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The University as Engine for Anticipation: Stewardship, Modelling, Experimentation and Critique in Public

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Abstract

This chapter explores the historical orientation of universities to the future, arguing that western research universities are characterised by four distinctive orientations to the future: stewardship (the preservation and care for knowledge, ways of being and diversity); experimentation and discovery (the use of experiment to produce new knowledge about and new realities within the world); modelling (the exploration of alternative potential future worlds through mathematical and imaginative means); critique (the critical analysis of claims to the future, both internal and external). These orientations to the future have the potential to provide a powerful anticipatory resource for society. Historically, however, they have been allied to colonial and state building projects and today they risk capture by commercial interests. In the contemporary university, these future orientations are still present, distributed across disciplines. Three problems prevent their being harnessed as a powerful societal resource: the difficulties of building interdisciplinary collaborations within contemporary universities; the confusion over accountability and in whose service these resources should be used; the tension over the forms of personhood that universities should be developing and for what ends. The chapter goes on to explore, through a study of over 300 collaborative projects, whether an emerging form of research practice – researching in public, through participatory and collaborative traditions – might offer a means of addressing these difficulties and opening up new opportunities for dialogue between the practices of stewardship, discovery, critique and modelling within the university.

Keywords for Index

University (Universities), Stewardship, Experimentation, Critique, Reflexivity, Modelling, Anticipation, Higher Education, History, Enlightenment, Personhood, Future Orientation, Neoliberalism, Debt, Public (Publics), Participation, Collaboration, Interdisciplinarity, Meta-reflexivity

Introduction: the distinctive relationship of universities to the future

Universities have long been understood to have a distinctive relationship with the future: from Whitehead's argument that *'the task of a university is the creation of the future [...] as far as rational thought, and civilised modes of appreciation, can affect the issue'* (Whitehead, 1938:233) to former President of Cornell, Frank Rhodes' argument that

'universities with all their imperfections, represent the crucible within which our future will be formed. Boiling, steaming, frothing at times, a new amalgam must somehow be created within them if we are to surmount our social problems and rediscover the civic virtues on which our society depend' (Rhodes, 2001:244).

This assumption of a distinctive relationship to the future is evident in mission statements and public pronouncements. Consider Sheffield University's claim to *'address global challenges facing society, today and in the future'*, Hong Kong's tagline *'embrace our culture, empower our future'*, Rochester's aspiration to *'Make the world ever better'* or Nanjing University's aim:

'to be a cradle for preparing innovative talents for the future, a frontier for activities giving insight to the unknown world, seeking truth, providing scientific grounds for solving important problems...'

In this chapter I will explore the role of the university as an engine for anticipation; a distinctive and complex social organisation oriented toward the dialectic between the production of ideas of the future and action in the present. I will discuss the ways in which universities have evolved four key anticipatory stances which are too often poorly articulated in contemporary universities. Then, I will explore the crisis in accountability associated with universities' anticipatory practices today and discuss the ways in which a turn towards participatory research and teaching may provide a new form of legitimacy for the anticipatory work of the university; locating its commitment to anticipation as a *public* practice.

Critically, what I am not attempting to do here is to map out the way in which different disciplines attempt to understand the phenomenon of Anticipation itself – such an overview is beyond the scope of this chapter and is already well addressed by Poli's (2017) *Introduction to Anticipation Studies*, is implicitly explored in Nadin's (2016) *Anticipation Across Disciplines* and encompasses the overarching aims of this Handbook itself. Instead, what I am interested in here is the way in which universities themselves as institutions position themselves as working on the future through distinctive modes of knowledge production.

A caveat: there is no such thing as 'a university' and no single way in which a university engages with the future.

Universities take many forms: the collegiate structures of the ancient universities; the multi-faculty universities of the post-Humboldt era; the modular US public colleges; the civic universities of Europe; the land grant colleges of the US; the technology institutes of Asia;

and the online communities of the Open University and MOOCs. There is, therefore, no such thing as 'a university' understood as an institutional form that is sustained in all places for all time. Indeed, universities are constantly in flux as their forms, structures and purposes adapt to changing social, economic and technological conditions (Wittrock, B 2010; Barnett, R, 2016)

Similarly, there is no one way that a university 'creates the future' (in Whitehead's terms) as 'futurity' is itself a concept embedded in distinct cultural and social conditions. The linear 'times arrow' of the west emerging from messianic traditions and post-enlightenment thinking, for example, has little in common with the cyclical conceptions of temporality and balance that originate in Confucian and Buddhist philosophical traditions; or in the co-existence of ancestors, present and future generations in some Latin American traditions and cultures.

These different cultural conceptions of the future and temporality manifest themselves in the ways that universities present their relations with the future. For example, when we look at websites with their public-facing narratives, Anglo-American universities squarely position themselves in Weberian traditions of rationality and progress, orienting themselves to addressing 'grand challenges' of the 21st century. In contrast, where the future appears – and it does so only rarely – in Asian universities' public narratives, it is primarily in relation to sustaining peace and harmonious global relations.

Universities' orientations to futurity are also shaped by history and geography. It is unsurprising, for example, that we find Bergen, in the oil rich nation of Norway, focusing significant attention on energy futures; or that Cape Town University, located in the heart of apartheid and post-apartheid struggles, explores questions of how different communities might live well together in future; or that Maastricht university, in a city central to so much of the changing governance of recent European history, leads major research initiatives on the future of Europe.

Is it possible to generalise, therefore, about the relationship between any given university and the future? Not in such a way that we can claim that such a relationship will be manifested in the same way across all institutions.

In this chapter, then, it needs to be understood that my attention is particularly oriented towards the modes of research and teaching that characterise contemporary universities organised within traditions of western scholarship; and that my focus is oriented primarily to the traditions of university formation that emerge from the post-Humboldt era; namely, the multi-faculty, multi-disciplinary research university characterised by the interaction between research and teaching activities.

This focus therefore excludes those institutions that have distinctive, particularly vocational, orientations to the future in which the primary responsibility is the production and reproduction of particular professions. It also excludes single subject institutions such as those specialising only in the arts, or law, or marketing and finance. It also excludes research institutes and museums in which the development of knowledge rather than the education of students, is the sole priority.

The reason for this focus and these exclusions is that I want to argue that the multi-faculty research and teaching university combines a distinctive set of orientations to the future that

together have the potential to play an increasingly important role in contemporary societies characterised by complexity and uncertainty.

My aim, therefore, is normative; arguing for the value of a particular form of the *university* as it is engaged in particular anticipatory practices through the interconnected work of research and teaching, rather than descriptive of the wider *higher education* sector and its role in creating and shaping futures as a whole.

Four orientations to the future: Stewardship, Modelling, Experimentation and Critique

The history of the university is contested and fragmented, understood through multiple disciplines from science and technology studies to organisational theory, sociology of education to history. We see glimpses of laboratory life through the lens of Latour (Latour & Woolgar, 1979); insights into the passionate debates of medieval theologians through the eyes of Wei (Wei, 2016); understand the role of architecture in shaping research practice through Whyte's meticulous accounts (Whyte, 2015); and trace the emergence of different forms of universities' relationship with their localities through Goddard's analysis (Goddard & Vallance, 2013). Indeed, one of the few common features of universities is that they constitute fertile ground for debate precisely about the forms of knowledge and practice that they should constitute.

We can read across these many histories, though, an intertwined and entangled set of orientations to the future that have reached ascendancy in different historical periods. Chad Wellmon's (2015) narrative of the invention of the research university, for example, can be read as providing an account of the transition between a medieval orientation to the future characterised by stewardship (care for existing knowledge) and an enlightenment orientation that might be framed as characterised by discovery (the invention or revelation of new worlds through experimentation). Wellmon persuasively argues that the research university as we know it today, organised around disciplinary structures and practices, emerged in the 18th century as a response to the proliferation of new information arising from the democratisation of publishing. Prior to this, he proposes, to be 'educated' was associated with participation in literate culture, and the exegesis of religious or ancient texts rediscovered in the renaissance. Indeed, in his account, the *res publica literaris* could be understood as a collective societal response to the trauma of the loss and rediscovery of the great classical texts. Stewardship of knowledge, preservation and interpretation underpinned the orientation of the university to the future in this tradition. In contrast, following Wellmon's account, the Enlightenment, with its explosion of new information and ideas stimulated by the printing press and new publishing systems, is understood as requiring a new form of education that enabled the scholar to deal not only with the preservation and analysis of what was already known, but with strategies to both predict, theorise and incorporate systematically the new knowledge that was being circulated. This was an orientation to the future understood as the discovery and invention of new worlds through experimentation.

If we are seeking to understand the changing orientations of the university to the future, then, we could argue that in the Enlightenment university, disciplines emerged as fundamentally future-oriented practices that offered theoretical tools for: the conceptualisation of the new knowledge that might be inquired after within each discipline; discrete procedures for the evaluation of novel information; and discrete strategies for determining how that information should be incorporated into existing bodies of knowledge about the world. The process of uncovering and discovering the world was conceptualised as

amenable to distinct modes of inquiry. Disciplines were concerned, in Bernstein's terms, with the conceptualisation of and inquiry into the 'not yet' as a tool for uncovering reality (Young & Muller, 2013). In this account, the university can be understood as the place where students were apprenticed into these distinct traditions in order to make sense of the bewildering flurry of new information that constituted the rapidly changing era of democratic publishing.

In this sort of institution, the university worked on the person, making them a scientist, a mathematician, a medic; offering a set of identities that enabled the individual to make choices about the appropriate mode of inquiry into the future. From this perspective, the distinctive contribution of the research university can be understood to be that it works in two ways upon the future – through experiment and discovery of the world and through the development of particular types of people shaped by disciplines. And that these two modes are deeply interconnected – research and teaching are part of the same related practice.

If, in this summary account, Ancient universities were characterised if not solely defined by stewardship, and Enlightenment universities by disciplinary forms of experimentation and discovery, Modernity and Post-modernity brought new orientations to the future. Statistics and mathematical modelling sought to develop new tools that framed the future as amenable to objective modes of prediction and forecasting, producing futures whose value and outcomes could be foreseen, analysed, compared and, in time, traded (Adam & Groves, 2007). While Marxist and post-Marxist traditions premised on class and later, identity analyses, positioned knowledge as a site of social struggle and consequently saw visions of the future as both originating *out of* and subject to critique *from* distinct social positions. In this perspective, knowledge was no longer seen as neutral, but positioned as emerging from particular standpoints.

The research university's orientation to the future, therefore, can be understood as the overlapping and entwined emergence of four stances toward the future or modes of anticipation: first, *stewardship*, the preservation and analysis of resources that already exist into the future for the benefit of that future society; second, *experimentation* and discovery, the inquiry into the world through intervention and the consequent generation of new accounts of and understanding of the world; third, *critique*, the analysis of the ideas of the future as projections of particular social positions and the interrogation of assumptions underpinning those ideas; fourth, *modelling*, the production of the future as a site in which multiple variables will interact to create a range of distinct possibilities, possibilities that are amenable to both prediction and foresight.

Taken together, these four stances offer a powerful set of tools for dealing with the complexity of the unknown; they invoke, potentially, an interconnected set of practices of care, of imagination, of invention and of rationality. Together, they hold the latent potential for ethical and intelligent strategies for dealing with the dialectic of the future and the present.

Such a sequential historical account, however, may be a little too neat. Attending to the emergence of critical theory as a 20th century stance toward the future, for example, encourages a revisiting of medieval traditions and an attention to the role of rhetoric and disputation in the medieval university; to the role of reasoning and logic in the founding philosophical traditions of the institution; and to the ongoing attention to ethics and moral philosophy, the development of the self alongside the development of knowledge, that characterises the university's history. Rather than associating each tradition with a different

period, then, we may be better to acknowledge their co-existence and relative dominance at different times in the university's history.

Moreover, it is worth noting that since the 19th century, the distinctive future-making practices of the university have also been allied to state and national agendas and articulated with forms of state building that have at times transformed stewardship into the production and defence of nationalist origin myths, perverted modelling into the utopian fantasies of empire and experimentation into colonial and eugenic projects. In many cases, critique has been disconnected and disempowered, exiled to the margins. The power of these tools for the future, therefore, and their co-presence within the university, is no guarantee that they will be productively articulated or ensure the creation of better futures for society, at least not without attention to whom and for what ethical and social ends they are being mobilised.

Anticipatory Stances across disciplines today

Today, these four anticipatory stances of the university can be discerned across disciplinary boundaries. *Stewardship*, for example, is a practice that equally encompasses the work of classical scholars, linguists and biologists. The practice of understanding and valuing diverse forms of knowledge extends to the classification and care for diverse modes of being – from animal life to dialects. The scholarly architecture that underpins stewardship has also evolved, from the centrality of the university library to the maintenance and protection of everything from online resources to seedbanks and material repositories. More recently, such perspectives have become articulated with environmental and feminist concerns as the question of how to 'care' for the future has become increasingly urgent.

Modelling, having gained institutional prominence as an anticipatory stance through the dominance of mathematical and probabilistic practices in universities, is now migrating across the disciplines, from epigenetics to climate forecasting, from neuroscience to economics. To conceptualise a modelling stance to the future in the university as mathematical alone, however, is to ignore the ways in which other disciplinary practices are also concerned with envisaging and interrogating the realities that might emerge at the interaction between different social forces, trends and developments. Research as practice, in the form of arts, theatre, music, literature engages with the imagination and exploration of alternative possible futures. The human capacity to generate models of the future is not, in the contemporary university, restricted only to numerical models.

Critique has also evolved into a more holistic stance toward the future that we might rename *reflexivity* and position as both an external and internally facing practice. The social sciences and critical theory retain their function here systematically interrogating and questioning ideological accounts of the future. Increasingly, other tools are being used as a resource for critique – from linguistics to statistics, in the analysis of contemporary claims to truth. At the same time, however, the critical gaze is turning inwards; psychology disrupts the assumption that critique is necessarily produced from a position of rational neutrality, and increasingly offers a set of tools to support recognition of cognitive bias in decision-making.

Finally, *experimentation* and world discovery remain the domain of science. The performative nature of all research, however, its capacity to bring different knowledge of the world and therefore different possibilities for action into being – is increasingly complemented by more active and activist attempts to literally and materially bring new

futures into being through new products, through social and economic impact, through the invention and practice of new ways of being and acting in the professions. Here engineering, of action research in the social sciences, design and architecture are increasingly playing a role as partners and leaders in the processes of invention, innovation and experimentation.

Troubles with the contemporary anticipatory university

There are, however, three significant challenges to the capacity of the contemporary multi-faculty university build society's anticipatory capabilities by combining these four stances to the future. First – the problem of (inter) disciplinarity and the means by which these stances might be put into dialogue. Second – the problem of accountability and in whose service and to what ends these powerful tools are being used. Third – the problem of personhood, namely, the question of what sorts of people universities are distinctively aiming to nurture.

The problem of interdisciplinarity

Each of the orientations to the future that I have outlined is potentially fragile or harmful in isolation. Experimentation without stewardship can lead to destruction, modelling without reflexivity produces impoverished models, critique without experimentation produces empty arguments from the side-lines at best and fractured, anchorless relativism at worst, stewardship without critique produces dogma. The potential for the university to act as a complex, multi-faceted site for interrogating the dialectic between future and present, is dependent upon the interaction between these different stances. And yet, under current institutional practices and conditions it is far from clear that these different stances toward the future can and are being knitted together either in research or teaching. Consider this statement from a social scientist and climate scientist in a recent workshop:

*“Most of the climate scientists I know look to the social sciences to [develop the political response to climate models], they say ‘this is not my area’, you know, and ‘what are you doing about it’ and I say frankly, I don’t know and it’s awful.[...] they’re expecting this division of labour to work and it doesn’t work because they’re generating the data that’s showing how dreadful everything is and ...”
“... the social scientists are sitting there going !*@!”*

Rather than facilitating dialogue across disciplinary perspectives, this divide is fuelled by a scholarly infrastructure of publishing, promotions, recognition and reward that has tended to orient academic researchers toward increasingly specialised and fragmented modes of inquiry (Becher & Trowler, 1989) and by a system of research governance, ranking and performance management that are embedding disciplinary divides within university structures (Lucas, 2014). Moreover, most scholars are not trained or experienced in modes of collaboration across disciplines that would move beyond the instrumental and impoverished encounters that too often typify ‘multi-disciplinary’ work (Barry & Born, 2013). The increasing emphasis on ‘interdisciplinary’ funding and institutions can best be understood as remedial rather than addressing the fundamental underlying drivers that militate against the articulation and development of systematic ways of building dialogue across different stances to the future.

The problem of accountability

This fracture between anticipatory stances reflects a wider concern about the fitness of the contemporary university as an engine for social anticipation. Namely, the profound ethical

concerns about whether the university's production of knowledge about and capacity to act on the future can and should be conducted without the involvement of those beyond its walls who have a stake in that future.

The actions of the university create futures which have long-term, real and material consequences even if these are not immediately visible. Indeed, there are persuasive accounts that the university has been a key actor in the *production* of the Anthropocene as well as in attempts to ameliorate the consequences (Wright, 2017). The university therefore has a responsibility to consider how it is determining which futures it thinks significant, which it works on, challenges, models, creates. The question *on whose behalf and in whose name* the university is acting as it imagines and makes futures, requires attention, not least in a period in which the finances of Western Universities are increasingly entangled in the interests of large corporations and in the debt culture of late capitalism (Newfield, 2003; Komljenovic, 2017)

This is prompting a significant debate over the relationship between universities and the future today. On one side, we see scholars and researchers concerned to resist the marketization and instrumentalisation of the university who defend the idea of the university as an autonomous space, accountable only to scholars and to the imperatives of science. Such a position has robust intellectual foundations but shaky historical and sociological underpinnings, given both the deeply intertwined histories of universities and societies as well as the often-unintentional alliance between this position and a defence simply of elite power and modes of social reproduction.

On the other side, we see both social activists and neoliberal ideologues arguing for much greater involvement of interests beyond the walls of the university in defining the direction and purpose of research. This shared demand for 'engagement' conceals profoundly different motivations and intentions. Where, not to put too fine a point on it, neoliberal ideologues seek to tame the university's independence and capacity to produce often inconvenient accounts of reality; civil society groups, indigenous communities, critical race and feminist scholars are concerned to pluralise and diversify the questions, issues and methods that are used to make sense of the world, arguing that scientific methods in particular have too often been harnessed to rationalise subjugation and exploitation and that they need to be reclaimed for democratic and emancipatory purposes (Connell, 2007; De Sousa Santos, 2014). The uneasy and often disavowed alliance of these two positions and its potential implications in developing a wider culture of epistemic relativism means that such calls for wider accountability need to be as carefully scrutinised as the calls to maintain the university as autonomous community of scholars.

The problem of personhood

What is also increasingly clear is that the historic interconnection between the development of the person and the development of knowledge within the university, is today deeply confused. As universities are increasingly required to demonstrate the fit between their teaching practices and the demands of the workplace it is far from certain what the value of a university education might be. If a degree is understood as preparation for employment, and dominated by the conception of the university as a site to produce future workers for the formal economy, the idea that universities might offer something distinctive from, for example, higher level apprenticeships will be hard to maintain.

Such an instrumental framing of the value of university learning, however, is likely to provide limited security for students in a world where work, life and professions are subject to increasingly rapid change. Indeed, as economic and environmental factors frustrate expectation of wider social and economic progress, the question of what sort of person a contemporary university should aim to produce is increasingly unclear - even as a degree is becoming a baseline entry qualification to ensure individuals' economic and social survival in the global economy (Brown, Lauder & Ashton, 2010).

In the contemporary university, the sorts of knowledge cultures and practices students should be enculturated into to ensure their own and societies' future flourishing is therefore far from clear.

Developing knowledge in public – an emerging stance toward the future?

The public and academic response to these growing tensions is often conducted either with reference to the question 'what do students/ the market/the government want' or with reference to the mythological history of the university primarily with reference to the totemic (white, male, European) figures of Newman, Humboldt, Dewey, Kant. Such a response has failed to untangle these issues.

Instead of this, I want to explore what we can learn from a detailed study of what is actually happening in the everyday processes of research where these tensions around accountability, purpose and interdisciplinarity are being explored today. Just as the Humboldtian university emerged from a detailed recognition of changing knowledge production practices and new empirical realities, so I want to propose that these debates will not be solved in the abstract, but by careful attention to emerging knowledge practices.

In doing so, I want to argue that we may be seeing the development of new approaches to research and teaching that constitute a renewed commitment to a 'public' stance toward the future. This commitment holds the latent potential to address these three questions of interdisciplinarity, accountability and personhood. It foregrounds the role of the university as a public space in which students, academics and publics together combine *different* sets of expertise and knowledge to both guide and conduct the anticipatory work of the university in and with wider society.

The examples I turn to are drawn from a recent study completed in 2016 exploring the experiences of academics and civil society actors involved in over 300 collaborative research projects across the UK in a programme called 'Connected Communities'. Based on detailed interviews with 100 participants in the programme, focus groups with over 70 community partners, longitudinal case studies of 2 projects over 18 months, this study explored what happens when universities attempt to 'research in public' and what sorts of orientations to the future emerge in this process (Facer & Enright, 2014).

The Connected Communities programme was established to support research 'into community, with, by and for communities'. As a result, projects were highly diverse. They ranged from small six-month scoping studies to multi-institution multi-million pound interdisciplinary collaborations over several years. They covered areas that included health as well as environmental science, heritage and architecture as well as creative digital technologies. The following provides a flavour of the diversity of projects in the programme:

The **Ethno-Ornithology World Archive** combined the knowledge and expertise of amateur birding groups from around the world (connected along bird migratory lines) with ornithologists and technologists. Together they are creating a world repository of the diverse cultural meanings of birds in different traditions, societies and times and reframing conceptions of stewardship and diversity to encompass not only the biological accounts of ecosystems, but their cultural and social meanings. The project led to the introduction, for the first time, of cultural factors in consideration of international biodiversity strategies.

The **Productive Margins** project brought together campaigners from poverty and single parents action groups, food campaigners, social activists and community artists with legal scholars, geographers and educationalists. They are working together to examine the regulatory conditions that shape poverty, food issues, employment regulation. The research activities include familiar practices – such as writing journal papers – as well as community data collection, poetry, the setting up of a social enterprise, interventions in the streetscape and theatre.

The **ACCORD** project built dialogue between climbing groups, community activists, digital humanities scholars, historians and archaeologists to produce new accounts of historic and ancient monuments. In particular, they have worked with the community groups to produce new accounts of famous local landmarks, demonstrating how their value is not just in the history of these objects and places, but in their current and future use. They have been instrumental in changing the official record of these ancient monuments.

The **Tangible Memories** project developed an interdisciplinary and cross-sectoral team of folklorists, computer scientists, care home residents and carers, educators, gerontologists and artists to explore how community is and might be made in residential care homes. The project has involved the development of new digital and physical interfaces that enable older adults with poor motor control to interact with digital systems, new ideas about how memory might function that combine folklore and dementia specialisms, as well as the creation of new practices for workers in care homes.

These projects are characterised by a *public* orientation to the future: the awareness that the production of knowledge is central to the production of future realities, is therefore a practice of public concern, and is a mode of working to which publics can make distinctive contributions.

The public stance of these projects did not emerge in a vacuum. Rather, they drew on traditions that have been developing over the last century. These include: the late 19th and 20th century traditions of history-from-below, people's history, mass observation and participatory historical and archaeological practices; action and participatory action research methods emerging from social movements and critiques of social science from the 1960s and 70s onwards. In computing, design, architecture and urban studies user-centred design and co-design have been gaining ground over the same period, locating end users and those affected by the design of cities and technologies as central to development processes. More recently, the rise of open software and social movements have repositioned networks of distributed semi-professional and amateur actors at the heart of design and innovation processes for everything from search engines to online encyclopedias. Feminist, working class and critical race scholarship has also provided a critical tradition for this work, underpinning collaborative and engaged ethnographies with groups previously invisible or 'hidden' to dominant historical, literary and scientific accounts.

This mode of collaborative research is subject to significant methodological analysis which is covered elsewhere (Facer & Pahl, 2017). My aim in introducing these projects as a subject for discussion here, however, is to explore how this shift toward participatory and collaborative practice may constitute a new public orientation to the future for the university and in turn, may engender new futures for the university.

Researching in Public as catalyst for meta-reflexivity & interdisciplinarity

A key characteristic of these processes of researching in public is that the future implications of research are actively, necessarily and intentionally a focus of early and ongoing conversation amongst the actors designing the research. Significant tensions and discussion amongst project teams focused on asking what the 'point' of the project is and how and whether projects would either inform or change the world, lead to action or shape the knowledge landscape. Indeed, what was up for debate was what is often called the 'theory of change' that underpins the research activity. From the perspective of this chapter, however, it is possible to see that these lively discussions related to the orientation to the future of the particular project.

For example, we saw project teams debating (more or less productively) about whether the aim of the activity was to correct the historical record or to build human capacity to challenge contemporary accounts; whether the purpose was to create new theory or to try out new ways of acting in the world. Indeed, the distinctive shift that this practice of researching in public engenders is a form of meta-reflexivity that invites participants to think carefully and specifically about which orientation to the future it is appropriate to mobilise at a given moment in the research process. When is it urgent that we build new foundational knowledge about the world? When do project teams need to disrupt assumptions, imagine and model alternatives? When is the responsibility to record, to care and to steward existing realities? When is the challenge to contest mainstream future visions? When is there a need to experiment?

Such questions tended to both emerge from and engender interdisciplinarity. In a situation where project participants are dealing with urgent and lived crises and contemporary challenges that exceed the neat divisions of academic disciplinary boundaries it becomes clear that it is not ethically acceptable to restrict the focus of the research to a single disciplinary perspective – for example, questions of how to live well in communities engender questions that are associated with areas of research that range across social, political, material, organisational, engineering and psychological factors. The phenomenon that is subject of the inquiry tends to dictate the need to engage with knowledge in an interdisciplinary fashion. Second, as civil society and community partners are concerned not only with understanding but with action, and not only with preserving what is good but with seeking to enhance it, then projects actively have to engage with the multiple futures-orientations that characterise the university – it is not possible, in these partnerships, to simply experiment, steward, critique or model in isolation. These stances to the future have to be combined.

In this process, the question of accountability becomes foregrounded and a more complex mode of accountability than that presented in contemporary debates becomes visible. Where too often an opposition is established between on the one hand, the university as sole locus of authority in the determination of research and curriculum and on the other, 'the market' in the form of the taxpayer, industry investor or paying student/consumer –

these projects demonstrate a much more complex and subtle set of accountabilities that are negotiated throughout the research process.

These are accountabilities to the body of knowledge (discovery), to existing life forms (stewardship), to rationality and truth (reflexivity & discovery), to those who are being affected now (experimentation), to imagination and possibilities for future generations (modelling). Such complex layers of accountability move us beyond the sterile debates about whether the university is becoming increasingly instrumentalised and foregrounds the need for research to be conducted in conditions in which such complexity can be acknowledged and negotiated, at least within the project teams themselves. They engender discussion about the nature of the publics that are imagined for the university, bringing in concerns not simply for the mythical 'tax payer' or 'student', but for future generations, for those affected by research decisions, for those who might be cared for by the institution and its research. The concept of the public is pluralised.

Four futures for the university

Research teams in the Connected Communities Programme responded very differently to the challenge of reflecting on their competing and overlapping stances to the future and to the different forms of accountability that they engendered. Such discussions are not without conflict. Exploring how these research teams responded on the ground to these tensions might enable us to consider how this turn to researching in public might play out at the scale of the university as a whole. Broadly we see four responses.

Model 1 – Divide and conquer

The complexity of researching in and with publics sees some project teams ignore the demand for meta-reflexivity and retreat into familiar territory. In these projects, different stances to the future are treated as separate activities and projects divide responsibility for their associated research activities amongst different groups – some will produce scholarship, others experiment, others critique and so forth. When it is necessary to synthesise knowledge, some of these stances will be subordinated to others and familiar hierarchies will be retained. This approach aims to tame the disruptive reflexivity promoted by researching in public. It is efficient, it produces results, but those results might easily have been achieved without the publicly oriented practice.

Model 2 – Everything must change

This response to participation often emerges from a desire to disrupt existing power relations between universities and communities and between different stances toward the future but it does so without a recognition of deep and embedded forms of expertise and knowledge traditions. Here, in the name of disrupting old inequalities, we see academics taking on the role (often unsuccessfully) of community organisers, without the experience or trusted relationships needed to take on this work successfully. Similarly, we see community partners taking on research roles without wishing to engage with existing research literature, or the basics of research training. Here, we have a conflation of the idea of expertise and power, in which any form of knowledge is interpreted as an unhelpful correlate of unequal power relations. These projects are characterised by a process of profound unsettling of traditional identities, without the necessary correlate of a commitment to support and learning to go alongside this. As a result, project participants can find themselves feeling deeply torn and deskilled, working outside their areas of expertise without support. Here, the value of any orientation to the future is deeply disrupted and placed into doubt; it is a form of fractured reflexivity that leaves little

confidence in how to act. It echoes the descent of public debate into post-truth world in which the distinct concepts of knowledge and power are unhelpfully elided and strategies to disrupt unequal power relations are confused with strategies to create more accountable and equitable knowledge practices.

Model 3 – Relational expertise

This response to researching in public takes a different approach. It treats different stances to the future as components of a more complex reality. Within this form of participation, project teams work to create sufficient understanding of these different ways of knowing within the team to enable what Anne Edwards (2017) calls 'relational expertise'. This form of expertise involves the capacity to empathetically inhabit another stance in such a way that allows you to understand the sorts of questions and issues this perspective would bring to the situation. Here, individuals retain their own disciplinary, professional or community identities, accountabilities and roles, but temporarily inhabit other perspectives and understand the sorts of questions and procedures that different forms of expertise would employ.

Conflict between stances is negotiated by attempting to see the other's point of view. The project is concerned with the creation of sufficient common knowledge to allow new situations to be examined by any individual from multiple perspectives, and tensions around competing accountabilities are handled by diversifying and pluralising the forms of research outputs and activities to enable all competing demands to be acknowledged.

Model 4 – Remaking identities

This final response to researching in public explicitly sets out to build the capacity of project participants to not only understand but to inhabit each other's stances toward the future, including developing the expertise to do so, whether this comprises the skills of preservation or experimentation, analytic critique or modelling. This response to participation is explicitly educational and works specifically towards the creation of different hybrid identities that allow individuals to transgress disciplinary and institutional boundaries. Its focus is precisely upon the long slow work of capacity building, of entering into each other's theoretical and practical domains. Mutual learning and the development of a community of practice is often the core focus and purpose of the project, with a long-term view to address wider issues in solidarity between project participants.

This model relates to what Barry & Born (2013) call 'agonistic-antagonistic' interdisciplinarity, in which participants are brought together from a fundamental sense of the inadequacy of their current ways of producing knowledge. Individuals and groups are prepared to develop new identities and ways of working. This process can bring emotional and intellectual challenges for participants, and projects can be characterised by productive tensions. Such projects may struggle to make a case for a wider impact from their work in the first instance as so much internal work is required. Indeed, maintaining a sustained process of mutual learning in the context of both internal and external accountability pressures is a collective responsibility that needs to be held and addressed by all participants if such work is to survive in the context of contemporary accountability and performance regimes in universities and civil society.

Notably, what differentiates Models 3 and 4, from Models 1 and 2 is that they recognise that researching in public is far from straightforward, that it requires time, listening, mutual respect for different modes of knowledge production and traditions of expertise, as well as an intentional and reflective approach to how different questions of accountability and

different theories of change will be handled. Indeed, these two orientations in many ways exemplify what Jan Masschelein and Martin Simons (2013) describe as the public pedagogy of the university: the mobilisation of knowledge and expertise as collective resources for democratic debate. They actively make *telos* the object of debate – asking what are we trying to achieve here, what are the ways we might act upon and in the future, what knowledge and expertise do we bring from what different traditions and perspectives, how can these be made available for our public and common good, what can we create in the present.

These ways of working create a distinctive temporality for research activity that is both outside immediate instrumental demands but not floating unmoored to the world. This is a time and a space in which ideas can grow; some of these may take on a new life elsewhere, others will lie fallow until external conditions change and they might be useful again. This is a temporality that I have described elsewhere (Facer, 2015; Amsler & Facer, 2017) as a temporality of the Ecotone (the name given by biologists to that boundary space between one condition or another; the estuary, the river bank). It might also be understood as a temporality that characterises engagement with what Poli and Adam call the ‘thick present’, or what Ian Bogost (2013), calls ‘the richness of the meanwhile.’ Here stewardship, critique, modelling, discovery and invention are combined and put into productive tension through the meta-reflexivity generated by researching in public. This a new temporality in which the different orientations to the future that the university can offer are put into play, and in which, through being required to account for themselves through discussion with ‘the other’ beyond the academy, they come to explore how they might fit/ rub up against each other, and begin to create new worlds.

Researching in public and the problem of personhood

I have discussed how the turn to researching in public engenders dialogue across disciplines and a more nuanced response to the complexities of accountability of universities in research processes. It also, I propose, offers a way of addressing the problem of personhood in relation to the contemporary student. At present, students are presented with a set of images of the university’s role in their future that are profoundly contradictory: on the one hand, the university as a site of retreat, self-discovery and reflection, a space away from the real world (consider the frequency with which universities advertise themselves showing images of students sitting on grassy lawns separate from the world), on the other, it is also a place where students are expected to learn the real world knowledge required to help them secure their place in the fast moving economy. Such contradictory positions are at best incoherent, at worst, deeply confusing for the institution and for students.

This contradiction is potentially resolved by the turn to teaching in and through publics that we are also beginning to witness today. Internationally, we are seeing the emergence of programmes that are committed to offering students experience through placements, internships and volunteering as well as universities that position service and community engagement as part of the overall commitment that they expect students to make during their study. At present, this shift toward engaged teaching is disconnected in the main from engaged research, with a few notable exceptions such as the case of the collaborative research projects that bring together academics, students and community partners as part of Chicago university’s ‘Great Cities’ initiative; or the term long collaborations that produced the ‘other side of Middletown’ project as a corrective to the institutional racism of the initial study (Lassiter, 2004).

Notwithstanding this, the shift towards participatory or 'engaged' teaching and learning usefully and intentionally positions these previously contradictory positions (retreat or engagement) as complementary parts of a continuous learning process that mobilises all four stances toward the future. Internships and placements that engage students with the complexity of the contemporary world and with the challenges of contemporary problems, necessarily invite students to reflect on when it is helpful to experiment or act and when it is helpful to retreat and reflect, when it is helpful to theorise and model and when it is helpful to act to protect what already exists in the world. They are confronted with a world that will bear the consequences of their actions and with which they need to negotiate and collaborate to create ethical futures.

Importantly, through participatory education practices, a student engineer can no longer simply experiment without considering the unintended potential consequences of such actions, nor the sociologist retreat into comfortable critique with no commitment to protect, to challenge, to invent – or at least, not for the duration of a full course of study. Rather, in this process we see the development of the university as a place in which the dialectic between ideas and actions can be explored.

In this framing, the purpose of the university, as a multi-faculty combined research and teaching institution as opposed to the single subject apprenticeship or the vocational degree, becomes clear: it enables students to develop the capacities to put these multiple orientations to the future into play. This is the purpose of the university – that dialectic between *both* ideas and action and between *different* orientations toward the future. It is in the participatory practice of engaged learning that the student moves from a theoretical framing of their relation to the future, to one that actively encourages them to put this dialectic into play in their own lives and learning at a time when retreat and reflection upon this action, and therefore learning, remain possible.

Conclusion

I have argued that over time the multi-faculty university has developed a set of distinctive orientations to the future which together offer a unique resource for thinking about and acting upon the future. At present, however, such a potential is not being realised; more strongly, we might say that in its alliance to state building and nationalist projects or to commercial interests, this potential of the university is being actively perverted. I have argued that there is both a lack of clarity about the contract between universities and students in relation to the future as well as anxiety about how universities' anticipatory capacities are being exercised, particularly in relation to questions of accountability, ethics and interdisciplinarity.

I have talked about the Connected Communities Programme as a response to the ethical challenge of combining public and academic knowledge to think about and work on the future and have shown that researching in and with publics can draw upon deep traditions of participatory and collaborative scholarship that always and necessarily involve reflexive and critical discussion of how collaboration will handle competing stances toward the future. And finally, I have suggested that how academics and their partners decide how to work on these projects can help us to explore potential futures for the university as it negotiates a new relation between the academy and society.

Above all, though, I want to conclude by suggesting that alongside stewardship, reflexivity, modelling and experimentation – we are now seeing the development of a participatory

orientation to the future that is both novel and distinctive in that it acts as an invitation to reflexivity about how the full range of universities' anticipatory capacities are being used. Participatory practice in both research and teaching creates a new temporality that sustains a public pedagogy that is explicitly reflective upon the role and purpose of the institution in which it is taking place. This participatory and reflective orientation, I would suggest, has the potential to play the meta-reflexive role that philosophy once used to in our universities – in other words, it offers the potential to help us work out how to knit together and negotiate between our different stances to the future, to determine how different forms of knowledge and expertise align or conflict, and to reflect upon their ethical implications not just for scholarship but for society.

Whether such a potential can be realised in universities that are increasingly governed by international ranking regimes and by unholy alliances with the logic of debt in late capitalism, remains to be seen. Indeed, the key challenge facing those of us working in universities today is to apply these different orientations to the future to the design of the university itself, to mobilise the intellectual resources that we have available to us in order to ask: how might we steward, critique, reimagine and remake the university in partnership with its publics today?

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