations of community-building. They are recruiting young people and adults increasingly dissatisfied with contemporary society and offering places where alternative futures can be not only imagined but practised. They are attracting people of many ages, with a range of skills and professions, as well as high achieving youth who are electing these routes instead of attending mainstream university.

You can tell you are living in interesting times when new educational organisations such as these are emerging. And in particular, when they are beginning to recruit young people and adults of all ages, brought together by the sense that the future is a subject of urgent concern, and who are willing to pay or to give up their time to learn what is being offered with no promise of a certificate or a job or an easily identifiable place in society in return. Indeed, we can see these institutions as an indicator of civilisational change – they spring up like mushrooms overnight in disturbed land and begin to get to grips with composting the remnants of the old civilisation.

They are part of a long tradition of popular educational institutions that have gone on to have significant impacts on mainstream thinking and education – consider, for example

- The 17th and 18th century Coffee Houses, Royal Societies and Academies that enabled debate around the ideas circulating rapidly with the advent of the new proliferation of publications that fuelled the enlightenment.
- The co-operative houses and popular universities that were established across Europe and America to build solidarity, trades unions and collective knowledge during the industrial revolution and the mass movement of populations from the country to the city.

- The Folk High Schools of Scandinavia, that were set up to educate an increasingly urban adult population, to promote democracy and common feeling in the wake of Scandinavian industrialisation.
- The workshops set up by Booker T Washington after the end of the Civil War in the US, to create the conditions for self-education amongst formerly enslaved peoples and to build new social and economic relations.
- Ghandi's workshops, set up to build Indian culture, identity and economic independence in the face of colonialism.

Seemingly 'alternative' popular educational settings are the seedbeds of revolution, the prompts to cultural change.

Part 3: Different forms of knowledge are needed

One reason they are particularly important is that they signal what is being ignored in society and in mainstream education and what needs to be cared for and attended to. They warn of the risks of dominant educational and social monocultures and of what is being lost in these monocultures; they are also agitators, attempting to create disturbed ground from which new stories can be told. They are the basis of building a new approach to education at a time when formal education has become captured by what De Sousa Santos calls an 'epistemic monoculture'. Today, these new practices are pointing out to us that mainstream education has a significant weakness – it has been captured by a set of assumptions that the purpose of education is oriented toward one particular (economic) future and valuing only one (cognitive/western) form of knowledge, that will not be adequate on its own today. Instead, they point to the importance of (at least) four different types of knowledge that provide the foundation for a cultural regeneration:

- First – knowledge of the world. In Freirean popular education terms, we might call this process conscientisation, the creation of spaces to name life experiences and understand the themes and processes – inequalities, exploitation, environmental degradation, disembodied scientism – that tie them together and the strategies – new forms of economics, democratic organisation, social movements, that effect long term change. This knowledge is about becoming aware of how things are working.
- Second – knowledge of the self, to who we are and how that shapes our responses to the world. This invites attention to that old word 'soul' – to what drives and moves us, to what we love, to what we give meaning to, to our subjectivity as emerging through our responsibilities and what we choose to care for. Also, to what we deny, what we cannot confront, what we look away from and what we fear. This is knowledge that attends to and works with the whole person, not just the cognitive and 'rational'.
- Third – relational knowledge – to the networks, relationships and partnerships – with other people and other beings – through which the individual comes into being. There is attention to nurturing those relations, to acknowledging the dependencies and responsibilities of the person through which subjecthood emerges. There is attention to the interconnectedness of people, planet, the entanglement of people in systems that are larger and more complex than them. This relational knowledge in many places concerns a resacralisation of land and nature, an attentiveness to place and a commitment to listening to what non-human others might need as well as building relations of solidarity and care with other humans.
- Finally – and significantly, there is attention to the knowledge of how to live well

with a richer understanding of time and with uncertain futures. The knowledge of how to work generatively with complexity and provisionality, to explore relations between cause and effect, to recover ways to steward the past, and hope and care for the future. This knowledge invites attention to the end of modernity and its narrative of inevitable, technologically driven progress. It encourages attention to the loss of one way of life and the emergence of another framed by richer and more abundant conceptions of time and change.

This latter point is particularly important as it points to the possibility that a foundational aspect of the knowledge required to live with a lively planet is the development of **a new conception of time**. One that is no longer reliant on stories of inevitable futures to which there is no alternative – whether driven by neoliberal economics, modernity or climate collapse – or the assumption that history is best described as a narrative of scientifically driven progress of ever-increasing mastery of nature.

This latter interest amongst emerging educational initiatives in searching for different narratives of time and change is echoed in the academy, in the growth of academic interest in how we think about the future and time. This growing field, one I have been involved with closely, is called Anticipation Studies and brings together scholars from all disciplines – from physics to biology, psychology to heritage studies – to reflect upon how ideas of time and the future shape assumptions and behaviours in the present, and to explore how we might develop a more sophisticated and, ultimately, healthy relationship to thinking about the future.

The significance of this interest in thinking about time differently becomes clear when we think about life with a changing climate, with the disruptions and uncertainties of living with a lively planet.

Attending to a changing climate, after all, means working out how to live with and think with deep time – with a recognition of geological history and of long distant futures. It means working out how to live with pasts that refuse to go away, which come to haunt the present and with futures that interrupt us and require us to act now even with no knowledge of the people and places who we are hoping to care for as a result.

It means acknowledging the unexpected and disruptive nature of complex systems, that bring tipping points, reversals and radical disjunctures; a smooth and continuous natural history is no longer available to us. It means acknowledging that cyclical time, recursions and waves also represent the lived temporality of a planet that is alive. It means recognising the multiple and overlapping temporalities of place – where the land stays a constant witness past, present and future times, which exceeds our short timespans.

It means recognising that the clock time around which western cultures organise our schooling, our workplace – is only one of the timescales on the planet. That there are other richer temporalities: of growth and decay, of cycles and waves – from the different timescales of carbon and methane emissions to the slow processes of rebuilding fertile top soil. Attending to a lively planet also means opening ourselves up finally to the unexpected implications of quantum physics, to the profoundly unsettling timescales of being everywhere at the same time and to synchronous pasts presents and futures. At present only indigenous ways of knowing and pluralistic theologies begin to offer cultural tools to make sense of the lived implications of western science.

Exploring how to live with the new temporal uncertainties of a lively planet also reminds us of the powerful potential of actions of solidarity and reciprocity and collective action that build jetties into the future and create relations of care to survive uncertainty. They reframe knowledge of the future as relational, as formed from commitments and care – whether between local communities, or the global community working together through institutions such as the IPCC.

I will come back to this point later, but critically, these emerging educational institutions and the developing theoretical field of anticipation studies, foreground the reality that living on a lively planet demands that we recognise **our limited capacity to see and know the future at the same time as our limitless responsibility to care for it**. Inside the university and out, in obscure academic journals and in activist education settings of climate camps, we are beginning to work out how to equip ourselves as individuals, as communities, as relational beings, with different conceptual tools to work out what agency might mean in a world of interdependence and uncertainty.

Part 4: The multi-layered nature of the challenge

If we take seriously these educational institutions as indicators of absences, as signposts to what is missing in mainstream education, then responding to climate change, from this perspective, cannot be recognised simply as a technical question. It is also a moment to recognise that we are living in the middle of a significant cultural and civilizational change for which new knowledge, new forms of understanding and new ways of being and living are required. The language of the climate crisis is, in other words, the tip of the iceberg in terms of what is going on. It is what Sohail Inayatullah, in his analysis of how we think about the future, calls the language of the ‘litany’ or the ‘headline’, the everyday shorthand that stands for and conceals a lot of other issues (Gramsci might have called this the hegemonic equivalence). Beneath this headline – while important – are also a set of structural, epistemological and mythic changes that also require new approaches to education.

As Universities, we can make sense of what we need to attend to, then, as follows:

At the **litany or headline level** we have the narrative of ‘climate change’. Here the immediate question is how to rebalance our relationship with the planet – in particular, by getting carbon emissions down and creating space for other species.

Beneath this are a set of discussions at **structural level** – these include questions in particular of democracy and economics and how these are structured, to enable negotiation of how to transition to a non-exploitative and flourishing relationship with the planet. Here we see discussion of everything from the need for citizens’ assemblies and attention to the social and colonial histories and consequences of a changing climate to the development of economic theories guided by planetary and social limits, from Rockström’s planetary boundaries to Kate Raworth’s ‘doughnut economics’.

At the **worldview level**. Here we are dealing with the disruptions to the ideas of time and, implicitly, of agency that I have just been discussing. These are more foundational questions about whether the underpinning assumptions of modernity and technological progress are sustainable in building a new relationship with the planet. There are questions about what other ways of thinking about processes of

change and agency might be productive. Ideas are circulating that explore questions of living with complexity and uncertainty, of the role of commitments to gift, solidarity and cyclical relations. To the temporality and forms of knowledge of non-humans, systems and species.

And finally,

At the **mythic level**. Here is what Shaw calls the 'understory', the foundational questions of our understanding of who we are in the world and our relations to other beings. Here, we are seeing a re-emergence of indigenous ways of knowing from Dakota to Dartmoor that reposition humans in a lively abundant world of other beings, literally humming with life and demanding attention, care, respect and listening. These ways of knowing resonate with the work of psychologists, feminist and science and technology scholars within the academy, who are arguing for new conceptions of the self. From both these directions, we see the person at the heart of education not as the rational autonomous modernist figure, but as tentacular, interdependent with other people and technologies, land and other beings.

So – what does all this mean for the university and its role?

Part 5: Universities can and do change

Before answering that question, I need to take a slight detour into university history, so that we can collectively sensitise ourselves to the possibility that universities can, and in fact regularly do, change and change dramatically. I want to talk about a couple of parallel historic moments in which our relationship to the future and to knowledge changed as significantly as I think it is changing today – and how universities struggled with and responded to these changes.

Consider, for example, the medieval university of the 13th century. This university was concerned with the future in the same way that, for example, Extinction Rebellion are today; it was concerned with matters of life and death, with morality and end times. Only in the medieval university case, we were talking about matters of eternal life or salvation. The university at that time, after all, was primarily concerned with training men to preach and to hear confession.

What happened in the 13th century, however, was the arrival of merchant time – the idea that time can mean money – that goods could be traded by those who don't produce them, that land could become a source of profit through rental. Alongside this, we saw the rise of newly powerful merchant groups and guilds, threatening to develop powerful alternative values from those of the church. The question the universities of Paris, Bologna and Oxford were faced with at this point was how to respond to this new set of values, these different ideas about time and the future.

How they responded became visible particularly in what were called the quodlibetal disputations. These were events that happen twice a year when any member of the university could come and pose a question to the professors and ask for an answer. And the questions that were being asked at this time were changing. The clergy were now asking things like: if one of my parishioners rents her land out to someone in return for an annuity (an annual payment) will this be a sin? Will her eternal soul be at risk? The key issue here was whether the landowner would be making a profit from renting out the land over her lifetime and therefore committing usury.

This sounds pretty dull to our ears today. Answering that question, however, depended of course on how long the landowner and the renter would be expected to live. Which meant, in other words, that someone needed to work out how to predict the future. And this was a big problem: prophecy was the preserve only of those chosen by God, and God was the only person who could tell the future, and the sacred texts that the theologians were reliant upon gave no answer to this.

How did the university respond? Well, it calls in the big guns – Thomas Aquinas gets involved. And he argues that only God can know the future in itself. Nonetheless, there is a role for universities in adjudicating this decision – because we as humans can know causes of future events, we can know and observe the relations between things. So – he argues, the astrologers, who build knowledge through observation, and the medics, who build knowledge through study of the body, can in fact adjudicate on this question. They can bring knowledge of material causes – the planets and the body – and therefore determine how long this person is likely to live and therefore whether a sin is being committed.

This argument about who can know the future does interesting things to the university – it sets up some people as being able to make claims about the future and not others – and it also says that the university is a place where knowledge of the future can be taught. It pluralises the sorts of knowledge of the future that can be employed (there is now prophecy, biblical interpretation, medical and astrological knowledge to contend with) and at the same time, establishes a hierarchy amongst them – which funnily enough keeps the university theologians at the top of this hierarchy.

In other words, when universities were confronted by these developments, they didn't set up a little course in 'merchant time' around the edges of what they were already doing – they asked fundamental questions about how these problems posed by the clergy changed what it mattered to know, who could know it and how it could be taught.

Universities change.

Let's think about another example – the 18th and 19th centuries were a period of huge transformations – industrial revolutions happening across Europe, mass proliferation of knowledge through the rise of periodicals, new pursuit of science as an empirical and experimental inquiry in the academies of London, Paris and Berlin. And alongside this, huge debates about what a university should be and about whether universities were actually any use at all anymore. After all, they were at that time, mainly associated with drunken students and studies of a shared body of ancient and seemingly out-of-date texts.

In this context – new universities were established that marked a radical rupture with both the church and the state. These research universities were set up precisely to help the societies of the day to deal with information overload – new science, new discoveries from empire and travel, new ideas from the rapid circulation of texts and democratisation of discussions. And the technology that they developed to help with this was the technology of academic disciplines and specialisation. This increasing disciplinary specialisation was a way of saying: there is no way to deal with all this novelty at once, students and scholars need to narrow their focus, become part of a community of others sharing that focus, in order to allow them to work out what knowledge, out of all this proliferating information, actually matters, and what new questions should be asked to contribute to that body of useful knowledge.

Again this marked a significant change for the university. Where the medieval university determined what knowledge was the preserve of god and what of man, here the research university began to adjudicate on what is worth knowing out of all that humanity knows or was coming to know.

As Chad Wellmon argues, the research university at this time,

“was a system or, as F.W. Schlegel put it, a ‘living encyclopedia’ in an age thought to be beset by fragmentation and proliferation. And it was designed to organise the institutions, materials, practices and people of knowledge into a relationship, to order into a coherent whole whose end was science. The research university and its ethos of specialised science were a solution to a particular problem in the history of knowledge. The research university stood in for a particular way of managing and legitimating knowledge.” (Wellmon, 2015: 264)

This had two very significant consequences:

First, spatial: the reorganisation of the university around distinct disciplines means that universities for the first time claim to be independent from both state and church. They answer to a higher authority – to ‘the discipline’ and its community. To justify this, though, other potentially competing forms of secular knowledge had to be undermined. As has been well documented by Dussel, de Sousa Santos, Raewyn Connell and others, the idea of the disciplinary self, led by reason, gained dominance only by constructing the knowledge of Africa, of the East, of the Americas as ‘unreasonable’, characterised in Kant’s terms as ‘guilty immaturity’. It also depended upon the erasure of the work of Islamic scholars and the Ottoman Empire (whose libraries had far outshone Europe’s for many years) and upon the continuing exclusion of women, and of women’s wisdom and craft, from the academy. In other words – this disciplinary organisation depended on framing other cultures and knowledge and people who were not European white men, not just as different, but, again in Kant’s terms, as ‘manifestly inferior’ (quoted in Dussel, 1993). At the heart of the European Research university, then, is a commitment to a form of knowledge that offers the huge technical gains of specialisation and experimentation, but that also leads to a massive loss of knowledge that is embedded in place and deep history. It sets up a hierarchy of knowledge that, allied with colonial and nation building projects, was to have hugely harmful effects on indigenous and popular knowledge worldwide, knowledge that less easily generated economic profits for the commercial and state funders of universities. What de Sousa Santos calls ‘epistemicide’.

The second consequence of the privileging of disciplines was to locate the university within a different temporality or ‘time zone’ itself. As Stefan Collini argues, the idea of the discipline connected the scholar and student back in history to those who had already gone before and forward into the future to the collective exploration and expansion of the questions that concern the field. Here, the moral imperative of the scholar shifts from an engagement with the day-to-day questions of the world, to one in which ‘the open-ended quest for understanding has primacy over any application or intermediate outcome’ (Collini, *Speaking of Universities*, 2018, 234). Becoming disciplined, in this perspective, means seeing the present merely as a provisional moment within a much longer although still relatively narrow (in planetary terms) timeframe, and becoming a student or a scholar therefore means becoming governed not by contemporary concerns but by disciplinary priorities. These are the deep roots that underpin current thinking around academic autonomy.

Again, this moment of challenge to university knowledge led to a response that was not marginal, but to a deep examination of the role, nature and structure of the university with consequences that we are living with today.

What do these two moments have to do with the fundamental questions we are facing today about the role of the university in a civilizational shift to living as part of a lively planet? Two things:

First – they demonstrate that universities can and do change. While the search for knowledge and the education of new generations continues to define the university, universities expand and shift their approach to scholarship, research and education in response to changes emerging outside their walls. Such changes have been fundamental to the organisation and workings of the institution as well as leading to the establishment of completely new sorts of universities.

Second – in these processes of change, universities have always been in a struggle, with other institutions and within themselves, over the sorts of knowledge that constitutes wisdom, over the sorts of knowledge that helps us to make sense of novelty, over the sorts of knowledge that can be trusted to create a guide for the future. They have led to systematic exclusion of some sorts of knowledge, but also, to the periodic addition of new methodologies and theories. As such, these struggles generate institutions that are fractious, fractured, contentious places – where different knowledge traditions compete for the right to claim epistemic authority over the future.

To oversimplify a little – medieval universities give us traditions of inquiry into ancient texts, traditions of philosophy, development of the soul, and the knowledge that comes from close observation of the world; enlightenment universities give us an experimental orientation, the conception of the world as something to be revealed; civic and popular universities (which I have not discussed here, but which are worthy of a history of their own) give us principles of praxis and collaboration, of co-making and shaping the world in partnership between universities and their cities (just look at the deeply entwined history of Uppsala with the city, it is only in the last 100 years that the university is not responsible for city leadership and some of the great gains in the city have evolved in partnership between professors and the city.) In the 20th century, two critically important new ways of thinking about the future emerge – Marxist and critical theory traditions offer tools to analyse the future as a site of struggle for power between different social groups; and the rise of computational power gives us astonishing tools to model worlds, to bring futures into the present for inquiry and investigation.

The legacy of the rich and complex history of universities therefore is an uneasy mix of ideas and methods for thinking about, understanding and working on the future. Stewarding the past as a resource to care for the future, revealing new worlds in order to open the possibility for new futures, critiquing contesting visions of the future and modelling futures for investigation in the present. The university we are left with today then, resembles a collection of different guilds, each with their distinctive methods and their ways of approaching the world, jostling for supremacy, seeking to ensure that their approach – the philosophers or the experimental physicists, the engineers or the historians – is sustained and protected.

One of the most important questions that this legacy asks of us then is how universities can balance or, better, put into productive dialogue, these different guilds and their different tools for understanding and working on the future; and how we can reconnect these ways of knowing and working on the future with

those that were systematically erased in the enlightenment moment. Developing that dialogue will be essential if universities are to respond to the sorts of relational, political, and self-knowledge that the emerging educational institutions are proposing as necessary for life as part of a lively planet. A critical and important part of this will be acknowledging and addressing the legacy of the violence of colonialism with which these knowledge traditions are associated. I will come back to this later.

Part 6: What does all of this mean for the university today?

All of this means, in essence, that universities can change and that they are complicated. It also reminds us that there is really no such thing as 'the' university. Indeed, these changes leave us with universities that are made up of scholars, researchers, students and administrators who are often working with very different and sometimes conflicting ideas of what a university might be for.

This manifests in competing ideas of accountability. Different actors in the university see themselves as answerable to different groups - to local communities, to disciplines, to students who come to study, to the governments and funders who pay for the activities, to wider society, and to the concept of the public good. Amongst the 25,000 universities around the world there are institutions funded almost entirely by alumni and philanthropy and their own estates, others funded almost entirely by the state, others by student contributions, others are co-operatives of students and faculty, and others are simply outposts of wealthy western universities. There are huge institutions focused on science, occupying huge swathes of major cities - as well as tiny campuses, focused on the humanities in rural settings. There are those that see themselves as dedicated to the development of professionals and others focused on the creation of economic value.

We cannot generalise, then, about universities.

More importantly for our discussion today, nor can we assume that the purpose and contribution of contemporary universities is necessarily benign or healthy in relation to the challenge of working out how to live on a lively planet.

As Lakin Anderson pointed out to me a few months ago, the famous hockey stick graph that visualises so clearly the impact of humans on the planet is mirrored by the growth in universities over the same period. University growth has paralleled declines in biodiversity, population increases, increases in emissions, decline in water quality. Moreover, as David Orr observes, it has not been the 'poorly educated' who have overseen the development of a planetary civilisation that has led us to a point of biodiversity and climate crisis, but, people with PhDs and Masters qualifications from our finest institutions.

Indeed, there is much evidence to suggest that a defining tendency of the changing university over the last half century, has been its mutation into an entrepreneurial university, defined by the pursuit of economic growth. For many commentators concerned with how to live well in conditions of a changing climate, universities today are indeed part of the problem. They are seen as having become so deeply invested in a conception of modernity that separates self from world that they will be profoundly incapable of supporting a civilizational shift towards a new relation with a lively planet. As having become so deeply invested in a narrative of economic growth, that they will be profoundly incapable of challenging the commercial interests that are driving towards climate crisis.

Many universities – and here I am talking about the Anglo-American world in particular – have accepted their redefinition as corporations rather than as institutions of research and learning in all but name. Vice Chancellors rename themselves Chief Executives, management by Boards stuffed with representatives of big industry and finance is commonplace. There are universities in Canada where the partnership with mining corporations is so entangled that they co-write the curriculum and voices of dissent from social movements and local communities are wiped out of the teaching. There are universities in New Zealand where their most important source of income is the sale of branded sportswear. Scandals over university funding sources and just who universities will take money from to pursue their research abound – from the Epstein affair at MIT to the Gaddafi affair at LSE. There are universities that are reframing themselves as data organisations, selling access to student data to large tech corporations, and the big tech industries are getting involved in mining student data. In many US and Latin American universities, income from private companies far exceeds that from the state. All universities are increasingly locked into a set of pernicious league tables whose methodology would not stand up to scrutiny and whose consequence is to necessarily drive down educational standards.

While this is worse in Anglo-American Universities, still across Europe, universities are now competing in a new market for international students, and private providers are creaming off lucrative professional courses. Even where state funding dominates, governments increasingly view universities less as crucibles for creating the good society and more as important contributors to GDP, inserting them into the international marketplace as goods to be sold for profit. Intellectual property, student services, are all valued not for their contribution to our collective understanding of how to live, but for their contribution to the bottom line. In their home communities, many universities act as gated communities, associated with education for elites rather than for the masses. The patterns of colonialism and exclusion established by the enlightenment university continue to play out, with patterns of economic and social inequality reproduced even in countries like Sweden – where children of highly educated adults are much more likely to become themselves highly educated. At the same time, the supposed benefits of universities are increasingly in doubt – in the UK, half of graduates are not in graduate roles after employment. And amongst all this, signs of internal crisis are visible in the alienation of the participants in these institutions; academics and students increasingly report significant mental health problems.

In relation to our primary concern today – acknowledging and mitigating and learning to live with a changing climate – the university has a patchy track record. Scientists have played an important if partial role in uncovering and explaining the underpinning mechanisms of climate science. Many academics have led, alongside indigenous community activists, the arguments for mitigation that have driven international and public debate for the last 40 years. Arguably, however, the basic science has been known for a hundred years and the first climate models pointed to the need for mitigation in the early 1980s. While we have developed ever more accurate models, funded by ever more generous grants, attended ever more conferences to provide more precise figures, the world has been heating up and biodiversity has been radically declining. Not only this, but as our scientists have been making these observations, many universities have been pushing towards more and more unsustainable practices: for example, dependence on high-flying international students (one of my students in Bristol happily told me of the five transatlantic flights she was taking each year to see her boyfriend on the west coast of the US), as well as closer alignments with high-growth economic agendas, intensification of academic travel and competitive development of high-profile far-from-zero-carbon architecture.

So – let's not base this discussion on rose-tinted glasses. Universities are complicated, messy, flawed institutions both historically and today. They are as likely to be part of the problem as they are of finding a new way forward – this is precisely why the educational alternatives, the ecouniversities, the new place-based educational practices are emerging.

And yet... universities are hugely powerful intellectual organisms. Their potential material and economic impact is significant. In Sweden, 28% of all government workers work in universities, around 75,000 people. Swedish universities educate 45% of the population; 245,000 students started courses in Sweden last year. The land and assets owned or managed by Universities and their partners is huge, particularly in the UK, the US and Canada, but also here in Sweden. Huge sums are spent each year on research. In other words, if universities are not playing a healthy role in the wider ecosystem of our civilisation, then they will cause significant harm. What they teach, what they study, what they do with their land and their economic power, matters.

Perhaps more importantly, the idea of a university as a place that seeks wisdom and knowledge and that can be trusted to educate the next generation, is still powerful – even if it does not always live up to these ideals. It is one of the reasons that so many emergent educational organisations call themselves 'universities' and why quasi-dictators such as Trump and Orban actively seek to crush academic dissent and close down challenging institutions. Scientists and Professors are, according to recent studies, much more highly trusted than politicians and journalists, and trust in them is increasing. The idea of a university – in an era of fake news, remains essential. One of the reasons for high levels of mental health problems in academia is precisely because individual academics are still driven, in the main, by vocation. The community organisations and civil society groups who I have worked with over the years, all wanted to work with universities because they see these partnerships as offering them access to trusted public knowledge. Even industry seeks out the imprimatur of university knowledge as a resource for new ideas and as a trusted guarantor. The idea of the university as a public good, as a resource for trusted knowledge and as a trusted educator, remains powerful even if far from always justified.

Universities, then, matter. The challenge is to work out how and whether they can be reclaimed as a powerful resource in working out how to live well, equitably and peaceably, in this new world.

Part 7: Reimagining Universities

Let's return, then, to the four levels on which we need to think simultaneously if we want to develop an adequate response to our changed condition. Let's figure out what a new university might look like if we take seriously the necessity to work at the headline level in relation to climate change, but also at the structural, worldview and mythological levels.

Headline – rebalancing universities' relationship with the lively planet

First – at the headline level, we are confronting the immediate question of how to rebalance our relationship with planetary systems. Here the immediate issue is how universities can play a role in getting carbon emissions down and creating space for other species.

Evidently, when we look at the powerful resources of universities and their collective impact on the planet, we can see immediate actions that can be taken to significant positive effect – the divestment from fossil fuel industries of all investments; the commitment to carbon neutral buildings and to retrofitting existing buildings; implementing waste reduction, recycling and reuse at scale and with creativity and flair; the wholesale shift to sustainable food practices; the development of new forms of internationalisation that enable learning in place through encounters at a distance – whether this is the development of networks of place based campuses and distance learning or the emergence of new forms of slow academic travel; the rewilding or reforestation of campus land and university land holdings.

With these steps, it is possible to imagine that a university like Uppsala, for example, might look and work very differently within the next ten years – connected deeply into the regions transport systems, providing food and biodiversity-friendly land for the local area, buildings generating low carbon energy, with fantastic video conferencing and holographic lecture systems connected to networks of partner colleges and institutions around the world. Place-based, carbon-neutral, internationalisation through meaningful slower interactions and virtualisation.

There are many universities around the world that are already beginning to take partial steps in this direction. The wholesale city-wide approach to sustainability of Boston University; the radical carbon neutral campus and city-collaboration of Oberlin College; the growing moves in UK universities to use their land as carbon sinks; the development of no-fly academic movements and the train based academic conferences; the increasingly standard practice in most universities of divestment from fossil fuel investments; UCL's experimentation with hologram lecturers; Queen Mary's shift to a vegetarian diet; Uppsala's own experimentation with local wildflower meadows. We have not yet seen a university with the vision to explore all of these approaches at once, but this is just a question of time. If universities are to take their own research seriously, these steps need to be taken.

Structure – reviving democracy and rethinking economy

Learning to live well on a lively planet, however, means attending to more than our carbon emissions and our landscaping. More fundamentally, as we have seen, a university needs to work out its role in relation to the economic structures that underpin dysfunctional relations with the planet, and to democratic dialogue.

Here there are some obvious first steps to take. Universities as economic entities have the potential to act as key anchor organisations in support of social equality and new economic practices. Local economic development models, such as the Commonwealth approach for example, see universities as key organisations in rebalancing local economies and addressing radical social and economic inequalities through making different purchasing and employment decisions. This way of working also provides a significant opportunity for research and teaching, for experimentation with forms of economics that are inclusive, non-extractive and pluralistic. My home university in Bristol is doing just this, setting up an institute for inclusive economics that sees the city as a whole and the university's role in it as an economic actor, as a laboratory for experimenting with more ethical economics.

This experimentation needs also to extend to the economic foundations of the university. It is not yet clear what form this might take. But there is radical experimentation going on. The open access movement begins to challenge the idea of knowledge as an individualised economic product – recognising that our knowledge descends from a lineage longer than individual institutions or researchers.

There are experiments in funding and resourcing universities. The emergence of new forms of co-operative university structures that are co-owned by staff and students and position themselves outside the private/public binary – examples such as Mondragon or the Kenyan Co-operative University for example. There is the beginning of developments of crowd-funding models to support independent scholarship, that are being spearheaded by the online and podcast world. And there is a renewed commitment to public funding by some countries.

The key criteria for assessing experimental economic models to support the university is clear: to what extent are they able to support the university to act as a site for democratic exchange and learning? To what extent do they reinvigorate the role of the university as a public forum? To what extent do they enable universities to become places where society can come to work through its tensions, to generate knowledge, to learn, to negotiate and to debate?

What might a university look like if their underlying economics was reoriented in this direction?

One implication would be that it would create the conditions for fundamentally different approaches to teaching and research premised upon collaboration between the university and society. Imagine, for example, student courses organised around issues raised by the communities in which they are living – the contemporary equivalent of the quodlibet of the medieval university if you like. We have examples that gesture towards this in the Challenge labs at Chalmers University or Science Shops across Europe – where students work to briefs set by local authorities, communities or industry partners. We also have an example here in Uppsala, in the course coordination work of CEMUS, where expertise from multiple perspectives is brought together by student coordinators around a central theme. We can also see new examples emerging in the joint initiatives such as the Climate School from Aalto University and Helsinki municipality, or the ongoing community conversations led by University of Vancouver.

What I want to suggest, however, is something that builds on these examples but may be altogether less oriented towards an idea of the university as servant of society – in traditions of service learning – and much more towards the idea of the university as a catalyst or crucible for encounters between different and competing forms of knowledge. For example, we might suggest that these courses intentionally seek out questions and expertise from those whose knowledge has been disregarded historically by universities – the everyday knowledge of those without formal education, the expertise of indigenous communities, the lived experience of families and women, the questions posed by walking in the city or through the land. Second, we might suggest that the conversations should not move too quickly to easy solutions, but rather work to recognise that the business of rebuilding democracy is the business of working with real tensions, of creating encounters between different knowledge traditions. The challenge for those participating in this practice – both staff and students – will be, in Donna Haraway's terms, to 'stay with the trouble'.

Working *in public* in this way, means enabling staff and students to engage with the complexity of life on a lively planet. It means that students would not be encouraged to see themselves as saviours of the world (as the worst excesses of peace corps, service learning and sustainability education can sometimes invite) threatened with burn-out and depression.

Instead, they can learn to see themselves as partners, with others, sometimes with very different people from themselves, in opening up new possibilities. Imagine, for example, if we took the controversy raging in both France and Sweden about the experience of rural communities in relation to carbon taxes. What would happen if we organised courses around this controversy – bringing in the experience and ideas of engineers, the lived experience of rural communities themselves, the knowledge of sociologists and historians, the new ideas of energy and transport researchers?

Bringing together these groups in learning processes would enable not merely new responses to emerging climate challenges, but more fundamentally, encourage a practice of (re)learning everyday democracy, (re)learning the basic courtesies of encounter with difference. This provides the basic skills of building democracy from the ground up for both staff and students, as well as developing rich and fruitful areas for collective research and inquiry. And because we are dealing with democracy on the ground here, and because the search is not for tidy solutions and the false horizon of quick fixes, the experience is one of developing ease in working with the rich, generous tensions that exist between people when they are doing the hard work of attending carefully to the world in its complexity.

One way of thinking about this is that the university becomes a place for the development of what Keats called ‘negative capability’, a phrase that captured, for him, the ability to live with complexity, openness and uncertainty rather than striving for quick answers. Roberto Unger takes this further, arguing that negative capability implies a capacity to see the world as more than its current manifestation, as capable of becoming more than it is. This is the capability that underpins a democratic identity and acts as a bulwark against the false promise of easy solutions or totalitarian schemes. Without this capability, when the search is just for ‘people like us’ or for smooth technical solutions, problems emerge. We need to remember the pleasures of discomfort, of abundant ideas that emerge from diversity, of disharmony as a source of creativity and to rescue ourselves from a civilisation addicted to the quick fix and the simple solution.

The economic and democratic potential of the university are deeply interconnected. Creating the capacity for the university to act as a resource for rebuilding democracy requires rethinking the economic relations upon which it is built, ensuring that students are able to fulfil rich roles as citizens not just consumers, and enabling the university to attend to the controversies and concerns of the world in its complexity, not merely to research that offers a financial return.

From litany and structure to worldview and myth

Learning to live with a lively planet at litany and structural levels then, suggests a transformed university campus, characterised both by ecological diversity and by spaces for collaborations between students, staff, and local communities. Such approaches, however, need to be enriched by more foundational changes to the complexity and range of worldviews that can be drawn on to feed our imagination and to the underlying mythology that sustains our relation to the world.

Worldview – creating encounters between different narratives of time and change

Here I want to come back to the relationship with the future and with time that I was alluding to earlier. As I have already discussed, one of the critical features of life on a lively planet is that it disrupts the narrative of progress and ever increasing mastery of the world that we have inherited from the enlightenment and which underpins, in particular, post-war European assumptions about how change will happen.

These assumptions - that the future is knowable, that things will keep on getting better if we just invent more tools, and that we will inevitably become wealthier with each generation - are increasingly untenable and undesirable.

In its place, we are confronted with new narratives of the future and of time - stories of how the past isn't in fact dead and buried, but is coming back to haunt us, stories of how change might come not smoothly but in waves and cycles, stories of how small changes can lead to massive and disruptive tipping points that create discontinuous shifts, stories of how big plans can lead to unintended and unexpected consequences, stories of how the past might be a better guide to the future than the present.

Such a loss of familiar narratives of the future and change can lead to dysfunctional responses: Apathy, a stepping back from the world as far too complicated and difficult, retreating to an ever smaller circle of care for those closest to you. Fantasy, the search for ever more accurate models, for ever more data, to feed into the computer to provide a more reliable picture of what will happen in the attempt to reassert control. Totalitarianism, the desire to control the future by building it, and then wrenching reality into line with the world that is being imagined. All three of those responses are doomed: the world cannot be escaped by retreat, predicted by models, or controlled by sheer force of will. A lively planet has its own intelligence, intentions and agency that are not simply ours to control or predict.

Other responses, therefore, need to be learned, responses that allow us to work with the complexity of the world without retreating from it, to make judgements about what is good without seeking for total control, to create a provisional, partial form of agency that recognises interdependence, resistance and emergence as features of the world and through these, seeks to create conditions for life to flourish. New metaphors are required to help us shift away from the model of prediction that characterised the 20th century towards the biological organic metaphors of emergence that may come to characterise the 21st.

Symbiosis is one candidate for framing the relationship between agency and change today. It draws attention to the co-emergence of reality, to the dance between different organisms that comprises both intention and accident, and that makes the new emerge. Think of lichen - so prevalent everywhere as to be unremarkable, and yet, an astonishing symbiosis of algae and fungus that creates myriad different forms that survive and thrive in the most barren of environments. Symbiosis, as Deborah Osberg puts it, is a resource for creative hope:

such [togetherness in difference] can be understood as an expression of the boundless, incalculable possibilities of life: an expression of surplus. In this regard, the initiation of a symbiotic relationship might be described not only as an open-ended (playful rather than instrumental or normative) experiment with what is not yet needed but also an experiment with the possibility of what is not-yet-possible.[...] It is a mode of being that goes beyond serving needs (or ends) and ensuring survival (although it also achieves this) by opening radically new ways of being together that take us beyond the imagined possible.

How, then, might universities enable this sort of co-emergence between ourselves and the world, that will allow us as students, as researchers, as societies to create something new, something unforeseen, that we cannot predict from the conditions we are now in? How might we, in Ernst Bloch's terms, keep open the front of possibilities, knowing that each action we take, each step we take creates a new reality from which new horizons might emerge?

One approach to this is to recognise that the different disciplines we have inherited over the long history of the university, offer us fundamentally different ways of thinking about and working on the future –experimentation and stewardship, critique and modelling, observation and discovery. These different approaches to thinking about the future give different tools for what we can perceive in the present, for enabling us to attend to what is going on, and what is emerging.

If we want to create conditions for rich symbiosis, for the emergence of the new, for ‘new ways of being together that take us beyond the imagined possible’, then, I suggest we need to intentionally work with these different traditions within the university to collide them together in ways that open up new possibilities for seeing what is happening and what might emerge. I don’t pretend these encounters will necessarily be pretty – there are profound differences in worldview that underpin the different orientations to the future of these different disciplines. The encounter, however, should deepen and enrich and render more complex our capacity to attend to the world at present.

Let’s imagine the student, for example, who after two years of study in engineering in which she is trained to see the future as a site of endless invention, is invited into a multi-disciplinary space of conversation with students and staff from other disciplines. She might bring a fascination with concrete, its material possibilities and how it might be transformed. She might there encounter the historian who has studied the history of buildings and cities; a botanist, with an interest in caring for plant life in cities. She might also encounter the artist who has been working with science fiction, and the student of indigenous knowledge who has been working on cultural history of the land; as well as the sociologist, attentive to patterns of power and structure, dominance and control. Again, what we are not talking about here is simply dumping students from different backgrounds in the same room, but creating conditions for encounter between their different experiences and knowledge traditions. What new ways of thinking about land, about building, about stewardship in the city might these collaborations open up? What they will make of this exceeds our capacity to predict.

In creating such encounters, universities have the potential to act as a powerful context for symbiosis, to draw on all the resources that we have available to us to enrich our ideas of the future and open up and attend to deep possibilities in the present. These encounters have the potential to become a site of what Nigel Thrift calls ‘temporal arbitrage’; a place for mediating between different timescales, between the long term of geological and mythological time and the short term of politics and technological change.

This is not a question of enforced interdisciplinarity. Nor is it about replacing engineering with stewardship or modelling with critical theory. Instead, it is about building new knowledge in the encounter between the vulnerabilities and weaknesses of existing disciplines. Recognising the silences and absences in each discipline. What does this lead to?

Perhaps – no more experimentation without care for what is being remade, no more fantasy models without critique of their assumptions, no more ossified care for the past without invention to keep it alive, no more critique from the sidelines alienated from embodied experience and experimentation. Working with vulnerability and openness, attending to the gaps in assumptions and expectations in each of our knowledge traditions and their orientation to the future, means we might begin to learn how to make new mistakes rather than repeat old ones. The cracks (as my colleague Sarah Amsler quoting Dylan always says) are where the light gets in.

Myth – beyond anthropocentric narcissism

All of this, however, could take place without any attention to the most fundamental feature of life on a lively planet, namely the decentring of the self from master of the universe to a position of co-existence and co-emergence with the other beings – animals, insects, molecules and minerals in all their unpredictable abundance. It could take place without recognising the need to move from an old idea of the autonomous individual, in control of themselves and their world, to the person as process, interacting with a world of processes.

As my final proposition for the shift that we need to make, then, I want to propose that the university needs to consider what sort of personhood a university education values today, how it frames the process of becoming grown up, and what forms of initiation into adulthood a university should offer.

And here we face a challenge. Most of us working in universities are ourselves deeply embedded in traditions of thought and of life that position us as humans at the centre of the world and who privilege cognitive, western, rational, book-based ways of knowing above embodied experience, encounter with the world and interdependence with other species. We have grown up with a mythology of separation from 'nature', with a monotheistic inheritance that defines us as separate from the rest of creation. If universities are to play any sort of role in enabling a move away from anthropocentric narcissism, we have to admit that we are not well equipped to do so at present.

Today, our collective societal induction of students into adulthood is careless. We leave students themselves to develop their own rituals – usually involving a lot of alcohol and partying – and fail to support them to make the difficult transition to life in a world that will provide both resistance and support. There is limited opportunity for students to realise, in Karen O'Brien's terms, that they matter. Indeed, our increasingly transactional relationship with students as consumers means that the potential for universities to offer meaningful support for transitions to young adults is being eroded.

The consequences of this lack of induction into adulthood are everywhere visible. The mental health problems and high levels of anxiety that are present in the student population worldwide. The growing intergenerational conflict and lack of trust in older adults. Indeed, it is only much later in life that many students today are invited to reflect on their beliefs, their responsibilities, their place in things; to be forced into an encounter with themselves and their relation with the world. Richard Sennett's interviews with many of the backroom staff in the financial services industry after the collapse in 2008, for example, show the extent to which students can come out from universities as highly qualified engineers, programmers and linguists, move into well paid work, but without ever having thought about their place and purpose and responsibilities in the world. Seemingly successful, it was only in the radical rupture of losing their jobs, for which they were poorly prepared, that they began to ask who they were and what their role and responsibilities might be.

Attending to this responsibility to support students to become grown-ups in a complex world, to transition from childhood to full adulthood, seems to me to be one of the central responsibilities of the university. And yet, too often our work as educators, particularly in the area of climate change and sustainability, is characterised by an abdication of responsibility for this world as adults. Think of how often we have seen the argument that teaching young people about the realities of climate change will save the world while failing to take that responsibility ourselves.

We cannot initiate students into an adulthood that we ourselves cannot embody. As Hannah Arendt argues, we cannot educate without authority. Authority is earned power, earned through the recognition of the responsibility we are taking for the world we are making. As Greta Thunberg's generation moves towards university life, these will become lively questions.

Much of my last year has been spent looking for examples of how we might support a transition to adulthood on a lively planet. I have been looking for examples of practices and rituals that can build young people's capacity to work with resistance and challenge, to experience beauty and violence of living in a world that exceeds us, to acknowledge and disrupt inherited patterns of thought. Within universities themselves, I am finding very little other than remedial attempts to deal with mental health crises after they occur or forms of service learning and outward-bound activities that are framed more in terms of sacrifice and heroism than the humbling route to wisdom. There are some exceptions – Global Citizenship Education Otherwise, for example, supports students through the difficult process of disrupting illusions of separation and superiority, of linear progress and human centredness.

Outside the university, though, there are also structures and rites of passage that may begin to form the basis for new approaches. The Earth Rights movement, for example, is beginning to establish the legal frameworks for coming to an awareness of the rights of nature, and of our responsibilities and roles in relation to other beings. Such a framework potentially creates a supportive cultural context for recognising what our role might be as adults in a lively planet. The Art of Organising Hope network is building capacity for coming into relation with each other. On a more experiential basis, however, there is a renewed interest in initiation practices that support young people and adults to confront themselves and their place in the world.

These initiation practices include wilderness quests where individuals are supported to spend four days in the wild, with no food, to come to an encounter with the planet and with themselves. They also include the work of storytellers and artists supporting young people to locate their experiences in the wider holding structures of older stories.

And here, it is better to leave one of these storytellers and wilderness guides, Martin Shaw, to argue for the urgency of regenerating these rituals of initiation and care for youth into adulthood. Talking of the story of Hansel and Gretel, with which you may be familiar (you recall Hansel's clever use of the bone to suggest to the witch who had captured them that he was too thin to eat, and Gretel's clever suggest that she couldn't 'fit' in the oven when pushed by the witch?) Shaw argues:

'Gretel's wit is inspiring; how do we show our children to 'not go easy' into the witch's oven, and to use Hansel's cunning to fool the dark one? What is the oven? It is whatever deadens young souls; what rots value by chewing on sugary nothingness; what makes children feral not wild; what annihilates goodness and passion into horizontal, carnivorous, deadening want. What encourages betrayal, deceit and ultimately disappointment? Herod stands nearby the witch, poised with the order to kill the babies. There has to be a fight back' (Snowy Tower, 2012, 26).

What Shaw implies here is a fundamentally adult relationship with students. This is not pally companionship, but a productive and generative tension, which refuses either to suggest that the world is subservient to young people's desires, or that young people's spirit and creativity should be bent to fit a pre-existing world.

Here, adulthood is not simple nor static, but a responsible role attending to the unknowable consequences of their actions in a changing, living and autonomous world. In this dynamic between adults who take responsibility for the world and young people who are able to change it, is the potential, in Hannah Arendt's terms, for renewing a common world. As she puts it:

Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token save it from that ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education, too, is where we decide whether we love our children enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chance of undertaking something new, something unforeseen by us, but to prepare them in advance for the task of renewing a common world'

How universities create conditions for the development of such relationships, whether they are able to fulfil the role of inducting young people into robust adulthood, capable of dealing with the complexities of life on a lively planet will, in my view, determine whether they continue to have a vital civilizational role in future or whether they simply fade away and become research institutions alongside many others.

Part 8: A different university is possible

Universities change. Universities can change.

A different university is possible: a university that rebalances its material relationship with the world through its campuses, buildings and economic practices; a university that reclaims its public role as a site for exploring matters of concern and reviving democracy; a university that becomes a crucible for new ideas emerging from the encounter between different ways of knowing; a university that learns to initiate young people powerfully into complex and always changing adulthood. A different university is possible, in other words, that attends not only to thought and mind, but to its economic and democratic place in the world, to the work of its hands, its bodies and to the futures it is imagining and bringing into being. We can see fragments of this university today in experimental practices within existing universities and in the practices of new educational organisations outside their walls.

There are clearly institutional and economic structures that will resist the possibility of significant change: university league tables (which all universities should simply boycott for the unreliable commercial fictions that they are), government budgets, entrenched disciplinary lack of imagination, deep entanglements of universities with fossil fuel industries, recruitment processes, applications processes. I could go on. But it has been ever thus. There has always been sustained and powerful resistance and path dependency that make it difficult for new ideas and new social relations to be born. And yet, change happens. Those of us looking with concern at environmental destruction today would do well to learn humbly from the experience of those who fought slavery and colonialism and for civil rights for the last two centuries. We also need to recall that we are beings in a lively planet, that we are part of processes that we cannot predict. A lack of foresight is cause not only for rightful concern at the tipping points we may be facing ecologically, but also for renewed courage as we recognise that our social and cultural conditions may also be amenable to rapid and unexpected change. We matter.

Our task, then, is not to despair that we cannot save the planet alone through these imperfect universities we are part of. We clearly cannot do that. But we can locate ourselves alongside and as part of the processes of change that are always ongoing. We can work out how we can support and accelerate these through the practices that universities can distinctively offer – namely, the creation of powerful conditions for dialogue between different forms of knowledge and between different ideas of the future. And in such processes and partnerships, we can begin to create conditions for learning in which the active renewal of a common world may become more possible.

We may also want to recognise that if we do not take on this responsibility, there may be others who will do so in our place. And here I want to finish with a little bit of history:

In the 16th century the British navy ruled the waves, it had seen off Spanish and Dutch rivals and was sitting pretty. War was over, and there were hundreds of highly trained sailors (often captured at gunpoint and forced into service) who were no longer needed. These sailors formed a vast surplus navy and were, as a result, treated very poorly. What happened next would change history. These sailors decided that the navy no longer represented their values or offered meaningful living conditions. The result? A pirate force developed made up of these highly skilled sailors, but which worked in very different ways. These pirates were free to organise their ships in new ways, to split the proceeds of their battles more fairly, to allow blacks and whites to work freely together, to allow all sailors an equal vote, to work in networks to bring people together for collective action only when needed and to allow a great deal of autonomy in between. These pirates, and here I am drawing on Sam Coniff's brilliant book, set up the first fully democratic state in the world, inspired Thomas Paine and the French Revolution, and thus laid the foundations for contemporary democracy.

This, it seems to me, is an interesting and provocative parallel for the world of universities today. We have been, as they say, 'overproducing' PhDs for years. There are many more people qualified to conduct research and scholarship than can now be employed in universities. And the disconnect in values between universities as institutions and younger academic staff is increasing. Younger academics are facing ever more hostile and meaningless requirements in terms of publication and performance, and ever poorer working conditions. Outside the universities, the new educational institutions are beckoning, fuelled not only by different values and relations with students, but by new technological platforms that enable agile, international collaboration and by a resurgence in confidence in social movements and indigenous communities.

The time, in other words, is ripe for an insurgency.

In times of civilizational change – whether the 16th century or today – strange things happen. New possibilities open up. If the traditional universities won't recognise the need to invent new forms of university for life on a lively planet, others will.

Further reading

I will be writing up this talk as a full-length manuscript over the course of 2019-2020. In the meantime, if you are interested in these arguments, some of these ideas are discussed in the following publications – if you have any difficulty getting hold of them, let me know.

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Facer, K (2019) Governing education through anticipation... or, how to avoid being a useful idiot when talking about educational futures, in I.D.Grosvenor and L.Rasmussen (eds) *Governing Education through Design*, London: Routledge

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Facer, K (2011) Taking the 21st century seriously: potential futures for education, youth and new technologies, *Oxford Review of Education*, 38 (1) 97-113

