The Kantian University

Worldwide triumph and growing insecurity

Simon Marginson

University of Oxford

Introduction

How might we think about that institution called 'the University', at home and across the world? Because something like the institution we know is now found in every part of the world, and there are identifiable commonalities everywhere. Are the small quiet foundations of the University in Europe still relevant? What kind of institution has the University become?

One historical example is that of the National University of Ireland. In 1845 the Queen's College Act established constituent colleges in Cork, Galway and Belfast. In 1851 John Henry Newman was made the first rector of the Catholic University. This University was independent of the coloniser-state, and accordingly it was suborned and marginalised. At first the Catholic University was blocked from granting degrees. However, in 1882 it became University College Dublin (UCD); and in 1908 UCD, Cork and Galway were federated in the National University of Ireland. Then those universities, like their counterparts elsewhere, began their long ascent to the peak of modern society that they now occupy. UCD alone enrolled 33,724 students at last count. It is a global university. And yes, UCD grants degrees. In the most recent year, there were 8,857 awards.

Yet in a fashion the small beleaguered founding Catholic University of Dublin still resonates. It is still with us. Its influence too is global. In 1852, J.H. Newman, the first rector of the University, delivered the lectures that became *The idea of a University*. There is no more beautifully written book in the literature on higher education. It still compels us. Newman's model of the worldwide institution was born in colonised Dublin.

This article discusses the University as an institution in three parts, moving from the abstract to the concrete. The first and longest section begins with the University as a social form or type: what it is, its inner motors, what holds it together; and its outer drivers, what holds it in society. The second section remarks on tendencies in the university in which we now live, the contemporary university. The third and concluding section discusses limits and problems of the University. It is called 'The insecurities of the University'.

The University as a social form

There is much written about the University as a social form. Yet it can be argued that there are only three great 'ideas' of the University. One is Newman's idea. The second, which preceded Newman in time but is more modern and more important, is the German idea developed by Immanuel Kant and Wilhelm von Humboldt.

The third is the American research university idea, which was the successor to the German idea. The American idea, carried by large-scale science based institutions of social status and power; and normalised by global connections, globally visible exemplars and global rankings; is the dominant model today.

Three ideas of the University

Newman's idea and the American idea have each been summarised in a brilliant book. The German idea must be gleaned from a larger body of works and practices. Nevertheless, the German idea is the pivotal moment.

John Henry Newman

Newman (1982) is obsolete. Yet Newman's 'idea' is ever-present. His invocations against vocational utility, and against research in the University, are no longer persuasive. But Newman did not set himself against knowledge as such. Newman's pellucid vision of teaching and learning was of personal development immersed in diverse knowledge. He told us that knowledge and truth are not just means but ends. "A University", says Newman, "taken in its bare idea ... has this object and this mission; it contemplates neither moral impression nor mechanical production: it professes to exercise the mind neither in art nor in duty; its function is intellectual culture, here it may leave its scholars, and it has done its work when it has done as much as this, it educates the intellect to reason well in all matters, to reach out towards truth, and to grasp it" (Newman, 1982, pp. 94-95).

Learning is also good for students. "The knowledge which is thus acquired", says Newman, "expands and enlarges the mind, excites its faculties, and calls those limbs and muscles into freer exercise" (Newman, 1982, p. 128). This is good for everyone. "If then a practical end must be assigned to a University course, I say that it is of training good members of society. Its art is the art of social life, and its end is fitness for the world" (Newman, 1982, p. 134). Newman's idea is no longer enough to comprehend the many-sided work of the University. Yet the positive vision is right in itself. Newman's idea is still part of the University's heart.

Immanuel Kant and Wilhelm von Humboldt

Meanwhile, something similar but also different had emerged in Germany. There, student development through immersion in knowledge was explicitly joined to a larger social and governmental picture. Knowledge was seen not as a given doctrine but as a living and changing practice and its development became one of the functions of the University. Further, by cultivating reason in students, education did not just fit them for society, it also transformed and improved society (Biesta 2002). This was Kantian enlightenment, in which the education of students in continuous self-formation, Bildung, became one of the drivers of modernity (Kivela, 2012). The Bildung idea, arguably the most developed original philosophy of education in the Western tradition (even John Dewey's powerful work on education is primarily an expansion of its themes), still resonates. Bildung implies an education dedicated to the unbounded evolution of individual and of collective human potential. Selfformation through education opens new and widening horizons as it proceeds. The educability of the self-forming learner is not fixed but is continually expanding (Sijander 2012). In the optimistic modernist vision of Bildung the intellectual creator stands on the shoulders of giants, but by the same token, that creator stands ever-higher than any of those who came before

Kant published the epochal essay What is Enlightenment? in 1784. Kant (2009) called on the public to enlighten itself, to use critical reason to interrogate the times in which it lived. Importantly he emphasised that critical reason does not emerge naturally. It must be instilled through education (Kivela 2012).

Much was happening in 1784 when the idea at the root of the modern research university was germinating. In Vienna, Mozart wrote his 17th piano concerto, K453 in G Major, arguably the first of his really great keyboard concertos in that astonishing run from number 17 to number 24 in which the mind emerges in the music with a new directness, clarity, scope and reflective depth. Like Kant, Mozart, intensely curious about the intellectual currents of his time, seems utterly contemporary with us. In London, the young JMW Turner was beginning to reflect upon the character of light. Five years later the French revolution began, in which the public, following Kant's advice, interrogated its times and found in them liberty, equality and solidarity. Contemporary Western politics was born.

After the revolution, the European states which had been rocked to their base could never return to the old regime. Their new ambition was to be modern and stable at the same time - to find ways both to augment the newlyfreed individual agency that has been fostered in the revolution, while at the same time controlling that agency, harnessing it to the state. Wilhelm von Humboldt took the Kantian idea of Bildung, socially nested self-formation, into the blueprint for a new kind of University. This can be called the Kantian University. It became successively the modern European University, the reforming American University, and the world University of science and critical scholarship.

Von Humboldt's University of Berlin, founded in 1809, had a formative curriculum that was both broad and deep, grounded in history, classical languages and literature, linguistics, science and research (Kirby & van der Wende 2016). He wanted a University that would serve the state and at the same time would do so in the form of an autonomous institution with freedom to learn and to teach, Lernfrebeit and Lebrfreibeit. These notions, with their inner tensions, became central to the German university and the American research university

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that followed. Across the world, faculty still defend their self-determination by invoking the global culture of the Humboldtian university (Sijander & Sutenin, 2012), though this is now more focused on the freedom of the academic than the freedom of the student.

Clark Kerr

The American adaptation of the German science university began with Johns Hopkins in 1876 and had spread to Harvard and the other Ivy League institutions by the early twentieth century. In another form, it radiated via the land grant movement, with its un-Newmanlike service to agriculture, industry and government. In retrospect, we see here the beginning of the triple helix (Etzkowitz & Leydesdorff, 1995), the third mission and the engaged

university. After World War II and the Manhattan project, research flourished in the leading universities, while the United States became the first mass higher education system. Almost ninety years after Johns Hopkins, in 1963, University of California President Clark Kerr gave

three lectures at Harvard and turned them into the definitive account of the American research university, *The Uses of the University* (Kerr, 2001).

This is a fine book, as realistic account of the University as has ever been written. Fifty-five years later it is still largely right. Kerr's vision lacks the Internet and globalisation but otherwise remains definitive of the institution. It is more prosaic than Newman, but Kerr has great clarity of mind and word; and he takes in the whole University and polity, and part of society and economy as well. His main point was that the small elite university of Newman's time had grown into the large ever-growing "multiversity". The multiversity is multiple and diverse in missions, functions, sites, disciplines, students, inner interest groups and external stakeholders. This loosely coupled combinatory model is in fact highly functional. Variable cross-subsidisation from teaching protects the non-economic character of research. Revenue shortfalls can be quarantined because of the part-decoupled character of functions. Kerr said that the multiversity had no single animating principle. He was not sure what held it together. He thought that it was probably not the university president, though it was apparent that the administration was everywhere becoming more important in the larger institutions. Rather, the glue might

be its reputation, which he called its "name" (Kerr, 2001, p. 15), and the shared interest in itself across its diverse sub-communities. It was also sustained by its growing social uses, especially of its research.

Let us now fast forward to today. Can we improve on Clark Kerr's account? What are the main components of today's University and how do they hang together?

The institution today: The Inner University

What might be a simplified description of the University today, a model of the type of 1852 Newman, 1809 Germany or 1963 United States? Arguably, the University of today combines three distinctive and essential elements. These elements are first the corporate university, second

the self-forming student, and third the knowledge-bearing, knowledge-creating faculty. Each of these three elements has agency in itself, each develops under its own power, in fact each has tremendous momentum on a social scale. They are also enmeshed with each

also enmeshed with each other. Together they comprise what we can call the Inner University.

The corporate institution

First, there is the branded corporate university, which is nested at one and the same time in local communities, national systems and global networks (Marginson & Rhoades, 2002). This is the University as an institution, one that is of distinct organisational type and has autonomous volition and self-reproduction.

The institution has the autonomy that von Humboldt was able to deploy and develop because of its particular legal structure. This is the outcome of a fortunate historical accident. The foundational medieval European universities were incorporated institutions. Though they were outgrowths of the church, for the most part they were also established under the auspices of the state as semi-independent entities. Subject to the influence of both church and state, they were wholly controlled by neither (or at least, not wholly controlled for most of the time), and in the small space left to them between the overlays of church and state they could pursue their own agendas. From this foundation they evolved as distinctive institutions with their own rituals, symbols, awards, and later their own knowledge-intensive missions. The partial

autonomy of European universities made them different to the other pre-modern forms of higher education across the world. Their laws of motion were distinct from those of the scholarly Buddhist monasteries in India, and academies in Cairo and other Islamic cities, where religion dominated; and distinct from the academies in China, that trained scholar-officials for the state. Notably, none of these other kinds of institution evolved into a worldwide form with its own identity and habits.

Today, at first glance, the semi-independent corporate University slots into the familiar idea of the self-seeking business firm. The University is often seen as another business. Yes and no. There's more to it than that, and also less. The University is not primarily driven by profit or revenues, though many universities are busily ambitious for market share. Revenues are a means to the real end, which is social prestige, social status, and an expanding social role in the lives of families, communities and economies at home and abroad. Modern universities are driven to continually expand in size and function, to aggregate people, resources and status, as Clark Kerr noted. Each extension of mission and function brings with it growth in the professional staff for whom, unlike the faculty, the corporate institution looms larger than do the individual disciplines located within it.

The self-forming student

The second element that composes the modern University is the self-forming student (Marginson, 2018a), who is nested in the aspirational family (Cantwell, Marginson & Smolentseva 2018, Chapter 1). If some students might appear reluctant to form themselves through learning, the point is that all the students are there, inside the University, and many or most of them (depending on country and type of university) will graduate.

Why are the students there? For the purposes of selfformation, yes, and there are many different modes of selfformation. There is also a leading mode. Some students want to acquire cultural capital, and some want social networks. Some students want to immerse themselves in cultural performances or student politics. Some want to form a family by marrying another student. Most students want to form themselves in more than one way at the same time. Many students want to immerse themselves in knowledge because for them knowledge is fulfilling in itself, as Newman said. In a sweeping study of ten thousand years of Eurasian history, the archaeologist Barry Cunliffe concluded that one of the two motives that distinguishes the human species is curiosity, the desire for information, and understanding, the desire to know. Cunliffe's other distinguishing motivation is acquisitiveness (Cunliffe 2015, p. 1). Acquisitiveness is the desire for objects, and for social status (sometimes derived from objects, sometimes more abstract). Newman did not discuss this. Adam Smith did. Adam Smith in 1776 called the desire for status and wealth the "the desire of bettering our condition" (Smith, 1979, p. 441). The motivation of acquisitiveness feeds what is probably the most universal kind of self-formation in the University. The majority of students, regardless of the other kinds of self-formation in which they are engaged, and whether they are enrolled in STEM, philosophy or business studies, want the credentials that universities bring. They want to form themselves in terms of earning power and/or social position. Rates of return data capture one part of this.

As a result, there is no end to the long growth of social demand for the opportunities associated with higher education. In some national systems, like South Korea and Finland, the school leaver participation rate now exceeds 90 per cent (Cantwell, et al., 2018).

The knowledge-making faculty

The third element of the University is the knowledgemaking faculty, nested in local, national and global scholarly communities. Higher education is not an easy industry in which to work as an academic, especially in the early years. For much of the career the apparent lifetime rate of return on the PhD does not justify the investment, and few reach the top of the profession where the personal rewards are greatest. Many doctoral graduates simply cannot get faculty jobs. Many are confined to a succession of hourly-paid posts. Despite this, large numbers of people want to work with codified academic knowledge, and a high proportion want to create part of that knowledge. The agency of faculty cannot be primarily grounded in the employment relation, because bright people can earn better money with more security elsewhere. They want to be faculty because this is a way of life they respect and desire. It is a vocation.

The explosive growth in the number of published papers around the world partly reflects growing national investments in science, in most countries, and the growing role of advanced knowledge in industry and government. Both points were made by Kerr (2001). It also reflects the inducements implanted by university performance cultures. But these explanations alone are not sufficient. Studies of scientific networks indicate that science is more cooperative than competitive; and grows primarily through bottom up and horizontal disciplinary cultures (for example see the study of national and global science networks by Wagner, Park and Leydesdorff, 2015). The collective faculty make knowledge because persons with power and money want them to do so. The faculty also make knowledge because it is their nature to do so, as a silkworm makes silk, as Marx said (Marx, 1979, p. 1044). Knowledge makes the faculty and the faculty make knowledge.

The University as a status economy

In the University these three distinct kinds of agency, the institution, the students and the faculty, have evolved together. They are mutually supporting. This is especially apparent in the research-intensive university, where all three kinds of agency and their interdependencies have become highly developed. Operating together, the three kinds of agency constitute a status producing economy. This function also peaks in the research-intensive university, which is almost always a socially elite statussensitive institution.

Because student formation occurs through the immersion in knowledge, through the teaching-research nexus, faculty contribute both student formation and knowledge making, at the same time. Each of the students and the faculty then feed into the status of the corporate institution. First, there is mutual status building between elite self-forming students and the institution. By attracting high scoring students, universities enhance their own prestige. At the same time, elite universities confer prestige on graduates. There is an exchange of status between university and student. Second, knowledge making faculty build research university status; while at the same time elite research universities harbour top researchers, and provide them also with prestige. Again, we see that faculty and institution are engaged in an exchange of status. There is a double exchange of status. The two status exchanges are interactive, because knowledge building by faculty, while it enhances the status of the institution, also enhances the attractiveness of the institution to elite students. In the interdependency between the three elements that comprise the Inner University, social status in different forms is both the currency and outcome of exchange.

The modern research University is a giant engine for producing and reproducing status. And to answer Clark Kerr's question, it is primarily this that holds it together. The University as status-bearing and status-creating organisation is another idea of a University, though it is not pretty. It is less about the curvature of aesthetics like Newman and more about the trajectory of lives and how the world works. Less a norm like Newman and von Humboldt and more a description like Kerr. Newman and von Humboldt did not need to see the University explicitly in terms of status. They took it for granted that in the small socially elite institution of the nineteenth century the social elite already had status. There was no mass pool of social rewards to differentiate and allocate across the population as there is now. Kerr sensed that massification had changed things, but the full implications were not clear to him. He did grasp that the University's reputation, its name, was helping to unify it.

Universal growth

There are two more points to be emphasised about the three kinds of agency which together constitute today's University. First, there is the point that each form of agency - institution, students and faculty - is self-driven and self-developing. Each grows of its own volition. One is reminded of the worldview of the American pragmatists, Dewey and C.P. Mead, with their distinctive take on Kantian Bildung, which highlights the ubiquity of growth in and through education (Kivela, Sijander & Sutinen, 2012, p. 307). At the same time, the growth of each - institution, student and faculty - provides favourable conditions for the growth of the others. This suggests that solely in terms of its inner workings, the University must expand its role and influence and resource usage over time. This includes its role as a status economy and the volume of social status that it manages.

The other point is that these three forms of agency have proven to be universalisable - or nearly so - on the world scale. The extent of similarity between universities, everywhere, though from differing national and cultural contexts, is often remarkable. This is why global rankings, despite their biases, omissions and inequalities, are superficially plausible. The corporate institution, led by a semi-autonomous strategic executive, is a form that is now widely distributed; though the executive has varying steering power; and government has a varying role, country by country, in directly regulating the University. On the faculty side, training regimes and career structures again vary markedly between countries, but the actual work of faculty in teaching, scholarship and research seems to have converged. On the student side, the modes of self-formation seem much the same everywhere, though the balances between self-investment in position and in knowledge can differ.

A proof of the portability of the European/American university form is its ready adoption in East Asia, where civilization is deeply rooted and is different to the West in important respects. China, Singapore and South Korea have corporate university presidents, fecund researchers and self-investing students. Each element is somewhat modified when compared to the originating American university form. In China and Singapore, the universities are more closely embedded in the State than is the case in the Atlantic countries. The faculty have a stronger sense of responsibility to both their students and the state. Students are more diligent in fashioning themselves through education (Marginson 2016, Part II; Marginson 2018a).

The Outer University: social roles

So far, this article has discussed the Inner University. It has stopped short of nesting the University in social purposes and roles, aside from making the point that it produces status, which is grounded in social relations. But when we model the University today, the Outer University, nested in society, is equally important to consider.

Newman and Kant imagined the university/society relationship as entirely university driven. As noted, Newman believed that students immersed in knowledge were thereby made fit for society. Kant believed that persons immersed in learned knowledge would, working together, both expand the space for public rationality and generate the continuous improvement of society. There is something important in this supply-side vision. For example, the greater is the number of students immersed in science, the more scope there is for science in public conversation and policy. Yet neither the Newman idea nor the Kant idea capture what is socially distinctive about the University or explain why society continues to sustain it.

The official narrative

There is another narrative about the social role, that is sustained by national governments. In this discourse government define the outcomes that universities should serve. Government funds and regulates universities in order to secure social and individual benefits, which are primarily in the form of individual opportunity and collective economic prosperity. This is a more prosaic, less universal and more nation-bound version of the Kantian narrative. But this governmental narrative is not very convincing. The agency of each of the three forces that have been described - the University as an institution, the self-forming student, the knowledge making faculty - is simply too strong and too autonomous to be driven, defined, limited or contained by either nation or nation-state. Certainly, the University is conditioned by government, especially through funding and regulation. It is by no means wholly determined by government or even politics.

Global research universities are partly disembedded from nation-states, operating with a high level of freedom outside the border, in their research and alliance making (Beerkens, 2004). Universities and faculty, not government regulation, shape the bulk of research activity. Governments fund, and interfere, but they are not the motive force. In their network analysis of science Caroline Wagner and colleagues concluded that "the growth of international collaboration" is "decoupling from the goals of national science policy" (Wagner, et al., 2015, p. 3). Though governments think they fund research to advance national policy goals, the quantitative network analysis by Wagner and colleagues finds that in two thirds of nations, the pattern of national science activity is now driven primarily by global networks, rather than the global patterns being driven by national research system activity (p. 9). This again emphasises the bottom up, agential character of faculty research.

Nor do governments ultimately create, limit or otherwise control student self-formation. As noted, the standard policy narrative, which is embedded in everyone's thinking, is that governments expand places in higher education so as to provide opportunity and meet the needs of the economy. Yet participation in higher education is growing rapidly across the world in all kinds of economies: manufacturing economies, services economies, commodity economies, all but primarily agricultural economies in fact. Higher education is growing in economies with high growth rates and economies with low growth rates. In the longer run, family and student demand spills out from under all government efforts to limit the number of places. As participation expands to include the whole middle class and moves further down the family income scale, it becomes more difficult for young people to stay outside higher education. The penalties of not having higher education are more severe, in terms of both work and social standing. This, more so than rates of return, drives the growth of demand (Cantwell, et al. 2018:Trow 1973).

Government gives ground, successively, to each increase in the popular demand for opportunity. Its lack of control over student self-formation is shown by the fact that the participation rate does not fall, or if so it is a brief event and the enrolment trajectory goes back to growth in students as a share of the age cohort. Participation rises inexorably over time. Government finds itself opening up

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more and more places, or deregulating places altogether, though when it can it often shifts more of the cost onto families and students. Student self-formation in the University is socially driven, not policy driven.

The New Everything?

If the official narrative is misleading, what is the unique social role of the University? What does the University do, that no other organisation does, or does as well as it? Here the waters are muddy. As Clark Kerr said, multiversities do many things. As higher education expands universities take in more of society, spreads their activity maps and adopt more and more stakeholders.

At present the region and city building functions of universities are increasingly prominent: Universities are evolving as adjuncts to local authorities within networked

governance and have long been a primary source of local jobs. Along with hospitals they are often the largest employers in smaller and medium-sized towns. In the UK, universities regularly monitor and report

on non-EU international students, operating in this manner as adjuncts of the Home Office. In many locations, university performing arts provide the main local cultural life. Universities reach downwards into schools, run hospitals and sometimes information systems for whole health sectors. The National University of Mexico, as well conducting a quarter of the nation's research, manages astronomical observatories, runs research ships up and down the Atlantic and the Pacific, provides symphony orchestras and houses the leading national football team.

Is the University the New Everything? Has it become the state, and society itself? No. Though universities are increasingly socially engaged, the question is how much ultimate responsibility they bear, and in which areas? We should distinguish core and non-core functions. Most of the activities listed above could be carried out by organisations other than universities. Many do not require intensive academic knowledge. Non-university agents might be better at the arts, football, or migration policy. Some functions in health or governance are only in universities because of neoliberal devolution strategies in which governments transfer their responsibilities to autonomous public and private bodies. This is not a strong basis for the social role of universities. It also fails to explain why that social role has proven to be both tenacious and universal on a large and growing scale.

Two unique social roles

Arguably, the university has two primary external functions, or sets of functions, and its growth and survival rest on these functions. In both of these fields of activity. social organisations other than the university also play a role, but the university has a special role - it is hegemonic within the total field of activity and shapes it elsewhere. These two functions are occupational credentialing, and the production of codified knowledge.

Credentialing

Credentialing is the master system whereby the University distributes status on the social scale. It is true that occupational credentialing is shared between educational bodies, public regulators and professional bodies. In law

> and medicine, professional bodies and internships can be part of the final stage. However, the overall pattern of the last half century, in an ever-growing number of occupations, has been to diminish on the job training

and increase the role of university classrooms, reading lists, essays and degree certificates. In some occupations there is continued debate, and transfers to university are sometimes (though rarely) reversed, but the primary movement is clear.

Codification of knowledge

Likewise, many kinds of organisations produce knowledge and related information in various forms, from think tanks to media to government. Many nonuniversity organisations conduct research, including companies and public laboratories. However, in most countries universities lead published science, and they have a near monopoly of the doctoral training of researchers for all sectors. Patterns vary by country but overall, the role of large research universities in research is growing in relative terms. For example, in China and Russia, some formerly separated academies and laboratories have been merged into the university sector. Overall the research outputs of public laboratories and institutes are growing more slowly than those of universities.

Exchange between the two

The two social roles are heterogenous but have become combined. The University's hegemony in codified knowledge determines the distinctive form taken by university teaching, which is Newman and von Humboldt's idea of the immersion of student selfformation in knowledge. Students, like non-students, form themselves in many different parts of life, including the family, work and social media. Only in universities is knowledge an essential element of their self-formation. Credentialing is prior soaked in knowledge rather than in workplace skills, and this, in the diverse disciplines, shapes the agency that graduates bring into the workplace. The potency of the credentialing function provides a powerful protection for the knowledgeintensive learning regime.

The fact that student self-formation immediately prior to work occurs through immersion in knowledge at one step removed from work, and not primarily through rehearsals for occupational practice, is a perpetual source of controversy. This means that the claims routinely made by business and industry, that graduates are not adequately prepared for the workplace in general, and for specific workplaces, will always be part of the public debate. Under some circumstances - for example near universal participation in higher education, with low discrimination between different largely generic graduates which makes it harder for employers to select, coupled with fast rising graduate unemployment - this tension could spell serious trouble for the University. It has not come to that. Until now both the credentialing regime and codified knowledge have proven to be sufficiently useful for both students and industry. Each constitutes successful selfreproducing systems.

Inner/Outer status economy

One key to these processes of self-reproduction is that both the social role of the External University in knowledge, and the social role of the External University in credentialing, are essential to status exchanges in the Inner University, and vice versa. This knits the Inner and Outer University together. This is another way of saying that it knits the University into the society in which it is embedded. Credentialing is the medium for the exchange of status between university and student. The research function of the University feeds into the value of its credentials. Immersion in knowledge is the prior condition of credentialing. In self-formation students make themselves into credential-able workers. And so on.

inter-dependencies, within the Outer status economy of the University, have more consequences than the production of social status alone. The codification of knowledge ranks the different kinds of knowledge according to academic take-up, university of origin, and discipline. Credentialing also sorts graduates on the basis of university and discipline. Both functions help to order institutions and shape student investment. Once again, we find status is like a glue that holds the modern University together. Branding, ranking, now dominate the landscape. We are all aware of status, at least in its institutional form. As noted, it is not pretty. It is certainly hierarchical. Coupled with the dominance of traditional universities, the status economy is castelike, reproductive, in its sorting function.

Herein lies a paradox, grounded in a tension between cultural and social values. The same Inner/Outer casteand-status economy also reproduces the more attractive features of the University, such as knowledge production and student learning as self-formation. If students did not gain this form of social value at the moment of graduation. their drive to educate themselves would be much reduced. This in turn would reduce the extent of other forms of selfformation in higher education, including their intellectual and cultural growth; and through the interdependency between the teaching and research functions of the University, it would reduce codified knowledge. The status economy enables us to maintain the idea of Newman, and the idea of Kant and von Humboldt - though primarily in the research intensive sub-sector. The University is less good at spreading those ideas to all.

The (contemporary) historical university

So, this then is the University. A powerful combination of institutional agency, family and student agency, and faculty agency. Articulated by knowledge, as Newman and von Humboldt knew; articulated by credentials, as later became apparent; and ever growing in size and function, as Kerr was the first to really understand. And in these processes driven and combined by the production and exchange of status, as has been argued here.

What are the implications for the real-life universities we inhabit? The University has become exceptionally dynamic in all three domains: the growth and worldwide spread of high student participation, the worldwide growth and spread of research activity and outputs, and the worldwide spread of the large multi-function university as the paradigmatic post-school institution. The fact that all three agencies exhibit this exceptional dynamism shows what a strong social form the University has become.

Self-forming students

First, student-self formation, manifest in the growth of participation. From 1995 to 2015 the world Gross Enrolment Ratio (GER) in tertiary education as measured by UNESCO (2018) rose from 16 to 36 per cent, with four fifths of the world's 216 million students enrolled in full degree programs. Of those about half can be expected to complete their degrees.

The GER increased by 20 per cent in the last 20 years. At that rate the GER reaches 50 per cent by 2040. In 60 national education systems, the GER already exceeds half of the school leaver age cohort. The quality of mass higher education varies greatly, but it is clear that we are experiencing an extraordinary growth of educated "capability", to use Amartya Sen's (2000) term.

Faculty agency

Second, faculty agency, in the form of the growth of knowledge. To access global science, nations need their own trained people, not just users but producers of research who interact with researchers abroad. All highincome and most middle-income countries now want their own science system and they are building doctoral education and employing researchers in unprecedented numbers. Alongside the expansion in student enrolment since the mid 1990s there has been equally rapid growth in investment in R&D and in the stock of published knowledge. Between 1990 and 2015 US research spending tripled in real terms. China grew its total investment in R&D from \$13 billion to \$409 billion (NSB, 2018).

In 2003-2016 the total world output of science papers, mostly by university researchers rose from 1.2 to 2.3 million, an increase of 93 per cent in only 13 years (NSB, 2018). The growth of science in East Asia has been especially remarkable. More than one third of all scientific papers published in English now include at least one author with a Chinese name (Xie & Freeman, 2018). China now leads the world in the production of high citation papers in mathematics and computing (Leiden University 2018. For more discussion of these tendencies and their implications see Marginson, 2018b; Marginson, 2018c).

These data have been listed in terms of nations, but the growth of cross-border collaboration, as identified in the number of internationally co-authored papers, has been more rapid than the growth of scientific output as a whole (NSB, 2018). As noted previously, science is primarily bottom up and discipline based. Though it is primarily resourced nationally, its output is more global system driven than driven by bounded national systems.

Spread of the multiversity

Third, the spread of the large multi-discipline multipurpose and often multi-site multiversity form of university. In the policy literature on diversity in higher education, it is often assumed that a major growth of enrolment and provision must trigger a greater variety of institutions by type. This has not happened. With some country exceptions, diversity by institution mission or type is static or declining, except in online and forprofit provision, which, however, remain secondary in all established higher education systems. (For a comprehensive review of patterns of diversity and the rise of the multiversity form see Antonowicz, Cantwell, Froumin, Jones, Marginson and Pinheiro, 2018).

Overall there has been a reduction in the role of discipline-specialist institutions, and binary sector institutions. In many countries these have been merged into comprehensive multi-disciplinary universities. In some cases, such as Ireland, non-university institutions are being upgraded and redesignated as universities. In many though not all countries, a growing proportion of all higher education students are in designated universities. It is likely a growing proportion are located in universities with significant research. Meanwhile the average size of comprehensive multi-disciplinary universities is growing. In elite research universities, as in other institutions, size is one source of relative advantage.

Insecurities of the University

So, we experience worldwide the march of the multiversity to fame and fortune. This is an institutional triumph on a scale unimaginable to Newman and Humboldt. Perhaps the extent of the global radiation of the University and science would have surprised Kerr, though he did anticipate that the research multiversity would spread more widely across the world. But the continued hegemony of the University over the codification of knowledge, and occupational credentialing cannot be assumed. Indeed, the great growth of the university form, and its social functions, masks tensions and fragilities. These are more exposed when the context, especially the political context, becomes significantly disturbed, as at present (for more discussion see Marginson, 2018c). Then the many joins in this complex assemblage called the University emerge as possible fault lines.

Let us look - briefly, it is speculative - at the potentials and problems for the three kinds of agency (corporate institution, students, faculty) and the two unique social roles of the University, its role in relation to knowledge and its role in relation to credentialing.

The institution

The University qua institution faces several risks. The more the University becomes a container for the whole of society and is pulled this way and that between a huge range of roles, the greater the risk that it will lose command of its own destiny amid short-termism and multiple consumer-like stakeholder accountability. A related problem, especially if the autonomy of the University declines, is role dissonance. We see this already. In some institutions there is tension between on one hand local and national enmeshment, and on the other hand global research, global mobility and the cosmopolitan ideal. The external populist attack on science can be seen off, although it is destabilising, but doubts about whether the University is locally committed are a slow drip problem that is harder to evade.

Debundling

More fundamentally, there are inefficiencies, diseconomies of scope, in the combinatory model of the multiversity. None of the functions of this conglomerate corporate institution are done especially well because they are partcontaminated by other functions, and the finances of each part are never wholly separate. This leads to the core issue, the growing danger that confronts the University of Newman, Kant and Kerr, Commercial companies want the University to be debundled between its teaching, research, credentialing and service functions. This would kick-start huge new opportunities in different industry sectors, while destroying the University and much of what it does.

However, within a given national system of higher education, once the University form has been established as hegemonic in higher education, it is hard to displace. Once established, the forces of aggregation and combination seem to be stronger than the forces for debundling and the economic logic of specialisation/ niches. The status economy that is the University secures critical mass. A growing number of people invest in it. Debundling would undo the status economy, which has many beneficiaries in society.

We see debundled higher education at scale only in those zones in which the University as such has not been strongly established, or remains a small elite sector, in parts of South Asia and Sub-Saharan Africa. In those zones rampant marketisation, for example small private colleges in India and for-profit and online delivery in Africa, is now blocking the evolution of high participation systems of higher education of adequate quality.

Perhaps governments under commercial pressure might pursue debundling of the multiversities as a kind of crusade using anti-trust style legislation. In the Englishspeaking world it would be difficult to do this across the federated United States or Canada, but easier to do so in UK or Ireland, with their centralised polities.

Faculty agency

There are two risks to faculty agency. The sharp end problem, in a small group of countries, is suppression. At present the countries severely at risk include Turkey, Hungary and parts of the Middle East and Africa. Currently we hope the state politicisation of the University, as in the Cultural Revolution period, does not return to China. We can hope that China stays off the list of countries in which faculty agency is severely repressed, while noting that freedoms in minority zones such as Tibet and Xinjiang are of immediate concern. Presently most faculty in the sciences retain a broad scope to determine their research, though there is government interference in research decisions (as in many countries); social scientists, hemmed by official readings of 'the social', are more constrained than are natural scientists; and in China as elsewhere, performance management regulates faculty autonomy.

The larger and more universal danger for faculty worldwide is a slow drip problem - the fragmentation of collective agency. Faculty agency is often exceptionally strong in the leading universities but more imperilled lower down. Fragmentation takes a number of forms. including the relative growth of casual (hourly rate or 'part-time') labour, erosion in the tenured posts as a proportion of all posts in research intensive universities, and the cowering of the capacity for educational and research-based faculty judgments in lower tier institutions in which business norms predominate, and intellectual curiosity is solely a means to the real ends which are money and institutional marketing.

Student self-formation

There are two risks to student self-formation. One is a problem that is eating into contemporary representative democracy (Runciman, 2018). The social media world of instant emotions, in which we connect instantly to thousands of others, is much more exciting than the long hard slog of changing hegemonic opinion and shifting government policy. In democracy, the social media conversation is displacing the slow discussionbased process of winning support in political parties and institutions. In universities, the social media world and the kind of agency it fosters can overshadow selfdevelopment in knowledge and labour markets with their uncertain timelines and unpredictable rewards, and the intrinsic difficulty of the process. Relaying twitter messages and posting photos is easy. Learning can be hard. It is impossible to see the self-forming student agency project collapsing on a large scale in East Asia but perhaps it could happen in the United States.

The second danger that in more unequal societies, as universal participation approaches, the rewards to each new layer of graduates will no longer sustain the economic drivers of self-formation, especially if the private costs of higher education increase. The difference between being a graduate and being a non-graduate will shrink at the margin to zero. In essence, this is the danger that the growth of human capability will outstrip the expansion of opportunities to use that capability (Cantwell, et al., 2018, Chapter 16).

This is not an immediate danger except perhaps in the United States. In the US tertiary participation is near universal but completion is weak, private costs are rising and social inequality is rampant, so that the bottom layer of graduates has poor prospects. Elsewhere there is further to go before the University ceases to be the hope of aspiring families.

The thin thread

In the last analysis the future of the University rests on the continued healthy evolution of the two social connectors, which are knowledge and credentials. The two are related. If credentials were separated from the learning program and became based on measured occupational skills, selfformation would no longer be immersed in knowledge. Likewise, those same credentials would no longer be underpinned by the University qua university and the bottom would be knocked out of the status economy in higher education.

But the greatest danger that the cotemporary University faces is not debundling, which would only occur under certain political conditions and would be contested. Debundling would deconstruct the social value of past degrees as well as present degrees; it would create many losers, and some would defend the University. The larger problem, which is less visible and where there is no external constituency to mobilise in support, is the slow drip problem of the fragmentation of faculty agency in a casualised academic labour market.

Here universities themselves must be persuaded that it is not in their interests to build institutional agency by deconstructing faculty agency. A relatively stable core faculty with critical mass is not a managerial weakness but an education and research strength. Research-based faculty sustain the immersion of learning in knowledge, ensuring that the research mission is not a separate economy decoupled from the rest, but feeds into the other parts of this unified status economy and the benefits that it fosters, including Bildung.

In this manner the contemporary University maintains unbroken the thin thread that it has inherited from Newman and above all from Kant. That thread will break someday. The lesson of natural and human history is that nothing lasts for ever. We can hope that the thread will not break soon. For at this time we have nothing better with which to replace it.

Notes

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For further supporting arguments, data and references, see the book High Participation Systems of Higher Education (Cantwell et al., 2018).

Simon Marginson is Professor of Higher Education in the Department of Education and Linacre College, University of Oxford, UK. He is also Principal Investigator at the ESRC/ OFSRE Centre for Global Higher Education, and a member of the AUR Editorial Board.

Contact: simon.marginson@education.ox.ac.uk

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