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Universities and Epistemology: From a Dissolution of Knowledge to the Emergence of a New Thinking

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Abstract: This paper examines the relation between epistemology and higher education. We shall start by briefly examining three classical texts on the understanding of knowledge at universities, as well as noting some others, and go on to sketch a version of our own. Our argument is as follows: the world is such that the relationship between the university and knowledge remains fundamental but that it needs to be reconceptualised. In particular, the 21st century is seeing the emergence of digital reason, which could be said to be a form of non-reason. It may appear, therefore, that we are witnessing the dissolution or severing of the relationship between the university, on the one hand, and knowledge and truth on the other hand. To the contrary, we argue for what we term an ecological perspective on knowledge, with the concept of ecology being treated in the most generous way, partly as a way of rethinking the university into the future. The idea of knowledge as a defining concept of the university still has mileage in it.

Keywords: epistemology; higher education; thinking; university; knowledge

1. Introduction

If one was obliged to pick out a single concept that is intimately connected with the university it would surely have to be that of knowledge. Knowledge and the university have become so linked that one cannot understand the university unless one also brings knowledge into view. Knowledge and the university are inescapably joined together, and—while somewhat asymmetrical—the relationship is reciprocal.

The university is a space for the creation of knowledge ('research') and for its understanding ('teaching and learning'). To be sure, not all universities accomplish these functions in equal measure, with some universities favour the creation of knowledge while an even greater number of universities are more associated with teaching and learning. Nevertheless, all universities are bound up with knowledge to some degree. Certainly, it is people—whether singly or in groups—who conduct research or teach or make the effort to learn, but the object of such efforts is always knowledge (in some form or other and to some degree or other). So the university is not understandable—whether as an institution or as a concept—without also involving knowledge.

The reverse is also the case, at least to some extent. While the knowledge society is characteristically a society in which not merely the use and exchange of knowledge is widely diffused, it is also a society in which the very creation of knowledge is now broadly-based. However, the university remains a cardinal institution for the creation of knowledge. Indeed, the extent to which governments are willing or able to invest in research in their universities has become a mark of an advanced economy. Universities are prized for their powers of knowledge creation. Any serious

interest in knowledge, therefore, has ultimately to bring a society's universities—and the very idea of the university—into view.

So knowledge and the university are intricately bound together. To use a modish term, they are 'entangled', such that neither is understandable without bringing the other into view. As implied, this is both an institutional and a conceptual matter. As a matter of fact, this complex of dynamic relationships between universities and knowledge can be observed across the world. At the same time, the very idea of the university is bound up with the idea of knowledge. Historically, too, knowledge was bound up with the element of truth. However, these elements and relationships have continued *and continue still* to evolve.

What counts as knowledge has continued to change and evinces different orders today, across cultures. Its key associated concept, that of truth, has undergone subtle and yet profound changes: whereas an untainted and higher order truth was once felt to be available, perhaps today the very idea of truth has become suspect by the emergence of politicised and digitalised truth. Here truth becomes interweaved in negotiations of power and the deep complexity of internet programming. The inter-connections between the university and knowledge have also not merely changed but have become unclear.

Yet, for all this, there have been very few serious attempts to examine this relationship—between the university and knowledge. In this paper, we shall start by examining briefly three such texts, as well as noting some others, and go on to sketch a version of our own. Our argument is as follows: the world is such that the relationship between the university and knowledge remains fundamental but that it needs to be reconceptualised. In particular, the 21st century is seeing the emergence of digital reason, which could be said to be a form of non-reason. It may appear, therefore, that we are witnessing the dissolution or severing of the relationship between the university, on the one hand, and knowledge and truth on the other hand. To the contrary, we argue for what we term an ecological perspective on knowledge, with the concept of ecology being treated in the most generous way, partly as a way of rethinking the university into the future. The idea of knowledge as a defining concept of the university still has mileage in it.

2. The University and Knowledge: Three Accounts

Purely to provide momentum to our discussion, we begin by picking out three significant texts that have appeared in modern times.

The Postmodern Condition: A Report on Knowledge by Lyotard [1] became a notorious work in that it provided a bold account of postmodernism. It seemed not merely to be offering a philosophical explication of postmodernism but it seemed also to be endorsing that very movement. Despite the term 'knowledge' appearing in its title, actually the text said very little explicitly about knowledge. In a way, it did not need to. For on Lyotard's reading, knowledge with a capital 'K', as it were, constituted just another grand narrative that deserved and even needed to be consigned to the flames. After all, postmodernism was characterised—on Lyotard's view—by an 'incredulity towards grand metanarratives' [1] (p. xxiv).

One reading of Lyotard is that he was being disingenuous. For having dismissed knowledge, he went on to indicate that a new kind of knowledge was being favoured within postmodernism. This was a 'performative' knowledge in which the key test of any claim would be 'what use is it?' [1] (p. 41ff). Lyotard was never clear which kind of knowledge that postmodernism was ditching—was it propositional knowledge? Was it theoretical knowledge? What was clear that a pragmatic form of knowledge was now to have its day. Surely, Lyotard's 'ghost' is still haunting higher education and keeping teachers and students in a hesitant position to bring forth *new* critical ideas and creative imaginations of universal knowledge and truth.

The second book that we would pick out here is that of *From Knowledge to Wisdom: A Revolution in the Aims and Methods of Science* by Nicholas Maxwell [2] (also published in 1984 and since reissued). For Maxwell, the Enlightenment had made fundamental mistakes in its tacit understanding of what

it was to reason well and, in particular, therefore, in the aims and methods of science. Fundamental axioms of right reason had been ignored, and with 'disastrous' consequences. Many of the ills of the world, in Maxwell's view, could be placed at the door of science. The main problem lay, for Maxwell, on the failure to place science in the service of answers to the question '*What is of most value to life?*' What was needed, therefore, was a fundamental shift in the understanding of knowledge and its pursuit.

From 'knowledge inquiry' to an 'aim-oriented inquiry': that was to be the new way in which knowledge should be understood and pursued in educational institutions, especially universities. Notably, this new—wisdom-oriented—conception of knowledge would provide a crucial role to the humanities in helping (universities) to discern just what might be of ultimate value and so put other knowledge inquiries onto a footing likely to help the whole of humanity and indeed the world.

Strikingly, Maxwell underlines that universities have difficulties in moving forward with new understandings of knowledge if caught in the theory-practice gap. This suggests that the notion of thinking warrants attention in its own right alongside that of knowledge; especially, a form of thinking that is neither theoretical nor practical, but thinks critically *from* the world. Indeed, this form of thinking, and Maxwell's notion of wisdom implies a highly societally engaged and ethically conscious university—a university not only *in* the world, but of and *from* the world.

The third book to which we would give special consideration here is *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies* [3]. Led by Michael Gibbons, its several co-authors were C. Limoges, Helena Nowotny, S. Schwartzman, Peter Scott, and Martin Trow. It was subsequently followed [4]. The key message of both books was that knowledge, and especially science, were undergoing massive change. From an epistemology based on propositional knowledge—of the kind to be found rather statically in the journals of the libraries of universities—now knowledge was taking on new features. It was much in situ, created around particular problems in the world, and pursued by interdisciplinary teams ephemerally coming together, only to disband once the particular problem has been solved.

This was, as one of the sub-titles indicated, an especially dynamic conception of knowledge production. It was dynamic not only on account of its spatial location, darting here and there, but it was dynamic too in being diffuse across disciplinary boundaries. A key term, indeed, in this account of knowledge was that of transgressivity. This was a form of and a conception of knowledge that took no prisoners. It would range freely across knowledge territories in a promiscuous way, drawing in knowledges in whatever ways it might find useful to address the problems to hand. This was a knowledge suited to the uncertainties of the age: an unstable world called for the capacity to unhinge knowledge and free it from any rigidities that knowledge disciplines represented. To use modish terms, now knowledge may be understood to be a mere assemblage [5], a bricolage of discrete elements, picked up and pasted together to serve heterogeneous purposes, in different situations.

All this points to a challenge presented by the destabilisation of knowledge, a kind of crisis where universities begin to doubt themselves and their knowledge purposes, and if they are relevant and timely. This reveals an existential dimension of the being of the university; one where the university is destabilised from within.

A new set of problems arise here. In a world of 'ethno-epistemic assemblages', just how might citizenship be construed [6]? If it had been difficult for the public to gain a purchase on old-style knowledge, just how was knowledge in those journals to be accessed now that this new fleet-footed knowledge posed a corresponding challenge? If knowledge was to progress by responding to specific issues and problems, how was the public understanding of science to grow? It seemed to be an even more intractable matter, that the public could ever get on the inside of such free-floating knowledge founded on the moving foundations of particular matters in the world. Indeed, the claim of universal knowledge and universal values and academic credentials seems to have dissolved [7], and the semantics of universality, maybe even a universal idea of the university, could be said to be 'in ruins' [8].

What links, if any, might be drawn across these three important and influential works? The first is simple and yet profound. It is that knowledge changes. In saying this, we are not making the trivial point that one set of understandings or one framework is superceded by another (that Newtonian physics is overtaken by an Einsteinian perspective or that geography has come to be understood less as a study of places and instead becomes a study of spaces; or that philosophy has seen successive waves—or fashions—as positivism, existentialism, relativism, critical theory, structuralism, deconstructionism, postmodernism, and critical realism have succeeded each other in a relatively short space of time). What these three texts—in their quite separate ways—indicate is that what counts as the very idea of knowledge is destabilized. Of course this point about inherent change within knowledge may be debated, but the rhetoric of change is strong within educational policy and practice, which is why it is featured here. Presuppositions as to what it is to come to a valid understanding of the world are all the time in flux. Even more unsettling, they together convey the implication that there is no unifying principle to knowledge other perhaps than its performance in and impact upon the world.

These points have implications for the university. Largely unrecognized, the university conducts itself through epistemologies that for the most part remain hidden and are on the move. As remarked, such presuppositions as to what it is to count as a valid understanding of the world continue to change. Two such major changes are evident that extend across knowledge. The first is that of the digitization of knowledge. This is actually a penumbra of inter-related movements, connected with computerization, cybernetic and algorithmic models of control (of systems), financialisation, the shift towards more iconic understandings of the world (and multimodality more generally), open source processes of communication and also of learning (including but going far beyond MOOCs). We are witnessing here, as it might be summarised, the coming of 'synthetic reason' [9], which is an 'epistemology of simulations' [9] where virtual and digital realities and forms of knowledge are constantly played out on personal computers as small-scale experiments and enactments of virtual eye-brain movements.

The second change is that of the shift in the comparative evaluation of disciplines. Crudely, it has become a world in which the humanities are struggling for a hearing and in which so-called STEM disciplines—science, technology, engineering, mathematics—have come to be considered as supplying worthwhile understandings of the world. This movement is having transformative effects on universities around the world, especially in some countries. The Japanese government recently announced that it would withdraw funding from the humanities; and national reports play up the significance of STEM disciplines. Higher education policy and research and development policy frameworks are developed largely on the basis of STEM advances.

It may be observed that much attention is being given these days to the identification of a so-called 'epistemicide', in which the knowledges of the North are said to be colonising those of the South [10]. Much less remarked upon, however, is that a parallel process of epistemicide is now happening *within* the North—and the academic world globally—as the perspectives, methodologies, and values of the sciences subjugate those of the humanities and professional and disciplinary perspectives containing elements of human care and aesthetic vitality.

Of course, this is not a recent phenomenon. It has been observed for 150 years or more [11,12] , leading to the 'two cultures' debate in the UK in the 1960s and successive waves over the past 50 years of crises in the humanities [13]. Of particular interest here is that the movement had philosophical backing in logical positivism in the 1930s and 1940s, which in effect legitimized science and mathematics as making valid—though different—kinds of knowledge claims, a philosophy that seemed to gain extra dimensions in Popper's idea of falsification and refutation as the basis of science—thereby for some implicitly devaluing the humanities whose methodologies seemed to rest on quite different epistemological foundations.

While analytically distinct, these two movements—towards the digitisation of representations of and engagements with the world and the altered balance in the esteem given to different disciplines—are linked. For they are both connected with the emergence of 'cognitive capital' [14] which, in the new forms of globalized capitalism, is being built around science and mathematics

rendered in computerised technologies. As a result, the very phrase 'cognitive capital' is already misleading, for what is encouraged now is cognition of *particular* kinds. The term 'scholarship', so much identified with the humanities, has quickly passed into virtual desuetude.

It is worth noting that the world of the creative arts, which might have been thought to have offered a departure from these large global movements—which we have been urging are essentially epistemological in their character—are in fact succumbing to just these patterns. The first generation of Critical Theorists—notably Horkheimer and especially Adorno (especially in music) and then Marcuse (especially in art)—saw in the creative arts (or 'Culture') sources of emancipation not available either in the forces of production or the patterns of consumption [15]. Culture could offer spaces of creativity and personal realization, and so provide alternative spaces to the instrumental reason with which science and technology had come to be associated. While that remains the case to some extent, the much larger pattern in view is that the creative arts have been colonised by technological and instrumental reason in their new forms, and have become part of 'industry' per se, swept up by digital and computerised techniques and incorporation by mega private companies. 'Algorithmic capitalism' [16] is epistemologically affecting and even contaminating all that comes within its purview.

3. The University—On an Epistemological Cusp

As intimated, the university has been implicated in all of these developments. Indeed, it has been and continues to be co-opted by these movements, as it is called upon to play its part in the latest manifestations of global capitalism [17,18]. And so the centre of gravity of the university's tacit epistemologies itself continues to slide.

Of course, the point can be overstated. The humanities are still to be found in universities across the world, scholarly work remains in evidence, and the arts flourish. However, the general direction of travel is manifest, at least at the system level and in many if not a majority of individual universities. Both the expenditures on and the income associated with science-based departments have come to dwarf that in the humanities, particularly in the bio-sciences, and the pharmaceutical and engineering sciences. In the process, mathematised, computerised, and statistical accounts of the world are favoured. This has been made possible, in part, through the miniaturisation of computer-based processes, such that powerful instrumentation can now literally be on the desk of individual scientists, who in turn have access to global and international—and very large—databases (so-called 'Big Data'). This mathematisation and computerisation of knowing efforts have been transported, too, into the administration of universities which, in their own internal management processes, are increasingly turning to large data-sets, not least in the management of students in the centralised development of learning analytics.

This emergence of 'the digital university' [19] poses large questions as to the dominant ways in which the university is subtlely endorsing and, indeed, playing its part not only in favouring certain kinds of epistemologies but also in its distribution of disciplines and sub-disciplines, in its engagements with the wider world and in its own internal knowledge management processes. Troubling matters arise in this epistemological 'deterritorialisation' of the university [20]: The effects of such deep-seated changes on the tacit conception of what it is to be a student, on knowledge processes within and across disciplines, on forms of academic communication, on relationships between academics and senior management within universities, and on the pattern of cognitive trade between universities the wider world are all but examples of profound matters that are only barely being raised in the literature. More fundamentally still, what it is to count either as knowledge or truth become problematic, as the universities swim in swirling waters.

Many of these developments are made particularly problematic in that they often exhibit private sector involvement, in the provision of learning, organization, and knowledge services [17]. A bit bleakly, it is as if the universities themselves do not know what to do and what to search for. They are in the *shadow of doubt*. When universities themselves stop believing in the search for knowledge,

we live amidst the 'unknowing' university—a university that does not believe in itself and, a bit polemically, no longer exists. It simply flows with the changing epistemological tides.

What, for example, is to count as a knowledge text? In its medieval foundations, the text was largely in-itself. Caught in chained libraries, and laboriously written on parchments, manuscripts had little reference beyond themselves. Over the centuries, as scholarship became professionalised, texts—largely in the humanities—came to constitute much of the dominant culture of humanity. Then, as science developed, texts became a matter of 'report' about the real world, from the laboratory. Now, amid digital reason, texts have been freed from their static nature, and have been given a fluid life, circulating on the internet as flows of data. These communications are often inflected with the interests of the market, as large corporations, universities, and individuals all become players in knowledge capitalism [17,18].

In the process, epistemological values shift but so surely too do truth values. From truth as edification (the Middle Ages to the 19th century), through truth as coherence (the 19th to the mid-20th century) to a pragmatic sense of truth (the mid-20th century into the 21st century). But now, with the onset of digital reason, perhaps a new kind of truth value is emerging. What is in evidence in this regime is unstable truth, flickering truth, pictorial truth, and truth as digital picture, always likely and instantaneously to be replaced by another digital picture of the world. What makes the truth unstable here is that it is in perpetual risk of being hacked and re-programmed and thus changed instantly and without authoritative interference.

How, then, might digital reason be understood? Might it be felt to constitute a new form of knowledge, a new way of knowing the world, a new epistemology, and one in which the university is crucial to its development? Or might digital reason be better understood as heralding the dissolution of the university as a site of knowledge, as knowledge loses any centre or spatial location in its fluid and more or less instantaneous transmission (in which milliseconds matter in the determination of truth values)?

4. Glimpsing a New Epistemology

The questions we have just set may seem all-encompassing, in their either-or form; and may seem to be posing an unhappy set of options at that. We want, in the rest of this paper, to open to a more optimistic way of understanding the relationship between the university and epistemology. We use the term 'optimistic' here in two ways, of pointing to another way of conceptualising knowledge and the university in the contemporary age, and of a sense as to the plausibility of this alternative epistemology. There are good grounds for considering that its time is coming.

We start by injecting time as an explicit component of this discussion. The 'modern' university has existed for 900 years and so it makes sense to orient an inquiry into knowledge and the university into the future, and so attempt to see knowledge from a point in time that does not yet exist. To put Heidegger together with Lyotard, we would pose the matter of knowledge and time: an inquiry into the condition of the university. If the aspects of the contemporary university mentioned above—assemblages, digitalisation, screen-based 'understanding', fluidity, the neoliberal knowledge economy, and cognitive capital—are present, this does not necessarily herald the dissolution of knowledge and the end of the university. On the contrary, these moments of crisis suggest the possibility of a new beginning of the university. Instead of a 'university pessimism' that builds on the thought that we have lost or exhausted knowledge, we contend for a 'university optimism'.

A way forward lies in a recovery of the idea, and the matter of thinking. Following Heidegger's notion in his seminal work *What Is Called Thinking?*—and, as foregrounded by Paul Gibbs in his book on Heidegger and the university [21], "*[w]e are still not thinking*—not even yet, although the state of the world is becoming still more thought-provoking" [22] (p. 4). This is another way of understanding the university of today as a university for tomorrow [23], and as Standish argues, we must, in the future university, develop a capacity and a "readiness to let go—say, release ourselves from our most comfortable thoughts, unloosen our fixed assurances, be ready to live in a new way" [23] (p. 163).

According to Heidegger, the thinking that takes place within universities distinguishes itself in the way that it does not only respond to an immediate claim of instrumental understanding. As Heidegger puts it, "[m]ost thought-provoking is not only what gives food for thought, in the sense that it makes the greatest demands on our thinking"[22] (p. 35). For Heidegger, "most thought-provoking is what inherently gathers and keeps within itself the greatest riches of what is thought-worthy and memorable" [22] (p. 35). So, what is it that is the most thought-worthy today for the future? Surely, this is difficult to know for certain, because it depends on how we arrive into the future; but *our thinking may help to unfold possible futures* and on the way transform such thinking into knowledge.

In line with Heidegger's thinking of the future, Nietzsche underlines that we cannot arrive into the future if we do not break our webs of knowledge along the way. Nietzsche argues that one of the central problems with creating new knowledge is that "[w]e sit within our net, we spiders, and whatever we may catch in it, we can catch nothing at all except that which allows itself to be caught in precisely *our* net" [24] (p. 117). When something disturbs our web of knowledge we become wary, because we realise that "[the university] has sprung a leak, like a glass into which something too hot has suddenly been poured—and [it] was such a precious glass" [24] (p. 479).

Seeing the universities in doubt of how to move forward today is not a sign of a crisis, but on the contrary it shows that not only knowledge, but the foundation of knowledge is transforming, and that the university stands before "[its] own morning, [its] own redemption, [and its] own daybreak" [24] (p. 1). Even if the university is in ruins [8], that does not mean that we are losing the university, but rather suggests that a new university is acquiring shape in order to match the thoughts emerging from the future. Indeed, the university is becoming networked, situated in webs that attach it to other structures and that may catch only entities that come its way [25]. Seen this way, we need to learn to think the university (again).

Paraphrasing Nietzsche, we may say that "[universities] are experiments: let us also want to be them" [24] (p. 457), and that "[t]here are so many experiments still to make! There are so many [university] futures still to dawn" [24] (p. 188). University optimism does not mean that universities should be carefree and expect that thinking for the future arises by itself. The point here is that we are in the not-yet-ness of the future university and we are still, with Heidegger, "*inter vias*, between divergent ways" [22] (p. 46).

Heidegger suggests that "[n]othing has been decided yet about which is the one inevitable, and hence perhaps the only, way [of thinking]" [22] (p. 46). This form of thinking, which is not only for the future but *from* the future, is what Gibbs calls Heidegger's 'original thinking' [21] (p. 142). Such a conception of thinking connects with Barnett's call not just for imaginative thinking in higher education but for a form of imaginative thinking that is at once critical, real, utopian, and optimistic [26]. However, thinking—if it is to have direction—has to have some interest in coming to know the world, even if that coming to know is oriented towards a new kind of knowledge.

So, within the perspective of university optimism, knowledge should not be thought as lost as such, and maybe not even properly begun. This does not mean that we should 'unthink' or stop to think about matters of immediate professional or economic relevance. Indeed, this is a vital part of understanding the university and of thought *within* the university. However, thinking *from*, and not merely *for*, the future means to respond to challenges and responsibilities we can only glimpse in the periphery of time, or the so-called 'darkness' of teaching and learning futures [27]. It is indeed difficult to think and grasp what varieties of social norm and value might arise out of a future time where the geographical territories may be different from today, where the climate may have changed, and the conditions of agriculture, industry, and cultural life are altered in ways hard to imagine today. As the future is dawning, our response through thinking dawns as well.

Thinking can assist the discernment of, and judgement of, contending possible and even implausible futures. In neoliberal discourses such thinking has been derogatorily described as speculation—a form of mind gym with no immediate face value and practical relevance and application. However, speculative thinking, and indeed speculative realism [28], is at the heart of universities for the

future. Speculative thinking is an imaginative form of thinking, "the imagination [having] a power to see into things, to feel into things, to be at one with things anew, so as to produce a new understanding of the object of the imagination" [26] (p. 25). We suggest that a 'speculative epistemology' and speculative thinking more generally will enable the emergence of "knowledge, [which] does not merely relate back to socio-political and cultural events and meanings, but also derives from much deeper ontological strata and reservoirs within the university itself" [29]. We consider such thinking is especially timely, which is to say that there may even be presently emerging forces that will call it forward.

5. The Optimistic University

The relationship between the university and epistemology described as 'speculation' and 'imagination' above should by no means be seen as an expression for a remoteness or disengagement with the social world. Indeed, we argue that an optimistic university is a university-in-the-world and thinks the future *from* the world. To think from the world means different things here.

First, as Paul Temple [30] argues, the world and environment in a physical sense is certainly important for the thinking going on, and becoming possible, at universities. As Temple underlines, "[t]he physical resources of the institution, the buildings in which they are held, and the land on which they are built are (. . .) critical to institutional success" [30] (p. xxi). The sheer material and spatial environments influence our social behaviour and conditions how we interact and engage in dialogue and thinking [31]; Secondly, learning spaces and thinking spaces may just as well be "mental and metaphorical" [32] (p. 1), and the complexity of the ordering and structuring of such spaces is what Savin-Baden terms a "spatial ecology" within higher education [32] (p. 19); Thirdly, the university is ecological not merely within itself as a complex and multi-layered organisation. The ecological university is embedded "in the ecologies of the world [and] it realises its ecological aspirations partly in its acting independently to help develop the world, in all the dimensions the university has a legitimate role to play" [26] (p. 137).

The embeddedness of the university in the ecologies of the world is the very premise for thinking *from* the world [33]. As Heidegger [33] explains, when we dwell in the world, we do not merely inhabit it as one inhabits a building. To dwell in the world is to care for the world and to "cherish", "protect", and "preserve" what is valuable in the world [34] (p. 145). For Heidegger, dwelling and thinking are intimately linked, and in Heidegger thinking is never aloof and abstract but, on the contrary, we "think for the sake of dwelling" [34] (p. 159).

Building on these insights, "education itself should be seen as having a 'Dasein', a 'being *there*" [33] (p. 9). However, this does not mean that universities *of* the world and forms of thinking *from* the world end in status quo and reproduction of contemporary socio-cultural values and belief-systems. The meaning of 'world' in Heidegger always transcends "its [different] modes [and] whatever structural wholes any specific 'worlds' may have at the time" [35] (p. 93). As Heidegger writes, a bit obscurely perhaps, in his *Black Notebooks*:

> The 'world' is out of joint: it is no longer a world, or, said, more truly—it never was a world. We are standing only in its preparation. (. . .) World—not a mantle, not an external enclosure; but also not the soul and something interior—quite to the contrary, the vibrant middle of the 'there', a grounded middle that stands in the clutches and joints of time [36] (p. 154–155).

This aspect of world-ness or 'worldhood' [35] is exactly what is required in the optimistic university. Universities are special, not because they are secluded from the world, and neither because they are caught up and absorbed by the world, but because, as Heidegger writes, they constitute "the vibrant middle", which is also "a grounded middle" between the world and what lies outside or beyond the world. The optimistic university thinks from the world as we know it *and* it thinks from what the not-yet-ness of the world.

The optimistic university must place itself between the world we know and the "nameless" [37] (p. 151). This way, thinking becomes "an *adventure* not only as a search and an inquiry into the unthought" [37] (p. 180), but a thinking that is, in part, formed and shaped by the world. Not only the world we know, but also the world that is '*not-yet*'. In the optimistic university, our thinking is marked by the furrows made from a world that is not yet here—but the thinking from that world is already here among us. Such furrows in our thinking are, as Heidegger writes, "more inconspicuous than the furrows that the farmer, slow of step, draws through the field" [37] (p. 181). We have to pay close attention to see them and to extend our thinking from these furrows.

6. Ecological Thinking

In this final section, we offer the idea of the ecological university both as an example of the 'optimistic university' and also which might offer the university a way of thinking differently into the future.

The ecological university both is pulled into and propels itself into the future. The ecological university, after all, situates itself in the large spaces of the many ecosystems in which it is implicated. Guattari [38] recognized three ecological registers—those of the natural environment, social institutions, and the individual. Even though Guattari's model of ecological registers is fundamental to our own conception of ecology, we argue that his typification needs to be radically extended as it is not mainly occupied with the understanding of higher education practices. The ecological university, we contend, is sensitive to at least *seven* ecosystems: those of knowledge, the economy, social institutions, learning, individual persons, culture, and the natural environment [39]. To point to a panoply of ecosystems such as these is to point up that the contemporary close association between the university and the economy represents a gross neglect of the many ways in which the university inter-connects with its wider hinterland. However, to observe this array of ecosystems attendant on the university is doubly to bring the matter of time into play.

Firstly, these ecosystems pull the university into the future, whether the university recognizes the matter or not. These ecosystems stretch out into the future and act upon the university. They hold the university in their sway, web-like, and move in the university and pull the university onward. This is not an eco-university as such. That university formation arises when a university recognizes that it has multiple connections with the world, supplied by the seven ecosystems, and strives intently to play its part in helping those ecosystems to thrive. The ecological university works deliberately to identify shortcomings in its ecosystems and to do what it can to repair its ecological hinterland and even to improve it; Secondly, therefore, the ecological university wills itself into the future.

Large challenges immediately present themselves for any university willing to acknowledge its responsibilities in this way. What are its possibilities for aiding public understanding and so helping to distribute knowledge across the world and assisting societal learning processes (and so advance the ecosystems of knowledge, social institutions, and culture)? What options are available to it, in the disciplines in which it is situated, to widen students' hold on their world and so encourage their students' being-in-the-world (and so advance the ecosystems of persons and of social institutions)? Can it give concrete expression to the idea of students-as-global-citizens (and so advance the ecosystems both of learning and of persons)? Through its understanding of itself as a cameo of the diversity of the world with its students from over 100 nations—as is the case in many universities—can it seize opportunities for it to become a centre not just of culture but of cross-culturality (and so advance culture as an eco-system)? Can it work to bring disciplines into more lively and positive interactions with each other and so advance the knowledge ecology?

These are but intimations of the kind of thinking on which the ecological university might embark. This would be raw thinking for its ecological possibilities could not be read off of the world but would require imaginative thought. Nor could it be thinking that fell into line with directives of the state. To think 'rawly' demands great effort, and indeed, as Nietzsche remarks, "[n]othing is more costly than a beginning" [40] (p. 387). Rather, the university would itself have to become a space and

even a 'machine' for 'collective' discerning of its own ecological possibilities [41]. This is far from straightforward. It is not just that multiple paths of possibilities open for the ecological university, still less multiple 'lines of flight' [41]. It is also that those possibilities will pull against each other and may even be in conflict with each other.

The ecological university has to live in multiple spaces, afar and near. Its academics, its departments, its course teams and its research units may legitimately have contending values. The ecological university is minded to attend to the fuller wellbeing and the fuller flourishing of its ecosystems but what might fuller wellbeing and fuller flourishing look like? How might it weigh the calls of practical affairs, interdisciplinarity, and multiple ways of being as it attends to its students as persons? What value, if any, does it place upon those students' life*wide* learning? In making itself more open to multiple publics, to what extent does it make its knowledge wares freely available to the wider world? Does the idea of 'intellectual property' hold water here?

A clarification is perhaps needed here. In the 21st century, many universities attempt some kind of 'environment scanning' as they forge a 'corporate strategy' for themselves, and such a strategy may have a temporal horizon even 25 or 30 years into the distance. Having a future orientation and imagining its possible futures are not characteristics solely of the ecological university. The entrepreneurial university also lives in and for the future in some ways and even attempts to imagine its possibilities. However, as between the entrepreneurial university and the ecological university, the two modes of living in and for the future are quite different.

The entrepreneurial university lives for the main chance, seizing opportunities that come its way to advance its own position—in the world rankings, in its economic and epistemological power and in its public esteem. The ecological university, in contrast, lives for the wellbeing of the whole Earth [42]. Understanding itself as embedded in multiple ecosystems that spread out across the world, it sees itself as having responsibilities towards those ecosystems. The entrepreneurial university lives for itself and its choices are a matter of economic and instrumental reason. The ecological university lives in, from, and for the whole Earth and its choices and its challenges are largely ethical in character.

Opening here, then, is a sense that the ecological university is characterised by an *ecological epistemology*. Its work, its efforts to understand the world and to advance understandings in the world, are guided by a will to advance the ecosystems of the world. It gives itself to the world, and has concerns for the world, and these concerns inflect its knowing efforts. Certainly, as Nietzsche points out, such knowing efforts *for* the world *from* the future will assume shapes not yet imagined, and, indeed, such knowledge "will acquire new forms that are not yet *needed*" [40] (p. 329—our italics). If for Newman, knowledge was 'its own end' and if, for the entrepreneurial university, knowledge is that which is of most use (in a negotiation between the university and the dominant powers in the world), for the ecological university, knowledge is that that is likely to tend towards an advancement in the ecosystems of the whole world. The epistemology of the ecological university is 'for a people-yet-to-come' [43,44].

7. Conclusions

The intimate association between knowledge and the university is in difficulty on two interconnected fronts. What knowledge is taken to be has broken open, both *within* the knowledge of the West *and* as between the North and the South. It is not clear what legitimacy might be accorded to either the humanities or to indigenous knowledges. At the same time, it is not clear that the university has any defining purpose other than to seize the main chance amid cognitive capitalism (a capitalism that now straddles the world, including Asia). That these two features are closely linked in that knowledge has been a defining concept of the university, a dogma indeed.

Against this background, knowledge can only be retained for the university—as a defining concept—if it is rethought. Accordingly, thinking itself and a new way of thinking the university at that, has itself to come forward for consideration; and a thinking into the future and for the future. It may just be that the idea of the ecological university both furnishes a new way of understanding

the university and of calling forth a new epistemology for the university that can serve it through the 21st century.

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