*Irish Journal of Technology Enhanced Learning*

*Vol 8, Issue 1*

# The future is not what it used to be (but maybe that's for the best): committing to preferable futures for education and technology[1]

Martin Oliver*
*UCL Institute of Education, UK*

## Abstract

The problem with the future is that it rarely lives up to its hype. This paper explores how current discussions about emerging technologies often frame the future as inevitable, creating pressure for education to change in readiness to meet it. In this paper, I will introduce ways to reframe and resist these discussions.

First, I introduce the idea that 'futures' are ways of making things happen in the present. Next, I locate current discussions about the future of technology within a wider historic context, showing that contemporary discussions of educational revolution can be understood as part of a much longer history. Then, I will outline approaches to design that have been developed to generate alternative ways to approach the future and suggest conceptual resources that we can use as provocations to open up our discussions about how to act in the present. To conclude, I suggest that if we accept this alternative framing of the future as something we can influence, we need to consider the responsibility that this places on us to make choices about whose version of the future we will work towards.

## Introduction

This paper responds to current discussions about the transformative potential of technology for education by introducing forms of scholarship that invites preferable futures, shaped by different values, to be considered.

First, the kinds of claims made about technology and education are placed into a broader historical context. Then, the rhetorical work that these claims do will be reviewed. Next, speculative methods will be introduced as a way to resist or subvert these claims, and examples will be offered that show how these approaches can open up different possibilities for the future of universities. The paper concludes by highlighting the responsibilities that this kind of reframing leaves us with.

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[1] This paper was originally presented as a keynote talk at ILTA EdTech Conference, "EdTech Horizons: Preparing for Tomorrow's Learning Landscape", Sligo, 30 – 31 May 2024.

* Corresponding author email: martin.oliver@ucl.ac.uk

# A history of the future of educational technology

We are surrounded by pronouncements about the future of education. In the current moment, the possibilities that Artificial Intelligence seems to offer have captured the imagination of developers and policymakers, many of whom have made their opinions clear about how education now needs to change because of this emerging technology. Many of these are views are well-meaning and optimistic. For example, the World Economic Forum (2024: 3) proposes that:

> *If deployed well, AI can help unlock solutions for improving global education systems. […]*
>
> - *Personalized learning content and experiences, offering solutions to the challenge of catering to diverse student needs and enabling tailored educational journeys for each learner. […]*
>
> - *Optimization of teacher roles through augmentation and automation of tasks, alleviating administrative burdens and empowering educators to focus more on personalized instruction and mentorship*

Such sentiments are widespread. They can be found, for example, in UK policy ("technology can be an effective tool to help reduce workload, increase efficiencies, engage students and communities, and provide tools to support excellent teaching and raise student attainment"; Department for Education, 2019: 2) as well as in inspirational talks from popular educators:

> *I think we're at the cusp of using AI for probably the biggest positive transformation that education has ever seen. And the way we're going to do that is by giving every student on the planet an artificially intelligent but amazing personal tutor. And we're going to give every teacher on the planet an amazing, artificially intelligent teaching assistant. (Sal Khan, 2023: 0:33-0:56)*

However, for many scholars of educational technology, such promises are all too familiar. As Laurillard noted wryly (in 2008), "education is on the brink of being transformed through technology; however, it has been on that brink for some decades now." This same sentiment can be seen in Mayes' characterisation (1995: 1) of research in educational technology feeling like being trapped in the film "Groundhog Day", being "characterised by a cyclical failure to learn from the past. […] We can point to several previous cycles of high expectation about an emerging technology, followed by proportionate disappointment, with radio, film, television, teaching machines and artificial intelligence." Cuban's history of technologies for education goes further, quoting Thomas Edison's assertion in 1913 that "books will soon be obsolete in the schools" due to the development of the motion picture (Cuban, 1986: 11).

A particularly interesting historical moment, given the current rise of Artificial Intelligence and the associated hype around personalised support for every learner, is that 2024 is the centenary of Pressey's "automatic intelligence testing machine", a device that he developed over the following two years to create his patented 'automatic teacher' (Petrina, 2004). This, like current discussions of AI, promised to modernise teaching, reduce teacher workloads and individualise instruction.

> *There must be an industrial revolution in education in which educational science and the ingenuity of educational technology combine to modernize the grossly inefficient and clumsy procedures of conventional education. [We just need to overcome …] the intellectual inertia and conservatism of educators who regard such ideas as freakish or absurd, or rant about the mechanization of education when the real purpose of such a development is to free teachers from mechanical tasks. (Pressey; in Petrina, 2004: 305-6)*

This cyclic history has become such a feature of technology use in education that Gartner has incorporated it as the structuring principle in its periodic analyses of emerging technologies. Their model asserts that "every Hype Cycle includes five phases", moving from an initial trigger through "the peak of inflated expectations" to "The trough of disillusionment […] when the original excitement wears off and early adopters report performance issues and low ROI", before recovering through two more phases to establish moderate and sustainable patterns of use (Gartner, 2023: n.p.).

What is interesting – and is hinted at in the way Gartner describes its model – is that this cyclic history can be all-too-familiar, but nevertheless still fails to temper expectations whenever a new technology is developed. Chan (2019) has argued that there is a "temporal function of hype and its game-like character: that hype has to overtly oversell the future in order to generate the present to be readied for its making" (p172). Readying the present includes problematic pasts being activity "disremembered". This forgetting allows failures to be forgotten, eliminating doubts, and so allowing narratives to conjure a sense of belief in the next promised future.

An important caveat to this discussion, however, is Facer's observation that just because several technologies have failed to 'transform' education, it would be a mistake to conclude that education is outdated or somehow trapped in the past. She describes the myth that education has somehow failed to adapt to technological developments over the last century, and challenges the privilege that gives rise to it:

> *This myth presents a profoundly anti-progressive account of education history, one which does little justice to the dynamism of educators, educational activists and their capacity to act as a force for change in the world. […] It requires […] that we overlook the fact that women and people of colour are now assumed to have the same educational rights as men and white people, that those with learning difficulties and physical disabilities are accorded respect and education rather than being consigned to asylums, and that children and young people have a right to protection from physical harm and abuse, rather than benefiting from being 'taught a lesson'. […] A perspective that nothing has changed in education might nonetheless be seen to be one that emerges from a particularly privileged position in which such rights are taken for granted. (Facer, 2011)*

# Preferable futures

If, as Chan argues (2004), hype clears away history so that the future can be oversold, this suggests that the development of Educational Technology might not just anticipate the future, it might also be involved in creating it. This raises questions about what such involvement might consist of.

Meston (2024) describes how the field of future studies involves work to vision and map possible, probable, and preferred scenarios and subject those to analysis and comparison. Such work often involves consideration of different scenarios, which may be organised using the metaphor of the 'futures cone' (Figure 1), differentiating between scenarios that are more or less likely, or more desirable than others.

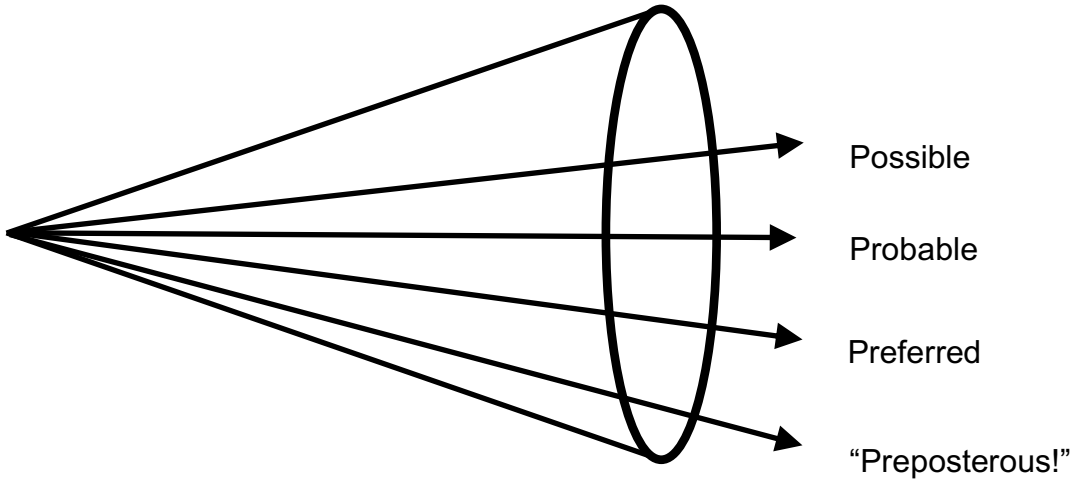


*Figure 1. The Futures Cone*

In the context of education, Facer (2019: 5) identified three common conceptions of how the relationship between present and future (represented by arrows in Figure 1):

- Optimisation: the future as a projected model of continuous and ongoing improvement, usually in combination with ideas of risk prevention
- Colonisation: a notion of the future as a tabula rasa for any apparently desirable future into which the relevant discourse seeks to channel upcoming generations.
- Contingency: the future as uncertain and consequently frightening, in which education is given responsibility to 'ward off dangers'

While all of these suggest the potential for current action to affect the future, the scope of such agency seems to vary. First, it might be better to unsettle the singular vision of the future, since it is a contested rather than a settled terrain, one that is always in the process of being shaped by a wide variety of different interests (Konrad et al, 2017). This shaping operates through activities such as the circulation of statements, designs, material artefacts, representations, and so on, which raise expectations, and in doing so, contribute to "futures-in-the-making". Such expectations are rarely neutral, value-free statements, innocently referring to a range of possible developments, but instead can be read as promises or concerns and warnings, implying a positive or negative valuation (Konrad et al, 2017). Amsler and Facer (2017) argue that such valuations mean expectations enact performative and disciplinary regimes of anticipation in which an anticipated "future sets conditions of possibility for action in the present". In other words, even as we act to make the future, futures also act on us to influence what we choose to do.

This reframes futures as active and relational. Shrickel (2020) describes how positivist understandings of problems conceptualise them as things to be solved, after which "they are

meant to disappear […] nothing will be left from them – just like a puzzle"; however, in contrast:

> *In a post-positivist understanding, it is particularly this aspect that is different. Problems are actively constructed as matters of concern in order to intervene in the present and to create agency and images of change. They are devices to open up and assure us of some creative leeway and measure of control over an uncertain future. The particular ways problems are constructed imply how they function as political or social technologies. (Shrickel, 2020: 51)*

Several approaches have been used to study futures in such a post-positivist way. For example, Bayne (2023) worked with Levitas' three modes of engagement. The first of these is an 'analytical archaeological mode', which involves interrogating existing political programmes, artefacts and in order to make explicit the model of the 'good society' embedded within them. The second is an 'ontological mode', which envisages utopias and explores what ways of being – and flourishing – exist in these visions that are blocked by current social arrangements. The final mode is an 'architectural mode', which imagines how we might design institutions and modes of organisation in which such ways of being and flourishing would be enabled.

> *Amsler & Facer (2017) describe similar modes of engagement, but organise these explicitly in a sequence. They also add one initial step, intended to temper and ground expectations of achieving utopian futures.*
>
> *As what is 'working its way through' is not fully knowable in the present, […] critical anticipatory practice flows between four acts:*
>
> - *a rehabilitative one of understanding past knowledges and possibilities which are latent in the present,*
> - *a utopian one of imagining other realities that might emerge,*
> - *a disappointing one of learning the limits of this knowledge and imagination as they interact with existing social forces, and*
> - *a creative one of actively pursuing the realization of the alternative by transforming the fundamental conditions of its possibility through working on the 'unenclosed process-matter' of self, nature and society.*
>
> *(Amsler and Facer, 2017, p. 4)*

Procedurally, these acts could be achieved in several different ways. Bayne, for example, argues that "to bring utopian thinking out of the status quo politics of neoliberal hegemony, reformism and 'deliverability', we need to give free rein to imagination and desire, taking a holistic approach which allows us to liberate our vision for the future from an over-entrenchment in the micro-possibilities of the local present" (Bayne 2023). Her analysis involves documentary review and critical scholarship, and is explicitly set in contrast to 'feasible' or 'everyday' utopias that are currently possible, arguing that these are insufficiently disruptive.

Other scholars have turned to fiction as a way to generate evidence about imaginative alternatives to the present. Macgilchrist et al (2024), for example, propose:

> *Stories move us to reconsider what other worlds are possible […] Instead of framing educational problems in ways that can be addressed and solved by technologies (and in so doing, submitting to technological solutionism where for every social problem there exists at least one technical solution), scholars and designers in education need to come together and ask:*
>
> - *In what world do we want to live?*
> - *What values guide our practices and institutions?*
> - *What kinds of relationships do we want to nourish?*
> - *What education do we need in the midst of a climate emergency?*
> - *What education do we desire for postdigital futures?*

Ross (2022), similarly, proposes the creation and analysis of speculative fiction as a way of documenting 'the imaginary' in a way that makes it amenable to interrogation and challenge, illustrating this approach using the Telling Data Stories project, which explored imaginaries of surveillance.

However, Ross also draws on examples of work that involves designed interventions in practice, instead of fictions. She describes, for example, the experiment of Teacherbot, which enacted a form of automation in an online course. In this example, the analysis of 'glitches' revealed insights into people's assumptions about what might be described as 'normal' teaching, opening up opportunities to imagine how teaching might happen differently.

This kind of intervention in practice is central to what is probably the most widely used method currently: speculative design (Dunne & Raby, 2013). Dunne & Raby (2013: 189) argue that this approach, "ultimately, […] is a catalyst for social dreaming"; it requires the designer "to propose, to suggest, to offer something. […] Although these proposals draw from rigorous analysis and thorough research, it's important they do not lose their imaginative, improbable, and provocative qualities."

In this approach, the success of the proposal is less important than the opportunities that it creates for people to think differently.

> *We believe that even nonviable alternatives, as long as they are imaginative, are valuable and serve as inspiration to imagine one's own alternatives. […] Speculative design contributes to the reimagining not only of reality itself but also our relationship to reality. But for this to happen, we need to move beyond speculative design, to speculative everything—generating a multitude of worldviews, ideologies, and possibilities. The way the world is follows on from how we think; the ideas inside our heads shape the world out there. If our values, mental models, and ethics change, then the world that flows from that worldview will be different, and we hope better. (Dunne & Raby, 2013: 161)*

Like Dunne & Raby, other approaches also seek to ground speculative analyses in "rigorous analysis and thorough research". For example, (Swierstra et al, 2009: 122) argue that:

*To avoid empty speculation, our moral imagining of the techno-moral future has to be grounded in the present. We therefore start by assuming that in future controversies the same argumentative patterns can be discerned that mark previous and current discussions.*

Their approach involves generating contrasting scenarios and inviting people to make comparisons between them. These scenarios build upon an analysis of current and historical developments, which they interrogate using a series of questions:

- What is hoped for, and what sceptical challenges are there to this?
- What rights do people have to this? (Particularly for people who might be sacrificed for the collective good)
- Are positive and negative outcomes distributed equally, on merit, on need, randomly or otherwise?
- What other values or expectations are associated with this?

They then proceed by playing with combinations of different tropes or conventions identified in their analysis of the controversy, varying or inverting them to generate contrasting visions of possible futures.

Interest in speculative approaches has grown in educational technology, reflecting that both research and practice in this field involve dealing both with what is possible in the present but also with shaping what comes next.

Bozkurt et al (2023), for example, generated a series of short fictions to explore imagined futures for ChatGPT and generative AI, drawing out possibilities around personalisation, cultural and linguistic inclusivity, enhancing collaboration and cooperation, creating efficiencies (e.g. through automating assessment or generating quiz questions), and improving accessibility through features like text-to-speech and captioning. Similarly, Gidiotis & Hrastinski (2024) draw together 100 social science fiction texts considering the role of AI in the future of education that had been published in academic contexts, providing a thematic analysis that draws out issues raised through this previously published body of work, highlighting issues of education design (around epistemology, assessment and personalisation), ethics (particularly bias and surveillance), social impact (e.g. blurring reality, changing human relationships) and the environmental impacts of this technology. Such work provides a useful way of drawing out topics of concern, whether or not evidence is yet in place that shows how possible or probable these futures may be.

Not all such engagement is technology-focused, however. Costello et al (2023) used speculative design fictions to explore possible future job descriptions for learning designers. Houlden & Veletsianos (2023), similarly, focus on social rather than technical elements. They argue for the critical potential of speculative fiction in education, using it as a method that creates space for hopeful, liberatory possibilities, drawing on genres such as hopepunk, solarpunk, Afrofuturism, Indigionous futurisms, queer futurisms and disabled futurisms.

One final tradition of work that engages with ideas of preferable futures and anticipatory regimes draws on feminist theories of care. Care has been argued to be an undervalued ethic that is, nevertheless, vital to society. Much of the work in this tradition traces back to Tronto's argument for the value of care, and her definition of what this concept involves:

> *Everything that we do to maintain, continue and repair 'our world' so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all that we seek to interweave in a complex, life sustaining web. (Tronto, 1993: 103)*

de la Bellacasa (2011) has developed this position, creating a speculative ethics of care. This work builds from the idea that power operates in society not only through social interactions, but also through material arrangements. Although there are well-established sociological methods for analysing how vested interests shape and benefit from these sociomaterial arrangements, critics such as Winner (1993) have argued that simply describing the circulation of power is an 'empty' kind of analysis. Instead of this kind of critical deconstruction, what are required are techniques of appreciation, methods that allow the associations of sociomaterial elements that constitute the object of research to be strengthened (Latour, 2004). Consequently, for de la Bellacasa (2011: 100), "the notion of 'matters of care' aims to add something to matters of fact/concern with the intention of not only respecting them, but of engaging with their becoming."

However, this commitment to intervene in society – not just describe it – raises important questions about the politics of research, and the positionality of the researcher. Where different interests and associations exist around an object of study, which of these should the researcher seek to intervene in and strengthen? de la Bellacasa responds to this challenge through a commitment to feminist standpoint theory, arguing that for both moral and epistemic reasons, the priority should be to prioritise positions that are marginal or have been neglected. As a consequence, she argues:

> *Caring in this context is both a doing and ethico-political commitment that affects the way we produce knowledge about things. It goes beyond a moral disposition or wishful thinking to transform how we experience and perceive the things we study. Here care stands for a signifier of necessary yet mostly dismissed labours of everyday maintenance of life, an ethico-political commitment to neglected things, and the affective remaking of relationships with our objects. All these dimensions of caring can integrate the everyday doings of knowledge construction (de la Bellacasa, 2011: 100)*

Similar concerns have been raised in the context of Higher Education studies, showing how apparently supportive interventions such as self-care workshops can sustain entrenched exclusionary harms such as the precarity of early career workshops, signalling virtues without actually making practices any better (Nicholls et al, 2021). They have also arisen in educational technology research. For example, Costello et al discuss the ways in which care can be weaponised or monetised, turning instead to Weil's connections between care and radical, embodied action. Macgilchrist et al. (2023: 2) also draw attention to the politics of care, arguing that design is "entangled with epistemological and ontological groundings, with political and affective relations, with historical legacies of exclusion and oppression, and with socio-material and planetary impact", giving rise to the title of their paper: Which Designs? Whose Futures?

There is an important consequence to the idea that caring is an 'ethico-political commitment' that should be made explicit. While 'care' may sound like a straightforwardly good thing, feminist scholarship draws attention to the way it can become a burden to be carried (Tronto, 1993), or a challenge that needs to be endured. Mol et al (2010), for example, explore the

consequences of developing caring relations, drawing attention to the idea that this commitment needs to persist, even in the face of failure.

> *In rationalist versions of the world, as in fairy tales, there tend to be happy endings. Order, effectivity, efficiency, health or justice: in one way or another these may be achieved and if they are not, then someone is to blame. But in care versions of the world, the hope that one might live happily ever after is not endlessly fuelled. You do your best, but you are not going to live 'ever after'. Instead, at some point, sooner or later, you are bound to die. Along the way, there will be unfolding tensions and shifting problems. Care is attentive to such suffering and pain, but it does not dream up a world without lack. Not that it calls for cynicism either: care seeks to lighten what is heavy, and even if it fails it keeps on trying. Such, then, is what failure calls for in an ethics, or should we say an ethos, of care: try again, try something a bit different, be attentive. (Mol et al, 2010: 13-14)*

# Speculative futures for universities

The pursuit of preferable futures could be undertaken in relation to any part of society, but here, I will focus on work that has explored futures for the university. Several of the researchers mentioned earlier have used speculative approaches to explore aspects of universities' work; Ross (2022), for example, focused on education, exploring possible and preferable futures in relation to surveillance and automation.

Other researchers have considered what the university itself might become. Nørgård, for example, has designed a series 'feasible utopias' for universities. She offers, for example, three designs for the playful university (Nørgård, 2021): as a cabinet of wonders inspiring curiosity; as a safe space to think, feel and act beyond everyday reality; and as a way of moving beyond competition to play together. Each of these possible futures would have implications for how work is organised, and for forms of pedagogy that might be prioritised. Elsewhere, she explores the feasibility of creating the 'University of We' (Nørgård et al 2020), envisaging an institution motivated by care ethics, in which activity focuses on building relationships rather than following rules. She also considers designs at a smaller level of the organisation, "built around the virtues, desires and dreams of a group, faculty or institution" (Nørgård, 2022), describing these as 'hopepunk' mini-utopias that can be built out of the situations in which we currently find ourselves.

One illustration of this body of work involves the design of universities that are described as 'ecologically entangled', because they are opened up for sustained engagement with society (Canals, Burkle & Nørgård, 2018). Resisting the idea of the university as a remote 'ivory tower', this speculative design provokes consideration of how universities can think, act and live together with the society that they are part of.

> *Ecologies of entanglement are established wherein university and society, staff and students, educational developers and teachers work together in critical-creative partnerships to co-create societal value, future knowledge, and citizens. In this mode lies the potential to create a future university through inviting students, society, industry, government and the public to 'participate in the idea of the university' (Ossa-Richardson, 2014, p. 154).*

Another example, operating at the scale of Ross' designs for education or Nørgård's 'hopepunk' mini-utopias, involves the redesign of universities' relationship with technology developers and service providers. Prompted by a TikTok video of a woman crying after being failed for 'cheating' by an AI proctoring system during the Covid-19 lockdowns, we explored whose ideas about 'good' higher education had allowed this to happen, and whether there were different kinds of 'good' higher education that might stop it from happening again (Henry & Oliver, 2022). To do this, we traced discussions about what good assessment might involve across a range of related sources, including the Twitter discussion associated with that initial video, published research academic integrity, company websites, blog posts by learning technologists and newspaper articles about online proctoring.

This analysis (discussed further in Henry & Oliver, 2022) revealed a complicated picture, in which use of an online proctoring system was impossible to describe as simply being 'good' or 'bad', because while it might be good for some people, it was not good for others. People who benefitted from algorithmic proctoring being used as part of online exams included part-time students, particularly those who also worked or had caring responsibilities; Universities, who needed to keep offering courses because they needed students' fees, and also wanted to maintain the credibility of their awards during the pandemic; and companies, whose markets increased rapidly because of the closure of campuses. Meanwhile, other people were disadvantaged by algorithmic proctoring, including poorer students who didn't have quiet, private spaces (background noise or movement could be classified as cheating); neurodiverse students who benefitted from verbalising questions (algorithms may not be able to accommodate these differences); and students who were not White (many surveillance algorithms perform less well with non-White faces). Important questions also arose about the responsibility for the design of assessment; algorithms were more reliable when assessment was standardised in conventional forms, but this suited some disciplines more than others, impinging on academic freedom.

Tracing other ideas about good universities and good assessment resulted in several ideas that could be used as provocations, suggesting other futures universities could work towards. What if academics trusted students, working to building cultures of integrity rather than cultures of surveillance? What if academics changed the forms of assessment we use, so that we treated emerging technologies as resources we provided to all students, rather than trying to ban or control them? Drawing on feminist theories of care, and the idea of strengthening marginalised positions, in our analysis (ibid.) we chose to focus on one provocation in particular: what if teachers changed the way their universities procured technologies, collectively refusing to sign up to service that discriminate against groups of students, or which entrench outdated or naïve pedagogies? Such a choice may cause problems in the present – such as not being able to hold exams during a pandemic – but may avoid other problems in the future, such as the erosion of teachers' pedagogic agency as decisions about assessment are outsourced to technology developers.

These forms of speculation, grounded in evidence about this specific historic moment, could all be thought of as 'feasible utopias', resting on decisions that could be taken now, individually or collectively by academics, learning technologists and university committee members.

# Conclusions

While new technologies may be presented as disruptive or transformative for higher education, we should be sceptical about taking these claims at face value. These are not new claims – universities have heard them repeatedly over the last century – but more importantly, they are not neutral claims either. The rhetoric that accompanies new technologies serves to raise expectations about the future (whilst also obscuring histories of technological failures). By raising expectations, the present is re-engineered to make particular ideas about the future feel inevitable, so that they can operate as a self-fulfilling prophesy. Viewed in this way, it becomes possible to interrogate claims about technological disruption in new ways, such as to ask about the politics of these claims: in whose interests is it, that this kind of future has been made to seem inevitable?

The future is not fixed, though. Speculative methods can be used to provoke discussions of alternative futures – preferable futures – that can help us choose to work towards these instead. There are differences, and disagreements, between researchers about whether such work should address radical utopias, or more modest alternatives with a narrower spatial and temporal horizon – focusing on what is feasible for us to do now. Michael (2017) describes these alternatives as 'Big Futures' and 'Little Futures', and suggests that these should not be seen as opposing choices, but of different ways to work towards preferable futures. Rather than being cynical about where modest steps might lead, he suggests:

> *Everyday life does not simply invoke Little Futures, but can yield Big Future Y if 'properly' – that is, speculatively – grasped as an occasion for the emergence of new possibilities. (Michael, 2017: 521)*

This idea allows us to work in different ways. Instead of trying to prepare for the future, if 'the future' is no longer a singular thing but is opened to allow different alternatives, we can choose instead which future to prepare. This new orientation brings with it new responsibilities, requiring us to think about whose futures are imagined, and who benefits from the futures we work towards. The future university we work towards could be the vision of a Silicon Valley entrepreneur, a playful university, a feminist utopia, a university for the displaced, a university entangled with the lives of its local community, or something as-yet unimagined. Whether or not we eventually succeed, it is up to each of us to choose what version of the future we try to make happen.

# Acknowledgements

I would like to thank the anonymous reviewers, whose constructive feedback helped develop the connections between this submission and other speculative work in educational technology.

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