What is of value in University 3.0? The future of higher education in the knowledge society

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Judging from the constant number of Higher Education policies and white papers being produced, it seems that the UK government is struggling to understand the role and value of universities in a new knowledge society/economy context. At the heart of the issue is the simple and basic question of how we can make our universities more impactful whilst not breaking the bank.

Thus, we find ourselves in a time of some of the biggest conceptual shifts in the Higher Education sector since the Higher Education Act of 1992. Many of our universities are on their own journey of understanding how they provide relevant provision for our knowledge societies of the 21st century; provisions that are aimed at innovating learning whilst balancing perceived value with society's needs to support sustainable progress. And this – I would suggest - happens continually <u>despite</u> (and <u>not because of)</u> overarching policy and regulatory frameworks, which seem to afford a risk-minimising conformity rather than USP-resulting experimentation. This is, of course, contrary to various explicitly formulated policy aims, thus simply demonstrating some helpless flailing as part of the adding to the layer-cake of various failed policy interventions.

Within the sector itself, however, there are an increasing number of conceptual and critical expressions in the form of seminal books about the role of universities, and plenty of university initiatives that are attempting to put institution-wide educational innovations into practice. Examples for this can be seen in the UCL's Connected Curriculum (Fung, 2017); Staffordshire University's Connected Communities Framework (Staffordshire University, 2017); Watson's (2011) explorations of what an engaged university should be like; Thomas and Brown's (2011) focus on learning environments and Davidson's (2017) 'new education'; Lincoln University's Students as Producers (Neary, 2010).

Institutional innovations will be what makes individual universities unique and have character, but - specifically in England - there are tensions with the countrywide policy and regulatory frameworks in which institutions are required to hunt after the same performance metrics proscribed by external sources, such as TEF and REF (and KEF in the future) as well as various League Tables. But these externalised levers quickly become part of a perfunctory regulatory culture which stifle innovation, as they increase the already high risk to institutions. Furthermore, this is at a time where we need to grapple with some very big societal, economic, political and environmental paradigm shifts that our HE institutions need to be part of and drive forward in a sustainable direction.

In relation to providing educational provision to meet this need, there are tensions for universities at the heart of how and what we do for learners; the way we create, develop, transmit, acquire and verify the validity of knowledge; who the individuals are that create or co-create; who claims ownership and how we measure its value.

The above would be a relatively benign way of representing a political and ministerial mindset in which our universities have become increasingly the scapegoat of choice, as David Sweeney suggested in December 2017 at a SRHE conference keynote. Over the last three years, various government officials seemed to have washed their hands of the responsibility for the mess in which our nation finds itself, comprehensively outlined in George Monbiot 2016's journalistic explorations of class, inequality, environment, growth obsessions, and financial crises (Monbiot, 2016) or Brown's academic analysis of The Inequality Crisis (Brown, 2017) . Perhaps exactly because Universities are one of the few sufficiently public funded institutions left that cover the whole

country, they have increasingly been the focus of ministers wanting to turn the last levers to make all of our nation's miseries disappear. During 10 years of Hunger-Game austerity and 3 years of Brexit-Blindness, Universities are continually and increasingly being asked (some would suggest 'media-shamed') to take responsibility for a) growing economic productivity; b) increasing social mobility; c) solving the challenge of our failing school systems; d) meeting the increasing expectations of student consumers; e) reducing immigration, and f) doing all that with decreasing public funding and simultaneously being increasingly forced to allow market forces to regulate their work; because, of course, this has worked so well in other sectors.

And then there are the headline grabbing initiatives that ensure that the sector feels so run off their feet having to address the various sector-undermining claims that innovation often simply seems too risky. Remember the furore around VC's salaries? Although the debate between the richest and the poorest is a valuable debate to be had in terms of debating social inequalities, to focus on universities should always be seen as a confusing message at best and an intentional diversion-tactic at worst. On the one hand, the government introduced market competition in the HE sector - 'deregulation' and 'freedom' to innovate; but on the other hand, it simultaneously asked for the highest amount of scrutiny - public accountability and comparison with the public sector – and this to a degree that few private sectors experience (Rushforth, 2017). English universities are thus being torn asunder, on the one hand asked to act as businesses while on the other having to undergo intense public-accountability processes. This constantly feels like being knotted tightly into a public accountability straitjacket, with hands and feet tied behind your back, whilst having been thrown into a competitive free market shark tank. The only movement left to us is squirming defensively, and that is certainly what the HE sector has been doing.

The result is that (through regulatory processes and their policy interventions, with some substantial undermining within an insatiable conservative media, all of this attached to real existential institutional risks), it is easier for universities to take their eyes off the ball and play it safe at a time when we need to be innovating the ways in which we engage with society and the economy.

There is a general acknowledgement in the sector that there is a shift needed in how our higher education institutions facilitate their learning communities in gaining and making use of knowledge. To understand this trajectory of the last 2 to 3 decades, I have started to use a conceptualisation of an evolutionary journey from University 1.0 to University 3.0. In this conceptualisation, University 1.0 represents more predominantly those periods and institutional cultures associated with an inherent perception of "knowledge ownership". This trajectory can be seen as an evolutionary narrative of higher education histories, but it is also representing ideological pluralities that exist in a rich, and diverse ecosystem of contemporary higher education. Thus, for instance they also include aspects of our 20th century universities that brought forward institutionally-owned IP and copyright, both in terms of knowledge produced and learning content created which they felt they 'owned'. Thus, aspects of both the mediaeval and the Humboldt'sche university model can fall under this conceptualisation of "knowledge ownership" influencing how content is managed, taught, protected and produced. Typical teaching practices include processes that represent a knowledge exchange from those employed within the institution to those who don't (such as large lectures), as well as sophisticated IP models to protect learning content. This model is more predominant in- and certainly started during the pre-internet era, as knowledge exchange and delivery was more easily managed when "institutionalised".

University 2.0 moved into the era of massification of Higher Education, characterised by a steep increase in learners; expanding and fragmentating knowledge domains (BOEHM, 2014); and the use of metrics to personalise mass produced and marketed learner products. Concepts were introduced

of quality assurance products (e.g. validations); standardisation of content (e.g. QAA benchmark statements); and concepts around students as consumers and universities as businesses. In research, the more predominate form of methodologies still conform to linear process routes from research to commercialisation (Boehm, 2015; Gibbons, 1994). Massification is part of the experience of University 2.0 and necessitated advanced data-centric systems. Like a box of assorted chocolates, they were able to personalise the products to the extent that learners felt they received what they needed, whilst experiencing a 'mass-produced' service. But a key aspect remains - that knowledge is central. Academics were curating the knowledge for their learners as they navigate these fragmented fields of content, the fragmentation of knowledge resulting out of expanding knowledge fields (Sperber, 2005) . That is to say that knowledge had become expanded to such an extent, that deep knowledge domains increasingly appeared as unconnected fragments within larger subject areas. This fragmentation is what Sperber re-conceptualised as 'brittleness' (Sperber in Boehm, 2014) and consideration of how to connect these domains took on a new momentum with an increase of scholarly work and practices into interdisciplinarity in Higher Education (Boehm, 2009; Moran, 2010). With this fragmentation comes the debate of value, e.g. University 2.0 conceptual models have an inherent friction between knowledge depth and knowledge breadth; transactional purpose of knowledge/skills vs the basic need of humans to pursue a better understanding of our role in the world. But in University 2.0 there is still the concept of universities being the patrons of knowledge, now also being the curators of that knowledge for both transactional utilitarian purposes as well as expanding our understanding of reality.

However, I would suggest that we in the sector are now entering an era of University 3.0, and this seems to not be well understood by current policy makers. University education is becoming more a process of curation of interfaces between knowledge and society. Universities are increasingly becoming aware that the quality of their learning environments are becoming more important than specified and static learning content. However, current underpinning quality assurance frameworks meant to assure quality, often comprehensively do not take into consideration that knowledge is all around us in our contemporary world, and that universities are just one part of this knowledge society and economy. They are increasingly not the sole holder, owner or even curator of knowledge anymore, but curator of the environments in which learning happens. They are becoming more permeable and learners and researcher more often co-own, co-produce and co-create. There is a big role here for knowledgeable and expertise rich actors as lecturers and professors, but their predominant role of interacting with learners moves away from transmitting knowledge (University 1.0), and also away from curating knowledge (University 2.0) to facilitating learners to bring knowledge that is all around them to the learning process and managing this complexity in a curated learning environment in which sense-making and knowledge-creation is constantly part of that environment (University 3.0).

Thus I would argue that universities need to have the freedom from content-based regulatory constraints (e.g. QAA subject benchmark statements) and risk-rich, metric-driven performance measures (TEF) and be allowed to consider how their support for learning and knowledge production processes feed into the design and curation of these interfaces, these learning environments, in which learners are supported by drawing from knowledges that are ever-present and all around us. Thus, we carefully position various interfaces between different levels of learners, different types of communities and different disciplines. This careful positioning is a process of curating interfaces, with the <u>facilitation</u> of learning being at the heart of this process, rather than the acquisition of knowledge itself. This nuanced distinction is one that Douglas and Brown (Thomas and Brown, 2011) have written about in their "New Culture of Learning", which (oversimplified here) suggests that we, in the universities, need to focus more on developing and specifying environments

in which learning happens, or is afforded, rather than the knowledge content with specific learning objectives.

And these environments between University and external sectors will need to become more permeable, to allow universities to remain a key element in benefiting our knowledge economies in the future. I wrote in 2016 (Boehm) that it might be useful to consider formalised partnership models that allow the barriers of these different spheres to be negotiated more effectively, to allow our institutions to become ever more permeable. Partnerships are key for this trajectory. For all these aspects, the design of environments as permeable partnership-ecosystems are necessary, and future study practices will increasingly need to adapt to this new learning environment. It should also be noted that this learning environment stretches seamlessly to research. This conceptualising has been formalised by Etzkowitz's model of university-industry-government partnership, the triple helix (Etzkowitz, 2008) , expanded in 2012 (Carayannis and Campbell, 2012) to include the third sector, and with it universities' own civic engagements. Watson (Watson, 2014, 2011, 2009) has foregrounded this latter role; his concept of the 'engaged university' proposes that social enterprise and the not-for-profit sector should be considered within the helix model. These quadruple partnerships are evidenced to better support innovation, but they also allow innovation to happen in a non-linear, collaborative manner with overlapping processes of basic research, application and development, creating what has been called a 'socially distributed knowledge' (Gibbons, 1994) or a (Mode 3) 'Innovation Ecosystem' (2012). Within the undergraduate learning frameworks, these ideas have been comprehensively explored and conceptualised within an undergraduate and postgraduate context in Fung's Connected Curriculum (Fung 2017). And as part of my work on University 3.0 (Boehm, 2018a, 2018b), the importance – and challenges – of partnership-rich learning ecosystems feeding into forward-looking sustainable learning environments foregrounds the need to move away from 'content' to 'environment'.

And this is where our universities come in, providing we can move our own academic practices from a culture of specifying learning objectives, devising constructive alignments, specifying terminologies a la Bloom, quality assuring every single knowledge 'package' within a curriculum and validating its specific mode of assessment, to a more open consideration of learning environments and their related study practices, and how these need to be designed in order for learners to tap into their own passion of learning and drawing from the knowledges that surround them, both within the academic institutional boundaries and from outside. These environments will need to be designed to be permeable themselves, have both the academic dimensions with its deep knowledge domains and the applicability and cross fertilisation opportunities of the world outside.

In the innovation context, this matches concepts coined under the term of Open Innovation 2.0 (Curley and Salmelin, 2015), but as facilitators of learning, we will need to consider what this paradigm shift actually means for our learning frameworks. There are examples where this has always happened in practice, as in my area of arts and creative practices. But the move from formalised and structured learning objects to formalised structured learning environments has only just begun. Any future TEF will need to consider its implications in order not to stifle innovation at a time where we need to support the adoption of new education paradigms.

This article is based on the recently published chapter in an anthology about innovation in music production (Boehm, 2019). Carola Boehm is Professor of Arts and Higher Education at Staffordshire University. She holds degrees in music, computer science and electrical engineering. She has lectured and held positions at the University of Glasgow, Manchester Metropolitan University, the

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