**Through a glass darkly: what the future of higher education might be.**

Good afternoon.  It is a great pleasure for me to be here at this wonderful university to offer some thoughts on what has made our leading universities the remarkable institutions they have become, and what the future might hold for universities such as ours.

There is no better country than the United States in which to reflect on the achievements and future of Higher Education.  From the days before the Revolution (what we in the UK still affectionately call *the colonial period*), the role of higher education in formation of American public institutions and public culture was well established.

Whether we are thinking about the great universities which trace their histories back to the pre-revolutionary era, *or* the foundations which followed the Revolution, including of course Thomas Jefferson's greatest legacy, the University of Virginia, *or* forward to the remarkable courage and foresight which underpinned the land-grant colleges: all speak to America's unflinching belief in centrality of higher education to citizenship, to understanding, to nation-building.

This university's development in the US, certainly in comparison with the UK, was precocious. The model was much more that of the Germany of the Kleinstaaterei, in which both states and individual patrons founded and funded universities.

The consequence of this for the 20$^{\text{th}}$ and 21$^{\text{st}}$ centuries has been unparalleled *public and private* commitment in the Unites States to funding higher education, a willingness to commit very substantial resources both through tuition and through endowment facilitation, and the resulting network of public and private universities which, in scale and distinction, remain the envy of the rest of the world.

It is notable, for example, that public investment in the United States system as a proportion of GDP (2.6%) is greater than that in the UK (1.3%), and this despite the very substantial private investment in US higher education.

The consequence of the history of American higher education is its remarkable political economy and the equally remarkable capacity for American universities to adapt.

Looking in from the outside, we see this in the early development of specialist institutions within comprehensive universities (Business Schools would be a good example), the development of massively powerful research institutes, the way in which US universities have led in what the rest of the world calls knowledge or technology transfer, and the public appreciation of universities as crucibles both in new ideas and remarkably skilled people.

Unsurprisingly, this and much else has given the university a very particular place in American public life and public culture, and universities define both individuals and economies in the US in a way which is only partially paralleled elsewhere in the world.

If you doubt this then let me remind you of one of the many delicious moments of Aaron Sorkin's *The West Wing*. On this occasion, Abbey Bartlet was asking Amy Gardiner "*where did you get your mouth*?", to which Amy replies "*Brown and then Yale Law School*". In almost any other country, certainly in the UK, such a brilliant line would be neither conceivable nor funny. In my country, universities aren't thought to define their alumni in quite this way.

All this said, these other higher education systems, including the UK system, do have certain quite distinct advantages. Different funding modes, and what might be called 'underfunded ambition' has led us to some compromises but to a high degree of efficiency. On most measures, the UK higher education system is the second most successful in the world. It trails only the US in research impact, research output, citation quality, international recruitment, and the effectiveness of universities as motors of economic development.

Remarkably, the UK system does this on less than half the investment that goes into US higher education.

As the recent *Universitas 21* analysis demonstrates, on output measures and impact measures the UK system is second, on input measures, critically investment, it is ranked 24th in the world. For those of us working in the UK, these data have a rather piquant quality. Of course we take some satisfaction in leading a system which, on these measures, is remarkably efficient. We do, however, worry that our position will be eroded as a result of under-investment and, once eroded, our hard-won eminence will not be recoverable.

Different histories have shaped distinctive higher education systems. No country will succeed culturally, economically, or potentially without a developed and effective system of higher education. The pace of university growth in the BRIC and MINT countries attests to this.

So what drives success in higher education systems? At risk of being over-schematic, let me attempt a typology of sorts. If we look at the most successful higher education systems internationally, particularly in the developed and Anglophone world, they are characterised by a number of common features.

First, and perhaps most important, is the autonomy of institutions.

Developed higher education systems tend towards autonomy, partly because of the long-matured nature of their leading institutions, and partly because time has well demonstrated that autonomous institutions can respond more swiftly and more flexibly to changing market conditions and newly-presented opportunities.

Those who fund our universities, whether it be politicians or philanthropists, often find our absolute insistence on autonomy difficult. Our most compelling defence is that only with the guarantees of autonomy can minds be free, inquiry be open, knowledge be contested and remade, and the integrity which must be the hallmark of our institutions be preserved.

The second characteristic of high performing higher education systems is the right balance between freedom of academic enquiry, faculty independence, and a style of university leadership which is at once sympathetic and managerially competent.  In essence, this has tended to mean that the best universities are led by outstanding academics who come, over time, to understand both the importance of high quality professional leadership in universities and the primacy of the academic endeavour.

Finding a middle way between the stifling managerialism of the corporate university on the one hand and the state-of-nature that would be the unmanaged university on the other is not always easy, but it is the central challenge for modern academic leadership.  Here there is no simple formula, though recognising the challenge is itself part of the solution. (Bowen lessons learned)

The third characteristic of high performing universities and high performing Higher Education systems is their complexity. By this I do not mean complexity of structures so much as complexity of mission. Though, of course, many of the most distinguished higher education institutions are monotechnics or high quality *niche* providers, the universities that most drive and shape higher education systems are high performing comprehensive institutions. These universities have succeeded in integrating research excellence and an unflinching commitment to teaching and outstanding education.

More recently, they have moved well beyond their traditional twin pillars of research and education and developed remarkable capacities to generate, develop, and then spin-out intellectual property. Their capability in research and development has led to long term partnerships with advanced manufacturing and R&D intensive businesses, and we see increasingly in areas such as biotechnology, advanced manufacturing, and complex computer applications, major manufacturers embedding their researching capabilities within the university.

Something of this was brought home to me recently when I was speaking to a senior executive in Rolls Royce. We are key partners with Rolls Royce in a number of areas, including Advanced Materials.

When I said to him that I quite understood the basis of our relationship and that if we failed to deliver they would go elsewhere for their university partner, he responded that I was quite wrong and if we failed to deliver planes would fall out of the air. That brought home really rather graphically the intimacy of the relationship between a leading research university and a leading manufacturer.

The fourth characteristic of high-performing universities is that, in key ways, they come to define the communities of which they are part.

This is partly because the supply of the most skilled people into their communities is determined by leading universities, but equally because the scale of leading universities and the way in which other businesses now cluster around them means that, whether or not they acknowledge it, all of our leading universities have a major civic role.

Again, in developed higher education systems, the leading private and public universities here have similar characteristics.  In less mature systems the situation is rather different, and it is interesting to speculate on the extent to which private universities in developing higher education systems, might, over time, develop similarly deep and civic roots and thereby become embedded in local communities and regional economies.

To do so they will need to develop much broader disciplinary bases than they currently have and an economic model that goes beyond the kind of purchased service provision that is currently their principal *raison d'etre*.

The final characteristic of successful universities in developed higher education systems is their ability to embrace and indeed to forge new styles of partnership.  For public universities this means that the public/private divide is constantly being blurred or, still better, dissolved. As universities seek both to diversify and to deliver existing activities more efficiently, new kinds of public-private collaborations have developed.

In some cases this is the old-style outsourcing model, in some cases this is the development of new kinds of partnerships for specific purposes, and in some cases this is a product of a much more symbiotic relationship between the public and the private.  I became acutely aware of this some years ago, when I was Vice-Chancellor of the University of East Anglia, I led a process which resulted in the establishment of *INTO University Partnerships*.

This is now a substantial private provider of international higher education; but always in partnership with established and generally publicly-funded universities, and the genesis of the company came as a result of my university's need rapidly to grow at international recruitment and a visionary individual with a track record in international recruitment who was prepared to work to develop a new model, and a new style of partnership, alongside a new approach to accessing capital.

These kinds of innovative partnerships, now so vital to the development of higher education, are to be found most frequently in advanced higher education systems characterised by self-confident, autonomous institutions which control their assets and futures and are thus able to plan long, to speculate, and to take the kinds of controlled risks involved in this kind of diversification.

This typology of what makes universities and higher education systems successful will, I believe, persist. Many now argue that internationalised and new forms of educational delivery will transform institutions and systems. Universities will flip just as classrooms within them are flipped. My own view is that universities will absorb change, will evolve, but great universities will be characterised by an intelligent, evolutionary continuity rather than modish destabilising modernisation.

Perhaps the easiest *cliché* now in higher education is that higher education systems are being globalised and most higher education institutions are shaped most profoundly by that process that we often glibly christen globalisation. Here, though, there is a deep paradox.

As I have argued recently in *The Globalisation of Higher Education*, the challenge for universities is to understand the nature of the global challenge, to respond to global opportunities and the possibilities provided by the emergence of a mass market in international higher education, and indeed developments such as distance learning, whilst simultaneously retaining or even enhancing their distinctive identities as historically-formed and academically-grounded institutions. A process I described as 'being global and sounding local'.

At Birmingham we have a collaborative partnership with the University of Nottingham, which is a leader in international education and global positioning. It is interesting to reflect that the University of Nottingham, with campuses now in China and Malaysia, brands itself unflinchingly as the University of Nottingham, and has rethought the nature of the University in the UK so as fully to reflect its presence in China and Malaysia in an enhanced version of the University of Nottingham brand. For these, and other reasons, the University of Nottingham has been more successful than most in developing its overseas campuses not as branches of the parent university but as part of a new University of Nottingham group with genuinely international reach and distinctive presences in a number of jurisdictions.

Precisely because of its distinctiveness and radical execution, the Nottingham model is not a template for others, but rather an example of what might be achieved.

My own university, the University of Birmingham, is pursuing a rather different strategy in Guangzhou in south China, based on a favoured-university partnership with the municipal government, dynamic research partnerships, bilateral relationships with leading universities, and nascent but very exciting industrial partnerships.  In developing this we have invested significantly, worked to establish a wide-range of partnerships, positioned ourself as the leading UK university in China's third city, which is growing rather than compromising other international partnerships.

The leitmotiv here is distinctiveness: global strategies that emanate from the particular histories and academic character of our universities.  All of us that are serious about the internationalisation of our institutions must do so in ways that don't lead to homogenisation of institutions and institutional identity but rather to continuing developing and accentuating that which defines and distinguishes us in a global environment.

That said, the principal agent of change and development will remain institutions themselves, sometimes working alone, sometimes working collaboratively.  Two kinds of institutions will not succeed.  One will be those universities which refuse to change, which become imprisoned in their own traditions, however hallowed, and allow opportunities to pass them by.  By the time they realise the need to change the sun will be setting.

The other sorts of institutions that will fail are those which follow modishly every new initiative and become prey to the virus of mere enthusiasm.  Universities need to know why they are doing things, and they need to be sure that innovation is sympathetic to their often long history and fully aligned with their medium-term strategic vision. It follows that universities that will thrive will be those that recognise the nature of their current reputation, the importance of quality infusing everything that they do, and the imperative to invest as well as to innovate.

In facing the future we have much to learn from one another, much to gain from strategic collaboration, and much to share in terms of student and faculty exchanges and research collaborations.

According to many analysts, two forces will shape higher education over the next decade or so. One is the internationalisation, or globalisation, of higher education; and the second is the rise of new and different forms of delivery, notably MOOCs and other models for distance and off-campus learning. It would be foolish to assume that neither of these developments will significantly influence the shape of higher education, but equally it would be naïve, and I think premature, to assume that they will substantially remodel the current pattern of residential higher education in our leading universities.

The statistics of international higher education are striking. In 2011 only 2% of higher education students studied in countries other than their own, and this percentage has been constant for ten years. Viewed in this way, higher education is not as international as we might think. Countries such as the US with 19%, the UK with 11% , and Australia with 10% have large shares of a relatively modest international market. The same would be true of faculty. In my own university, some 30% of faculty are non-UK nationals.

This is not unusual in a leading research university. However, and importantly, this picture of a substantial body of international students studying at universities with an internationalised faculty is typical of only a small number of leading research universities globally. In most countries, most universities are predominantly staffed by nationals and teach students from their own localities.

Authoritative analyses of the likely shape of the international market for higher education suggest that these patterns will persist. The principal demand for transnational education will come from countries whose pace of demographic growth is currently outstripping their current ability to extend a higher education infrastructure. Once they do so, the flows of students overseas will slow, though not cease. This kind of equilibrium will probably be reached in China towards the middle of the next decade, and a similar trajectory is probably characteristic of Brazil.

As the BRIC and other countries develop an expanded and matured higher education infrastructure, there will be other countries which go through a similar cycle of development, thus preserving, but probably not enhancing, the aggregate growth for international higher education.

Alongside this there will continue to be other drivers impelling some students to study abroad. Those with financial means, and those who embody individual or familial ambition will tend to seek admission to universities of the greatest status and standing internationally. In short there will be those who are seeking a premium higher education and demand will be concentrated on leading universities that have a long-established prestige (the US and the UK especially) or admission to universities that have massive resource (increasingly China and some parts of the US system).

This leads me to conclude that the international political economy of higher education will not be dramatically reshaped over the next decade or so. In mature and high quality systems, the leading universities will continue to be characterised as comprehensive institutions with an internationalised faculty and substantial international recruitment. Elsewhere universities will be more local in their recruitment and in the shape of their faculty. Moreover all great universities will continue to have their own particular identities. The process of internationalisation will not, therefore, lead to homogenisation, but rather to a pattern where universities continue to articulate their own distinctive identities, albeit in patterns of recruitment which are international as well as national.

The other potentially transformative current development is the rise of the MOOC.

I have now lost count of the number of articles both in the higher education press and in the more general press premised on the assumption that the MOOC will displace traditional modes of learning, that there will be a crisis in our universities, and that campuses will fall silent as the MOOC displaces the classroom as the focus for student learning. Even a moment's thought demonstrates the absurdity of these apocalyptic prophesies. Ever since the establishment of the *World Wide Web*, we have been assured by those who claim to know our futures that the virtual will displace the face-to-face. Nevertheless, the rise of the *World Wide Web* has been paralleled by university construction and expansion on an historically unprecedented scale.

Moreover, and very obviously, distance learning is a very particular form of learning. It deprives the student of the highly individualised engagement with teachers and generally substitutes generic rather than personalised forms of tutorial support. The virtual classroom is precisely that. It is not a teaching laboratory, it is not a hands-on anatomy class, it does not enable engineers to shape and fabricate, and it rarely gives students the thrill of an immediate and engaged learning experience.

Not surprisingly the for-profit universities that I have delivered courses predominantly through distance and virtual learning have focused on a small number of disciplines and high-volume throughput.

None of this is to say that the MOOC does not have its place, nor that there will not be a rise in distance learning. It is to say that the market for distance learning will in many ways remain a niche market and the experience of distance learning will be distinctively different from that of the residential university.

My own university's experience of MOOCs has been both interesting and instructive. We were an early adopter of MOOCs, but aimed to become discriminating provider of premium-quality MOOCs. We have joined with the Open University in the UK in its *FutureLearn* consortium. So far we have run three MOOCs, all of them very successfully, others will follow later in the year.

Student satisfaction is high and the retention of learners on each of these MOOCs has been well above that typical of the first generation of MOOCs. What we have learnt, though, is that the MOOC is a distinctive medium of teaching and learning.

Each of our MOOCs has been constructed from scratch and conceived as a MOOC rather than as a platform for the virtual delivery of existing teaching and learning materials.

As so often, much the most suggestive and thoughtful intervention on new modes of delivery and learning has come from Bill Bowen, in his recently published *Higher Education in a Digital Age*. Here he has linked the advent of MOOCs and alternatives modes of delivery to the crisis in the cost of college tuition in the US.

Bowen's work in the 1960s documenting the tendency of tuition to rise appreciably faster than general costs was dubbed 'Bowen's law' by Clark Kerr, another giant of US higher education. Subsequent trends have conformed to Bowen's law. Tuition has risen, with hardly a plateau, since the 1970s, and often rises more rapidly in times of economic recession when state support and endowment income fall. In short, the political economy of higher education is distinctive, and now troubling.

The cost of tuition and the affordability of college have been issues in both the 2008 and the 2012 US Presidential elections, with candidates promising action without, in the ways of candidates, precisely specifying what that might be.

State governors have freely cut state subventions, but that often has fuelled the rise in tuition. In England we have our own version of precisely the same challenges, with the move in 2012 to charging tuition fees of up to £9,000.  Almost all English universities now charge the maximum fee, without reference to reputation or the perceived quality of the degree.

Bowen's explanation for the inexorable rise in tuition is compelling. Higher education is a labour-intensive industry, so the scope for substituting capital for labour is limited. In one rare lapse he cites Robert Frank of Cornell as pointing out that it still takes four musicians nine minutes to perform Beethoven's fourth string quartet, just as it did in the nineteenth century. That would, in fact, have been a remarkable efficiency gain in a quartet that usually takes around twenty minutes to perform.

The point, though, stands. The economics of people-intensive businesses are different and more intractable. On top of this Bowen identifies other cost drivers including ‘status wars’ where universities spend to gain reputation in the hope of gaining market position, and ‘merit-aid wars,’ where financial aid is made to serve the twin purposes of promoting equality of access (laudable) and creating an arms-race in financial aid (rather more institutionally self-serving).

Add to this the other arms race for high-status faculty and resulting salary growth, and presidents’ desire to maintain loss-making flagship programmes, again to underpin status, and we can appreciate the fuel that feeds the inflationary fire.

The consequences are stark. In the US student debt now exceeds credit card debt, and families are being squeezed still harder as they seek to afford not merely ‘college’ but a high-quality high-return college education for their children. In the UK, student indebtedness rises year-on-year, and university funding and student finance has been a highly-devisive issue in the last 3 General Elections.

Thus far technological developments have, if anything, added to the cost base. On-line journal subscriptions are a good case in point, as have been the ways in which technologically-enhanced learning environments have enriched students' learning opportunities rather than substituted for more conventional patterns of instruction.

Interestingly in the US, though not in the UK, one consequence has been a marked increase in the 'time-to-degree', thus adding to the costs both of institutions and students. UK politicians overlook much that's impressive in UK higher education, not least our shorter courses and impressively-high rates of graduation.

Bowen's central question is not will new digital technologies 'cure the cost disease but ease its harshest effects'. As you would expect from Bowen, the answer is nuanced and expansive. This isn't yet another evocation of the forward march of MOOCs. His focus is on-line learning 'in many of its manifestations' leading to a serious analysis of how students learn through digital as opposed to tradition methods, and a belief that digital learning will transform our landscape.

Bowen, unlike so many who write about higher education, seeks evidence, in his case at least in part through an analogue of randomized trials. Bowen is right to point to the central pedagogic problem that we think we know, but cannot show, what works.

What emerges from Bowen's analysis and my reflections on it is a radically-expanded version of blended learning, with new technologies of delivery operating from multiple platforms. We thus see the MOOC in a rich and still diverse learning environment, and the digital as an aid to instruction but *not* as a sufficient means of instruction.

Here there might be some efficiency gains, but not a transformation, still less the crisis in other modes of learning. Bowen stills holds a central place for 'minds rubbing against minds', and quotes his great teacher, Jacob Viner, as warning students that 'there is no limit to the nonsense you can think, if you think alone'.

I find Bowen's analysis profoundly sympathetic. What I think we are beginning to see is the emergence both of different forms of blended learning and, perhaps more strikingly, parallel forms of provision.

The MOOC works for universities such as mine where it is a complementary type of provision, which it enables learners not yet on campus to glimpse what learning at the University of Birmingham might be, and where it showcases some of what we teach and how we do it. It is thus becoming embedded as a part of our academic provision, a part of our outreach and service, and part of our advertising and reputational enhancement. In this, I think, we will be typical of many.

For others the MOOC might be more central and a more normative form of delivery. Where that happens systems of delivery and assessment will diverge much more profoundly than we have yet seen. Currently the world of the virtual is trying to mimic the traditional in developing degrees and diplomas, and models of credit accumulation.
Over time, as patterns of delivery and learning diverge, so will the ways in which that learning is credentialed.

This becomes still more likely when you think about the social contexts of different experiences of learning.

The face-to-face model of learning, and still more so the residential university, socializes learning in very particular ways; virtual delivery supported by virtual communities of learning, socializes learning in very different ways. We shouldn't worry about these differences overmuch, though we should ensure that access to both is socially equitable. Nor should we reify differences into a hierarchy, though others, notably employers may well.

So as I reflect on the world we are entering and peer darkly through my glass I remain profoundly confident about the future of our kinds of university. I don’t minimize the pressures we face, from fiscal constraints, through the rising costs of faculty and infrastructure, to the (rightly) increasing demands of our students. As with most university presidents, these are my day-to-day preoccupations both as a leader of a university and a leader in the UK higher education sector. When I raise my eyes, though, I see universities every bit as vibrant as they have always been, every bit as central to the questing of the human spirit, and every bit as precious to sustaining all that’s precious politically and culturally.

I see us embracing the new, whether it be the massively exciting research opportunities that present themselves daily or creative new technologies for learning and teaching. So those who want to see a funerary monument raised to the university will have to look elsewhere.

At the same time I acknowledge and accept the profundity of the challenge we as leaders of institutions face. I embrace the scale of the challenges we face in holding to those traditions of autonomy, free enquiry, the provisionality of understanding, and transformational possibilities that must always animate everything we stand for and do.

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