

Knowing through digital practices; Or, How to be an academic

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I'd like to begin with an anecdote from some research that I carried out with Bao-Chau Pham and some colleagues in Norway. This was an interview study with senior professors in the natural sciences, and part of the research involved asking them about how they had come to survive and thrive in academia. What factors had influenced their success? Those that we spoke to essentially said that three key things were necessary in order to succeed in science: you need to work hard (for instance they said you should expect to work long hours); you need to be lucky (so working hard and being good in themselves are not sufficient); and you also need good people around you – good supervisors, mentors, colleagues.²

In talking about this final enabler of success one interviewee said something that has stayed with me. Their success was due, they said, to the “cast of thousands” around them, from the students they had taught to the many colleagues around the world that they had worked with. Importantly, as I understood it, this cast of thousands is not about networking with high profile researchers, or having one or two key mentors who open up opportunities for you. This idea instead acknowledges the networked nature of academic work, the ways in which we learn from our every encounter, however mundane. The cast of thousands is exactly of thousands. Thriving as an academic is distributed, enabled through a multitude of relations and interactions. (It is of course also situated: we don't all have access to the same relations and possibilities.)

I'm going to come back to this idea, but before I do so I want to introduce a second quote that I also take as an inspiration and starting point for my reflections in this lecture. This comes from Bruno Latour's discussion of the nature of critique. “The critic”, Latour writes, “is not the one who debunks, but the one who assembles”. The critic offers “participants arenas in which to gather” (2004, 246).³ So this quote also speaks to multiplicity, and to heterogeneity. Latour's version of critique highlights the necessity of acknowledging the sheer diversity of stuff that is assembled within public concerns: it is, he says, about “more”, about “multiplication, not subtraction” (p.248).

¹ DOI: 10.25365/phaidra.375. Archived at <https://doi.org/10.25365/phaidra.375>.

² See: Davies, S. R., & Pham, B.-C. (2022). Luck and the 'situations' of research. *Social Studies of Science*.

³ Latour, B. (2004). Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern. *Critical Inquiry*, 30(2), 225–248: “The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rugs from under the feet of the naïve believers, but the one who offers the participants arenas in which to gather.”

For him the task of the critic, the scholar, is to render this diversity visible, and to find new, productive, interesting ways to gather it together.

Taken together, these two quotes in many ways define the programme of work I am going to lay out for you. This lecture is itself a gathering together of some of the different spaces, practices, and topics that have animated my research. I wish to think across this diversity to lay out an agenda for my research, and my mode of doing research, over the years to come. (This, then, is not a valedictory address, it is less about what I have done, so much as being a manifesto.) As my title suggests, I am concerned with the intersection of the digital with the epistemic. How is knowledge – and in particular the knowledge that emerges from academia – shaped, structured, negotiated, and contested through digital tools, platforms, and devices? Based on STS's central principle that how we know cannot be separated from how we live and work together – an argument that my colleagues Max Fochler and Ulrike Felt have made repeatedly in their work – this leads to a second question. What is the centrality of the digital within knowledge production doing to our shared academic lives, to what we might call the ethics and poetics of academia?

I will not answer these questions here. They are, I believe, not yet answerable, and this of course is why they set the stage for my research over the coming years. What I want to share with you, though, are some of the ways in which I plan to go about answering them. In particular I will offer a discussion of the digital as material practice that sets the scene for thinking the digital in the context of academia. I will connect this to questions of reward and survival in academic work, going at least some way towards the question which I have also taken as part of my title: how should one be an academic? I will do this in four parts (just so you know where we are going). The first three sections of my lecture each examine particular ways in which I think it is important to think the digital: so first as material, second as practiced and processual, and third as ubiquitous. In the final part of my lecture I want to expand on how this theorisation of the digital inevitably takes us to questions of how we *should* live and work in academia (so questions of ethics).

Before I start to talk about these things, however, it is important that I begin by acknowledging and thanking – rendering visible – my own cast of thousands. Academic work is always collective work, from the learning we take from our students or mentors to the support staff who maintain the infrastructures we rely on. Academic work is also always situated work, and I want to acknowledge the ways that I have benefited in my career from the funding possibilities offered by working in, and coming from, global North contexts, and from the privileges of being a White woman. Acknowledging this situatedness and the way it patterns my experiences and my relations, I thank all of those who have thought with me and enabled the work I will be presenting. In particular this means the close colleagues with whom I have done much of this thinking: Andrea Schikowitz, Ariadne Avkiran, Bao-Chau Pham, Costa Holmer, Esther Dessewffy, Fredy Mora Gámez, and Kathleen Gregory. But I also want to thank the other scholars with whom I interact in my department and faculty, particularly Ulrike Felt and Max Fochler, the fantastic students that I teach

on our Masters in Science, Technology, and Society, and the many people I have worked with in universities around the world. All of them have shaped my thinking and my way of encountering and being in academia.

The main question I want to consider here is of how we can think the digital. While there is an obvious base definition, pointing to computing and the use of binary code,⁴ we need additional sensitivities to help us study what the digital does. I want to suggest we can frame it along three lines: it is material, it is practiced (or processual), and it is ubiquitous.

To say, to an audience such as this, that the digital is material, and should be studied as such, is now almost commonsensical. Despite earlier imaginations of the virtuality of digital spaces, and hard distinctions between cyber and meatspace, it is increasingly clear that digital infrastructures and tools, and our entanglements with them, sit heavily on the material world. In 2011 Jean-François Blanchette published what he called a ‘material history of bits’, emphasising the physical systems that comprise computing technologies, and the ways that these systems have shaped how those technologies could develop.⁵ Others have pointed to the global energy infrastructures that we rely on to power our devices, the server farms in remote parts of the world that back up our data, the kinds of bodies and faces that are and are not used to train particular algorithms, or the ways that our bodies reshape themselves around our devices. All of these examples emphasise that, in complete opposition to being immaterial or intangible, digital technologies and the spaces that they create are always materialised and embodied. They have a substantial footprint on the world, while our engagement with them is also physical and therefore specific and local.

This materiality is well illustrated by Kate Crawford’s recent work on artificial intelligence. In her book *Atlas of AI* she discusses what she calls the ‘planetary costs’ of AI, exploring how this particular digital technology (or set of technologies) – which is often presented in terms of pure, immaterial computational processes – is in fact entangled with specific sites, material practices, and forms of politics. AI is, she argues, fundamentally an extractive technology. It relies on the mining of lithium and other rare earth minerals, extracting these from the earth to the detriment of both people and environments, but it also extracts value from humans in ways that are largely invisible and poorly rewarded. As one example, cloudworkers – such as those working via Amazon’s Mechanical Turk platform – carry out a multitude of tasks that assist and refine AI: in a new form of low paid piecework they label or code datasets, moderate content, or transcribe audio or video material. In some cases they are even employed to fake AI, to produce the illusion that a machine

⁴ Horst, Heather A., and Daniel Miller. 2013. *Digital Anthropology*. Black.

⁵ Blanchette, Jean-François. 2011. ‘A Material History of Bits’. *Journal of the American Society for Information Science and Technology* 62 (6): 1042–57.

is responding to our requests, masking even further the human work that is required to enable digital technologies.⁶

In reading Crawford's account of how AI is rooted in and enabled by specific material practices and contexts I found resonances with an academic community that Costa Holmer and I have been exploring in recent research. Biocuration can be defined as "the translation and integration of information relevant to biology into a database or resource"⁷ or, alternatively, the process of "extract[ing] knowledge from biological data and convert[ing] it into a structured, computable form via manual, semi-automated and automated methods"⁸. What biocuration work therefore produces and maintains is databases or other digital resources which provide biological information of different kinds in a structured and organised format. Biocuration involves ordering, tagging, and annotating this information, whether that is genetic sequences or data about proteins or metabolites (for instance). This data is thus rendered searchable and accessible to scientists in the field. Biocuration is a central means through which the so-called 'deluge' of biological data currently emerging from the biosciences is being managed.

In speaking about biocuration it is not accidental that I have used rather non-specific, passive terms. But biocuration is an emergent academic and professional field, one that is struggling for visibility and credibility, and one that is populated by academics in often precarious positions. Digital tools and technologies are integral to it: as Hallam Stevens has argued, the development of modern computers made big biology – and the databases it now runs on – thinkable and do-able.⁹ Indeed, from a user perspective – a bioscientist perspective – biocurators often become invisible behind the streamlined digital spaces that they develop and manage. Their databases are machine-readable, and many bioscientists believe that they are also created through fully automated techniques. "You go to a conference", said one biocurator, "and I've been called like some kind of gnome, that fills the database at night, and they didn't know how this happened, that there was data there in the morning. So we're quite invisible." As with consumer uses of AI, the illusion is of pure machine power, of a disembodied and frictionless digital encounter. But again as with AI more generally, this illusion hides a rich community of practice and of expert labour. Biocurators are often women, they have often chosen to leave bench science in order to work more flexibly and more collaboratively, they often work from home, and they are often employed on short-term contracts, labelled as service workers rather than knowledge producers. Sitting in homes and offices all over the world they mobilise their knowledge of biology and of digital tools to read articles, extract and annotate data, repair and maintain databases, work in consortia, and raise funding. To

⁶ Irani, Lilly. 2019. 'Justice for Data Janitors'. In *Think in Public*, edited by Sharon Marcus and Caitlin Zaloom, 23–40. Columbia University Press.

⁷ <https://www.biocuration.org/about/>

⁸ Quaglia, Federica, Rama Balakrishnan, Susan M Bello, and Nicole Vasilevsky. 2022. 'Conference Report: Biocuration 2021 Virtual Conference'. *Database 2022* (January): baac027.

⁹ Stevens, Hallam. 2013. *Life out of Sequence: A Data-Driven History of Bioinformatics*. Chicago: The University of Chicago Press.

think of databases as purely virtual spaces is to ignore the immense labour that goes into creating them and managing the data they hold – so it's to ignore the ways in which such databases are products of negotiation and contingency and could be otherwise. But it's also to ignore the material conditions of this form of academic work. To highlight the materiality of this particular set of scholarly digital practices – database building and maintaining – is thus to acknowledge the ways in which lives and bodies are being articulated in particular ways through these practices, as well as how the conditions of academic work themselves are shaping the development of digital tools. This relation is one of the things I want to explore further as we continue this research with biocurators, but it also speaks to the politics of academic labour more generally. What lives, what bodies, what affects are enacted through particular forms of the digitisation of how we think, know, and publish within academia?

So, the digital is material and should be studied as such. We should be attentive to materiality when we explore digital spaces, tools, and technologies – and, to come to the second line along which I think it is important to think the digital, we should also be attentive to practices. Studying digital tools or spaces should not involve looking at something static, something that is simply there in the world. Rather we can think of the digital as processual and practiced. It is always being done, it is in progress, it has a temporality or temporalities. Studying the digital therefore entails looking at practices, and at what is being enacted through these.

Again, I am drawing here on a number of well established lines of thought from STS and beyond. A focus on practices is now common in social research, as is the argument that such practices enact the worlds in which they are entangled. Doings do ontologies (as my colleague Sanderien Verstappen and I have been discussing). Similarly, recent work on infrastructures – from rail networks or power grids to the kinds of data infrastructures that biocurators create and maintain – suggests that they are relational and processual (and I am grateful to my colleagues Nina Klimburg-Witjes, Paul Trauttmansdorff, and Bao-Chau Pham for a collaboration that foregrounded that for me). Infrastructures, digital or otherwise, move things around, connecting spatially distributed sites, but they are always locally instantiated. They are done in specific ways in different places, because they are always mixed up with local actors, politics, and with what Lauren Berlant calls situations. We can similarly think of, and study, digital tools and infrastructures – from social media platforms to the databases that biocurators work with – even those that are apparently global or that seek to impose uniformity across different contexts, as being done through and comprised by particular localities and timings.

Work on both practices and infrastructures (and infrastructures as practiced) further brings us to recognise the heterogeneity of the digital. This relates to my previous point. Practices involve diverse elements: they are not solely material, or human, or discursive. To think of the digital as

practiced therefore returns us again to thinking of it as material, but, specifically, as being assembled across heterogeneous entities. Practices are routinised doings that span human and non-human elements; as analysts we should therefore look at the different things that are drawn together within particular digital practices. (There are echoes here of Latour's critic, who assembles diversity rather than debunking or deconstructing.) We should look for heterogeneity when we look at the digital. Consider, for instance, an example from my research: a hackerspace. Contrary to some public imaginations of hacking, hackerspaces are insistently physical spaces. They are community labs or workshops that are generally open to anyone who wants to participate in them, and that house technologies from 3D printers to laser cutters or industrial sewing machines. Certainly, they involve engagement with digital technologies – the digital is central to them – whether that means learning to code, using digital fabrication technologies, building your own devices using electronic components such as Arduino, maintaining a wiki to organise and manage the hackerspace, or, indeed, engaging in black, grey, or white hat hacking. But to visit a hackerspace is to encounter the ways in which particular practices of hacking or making are assembled not only through digital devices or tools but through specific affects, aesthetics, political imaginaries, bodies, material clutter, and mechanical devices. To practice hacking, at least in a hackerspace, is to mobilise these different things; the digital is done in ways that are inextricably entangled with diverse entities that exceed the use of binary.

What does it mean for research into digital contexts to think of the digital in the ways I've just described – as practiced, processual, and assembled from heterogeneous elements? It alerts us to temporality, certainly: to quote Roos Hoppman, a colleague in Berlin, it makes us consider digitising, as well as the digital. It points us to the rhythms and timings of digital practices, and how these may interweave or conflict. As I've just described, it highlights the heterogeneity of digital processes, encounters, and doings. Digital practices are exactly material practices. Perhaps most fundamentally, though, it encourages us to study not what is, but what is being done. To look – not to labour the point – at practices, rather than static instantiations of particular digital spaces or contexts.

We can see this shift if we look at another space that I'm interested in: social media as a context for the presentation and negotiation of science. This work emerged out of a collaboration with Fabiana Zollo, in particular, who is a computer scientist at University Ca' Foscari in Venice, and who uses big data computational methods to look at science content online. Using methods such as sentiment analysis, concept extraction, and quantitative measurement of engagement she and colleagues worked with a large dataset of social media accounts oriented to science communication, looking at these accounts over time and exploring their content and how 'engaging' it was, where engagement was measured through metrics such as liking or commenting. Both she and I were curious as to what we might gain from opening up this dataset to qualitative analysis. In a context in which she never saw any of the actual posts, or their contexts, or the language used in comments, but was screened from this through computational tools, we wondered what was

being measured and captured through analytical categories such as ‘engagement’. Indeed, cracking open this empirical material brought us to think less about social media content, and more about social media practices. In many respects the content of comments (in this case on Facebook posts about science) was banal: our most frequent code was called ‘tagging friends’, while we also found plentiful use of emojis, jokes and humour, the sharing of personal memories, and occasional fringe science. But it becomes much more interesting to think about what is being done through such commenting behaviours. An emphasis on practices helps us to see the ways in which content on social media is encountered through a range of other relations and priorities: thus tagging friends strengthens existing social bonds and allows for shared engagement around a particular topic, while making a joke about a piece of content enables the poster to perform a particular identity to the audience of that page. Critically commenting, on the other hand, may function to insert posters’ views into a discussion or try to open up space for deliberation. Social media practices are always done in specific sites for specific purposes, achieving something for those engaged in them. Thinking about social media not only in terms of the content, but as being made meaningful through practices that mobilise particular relations and contexts, thus allows a different set of insights into digital media, how they are used, and what effects they may be having.

Thus far I have suggested that if we are to study the digital it is helpful to think of it as material practice, and to stay alert to its processual nature and its heterogeneity. The final line along which I think it is important to think and study the digital relates to what we might call its ubiquity: the way in which it becomes difficult to imagine any aspect of contemporary life, at least in many global sites and contexts, that is not mediated through or entangled with computing technologies. To put this differently, we now live not in digital but postdigital societies – a term which I am grateful to Katja Mayer for introducing me to, and which can be traced to Nicholas Negroponte’s claim that “[l]ike air and drinking water, being digital will be noticed only by its absence, not its presence”.¹⁰ Put differently again, we can observe what Andreas Hepp has called deep mediatization. With the rise of digital, and in particular social, media, he writes, “[n]o matter which domain of society we consider, its formation is in one way or another related to the technologically based media of communication, which are all becoming digital”.¹¹

In different ways, and from different conceptual hinterlands, these and other authors seek to suggest that we can no longer clearly distinguish between digital and other media, forms of relation, or social structures. Again, this is perhaps not entirely surprising to an STS audience, coming as we do from a field that has for so long emphasised that the scientific, technical, and social are not

¹⁰ See Jandrić, P., Knox, J., Besley, T., Ryberg, T., Suoranta, J., & Hayes, S. (2018). Postdigital science and education. *Educational Philosophy and Theory*, 50(10), 893–899.

¹¹ Hepp, A., Breiter, A., & Hasebrink, U. (Eds.). (2017). *Communicative Figurations: Transforming Communications in Times of Deep Mediatization*. Palgrave Macmillan.

separate categories. The question becomes, however, how we can approach and research the digital (or, better put, spaces and processes enabled by digital technologies) when it may be invisible or inseparable from multiple other aspects of mundane life. In a postdigital society, should we give up on seeking to unpack the specificities of the digital and what it can do, or can we find ways to study these processes without re-imposing false binaries: online and offline; digital and analogue; real and virtual; immaterial and physical?

The first step is, I believe, to exactly acknowledge that such binaries are reductive at best, and misleading at worst. Life is now lived across digital and non-digital formats, and any differences between the affordances and nature of these formats may or may not be relevant to or noticed by their users: we may not distinguish between the formats that we use to interact. It's more productive, then, to follow particular practices, exploring how and when they are instantiated, and in particular to observe how the practitioners themselves name and make sense of the media and platforms involved. Even if *we* as analysts do not distinguish between the digital and the non-digital, it can be productive to follow how different interlocutors do so.

A second move is to insist on the specificity of the digital alongside its ubiquity. It may now be impossible to identify relations or practices that are not entangled with digital tools of one kind or another; this does not mean, however, that all relations and practices look the same. The digital is always assembled and choreographed, and these assemblages are always particular. In studying the digital – as when we study infrastructures – we should therefore be concerned with particular local instantiations of far-reaching, perhaps even ubiquitous, technologies. Such technologies are however never stable universals, but will be assembled in unique configurations in diverse sites and moments. Moreover, as we have already seen, practices and relations will always exceed the digital – they are heterogeneous. They may rely on, but cannot be entirely reduced to, digital spaces, technologies, or platforms. In these respects we might use event-thinking to help conceptualise the digital, framing what we could call a 'digital event' as, as Horst and Michael have written in a different context, "the coming together of different elements through which novel relations and identities can emerge".¹² Any digital event is a 'becoming together'. To think the digital as event thus allows us to explore the particularities of how digital technologies are assembled and the differences that these becomings-together produce.

My discussion has become rather more abstract than I had intended. This is ironic, because this thinking has emerged from very concrete empirical work carried out by my colleagues and myself. (And here I want to particularly mention Fredy Mora Gámez and Andrea Schikowitz, who are leading on two publications from this.) Over the course of 18 months we have been carrying out an

¹² Horst, M., & Michael, M. (2011). On the Shoulders of Idiots: Re-thinking Science Communication as 'Event'. *Science as Culture*, 20(3), 283–306. See also: Kreps, D. (2019). *Understanding Digital Events: Bergson, Whitehead, and the Experience of the Digital*. Routledge and: Fraser, M. (2010). Facts, ethics and event. In C. Bruun Jensen & K. Rödje (Eds.), *Deleuzian Intersections in Science, Technology and Anthropology* (pp. 57–82). Berghahn Press.

autoethnography of digital practices in the context of our academic work, reflecting together on what we observe when we turn an ethnographic gaze onto our own knowledge production, and on what this might tell us about the role of digital tools in this. One notion we have repeatedly returned to is that of care. As we have observed the practices that comprise our mundane academic work we see that we care for (and through) multiple things. Among others, we care for our data, for instance as we manage its transitions across different digital and non-digital formats and as we find responsible and secure ways to store it. We care for our home lives and family responsibilities, as we switch off particular apps or software in order to protect our time or privacy. And we care for each other, as we use digital tools to check in, express emotion, or offer support. These relations of care are, of course, just one aspect of a wider set of academic practices, but they serve as an example of the ways in which relations may now rely on, but cannot be reduced to, digital mediation. Online platforms such as WhatsApp or Slack or Teams afford particular means of caring for colleagues: we might think of the delicate choice of finding the right emoji; the comfort of noticing that someone else is online; a complaint, question or struggle that is quickly responded to by others. Such care is articulated through digital tools, it is afforded by them, but it exceeds these tools, producing affects that are also present in non-digital interactions and which go on to shape our experiences of our digital landscape. We have found similar choreographies in the ways in which we engage in, and care for, knowledge production. Our writing – we have observed – might move between paper notebooks, post-its, Word files, Google Docs, Miro boards, and back again to hard copy, with the arguments it contains being transformed through each transition. The digital is thus essential to such writing, and shapes it in multiple ways, but our epistemic activity is not reducible to it.

The notion of the digital event – a transformative assembly of heterogeneous entities with specific temporalities – thus helps us to investigate how the digital is constituted and experienced in a postdigital age. It allows us to explore what is being brought together, what is assembled, within specific practices – such as academic writing or experiences of care – and how they are transformed through these relations. As I have said, my interest is in studying the intersections, the coproductions, of the digital with the epistemic, and so I am primarily concerned with the specificities and contingencies of how knowledge products are created through particular digital events, and how such products are rendered stable. But it seems to me that digital events are good to think with in other contexts, too; that the way in which the notion highlights particularity and temporality could be useful for thinking about other digital practices. Though that is a topic for another talk.

I began with Latour's idea that the critic is the one who gathers. To gather together my discussion so far: where have these three lines, or ways of framing the digital, brought us?

It is here that the second part of my title, the question of how to live (well) in academia, how to be an academic, becomes pertinent. I have suggested that we can think of the digital as ubiquitous material practice. I want to argue that this takes us to the ethics and politics of academic work in two ways. On the one hand, if the digital is heterogeneous we should look for it not solely in code or on screens but in the kinds of messy interactions that I described in the context of hackerspaces: between affects, aesthetics, political imaginaries, bodies, material clutter, mechanical devices, and more. If we are interested in the role of the digital in knowledge practices we should therefore not confine ourselves to that which is labelled as such (so: as being 'digital'). The digital, as we have seen, will always exceed binary code. In studying the digital within academia we therefore cannot not look at the other things that are assembled with it: at bodies, affects, aesthetics, values, and politics, for instance.

On the other hand, the notion of the digital event leads us to one way in which event thinking has been applied by scholars like Mariam Fraser and John Law: as a means of inserting ethics into social research. That is to say, thinking with digital events enables us not only to explore heterogeneity and the way that becomings-together are composed and flow, but the ethics of such events. As Fraser writes in discussing event thinking, this may be “a tool or a technique which might orient the social researcher towards ... that which is not given and that which might have been given; towards that which is not already known or even imagined”.¹³ In studying the digital in knowledge production we will be studying how things are – how events are constituted – but also how they are not, and perhaps should be.

In seeking to answer the questions with which I started – how is academic knowledge shaped, structured, negotiated, and contested through digital tools, platforms, and devices; and what is the centrality of the digital within knowledge production doing to our shared academic lives? – we must therefore recognise that both the digital and the epistemic overflow the categories and practices that are commonly related to them. We cannot avoid engaging with the kinds of topics that have exercised at least some STS scholarship in recent years: what are affects and experiences associated with academic careers? How are research, and researchers, valued and evaluated? What is the nature of excellence in academic work? How should we live well, together? Knowing through digital practices is always-already entangled with the structures in which we work, the meanings and value assessments associated with them, and imaginations – in varying degrees of articulation – of how they might be otherwise.¹⁴

This suggestion comprises a research agenda. But it also has a deeply practical and personal dimension, going some way to explain why I find that I cannot not think about how we – university

¹³ Fraser, M. (2010). Facts, ethics and event. In C. Bruun Jensen & K. Rödje (Eds.), *Deleuzian Intersections in Science, Technology and Anthropology* (pp. 57–82). Berghahn Press.

¹⁴ For a discussion of poetics: Larkin, B. (2013). The Politics and Poetics of Infrastructure. *Annual Review of Anthropology*, 42(1), 327–343.

academics in a particular location – *should* live and work as I study the situated production and negotiation of knowledge. In STS we constantly turn our analytical gaze, and tools, upon ourselves. In so doing it seems to me to be vital to find ways, both individually and collectively, to answer the question of what the good university, the good academic, the good research community should look like, again in particular contexts (so this is situated reflection, that acknowledges the privileges and limitations of particular sites and situations). This is particularly urgent at a moment at which, as the quotes on the screen suggest,¹⁵ imaginations of excellence often continue to privilege particular bodies, those that are viewed as unmarked and unattached and that successfully engage in a rather narrow set of behaviours. We might think again of biocuration, a field of academic labour that is almost invisible while simultaneously being “a cornerstone of modern biomedical research”.¹⁶ Digital work such as biocuration is readily understood as a support service rather than as creating epistemic novelty, and is therefore rendered (according to its practitioners) under-funded, under-recognised, and under-populated. How can we as scholars intervene in such imaginations so that we collectively value labour that is coded in this way? Can and should we recognise and reward aspects of academia that are often invisible, from care work to data production, and how might we find mechanisms to do so?

Or we might consider what is being enacted by the digital events of hybrid and online teaching, a set of practices that continue to be pertinent in many university learning environments. What is being bundled together in such digital spaces, and what transformations are taking place through them? On the one hand the affordances of such platforms are clear, offering possibilities to both students and teachers. On the other many users experience both new forms of work and new affects circulating around them: frustration, anxiety, relief (for instance), and the emotional labour of managing these. Who takes on this work, and how are they rewarded for it? How is learning being transformed, both for students and for us, as teachers whose research – whose knowing – is always intertwined with what we learn from our students? Thinking of online teaching through the notion of the digital event might help us to explore the politics of these moves, and the ways in which they move teaching closer or further away from the other core university activity of research. How do digital tools function to alleviate or heighten precarity, and how is the knowledge that we share in our classes being transformed through its discussion in these online spaces? Who is benefiting, and in what ways?

¹⁵ “the ideal academic continues to be constituted in the image of Benchmark Man”: Thornton, M. (2013). The Mirage of Merit. *Australian Feminist Studies*, 28(76), 127–143.

“...the ideal PhD student has no baggage”: Thouaille, M. (2017) at <https://blogs.lse.ac.uk/impactofsocialsciences/2017/09/26/the-ideal-phd-researcher-has-no-baggage/>

“the idea of the global scientist who is a cosmopolitan academic entrepreneur, an internationally mobile and hyper-flexible jet-setter”: Zippel, K. S. (2017). *Women in global science: Advancing academic careers through international collaboration*. Stanford University Press.

¹⁶ Burge, S., Attwood, T. K., Bateman, A., Berardini, T. Z., Cherry, M., O’Donovan, C., Xenarios, L., & Gaudet, P. (2012). Biocurators and Biocuration: Surveying the 21st century challenges. *Database*, 2012.

I could go on – though largely with questions about what gets done along with the digital, and not with answers to those. This is, as I have said, a research agenda for investigating the intersections of the digital with the epistemic in the context of academia. But beyond this research programme the nature of ‘good’ academia, and academic work, is also something personal, something that we all approach through experience as well as through professional and scholarly interests. As I close I would like to return to the quotes with which I started, which for me represent at least a partial vision of the kind of academic work that I aspire to, and that I would see as ‘successful’. Both quotes, I suggested, relate to heterogeneity. As you have seen throughout my discussion, the acknowledgement of heterogeneity, and the drawing together of diverse actors, spaces, moments, and relations into productive assemblies, are recurrent interests for me. They operate as a conceptual lens – as you have heard – but also as an ethico-political frame. To me it seems essential that the academy is a place where the value of difference is recognised: difference in terms of identity, ways of knowing, kinds of academic work, background and experiences, or discipline, to give just some examples. This means that we must avoid narrow definitions of excellence, and find ways to value and celebrate the kind of work that is still often ignored in academia (whether that is the emotional labour of online teaching or the work of data stewardship). Beyond this, though, it means that we should actively strive to make our academic cultures places in which we recognise the heterogeneity – the diversity – of valid academic work and of doing and disseminating research. An openness to interdisciplinarity is certainly one aspect of this, but so is actively seeking to decolonise our knowledge practices and spaces, rewarding so-called non-scholarly outputs and impacts, and being aware of who is and isn’t able to feel welcome in spaces such as this one (the Festsaal).

Constantly acknowledging the diverse cast of thousands that comprises robust academic work is one aspect of my imagination of doing academia well. But I read the Latour quote, in particular, as inviting other forms of intervention beyond this. The critic is the one who assembles, who provides arenas in which to gather. We can relate this to the interventionist turn that has taken place in STS and to explicit consideration of the worlds that are being worlded (to quote Donna Haraway)¹⁷ by our methods. The provision of arenas is an invitation to consider exclusions, invisibilities, unheard voices. But I also choose to take the idea of gathering as a wider manifesto for my personal academic work: I see much of my activity as being about drawing together people and ideas, and enabling the development of both. A good academic, we might say, is someone who affords the work and the success of others. And it is on that note that I will close.

¹⁷ Haraway, D. J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press.