CHAPTER 17

Maintaining excellence in unstable times

Leszek Borysiewicz

The topic of this presentation is immediately current, even as I write this short summary. We sit at the beginning of May 2019 in the UK without any resolution to the long-running national debate that surrounds Brexit. This debate has polarized opinion in the UK and is heated as it pertains to the core of the nature of the country the UK is to be. As such it has instituted a paralysis in many of the normal activities of government as it has become such a central overarching issue. Therefore, this single issue has resulted in instability that has dominated the internal debate and, in the UK, exemplifies the uncertain external environment that the Higher Education sector faces yet is limited in the way it can influence outcome. However, further examination of the issues faced by Higher Education Institutions immediately identifies further uncertainties that amount to the development of a perfect storm. The dominance of the debate around Brexit results in other issues failing to be addressed or debated because they are crowded out of media/public consciousness. This further restricts the very limited capacity influence events by HEIs. Paradoxically, such uncertainties are faced by Universities in other countries, but seem more acute in the UK because of a background that threatens a more isolationist environment. For the purposes of this discussion I will concentrate on how these instabilities influence the environment in which this vital sector for the UK national interest has to operate, but I will also refer to the situation in many EU countries, particularly those in Central Europe where I have encountered them. However, as we may see through the lens of Cambridge University, such turmoil is nothing new to Institutions with a long history!

THE ROLE OF A UNIVERSITY

Cambridge is a long-established University, formed as a result of scholars leaving Oxford in 1209. The continuous genealogy of universities, although often attributed to ancient times of Greece and Rome, realistically begins in medieval Europe, and with the Church. In Bologna, Paris, Cambridge and Oxford, the duty of the medieval university was to prepare leaders for the Church and for public life. However, the advent of scientific studies began to bring out a new function which was not just education of undergraduates destined for administration, law and the religious life, but engendered the spirit of discovery and ultimately translating those new ideas and discoveries into benefit of society. This begs the question of what constitutes "society". In earlier days, society was restricted to privileged groups — the state and church in particular. However, this quickly became the community in the local vicinity of the University, gradually expanding to the nation. And some today remain locked into this concept, yet most academics in Universities worldwide view today's world as a single society and therefore beneficiary of discovery and new ideas. This inherent internationalism has placed the Universities at odds with a prevailing position of "leaving the EU"; it is interesting to note that not a single HEI (of approximately 160 such institutions) supported the "leave" campaign in the recent referendum. A unanimity that, I suspect, has never before been achieved!

The 19th century was busy for Higher Education in the UK and much of Europe, but it led to a number of thinkers opining and developing the underlying philosophical framework for the purpose of Universities. Appreciating these concepts is important as it emphasizes the differences between UK and Continental European Universities and has led to many misunderstandings in the debates on Higher education in the EU. Wilhelm von Humboldt in Germany and Cardinal John Henry Newman in England and Ireland set out competing and overlapping Ideas of what universities should be for, building on, rather than demolishing, the medieval idea. By a quirk of fate and global politics, Britain rejected the development of Universities as institutions linked by religion (this was largely rejected in the 19th Century) and the consequences of the European "Free University" (i.e. secular University) movements, as well as the separation of teaching and research into separate Institutes. This also transplanted to University systems throughout the then British Empire as well as the US, which explains fundamental differences between EU systems of Higher Education. In the 20th century, the unification of teaching and research in universities, following Humboldt, became the common paradigm in the UK and US rather than specific research Institutes. This continues today in the UK. The most recently established Research Institutes are all linked with Universities. For example, the Crick Institute in central London encompasses

the former independent London CRUK Cancer Research Institute, the MRC National Institute for Medical Research at Mill Hill, but unites it with University College, Imperial and King's College London.

Furthermore, universities began operating on a global stage in keeping with their acceptance of a paradigm of global society. My point is simply that in every historical and geographical incarnation of a university, "making a difference in the world" has been a recognizable aim although prevailing national influences have coloured how this is projected externally. Ultimately HEIs do not operate in a societal vacuum!

But there are core principles that are espoused by Universities, wherever they are found. Central to these is the principle of "Academic Freedom" — the ability of individual academics and students to freedom of thought and investigation to enable them to develop new concepts and discoveries. However, academics do not withdraw into universities to think deep thoughts — they deepen those thoughts by constant engagement with others, hence the deep held conviction of the freedom to collaborate freely. Universities, though sprung from monastic roots, are not monasteries — they are functionally the opposite.

This concept is well enshrined in the mission statement of Cambridge University, only one sentence long:

"The mission of Cambridge University is to serve society by teaching, research and learning at the highest international level."

Therefore, there is an implicit contract between society and Universities: society endows Universities with privileges, such as "Academic Freedom" and "Institutional Autonomy" because there is **trust** that their use of these freedoms will generate societal benefit.

However, society, especially national society, has placed far greater demands on the purpose of a University than originally intended and this is given greater prominence because Universities are often supported by public funds. Universities are tasked by society through governments and countries that support them with multiple objectives: to educate the population of the host nation to an advanced level; to promote social mobility in that nation by providing a level playing field for access to that education, regardless of social background; to make new discoveries through research and thereby push back the boundaries of human knowledge; to act as custodians of knowledge and of culture; and of course to generate income for the country, by attracting overseas students and by making useful and patentable inventions which in turn result in wealth and job creation.

In some ways the miracle is that most Universities deliver on all these goals, sometimes with more emphasis at an individual institution on one or more of these, but as a sector it delivers on most maintaining the delicate concept of public trust.

How does Cambridge deliver on these goals?

1. **Education.** This is first and foremost the function of a University — to build up the next generation who in turn will build the future. New ideas stem from "standing on the shoulders of giants", a phrase used by many academics to describe how they attained their achievements. But the education provided is distinctive and different at each University albeit with a common goal. I believe this variability is a fundamental strength of higher education rather than a weakness. It allows for choice by the student of the course of study that suits their own goals best. Yet this approach is expensive. Cambridge has a unique (alongside Oxford) method which is based around the University and its constituent Colleges. Undergraduates apply to the University by choosing a course of study e.g. history, at a specific College. On entry the student receives instruction at the University in terms of formal teaching (i.e. lectures or laboratory studies) and is examined receiving their degree from the University while the College provides small group teaching (often 1:1) to supplement and enhance the formal education. This is a hugely intensive and thus expensive undertaking — the average cost of a year's instruction to the University and College is £19,000, yet the government will only provide the student (UK and EU) with a loan of £9,000, which is also the maximum the University can charge. The difference of approximate £80 million each year has to be made up from other sources — mostly our endowment. Financial management can just manage this, but it causes conflict if government would seek to interfere with the admission process or course content/duration — after all it doesn't pay for it in the UK system!
2. **Postgraduate/postdoctoral studies.** Nearly all Universities recognize that higher education will not end at undergraduate level but requires further study — taught Masters and research-led PhDs. There is growing demand for more of these qualifications — while Cambridge has 11,000 undergraduate students, there are an additional 6,000 postgraduate (4,000 PhDs and 2,000 taught Masters) and nearly 4,000 independently funded postdoctoral researchers. Responsibility for these communities is vital for their development as experts in their fields but also because of the national need for their skills.
3. **Social mobility.** The demand for places at a University such as Cambridge results in intense competition at undergraduate and postgraduate level; only 20% of applicants are successful in their application at Undergraduate level. Many of the unsuccessful students

will achieve the academic standards through examination yet will not have entry. So how to create opportunity for those from disadvantaged backgrounds is a key question — recently the University announced a call to raise special funding to support such individuals.

4. **Discoveries and New Knowledge.** Most of the world-leading institutions are recognized as such not through their excellence in teaching (which most academics still see as their primary function) but through research output. Therefore, great care must be exercised in interpreting so-called league tables as these are dominated by what is easily measurable rather than the full mission of a university. Research output is easier to evaluate — in fact there is not a single credible internationally validated measure of teaching excellence! It is also the major source of funding to such Universities and largely what attracts the best international staff. Of the total annual turnover of the University of £1.5 billion per annum, nearly £450 million is through competitive grant awards by government and charitable foundations. This is also a source of great pride to the University — in 2018 we celebrated our 97th Nobel prize to Greg Winter for phage display and humanisation of monoclonal antibodies for human utilisation. However, it places emphasis on research as the major criterion when academic staff are appointed, but all these staff from the youngest Lecturer to the Nobel prize winner are expected to teach and supervise! Yet the pursuance of "new knowledge" be it in philosophy through Wittgenstein or new drugs through Winter, not only fulfils the Humboldtian vision of a shared responsibility of student and academic to seek new knowledge but delivers the unwritten contract of benefit to society — not just economic but also social.
5. **Generation of Intellectual Property and economic wealth.** Cambridge University, through its creation of and engagement with the Cambridge Phenomenon, has developed Europe's largest industrial cluster. There are currently over 4,000 companies within a 20-mile (32km) radius that build on the know-how of the University; 15 of these now are valued at over £1 billion and ~4 at > £10 billion. Cambridge is small with a population of ~120,000 and a surrounding population of 600,000, yet 17% of all high-tech start-ups in the UK happen here, and between them they have created 60,000 jobs. They attract multinational research companies such as Microsoft and AstraZeneca and contribute £13 billion per annum to the UK economy. This is considered a huge national success, but it does not happen overnight. This is based on 50 years of development, investment and belief in the importance of fundamental studies that eventually translate and a *laissez-faire* approach that does

not pre-define disciplines or domains but allows the opportunity to all. There is a widespread view that external imposition of structure would destroy rather than enhance the Phenomenon. Maybe a success of chaos over order?

6. **Repositories of Infrastructure, Knowledge and Culture.** To maintain this approach to education, learning and research requires a considerable investment in maintaining an expensive infrastructure. This consists of libraries, some dating from the middle ages as repositories of knowledge, as well as University museums (11 in total, the largest being the Fitzwilliam Museum) which all function to support the three principles of the University mission. For some of the Colleges, this also includes UNESCO treasures such as Kings College Chapel. But the biggest expenditure is provision of laboratories, equipment and accommodation within a short distance from the core buildings/laboratories of the University — the largest such development was to build a new site which adds 15% to the total size of the City at a cost to the University of £1 billion. This highlights the need to invest at scale and risk — possibly the true price of institutional autonomy. Universities have to be sustainable, make appropriate investment decisions recognizing that under the current structures within the UK there is no "safety net". So, autonomy also comes at a price.

If Universities are the mainstay of the UK research effort and have the right to autonomy, they have to be able also to manage risk and uncertainty as well as delivering the academic agenda. This leaves them exposed to uncertainties and at present these abound in the UK and elsewhere.

UNCERTAINTIES

There are inherent global economic uncertainties that Universities face with respect to finances, investments, fundraising, infrastructure, income, but most higher education institutions should be well versed in managing these. This is a global issue for HEIs either directly or as a consequence of available government investment in HE, especially in the face of economic downturn and falling tax revenues. In every country HE has to compete with all the other demands on funds, especially as regards the delicate balance of funding primary and secondary education. However, the clouds of external uncertainties are gathering on the horizon and the scope for HE to mitigate their potential impact is increasingly limited, in a global climate that espouses a dislike of "experts". Turning the uncertainties from challenges/threats will lie at the heart of ensuring a thriving HE sector for the future. However, the background in the UK is complex.

Firstly, there is a complexity to University funding in the UK that is a consequence of government policy largely derived from the time of the coalition government after 2008. After that economic downturn, it was essential to consider how the costs of a University education were to be met. The previous goal of the outgoing Blair administration was that 40% of the population should access HE. Once established as a benchmark, this is impossible politically to reverse, as exemplified in many countries where universal entry is enshrined in constitutional rights e.g. France, Slovenia etc. The coalition government opted for a "market" solution, which recognized in particular the individual benefit gained by a student from attending University. (Most of us believed that this underplayed the overall benefit to society of a well-educated population!) The solution was to raise student fees from £3,000/year (introduced in 2003) to now £9,250/year by creating a Student Loan Company to which students could apply for a loan repayable once their income was above a threshold of £18,000/year (rising to £25,000 in 2018/19), through the taxation system. This ensured that Universities obtained income but allowed the government to largely stop paying directly through a T grant. There was a major debate as the minor party in the coalition was elected largely on its opposition to fee increases. Unfortunately, this scheme is increasingly uneconomic and growing politically unacceptable:

1. The repayment alongside a higher student drop-out has raised the interest on the loan to students to commercially unsustainable levels to off-set losses.
2. The Student Loan Company is currently in deficit to £12 bn rising to £17 bn in 5 years with a projected 45% failing to repay the debt (2018 — Institute for Fiscal Studies).
3. The original concept that a "market" was going to be created and institutions would compete on price has failed — virtually all Institutions charged the maximum fee. It was negated further by concessions to establish the system on a maximum cap as well as preventing early repayment because of social equity.
4. The removal of student number control for HE entry has not increased competition on price, but increased the deficit of the SLC.
5. Student fees are politically toxic. The minor party in the coalition was almost annihilated in the 2015 Election and the current government attributed the success of the opposition in the 2017 election to be due in part to a promise to cancel student debt and abandon student fees — something that they have now withdrawn as the costs of adding the SLC debt to the Treasury would be catastrophic.

But this has resulted in several fundamental changes:

1. The perception that all Universities in the UK are "private".
2. The government wishing to control HE but at the same time not being willing (or able) to pay the real costs of HE, establishing a conflict.
3. The creation of a market and commoditization of HE — the student as a consumer. This is seen by government as being akin to ownership of the system of HE by the "consumer" who with their "shareholder" pressure will drive price down while increasing quality. This challenges a key Humboldtian principle that student and teacher work together to further the acquisition of new knowledge. This has caused debate about the purpose of HE among academics, with a perception that we are creating a situation where, at its extreme. the only outcome of HE is salary and not broader contribution to society e.g. FT League Tables for MBA.

Secondly, this first uncertainty is now compounded by continuing reviews and potential further changes. As I write this paper, we are awaiting the final report of the Augar Review on Post 18 Education, possibly as soon as next week. If, as widely trailed, it will recommend a reduction in the cap of anywhere between £6,500 to £7,500, this will significantly impact on most Universities' income. Furthermore, this is in a climate where there is no certainty that Treasury will be in a position to re-institute an increased T budget. It remains unknown if student number or quality control will be introduced as an eligibility criterion and an even bigger question remains as to the parlous state of funding for Further Education Colleges.

Thirdly the government instituted a review and ultimately presented and passed the Higher Education and Research Act in 2016. This has established far-reaching reforms, which are fundamental to the climate in which HE operates in the UK. While all Institutions have acted as if there is formal Institutional Autonomy, this is now fully recognized as is the Dual Support System which ensures that Universities receive funding to support research, they undertake that is externally funded. In addition, a longstanding principle in the UK — the Haldane Principle — has been formally recognized (that research funding is [relatively] independent of political interference). However, among espousal of these fundamental principles, there have been other major changes:

1. The abolition of the Higher Education Funding Council (an "arm's length" body that distributed government resource to Universities but also sought to maintain equanimity in the sector e.g. helping HEIs in financial difficulties).
2. The replacement of HEFCE with a "regulator" — the Office for Students. This has changed the whole basis of interaction with

Universities and brought numerous agencies such as the Office for Fair Access, complaint management etc, under a single entity, but one with a "consumer" focus rather than a body that worked in collaboration with the sector. How this will play out in the longer term is very uncertain, and concerns have been expressed about the real independence of this regulator.

3. The establishment of a Register of Universities with as yet non-defined quality measures. This ushered in a Teaching Excellence Framework (akin to the Research Excellence Framework) but without the financial benefit of the latter for excellent performance! Again it is unclear what further measures will be instituted.
4. Opening the "market" to "new providers" by using the Register. This is largely seen as an effort to increase competition in the sector and reduce costs to students. Neither is evident as yet.
5. The longstanding duality of Teaching and Research has been broken with a split of the two functions between government departments; T residing in the Department for Education and R with Department for Business, Energy and Industrial Strategy *(sic)*.
6. Government research funding has been reformed along the lines suggested by the Nurse Review. The seven Research Councils alongside Innovate UK (a body that supports and develops SMEs often associated with Universities) and Research England (which provides the quality-based research support for English Universities through the Research Excellence Framework) are all brought under UK Research and Innovation, an independent body that will advise on relative funding allocations between these nine entities. The government has made two significant promises: firstly, increasing the R&D budget by an extra £2bn/year to £8.6 bn and secondly, to set a target that the UK would invest 2.4% of GDP in R&D. While this is significant, much debate has ensued as to how far the new resource is being used to support a central plank in government policy — the Industry Strategy — rather than ensuring a balanced basic vs applied research portfolio.

National uncertainty, and these very significant changes, creates a difficult environment for Universities to chart a course of fiscal and principled probity. The central issue of societal trust is significantly threatened as public opinion for a variety of reasons perceives Universities as privileged, rich and a root cause of endangering social mobility.

To merely address the financial, Universities would need to consider: where cuts would need to be made; investing at risk in increasing student numbers; or expanding courses, without increasing delivery costs. However, any of these responses is likely to result in reduced student satisfaction.

Alternatively for some, new models of approaching higher education through on-line or two-year courses (46 week study/year) or even complete independence will be considered. However, as a positive it may also herald rapid change with a greater espousal of new technologies to overcome some of these difficulties. The options to increase size need to take heed from the experience of countries where there is universal access based on performance in secondary school exit examinations. Class size is so large and loss of a percentage of students after 12 months at University create staff dissatisfaction that is evident in France and Slovenia where the appropriateness of this model is under debate.

Pensions. Institutional autonomy, as practised in the UK, requires the University to behave as a "private" employer. This requires the provision of a pension scheme for all employees. Academic staff largely fall under a mutual and exclusive scheme (Universities Superannuation Scheme — USS), which is in significant deficit. Projected is a large increase in employers' contributions which will add many millions to the salary bill. Where are the cuts to be made to make up this shortfall? How will this be accommodated — potentially job losses or failure to take on new staff may happen or again increasing class size in teaching orientated Universities.

BREXIT. As I compile this discussion paper, the announcement of the resignation of the Prime Minister has been made. For many outside the UK and EU, the deep division this debate has created in the body politic and the country at large is difficult to conceptualize. Whichever side of the debate individuals stand on, there are such fundamental forces at play that the divisions in society may take a generation to heal. Universities were (uniquely) unanimously opposed to Brexit and therefore find themselves on one side of the debate. The UK remains in limbo.

Debate has focussed on the question of, if we leave, then under what terms will this happen. Academics largely support a position that they largely oppose leaving, but if this were to happen then the closest possible association with the EU as regards R&D funding should be sought. However, the nature of associate country status causes considerable debate, with the alternative "no deal" or breakaway scenario vacillating as a likely outcome. The concern is that the UK's very success in R&D funding will not be fully recognized and resources will not be made available to the sector on the same scale. The factors at play here are both competition for an ever-dwindling resource that remains of the monies that would be repatriated from the EU (between large sectors such as fisheries and agriculture) and a predicted economic downturn that will require emergency support in other areas with R&D missing out. Perhaps even more worrying is the lack of infrastructure investment by the commercial and public sector since the referendum, eroding the UK's competitive position while these debates play out!

Quite separately from the political dimension the consequences will be far-reaching especially with respect to R&D. The UK receives the largest share of ERC and a very large share of all EU funding in R&D. UK HE institutions have enjoyed consequent collaboration with many European centres. Most telling is the observation that other EU countries now form the largest group of collaborators (rather than the US) by publication. The possible financial loss will probably be partly recoverable, but the academic loss to the UK would be huge. To date the politicians are committed to the "closest possible" links with the EU, supported by so many academics in the EU, but with the current turmoil, who knows?

Immigration and competitive recruitment. This cannot be disassociated from BREXIT. However, limiting immigration is a particular problem especially when so many of our best investigators are international. Any severe restriction would impact negatively on the ability of UK institutions to compete globally, but even the perception of hindrance to movement will have a negative impact.

Being independent and competitive between themselves, UK Universities compete globally to attract the best academics. However, this leads to considerable and spiralling salary inflation as the competition at the highest level is with well-endowed US Institutions. Will this result in a narrowing base of institutions able to compete? If so, alongside the other financial pressures, it will challenge the viability of some Universities, and mergers and acquisitions may start to occur in the sector. Most observers are concerned that reducing the number of Universities would reduce diversity and opportunities for staff and students.

Trust. As always a major concern in the UK as elsewhere is the issue of societal trust if it were to be undermined by these debates. In surveys of trust, universities and academics have and continue to perform well as opposed to the media and politicians who are almost universally distrusted. But the impact of social media, vilification of expert opinion and populism, all of which are counterintuitive to the HE cultures we strive to engender, may take their toll. The sense of Universities as rich, self-indulgent and privileged is real and must be countered so that we do not lose this vital compact. Issues such a vice chancellor's pay, value for money, openness, and relevance require us to engage with this debate and not assume that it is a given.

CONCLUSIONS

Many of the issues facing the UK have their counterparts in the EU and the rest of the world. The UK is in some turbulence at the moment, but elements of these trends are evident in other countries. Financial pressures

are universal, the public debate of Universities' role in and for society widely tested. The impact of commercial interests ranges from seeing these as a salvation to a threat to academic freedom. I suspect that the debate will play out differently in different countries and it is impossible to predict where in the spectrum of solutions the UK will find itself.

To further complicate matters, there are many other risks in the longer term that could be added to this list and the paper could become very negative. However, wherever there are challenges there are also considerable opportunities and the determination of the academic and University sector will be to stay true to its principles, seek the widest possible international engagement and look to develop new ideas and discoveries for the benefit of society. The current situation may be different but the message from history is optimistic. Universities are among the most enduring of social structures. In fact, alongside religious institutions they are well ahead in terms of longevity compared with any commercial concerns or even systems of government. Universities have survived and thrive through worse than the current uncertainties, — in the case of Cambridge, the Reformation, Counter-Reformation, Counter-Counter-Reformation, civil war, global conflicts — and still remain world-leading institutions that are valued for the diversity of their functions and continue to serve society. I firmly believe that this will be the case in the future.

ADDENDUM (ADDED 18 SEPTEMBER 2019)

Since the manuscript was prepared little of substance has changed for the UK. The political turmoil surrounding Brexit has intensified with political defeats for the new Prime Minister and a decision by Parliament that a "no-deal" Brexit will not be supported. Calls for a general election, expulsions of objectors from the ruling party who would not support "no-deal", failure by government to force a general election and even a case in the Supreme Court assessing the legality of moves by the government in suspending Parliament have intensified the debate rather than resolved it. The complete focus on Brexit has largely resulted in little movement on the other key issues raised in the paper, and I am sure that this will develop only later in the year.

Throughout, the EU has been consistent in asking what the UK administration wants in terms of a settlement for Brexit but to date no specific proposals have been forthcoming. Therefore, the sense of limbo continues, which is unlikely to result in progress on the issues that the HE-sector faces in the UK. Ultimately, these will have to be resolved but the view remains that none of this will be addressed until Brexit is resolved.

FURTHER READING

Collini, S. (2012). *What are Universities for?* Penguin, London pp. 240.

The Royal Society. *UK research and the European Union: the role of the EU in funding UK research*. Online:
https://royalsociety.org/-/media/policy/projects/eu-uk-funding/uk-membership-of-eu.pdf

The Royal Society. *The role of the EU in international research collaboration and researcher mobility*. Online:
https://royalsociety.org/-/media/policy/projects/eu-uk-funding/phase-2/EU-role-in-international-research-collaboration-and-researcher-mobility.pdf

The Royal Society. *The role of EU regulation and policy in governing UK research*. Online:
https://royalsociety.org/topics-policy/projects/uk-research-and-european-union/role-of-eu-regulation-and-policy-in-governing-uk-research/

Sweeney, D. (2019). "Building partnerships and trust". *J. Foundation Sci and Tech* 22; 33.

Rothwell, N. (2019). "A force for public good". *J. Foundation Sci and Tech* 22; 35.

Willetts, D. (2019) "Institutions with a host of roles". *J. Foundation Sci and Tech* 22; 36.