Over the centuries Britain’s universities have made a crucial contribution to our arts, science and politics. Without their detached erudition, the rise to pre-eminence of the English language, and the succession of major scientific discoveries that has paved the way for our modern society, would have been unlikely. And yet until the latter half of the 20th century, with the exception of a few provincial cities, universities’ physical impact on our towns and cities has been minimal. But much has changed in the past 50 years, as new universities have sprouted in every county, and established ones have expanded enormously, driven by the government’s goal of extending higher education to half of all our young people.

Building Futures at the RIBA exists to look forward 20 or 30 years, to speculate on the changes that we shall face then that we should be thinking about now. The unprecedented expansion of higher education institutions, and the immense physical impact that they, and the academic communities they beget, are having on the urban environment, are deserving of our attention. With their crucial contribution to national culture and global competitiveness, and with their immense resources of intellect, they would appear to be best placed as institutions to survive the uncertainties and challenges of the 21st century, and to grasp at the extraordinary opportunities that beckon.

This publication seeks to examine this thesis. What are those challenges, and how well placed are universities to meet them? It is evident from discussions with those in the university sector that most commentators are optimistic about the future. Are those sentiments well founded, or simply a reflection of self-absorption? For example, just when the UK’s government had decided that students can pay their way via borrowing, along came the credit crunch. How will students and institutions cope with a world where borrowing is no longer easy – or even favoured?

Whereas local authorities are responsible for primary and secondary education, higher education is a matter for central government. This difference is probably part of the source of the long-established distance between town and gown. In the past, university institution and civic authority could carry on their business with minimal engagement; this is no longer the case. Both need each other today if either is to succeed. Both contribute to each other’s reputation. Long-term success for any university would appear to be improbable without the wholehearted support of its host city, and it seems equally unlikely that any city can thrive without a successful university sector.

The scenarios explored in this publication are intended as informed provocations to stimulate debate not only within universities and local authorities, but also, particularly, between the two. From those exchanges we hope that we may learn more about the potential physical impacts on our cities, so that the buildings we design, and the wider environments we create, are appropriate, stimulating and enduring.

Dickon Robinson
Universities are significant owners and managers of property, and as higher education expands, they are increasingly shaping the built environment we all share. The European Union is committed to university reform, and the UK government is supporting major expansion of the sector, with numerous campus buildings in the pipeline. With this, new landscapes are appearing, and populations and local services are changing, amidst talk of the economic benefits of higher education. Although further change may be inevitable, we do not yet have a clear sense of what it will be and how it will benefit – or harm – our towns and cities.

The current transformation is usually considered in public discourse in connection with globalisation and technological change. It is often imagined as a historical continuum from pure research to today’s science ‘parks’ and commercial spin-offs. But since the 17th century at least, if not longer, universities and commercial activities have been intertwined. Moreover, scholarship has always been embedded within a wider social fabric, regardless of popular conceptions of academic isolation in ‘ivory towers’.

The list of factors that will impinge on university futures is impressive – even daunting. Long-standing economic orthodoxies have come into question, possible ecological futures frighten, and technological changes make the different generations feel like strangers to each other. The goals of public sector academic practice are themselves in flux, the only certainty being a spectacular and continued increase in the numbers of educated people worldwide, particularly as middle-income countries catch up and overtake the old West in academic production. And still there is continued enthusiasm for expansion at home. Only in March 2008 the government announced a programme of university building that it claimed would further help unlock the potential of towns and people, and drive economic regeneration.1

Such expansion will have huge impacts on urban space, as the needs of the universities as part of the knowledge economy are prioritised, and as the higher education community becomes dispersed throughout the urban landscape, both physically and through virtual networking. There are likely to be new modes of operation and novel types of building, and these will impact on the community beyond. Relations between town and gown have a long and variously troubled history,2 but the physical and cultural imprint of higher education is becoming so significant that it is imperative that there be serious debate about the directions of travel.

The task is complicated by the fact that the very definitions of higher education, universities and academia are up for negotiation.3 What is higher education’s role in technological change? How and whom should it teach and serve? With what and whose resources? What authority does or should it have? How, if at all, can its spirit of free enquiry be fostered? And how can we discuss it dispassionately when the vocabulary is so laden with meaning? Should the university be universal or the college collegiate? Where is the open field embedded in the word ‘campus’? Do today’s technology parks and knowledge factories enable a love of wisdom in anything like the way the original Academy, an Athenian garden, apparently did?
To complicate matters, higher education is now part of a global and extremely competitive market. The sector is segmented and diverse. The horizons and ambitions of world-class research universities such as Cambridge or the Massachusetts Institute of Technology in Boston are quite different from those of establishments such as London’s South Bank University or North America’s liberal arts colleges and many of its state institutions, whose focus is more on teaching students from the local area.

Running universities may be an expensive business, but learning and knowledge are undeniably also significant economic assets. As higher education’s social, economic and cultural role is being moulded to fit a post-industrial economy, universities continue to be both technically innovative and creative in the way they develop their built environment. Most universities still have architectural as well as institutional boundaries of some sort. Many university buildings once endowed whole cities with character. A good number of higher education institutions (HEIs) in the UK have buildings dating from the 1960s and 1970s that urgently need repair and upgrading. Some have historic buildings that create particular challenges of balancing heritage with usefulness. Others have been lucky enough to commission a landmark building that can further enhance a brand reputation and so yield dividends in the future. Host municipalities in turn hope that universities will enhance their physical, economic and cultural environments.
The space needs of universities have been growing faster than those of office, retail or residential accommodation. The factors impacting on universities’ space needs are constantly changing – government policies, demographic change, international events and pressures, and more immediate opportunities. Internal factors driving changing space needs can be divided into those arising from disciplines themselves, those related to changing teaching methods, and those arising out of administrative needs.

Universities’ activities impact in many ways on their communities, but often universities are perceived by others as ‘black boxes’, whose procedures and priorities remain obscure to outsiders. Yet since the latest revolution in communications technologies, roughly in the last two decades, hyperbole about the role of knowledge and hence of higher education in economic performance has made it seem as though universities could raise any and all localities into hubs of high-tech or cultural success. Proponents of university expansion go on to cite an avalanche of easily available numbers in support of their case: over 100% increase in part-time students since the mid-1990s; income from overseas students almost doubled since 2001; UK’s public expenditure on higher education as a proportion of GDP well below the OECD average; and so on.

Those who work in universities, and those who talk and write about them, sometimes rehearse these arguments, but they also view and endow universities with less quantifiable attributes. They are not ordinary places; they are the last millennium’s greatest achievement, the world of the future. At their most cherished, universities are made up of buildings with emotional and practical, functional and even spiritual meaning. They may symbolise the intellectual autonomy traditionally associated with scholarship. Universities have also tended to be inherently international, and academic work has long been done by populations that are transient, but also healthier than average, and so the idea of a university town or city easily conjures up images of dynamism and youth, as well as of studiousness and conservatism.

Within a framework of urban renaissance, universities can contribute to regeneration directly by helping to reclaim parts of cities and leverage funds from public regional players such as the European Union or Regional Development Agencies. According to a recent book, the University of Pennsylvania was shocked into action to improve community relations by a murder near campus, and subsequently engaged in a major revitalisation scheme, including improving housing stock, imaginative mortgage and loan programmes, and support for new retail. Another formerly industrial US town, Cincinnati, has seen major investments in campus architecture, including some signature buildings and the transformation of acres of parking lot into green space. The masterplan initiated in 1989 has helped transform an institution suffering declining enrolments into an academically strong university, while also improving the quality of the surrounding urban fabric. Closer to home, examples include the Docklands campus of the University of East London by Edward Cullinan Architects, and Queen Mary University of London, which has several award-winning buildings.

Less obvious changes are afoot in central London, where some of the country’s most prestigious institutions have increased student numbers and transformed parts of the city from residential or business uses to educational ones. Examples include the London School of Economics and King’s College, which are not campuses in the traditional sense, but are made up of clusters of buildings renovated to varying standards for educational and research uses. Passers-by may be surprised to find themselves in an academic environment, surrounded on the hour, each hour, by students moving between lectures, without ever having realised that they are anywhere near university property. In less exclusive areas higher education announces its presence with iconic architecture – for instance in north London, where the Graduate Student Centre of London Metropolitan University is housed in a Daniel Liebeskind building on the Holloway Road.
As ‘gown’ swells, ‘town’ is not always unreserved in its praise. For the UK’s higher education institutions to secure success in global university rankings it may be necessary to invest heavily and visibly, but their expansion may also be felt as a loss of quality of life. Neighbours may have to cope with ‘studentification’, the phenomenon of transient low-paying populations of students being concentrated in particular neighbourhoods and diverting resources away from other residents. High-end facilities aimed primarily at a student population can also result in barriers and security measures that harden the walls, both real and imagined, between citadels of learning and the wider public outside. This can raise tensions, whether it happens in the urban context or on suburban or greenfield campuses, where isolation has long been identified as a problem.

Central governments tend to see universities as contributing to the world around them more than vice versa. For city leaders, universities can offer promises of inward investment and economic growth, but they also create challenges of providing the required support structures. And as funding becomes ever more a mix of the public and the private, it becomes difficult to assess whether a university building is creating a cost or a benefit. This matters not only for local authorities but also for investors. Should the long-term investment they make be further burdened by planning gain payments, or should they, indeed, be receiving subsidy?

This terrain is undoubtedly fraught with complexity as well as passion. Let us proceed then with this note of caution, from a recent article on the fortunes of the industry:

Higher education was generally cast as the real or potential hero in contemporary society but examples were not difficult to find where higher education emerged more as the villain, variously legitimising social inequality, blocking of opportunities, failing to equip the workforce, failing to innovate or failing to take truth to power.13

GROVES OF ACADEME, ANCIENT AND RECENT

Academics have always been at pains to show that their contribution is totally new and totally radical. To pursue a useful conversation about the changes, there needs to be some understanding of the historical development of academia. It is also worth noting that prevailing ideas of what a university is and looks like are historically shaped. The oldest universities go back about 700–800 years, but it is developments in late 19th-century Europe and North America that have informed contemporary notions of what universities ought to be. Because of new economic forces, the dawn of the 21st century is likely to produce a rupture. But the drivers pushing for more high-quality additions and improvements to the university estate will be academic and professional as well as economic and political, and they will continue to be hotly debated.

From the 1980s, new post-industrial economic sectors, fuelled by innovations in high technology and in finance, and supported by shifts in intellectual property law, pumped funds into the endowments of America’s top universities and helped set the pace for global trends. In the USA, universities have also become very adept at raising money from donors.14 In 2009 it is not clear that these trends will continue: the world of finance may contract substantially in years to come, and even the pace of technological change could slow down. Even if this happens, we are still going to experience intensification and expansion of university building. Academia is an interesting client for the architect, however. It seems to combine past and present easily: the university has survived as an institution for centuries, even if what goes on inside it, and how it legitimises itself, has altered with the times. This mix of conservatism and the drive towards innovation is arguably visible in some of the best and most durable university architecture we know.

Characteristically, universities operate a functional distinction between postgraduate and research activity on the one hand and undergraduate teaching on the other, but a third strand, that of civic engagement, is progressively becoming
more significant. This may have substantial implications for the built environment.

University buildings are already used for a range of activities by the wider community. In part this practice spread as institutions of higher education began to manage their estates as overtly commercial ventures. Universities organise conferences to make money from their accommodation all year round. In the UK they collaborate with private funders and local authorities much more than before to build state-of-the-art sports facilities or cultural amenities. In the USA, sports and leisure facilities attached to university campuses are often important for the wider community. On the other hand, large numbers of learners can be accommodated without the expense of building by offering virtual learning, using both old and new technology to reach students far away.

University buildings can be seen as a metaphor for what goes on inside them. In the USA, university architecture was explicitly utopian and progressive, and designed to help develop universities as communities.\(^{15}\) This was easily done on large, hitherto almost undeveloped sites, producing the campus model, notably on land-grant colleges. In the early 19th century Thomas Jefferson implemented strictly rationalist designs at Charlottesville, Virginia. Later, Stanford University realised a grand plan of courtyards plus arboretum, and across the continent campuses tend to replicate a model of leafy calm combined with classical motifs and a ground plan that pays homage to classical antiquity. The UK’s/ England’s equivalent to America’s 19th-century campuses was the ‘redbrick’ or ‘civic’ universities, built particularly in northern, industrial strongholds through private funds, but usually within the urban area. The separate campus was really introduced to the UK only through the so-called ‘Shakespearean Seven’, with their origins in the 1963 Robbins report into the future of higher education. Built largely with public funds, they were (or were written about as) innovative and bold architectural experiments. They left a substantial mark on the environment, and on academia as an institution, expanding higher education and aiming to erode its elitism.

Whether or not it is true that the academia has always had an interest in and the capacity for forward-looking building, Brian Edwards argues in University Architecture (2001) that – at least in the better instances – universities have also worked with masterplans that provide a sense of order and vitality. There is ample evidence of the future orientation of universities as architects’ clients. Even existing urban centres can accommodate self-consciously forward-looking design, such as Columbia University’s masterplan by Piano, as well as new campuses, such as the private, not-for-profit Bond University’s campus opened in 1989 on Australia’s Gold Coast.

In the late 20th century research success actually translated directly into changes in urban form, not to mention rising property prices. The most famous cases are probably Northern California’s Silicon Valley, Boston’s Route 128 and, in England, Cambridge. In all of them (and elsewhere), urban life and built form have taken shape as part of specific university–industry success stories. None has, however, progressed without some social and, in California’s case at least, environmental disruption.

Where institutions seek to emulate such successes, they need more space. Efficiency gains are not enough. Academic effectiveness and physical form are generally linked, but in complex ways. Rather than proposing exemplary practice, let alone standard models, a report for the UK’s Space Management Team\(^{16}\) emphasises that context-specific modes of integration and internal connections between departments are key to success. CABE’s Design with Distinction (2005) identifies staff and student retention as a key driver of good design, but when this is translated into high-quality building it sometimes runs counter to managerial goals of efficiency and cost reduction. However, ‘intangibles’, such as workplace satisfaction and the ways in which social, physical and psychological experiences combine to create a campus experience, are now recognised as significant. And while top academic staff and the most talented students are motivated by the content of their work, the institutions that get them deploy beauty, comfort and academic quality alongside attractive pay packages as weapons of choice in the ongoing ‘talent wars’.\(^{17}\)

**NUMBERS GAMES**

It could be said that universities themselves are the *fons et origo* of the ranking systems and league tables that are now ubiquitous, but which are also often criticised for producing distorted judgements. There is an abundance of data on higher education; but there are complications in interpreting the figures. Many academic institutions have developed very much as national (even nationalist) projects with local idiosyncrasies. More recently, the variety of subjects and styles of studying has grown so vast that many academic commentators feel the idea of an academic ‘community’ no longer reflects reality. To help make sense of the proliferation of qualifications, an industry of quality assurance and benchmarking has emerged that includes such processes as the Research Assessment Exercise (RAE) and teaching quality measurement by the Quality Assurance Agency (QAA). The European Union’s Bologna Process of harmonising higher education aims to create a system for comparing degrees and skills by 2010, and global indicators to facilitate comparisons are being developed by UNESCO and others.

Demographic trends mean that tomorrow’s student population will be more diverse than today’s.\(^{18}\) The population is becoming older, and this will have implications for education. Lifelong learning will grow in importance, and undergraduate study may become longer than the UK’s conventional three years, either through part-time study or through changes in the degree structure. The young adults who can expect to enter higher education in 20 years’ time are already born, but they will be joined by new immigrants and by older cohorts. On the other hand, sharp distinctions
between age groups are becoming blurred, and roles and responsibilities that go with particular ages are expected to continue shifting.

There is no guarantee that lifelong learning or non-standard forms of education, for instance for those not naturally enthused by it, will be high on the public agenda, or even funded; nor is it clear that longevity in the future will be accompanied by wealth. But longer life expectancy will create a demand for more educational services. Demographic trends also have an impact on the public purse. When the working population is small (and it is getting smaller) and dependent populations are larger, for instance the very elderly or the young, there will simply not be the resources to support growing expectations.

According to statistics published annually by Universities UK, in August 2008 there were 169 higher education institutions, of which 109 were universities. This year 45 of those institutions taught over 20,000 students each. The total number of students was 2,362,825.

The figures are not that much higher than a few years ago, but they are up by almost 50% from ten years earlier, with an increase of 109% in part-time undergraduate places from 1994/5 to 2006/7. The participation rate (17- to 30-year-olds in HE) has hovered around 40% for almost a decade, slowly progressing towards the government’s target of 50% by 2010. In the early 1960s only about 6% of young people went to university and so the current situation is frequently referred to as a shift from elite to mass higher education. There is also growth in the numbers working in academia, with an increase of 11% in academic staff between 1995 and 2000, and this growth is continuing. In 2005/6 there were 164,875 academic staff in the UK’s institutions of higher education.

Figures demonstrating the importance and economic benefits of higher education continue to be published and scrutinised with interest by a bewilderingly large number of institutions and agencies. The basic message that they are putting across is relatively straightforward. Social and economic progress now depends on the fortunes of various kinds of knowledge producer, and so universities, as producers of knowledge par excellence, are treated as ‘anchor institutions’ that are critical to future economic success. They also contribute to their host cities’ physical appearance. In short, entwined in each other’s fortunes, universities and cities are now seen as needing and deserving public support as well as producing and inspiring private enterprise.

EUROPE AND THE UK

In the UK the dominance of the English language has helped it maintain a level of excellence and wide dissemination in scholarly output. The UK is the world’s second largest importer of students after the USA. Campuses now recruit actively from abroad, organising open days, auditions and the like overseas. In 2004 the UK had 11% of the world’s international students, who are seen explicitly as a source of income. In recent years China has been the most significant provider of students to the UK, with India, USA and the Republic of Ireland following.

Higher education in the UK has traditionally strong links with North America but, increasingly, European priorities are shaping it. The Lisbon Strategy (2000) for economic reform requires enhancement of the knowledge sector. This has given further impetus to the so-called Bologna Process (based on the Bologna Declaration of 1999) to create a European Higher Education Area by 2010 – effectively a common market in education. Inspired by the belief that this will counterbalance the USA’s overwhelming lead in global rankings, it works towards standardised teaching, enabling credit transfer, and it provides Europe-wide guidelines for modernising universities. It has also meant substantial capital investments.

The Bologna Process has progressed as a Europe-wide response to global economic competition. But in many countries universities are debated in nationalist terms. Meanwhile, individual cities and municipalities, and whole social groups, can miss out as the rewards of the information revolution are distributed. One of the UK’s most economically vibrant university cities is Cambridge. Despite its dynamic, knowledge-driven economy, parts of it suffer surprisingly severe deprivation. This is also a feature of many of the USA’s most famous university towns. Across the European Union, the high hopes being pinned on the knowledge economy must also be tempered with an understanding of the extent of alienation and educational underachievement.

Still, higher education’s economic significance has undoubtedly been growing. In the UK, income was £12.8 billion in 1999/2000, rising to £16.87 billion in 2003/4, and accounting directly for 1.2% of full-time equivalent jobs. Governments, and arguably electorates, now perceive and measure university activities within a framework of cost–benefit analysis and direct accountability to funders.
In terms of economic geography, the shift from industrial production to information and knowledge as economic assets means that university towns and cities, as magnets for mass (knowledge) producers, are today’s equivalent of the industrial centres of the past, and are likely to attract the biggest capital investments. (But then, in this framework a call centre can be as much a knowledge producer as a university.)

Even though critics in the UK anticipated a fall in student numbers subsequent to the introduction of fees (in 1998), they have not in fact had much impact. So-called ‘top-up fees’ were introduced in autumn 2006, allowing universities to charge differential fees in a bid to create a market for those buying a higher education. The economics of land ownership puts universities in an interesting position, particularly against the background of apparently vanishing wealth in the global financial system. According to AUDE (the Association of University Directors of Estates), in 2004 universities had 24.9 million m² gross space, with an estimated property revenue cost of £1,552 million per annum, and an insurance replacement value of £38.9 billion. If universities do continue to perform economically, this will further push up the price of land in their vicinity.

GLOBAL TRENDS

The three main drivers behind increases in tertiary education worldwide have been demographic change, technological development, and economic globalisation. In the wealthy world there is growing nervousness about the rise of China and India, whose growing economies now challenge older economic powers. These countries are also playing novel and, as some see it, threatening roles in the global higher education race, leading to routine exhortations elsewhere to wake up and keep up.

Reflecting the perspective of the wealthy world, the OECD has identified seven key trends: expansion, diversification of provision, more mixed student populations, new funding arrangements, focus on accountability and performance, new forms of governance, and intensified global networking and mobility. From its more global vantage point UNESCO, on the other hand, is more concerned about the vast inequalities that currently characterise education, from primary right up to tertiary.

UNESCO also anticipates that the embrace of the knowledge economy will introduce new forms of gender
inequality.24 Counter to this, female-only facilities, and even entire universities, are already in the pipeline. For example, the new Rhiyad Women’s University will accommodate up to 40,000 students in purpose-built, all-female spaces. (All-female provision of course has champions in the UK, with many graduates of Oxbridge women’s colleges prominent in public life.)

Middle-income and developing nations, such as Brazil, Russia and China, are leaving their mark on the global higher education landscape, even though this shift is coming at a high cost for these countries. Expenditure as a proportion of GDP in higher education here is many times what it is in OECD countries.24 The expansion of higher education in China is an issue of considerable international interest, partly because of the numbers involved. China accounted for 64% of the total student increase in East Asia from 1991 to 2004 despite reduced rates of population growth.27

China’s university reform has been under way since 1985, with countless mergers and radical changes in administration. The results have indeed been spectacular. There are now 25 million students, a fivefold increase in the nine years to 2007, but still only about 15% of the age group. Postgraduate research has expanded most remarkably. In 1996 China produced a mere 5000 PhDs; today’s figures are 1.8 million in 2001 to over 7 million in 2020.29 As well as enrolment in host countries’ own institutions this includes students at ‘offshore’ campuses. For example, Australia’s Monash University has a programme of building overseas campuses (including one in London), with plans to enrol almost 80,000 students, half of them international.

February 2006 saw the official opening of the new £30 million campus of Nottingham University in Ningbo, south of Shanghai, the first foreign university in the world to receive a licence and to open a campus in China. American and European universities also have numerous campuses in the Middle and Far East, catering to a mix of local and international students, and sometimes hosting world-class research institutes.

International collaboration through joint or dual degrees is also growing, with joint ventures and partnerships between institutions in different countries. There are calls for student mobility to be two-way, and for the encouragement of institutions to make it possible for students to spend short periods of time overseas rather than commit themselves to long-term degree programmes.30

Around the globe higher education policies, like universities’ promotional literature and websites, look much the same. The need for radical reform to ensure ‘economic strength and social harmony’31 is a routine exhortation. The overarching imperative to change, and to do so under global pressures, is often supported by heroic stories of institutions that have succeeded in entrepreneurial activities and excellence, and in attracting top students and world-class staff. On the other hand, the wisdom of pursuing urgent, speedy and sometimes formulaic reform has not gone unchallenged.32

Meanwhile the effects of recession are already being felt. In the short and medium term, pressures from staff costs will be acute. As energy prices rise, institutions will be focusing on building efficiencies. In the longer term, economic uncertainty will have impacts on all aspects of university activity, from the costs borne by students to funding research and physical infrastructure. Bolstering income by increasing the international student intake continues to be discussed as a viable policy option, but a global recession is likely to mean that this market will shrink. In any case, full-time student numbers in the UK are expected to drop by over 20,000 before 2020, simply because of demographic factors. Future movements of internationally mobile students33 and developments far away in time as well as space are hard to predict, but there are few reasons to expect the student population to grow indefinitely.

As was the case with industrialisation, socio-economic change today is highly uneven across the world, but the linkages between different types of player are and will remain relevant to understanding future developments. ‘World class’ status is the stated aim of many a policy maker or university head, but obviously ‘not all universities are the same and […] not all have the same world conquering ambitions.’34 Administratively and financially, as well as pedagogically, there are huge and growing differences within higher education, with regional divergences and new typologies emerging. Global economic trends, such as growth in disposable income and increased geographical mobility, obscure many important, spatially specific details. The Association of University Directors of Estates recognises the variation within higher education, and stresses that global excellence is a goal for only a few institutions, and this should be considered when planning future construction.

Whatever the national specifics, a key factor shaping tomorrow’s universities will be how the internationalisation of higher education proceeds. Contradictory forces are at play here, from massive rates of increase in international students to government-imposed barriers to entry in the name of security policies. On top of this there are still, inevitably, questions about what universities themselves wish to be. Given their resilience so far, and their longevity, it is possible that they will continue much as before, adapting themselves to new niche markets but maintaining identities as separate and distinct institutions with identifiable missions.
The view that ‘excellence’ should be pursued by every university institution came to be replaced, in the early 21st century, by the more sophisticated notion that higher education needed to pursue a diversity of missions, only one of which was covered by the traditional idea of academic ‘excellence’. Although the number of universities in England and Wales (Scotland being its own story) had not changed much since the start of the century, they had both grown in size and developed a wider geographical spread. Developing differing missions was, it came to be seen, the only possibility.

By the 2020s Europe had become a single higher education area, for both teaching and research, where national boundaries were in most cases irrelevant to student choice, and where, in any case, some universities in border areas were transnational (Maastricht University had pioneered this approach). Spain and the Nordic countries, in particular, had developed highly competitive university systems, working largely in English, which attracted large numbers of British students. Although a great deal of policy affecting higher education emerged from European institutions, national governments had insisted on retaining higher education as a national competence (it had been part of the deal when defence became a European responsibility): so we have an essentially single European university system operating under different national frameworks – though the differences between these have diminished greatly in the last decade.

Meanwhile the global game of universities’ ranking lists has expanded, with competing league tables based on differing assumptions about ‘excellence’, sponsored by various commercial and interest groups. Universities’ marketing has become increasingly sophisticated to present the university to an Internet-based world, where it is impossible to control a news agenda. The university’s built environment has become a key part in this presentation: the iconic building features strongly in most universities’ marketing literature, but the surrounding urban environment also plays a part – universities like to present themselves as being integral to their ‘knowledge city’.

A league table based on the extent of adherence to Islamic values has attracted interest, and some Western universities have been changing their arrangements to obtain higher rankings in it, driven by marketing imperatives – by introducing tighter restrictions on alcohol, for example. By contrast, the gay-friendly universities league table requires adherence to a different set of values to achieve high rankings.

The national apex universities – those that claim the highest academic standards, and which tend to educate the children of national and global elites, which they help to reproduce – have long tried to manage their reputations in order to protect their ‘brands’. How far their reputations depend on their brands, or whether it is the other way around, has been a matter of some debate; but the two are now wholly intertwined in the public mind, where ideas of academic excellence and political and financial power come together. Some academics find this an uncomfortable blend for a working environment.

For every apex ‘brand’ that is doing well globally, there are many who operate successfully in lower tiers. In short, the higher education landscape as we approach 2030 is highly diverse, with a lengthening continuum, in terms of curriculum, quality of outcome and, of course, buildings and infrastructure. Institutions vary hugely in terms of funding and in mission, from world-class academic excellence to something close to remedial education. A small group of elite, or apex, institutions in the UK and a few other European countries, as well as in the USA, Australia, Japan and China, have further developed their stellar reputations, and have buildings to match. But they are a tiny minority in terms of student numbers, though disproportionate in their research earnings. Their significance for the broader higher education picture is that they tend to set the tone of some of the policy debate, as well as defining ‘the university’ in media presentations.

What if universities and other higher education institutions carry on pretty much as they are? What if economic and political futures are recognisably like the present, with even more pressure towards differentiation, even more emphasis on knowledge and skills, and even more geographical mobility than now? Then it is likely that the most important consideration for university cities in the UK will be the transnational question.

So, in 2029, qualified labour is a precious resource that is traded like any other. Universities operate in an intricate global constellation of competition and specialisation, each striving for strong brand recognition and, where possible, expansion. This puts students, staff and academic institutions right at the heart of developments in urban form.

Some institutions have been able to benefit enormously from campus expansion as well as from the extreme personal mobility of knowledge workers, without compromising community relations. Others have not been so successful, and the costs of their blunders can be seen in the built environment.

**WHAT IF?**

**THE INTERNATIONAL MARKET**

- Paul Temple

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Some institutions have been able to benefit enormously from campus expansion as well as from the extreme personal mobility of knowledge workers, without compromising community relations. Others have not been so successful, and the costs of their blunders can be seen in the built environment.
The ubiquity of the university has, oddly, made the elite institutions appear more special. In the UK, Oxbridge continues to provide about the same proportion of national figures in politics, business, media and the professions as it did consistently throughout the 20th century, despite constituting a much smaller proportion of the total national system. Although elite institutions have long recognised that their exceptionalism could make them targets for resentment, it has proved difficult for them to change significantly without altering the very characteristics that make them attractive. Their national governments have recognised, with varying degrees of reluctance that having an elite institution within one’s national borders is to be safeguarded.

Elite universities have tried to plot their roles in the internationalisation game with care, but some mistakes have been made by them in entering into partnerships that have proved to be educationally and politically unwise: a leading US university, for example, has had problems with a Middle Eastern partnership, into which it was tempted by promises of very large investments in the project, but which has damaged its reputation at home. But, generally, elite universities have avoided ‘diluting’ their brands by not entering into partnerships or branching out into unfamiliar academic territory. This choice reflects in part the complex nature of knowledge-intensive organisations, with their dense internal networks and reliance on personal contacts, as contrasted with the more bureaucratised processes of larger institutions.

As a result, the elite universities are in the enviable position of being able to continue to select good international students – though their very high tuition fees, which have increased far more rapidly than most other costs, have limited the size of the available talent pool. This, in turn, has created a market opportunity for institutions in the second tier (roughly, those in the world top 200), able to offer high academic standards though without quite the social cachet of the elite.

Lower down the international rankings, English universities (and, increasingly, other European universities, nearly all of which teach in English) have expanded abroad, usually through franchising their degree programmes, which are delivered by local partners. The University of London’s External Programme has now had nearly a century-and-half’s experience of this type of activity, but by the early 21st century a majority of universities had some involvement of this sort. Problems of poor academic standards continue to emerge, despite the robust efforts of quality assurance agencies. Nevertheless, students and employers in many Asian, African and Latin American countries continue to prefer European–validated qualifications to local ones.

In the late 20th century the hope was that internationalisation would favour British brands. The English language has become the lingua franca of academia, the English and Scottish tradition of academically strong universities has been highly respected, and the growth of high-paying international students seeking university places in the UK seemed buoyant overall. English education was particularly valued in China. Here, as in many other emerging economies, quintessential Englishness was also tinged with positive associations such as Shakespeare, lawn tennis, classical music and classic design. (Scottish universities have appealed to a different set of national icons.) These things helped support the spread of English franchise operations around the world, as well as recruitment back to England. However, the model pioneered by Nottingham University, of setting up ‘England with palm trees’ carbon-copy campuses abroad, has not been widely pursued, partly because the financial and other risks were seen to outweigh the benefits for the sponsoring university, and partly because they began to be perceived as ‘too local’ to justify a premium fee.

A relatively early example of a campus that set out specifically to internationalise is Hertfordshire University. In 2008 it claimed to be the UK’s leading business-facing university, recruiting thousands of international students to its £120 million state-of-the-art de Havilland campus in Hatfield. Now, similar-looking campuses dot the landscapes of China and India more than they do the old West. A generation later, as 2030 approaches, the market has changed, and Hertfordshire University has changed with it. Whereas it was essentially a teaching institution at the start of the 21st century, it has developed research specialisms closely tied to its teaching, and it now offers niche educational products to specific groups of international students, as well as to a rather larger group of home students, in several locations near to its home base. It is not a genuinely international campus; rather it is a well-marketed English university, operating in the best possible locations for its market niche. Of course, conditions may yet change, and for that reason it puts vast energies into maintaining its attractiveness, both intellectual and physical.

Although for decades critics have been warning of the dangers of relentless ‘place competition’, most universities still find themselves investing massively in efforts to look good to outsiders. In this, the drivers that largely shape the globe in 2029 are not that different from those in 2009.

People-friendly city forms have been created (or recreated) around some urban universities, modelled on the medieval street plans of university cities such as Oxford and Krakow. These forms allow people to mix easily and to encounter the unexpected: these physical layouts have
been increasingly seen as being important to creativity. The aim has been to allow the university to merge into the surrounding urban townscape, encouraging, for example, spin-out companies from the university to set up in adjoining premises, rather than in distant business parks. The overriding priority of sustainability has given added impetus to built environments that do not depend on motor vehicles for access, providing benefits for urban universities well served by public transport, and leaving out-of-town campus universities struggling to meet mandatory zero-carbon goals.

All countries increasingly see universities as conferring prestige and economic benefits. And so they continue to invest in their top universities, arguably to a disproportionate extent, sometimes in collaboration with an overseas partner. These national ‘apex’ institutions struggle to enter the global top 100 or 200 in terms of research output, but they continue to feed the world elite through a consistent repertoire of undergraduate teaching that attracts some international as well as home students. And so for them higher education has once again become a substantially national economic enterprise, requiring increasing proportions of national GDP as well as private contributions through tuition fees; though the resulting benefits are generally felt to be positive. For the towns and regions that host them, on the other hand, they are a real benefit, pulling in resources from elsewhere in the country and beyond. This helps to create a competitive cycle of localities lobbying for new universities or research facilities to be placed in their area. The costs of advanced research facilities in X4, the characteristic technology of the mid-21st century, mean that only a handful will be provided worldwide: this has generated intense lobbying campaigns and promises of locally provided infrastructure to land the prize of one of these new research centres. The fact that they will almost inevitably be placed near an apex institution provides a further reason for public support for them.

Advances in the design of campuses, teaching spaces, social spaces, libraries and laboratories have not been related to academic excellence; some of the biggest design risks have been run by lower-tier institutions seeking an ‘iconic’ building in an attempt to build their brand recognition. Sustainability issues have now come to dominate design considerations, with most capital budgets going into reconstructing 20th-century buildings with what we now see are impossibly large carbon footprints. (Institutions with Victorian buildings, or older ones, observe smugly in their promotional literature that these buildings have always been sustainable.)

In this scenario, buildings are commissioned to match a specified target audience. They range from the apex or elite commissions, designed to attract the world’s best, to something more akin to a budget campus – so nondescript and flexible that it could be used for anything should the academic market fail to attract customers. No doubt all of them would be composed of the three main types of learning environment: physical, such as lecture and seminar spaces; virtual spaces; and social facilities where students and staff can interact informally. Most likely, if they have science and technology in the curriculum, they will also provide access to or even accommodation for research and development (R&D), and technology and knowledge transfer functions.35

Building to recruit the best in the world has already resulted in some landmark buildings. In the mid-2000s MIT in Cambridge, MA continued a much older tradition of iconic campus building with Steven Holl’s Simmons Hall and Frank Gehry’s remarkable Ray and Maria Stata Center, among others.36 Made possible by generous corporate donations, the Stata Center was not just an empty gesture of flamboyant ‘rock star’ architecture. It was designed with 21st-century science in mind, accommodating many disciplines, providing ample social space to encourage chance encounters, and, in a practice that is already widespread, making whiteboards or blackboards available throughout these spaces, to ensure that moments of scientific inspiration are not lost to lack of writing materials!

Closer to home, new, quality buildings already dot the academic landscape. As a recent example, Alsop Design Ltd together with AMEC have left their mark on the Queen Mary campus in the form of the RIBA-awarded Blizzard Building. Like corporations, universities are developing their estate specifically with a view to attracting...
an international audience, one for whom architecture is important not only for being fit for purpose and ensuring the comfort and effectiveness of the academic community, but also for conveying high status among a globally powerful audience. They are also aware of the benefits of high-quality, pleasant and characterful spaces for their broader mission. As William J. Mitchell puts it, in his account of MIT’s recent architectural boom, a campus needs a heart.

The impacts of apex institutions on host communities will depend on circumstances, and on where they are in the international academic league. Many of North America’s most famous campuses are the pride and joy of local communities, who have long enjoyed the cultural, sports and leisure opportunities that come with top-end university life. Others create recurring tensions, perhaps exacerbated by a sense that universities are taking over cherished landscapes, even driving out former residents to make way for the much-vaunted new academic elite. A recent example of high-profile tensions of this kind is Columbia in New York’s Manhattan, where the university is set to transform an old industrial area into a new kind of urban space, where it hopes the academic and non-academic communities can nourish each other.

The studentification of universities in cities

Although the campus with its specialised buildings seems the most obvious place to look for change, experience suggests that it is the expansion of students’ residential needs that impacts most on host communities. In the UK, in the absence of urban policies to handle it, the growth of the student population began to be mopped up by private sector landlords. This was largely a continuation of tradition: the shared student house. Houses in multiple occupation (HMOs), rented for a year at a time by groups of young adults, are remembered, fondly or otherwise, as an integral part of the rite of passage that higher education has offered to generations of university graduates.

By the mid-1990s, however, expansion had led to unregulated and unplanned impacts on the neighbours of universities, including a trend for students to move into established residential areas. Local authorities were having to deal with the resentment and friction that this caused. Recognising a new pattern of residential development, Darren Smith, a geographer, coined the term ‘studentification’ to capture the new phenomenon, and argued that it brought profound cultural, social and physical transformations.

Gradually, it has been recognised that urban policies are needed to address studentification. Several local authorities have issued guidelines for good practice, and have instituted posts or partnerships to identify problems and develop strategies; yet, as is so often the case, the devil is in the details, as issues reflect specific contexts. Economic conditions and geographical constraints may make student housing needs far less acute than they currently are.

Demographic change will have considerable impact. Given the enthusiasm for accommodating higher education, it is important to realise that there will be a decline in the 18–20 population in the decade 2010–2020. There may also be considerable change in the way socio-economic class plays out in the sector. Today’s younger cohorts are educated beyond their parents’ generations, but this trend is not likely to continue to swell the ranks of university students. Even if it does, its impacts on residential needs are difficult to predict.

According to Darren Smith, international students currently favour purpose-built accommodation. The demand for shared student housing will also reduce as the numbers of students coming to the UK from within the European Union are reduced.

Studentification can be felt as a mix of scruffiness and declining property values, but also as consumer opportunities directed at the young or the young at heart. But then studentification in the form of neighbourhoods of shared housing was also spurred on by a cultural shift towards deregulation and private investment, and by an increased supply of finance. Both are likely to be severely affected by economic uncertainty for years to come.
In the first decade of this century, many local authorities and universities across the UK were faced with substantive calls to disperse the student populations more fully across their city or town. This was motivated by a general agreement to tackle the over-concentrations of students in HMOs within distinct enclaves. After all, this contravened visions of sustainable and balanced communities. Well-organised lobbying from local communities, councillors and MPs, parliamentary groups and other key stakeholders led to some new visions for the ways in which students should be accommodated in towns and cities. As these viewpoints became entrenched in local planning, and as this process accelerated during the 2010s, profound changes to the residential geographies of students unfolded. The traditional shared student house (HMO) became a relic of the past, and the conventional student lifestyle was lost.

Armed with significant national political support, many local authorities, often in partnership with local universities and private sector organisations, sought to mitigate the causes of the processes underpinning the over-concentrations of students in HMOs. These processes, termed studentification, had stimulated distinct forms of urban change since the mid 1990s in many of Britain’s towns and cities. The process was characterised by the displacement of existing residential communities, segregation of students from established residents, escalating property prices, changes to retail and leisure services, closure of local schools, rising levels of crime, and a downgrading of the urban environment. This was all tied to a lack of investment in maintaining standards of private rented property.

Across Britain, the solution sought by many local authorities was to promote the development of large-scale, purpose-built student accommodation marketed under the guise of urban regeneration. This proceeded, however, with limited consideration for the impact on the local context and adjacent residential communities. Establishing these new residential geographies of students did not mean that studentification simply became a thing of the past. Rather, the challenges of studentification persisted where high concentrations of students predominated. The issues it created were simply displaced.

Universities and other stakeholders were therefore forced to implement different models and effective management systems to mitigate issues such as noise nuisance, litter and fly-tipping, monopolising of limited car parking, and other antisocial behaviour. More positive off-campus relations between students, established communities and other stakeholders were nurtured as more students were controlled and policed by the managers of purpose-built student accommodation.

Looking back, this approach to addressing the challenges of studentification led to some dramatic consequences for the broader housing markets of university towns and cities.

First, by allowing and encouraging the clustering of large-scale, purpose-built student accommodation in relatively isolated parts of towns and cities, the interaction between students and established residents was reduced. Accommodated in gated communities, and closed off from the established residents, the proliferation of purpose-built student accommodation simply led to the formation of new ‘student ghettos’. The closure of these student residential spaces to the ‘external’ community was symbolic, and minimised interactions between students and established residents. Many of the mutual benefits that had accrued via everyday interactions between students and their neighbours before the mid-1990s were lost.

This trend contradicted the political impulse of central government to foster sustainable communities and to produce mixed and balanced communities. In locations such as the Jubilee Campus in Nottingham, monocultural communities were formed as students were herded away from the established residential communities to live alongside derelict brownfield sites and light industrial units, in homogeneous blocks of accommodation. Within such locations, the availability of retail and leisure services, and of...
public transport, was limited. Students were forced to travel significant distances for everyday essentials, and to absorb high commuting costs. One result was that student debt rocketed, and more students were forced to find part-time employment to make ends meet.

The accommodation itself developed certain recognisable characteristics. Entry points tended to be controlled by high-security systems, and the perimeters were often fortified. With relatively higher weekly rent levels being charged in the purpose-built accommodation, these developments were often populated by students from higher-income families. They developed a new, costly lifestyle based on high levels of affluence, including gyms, swimming pools, café bar culture and personal services, such as laundry and cleaning.

The Kirkstall Valley island in Leeds typified this type of high-density, urban phenomenon, with 4,000-plus students concentrated into a small area of Leeds. In many such locations students increasingly became more individualised and passive consumers, with limited participation in the politics or life of their place of study. They developed no sense of social capital or investment in the local community. It is in locations where purpose-built accommodation was built to low-quality standards, often in pod-like cells, and where it was limited to student accommodation, that many of these buildings now, in 2030, lie void, defunct, and abandoned.

Second, as more and more students selected purpose-built accommodation, many studentified areas with high numbers of HMOs were abandoned by private sector landlords and by students. The effects of this were compounded by the economic crises of the first decade of the 21st century, which led to the dramatic withdrawal of small-scale, buy-to-let landlords, affected by plummeting property prices and limits on credit.

The Housing Act of 2004 had ushered in new licensing and management requirements, and intervention by local authorities further reduced the appeal for small-scale landlords to invest in this market. HMO action zones were established in Nottingham, for example, to improve and monitor the quality of HMOs, and other licensing and accreditation schemes followed elsewhere. There were further legislative changes to housing and planning regimes, such as revisions to the Use Classes Order. Driven by a taken-for-granted assumption that high levels of HMOs in urban neighbourhoods were not conducive to facilitating a sustainable community, some local authorities, such as in Leeds and Birmingham, designated Areas of Housing Mix (AoHm). In this way they were able to script a proportion of student HMOs to family housing.

All this certainly met the goals of many local authorities to halt the conversion of swathes of existing family housing into student HMOs in the private rented sector. It slowed the magnitude and pace of studentification. But it also had the unintentional consequence of stimulating urban decline. The vast majority of studentified areas went into a terminal downward spiral. Residents’ groups, such as Bournebrook in Birmingham, even organised campaigns to seek the ‘return of the students’.

Urban decline was averted only in formerly studentified areas where landlords reoriented their practices to cater for young professionals and first-time buyers, who had been constrained by the lack of access to mortgage finance. But many local authority strategies to entice families back into the studentified areas failed, owing to the lack of financial resources, grants and other incentives to deconvert HMOs back to housing suitable for families. This sometimes led to severe depopulation, and the disintegration of local communities, public services and physical infrastructures.

Clearly, the general consensus and mission of many local authorities in the late 2000s and 2010s to reclaim studentified urban neighbourhoods from over-concentrations of students, and to maintain balanced communities, failed to materialise. Instead, the use of purpose-built student accommodation intensified the scale of unbalanced communities in Britain, and deepened segregation between students and established communities, in turn creating widespread urban decline and leaving authorities and neighbours to deal with abandoned property.

In sum, both the disease and the cure can create ghettos. The ‘cure’ has arguably also led to home and overseas students being separated from each other. At the same time international students are likely to be identified as ‘different’ or ‘ethnic’, as well as being treated like cash cows. This hardly supports the up-beat rhetoric of valuing diversity that university managements routinely employ.

For municipalities, certainly those that do not host internationally attractive, solidly elite research universities, the overprovision of mediocre, segregated student accommodation could turn out to be very expensive. This could easily happen if the economic foundations for a dedicated residential offer crumble, but also if university expansion itself fails to materialise. Given the facts, it is not hard to imagine that university growth would come to a halt or even be reversed.
As students have become a market opportunity, they have inspired a range of new finance, housing and lifestyle options. In the UK and elsewhere, in the shadows of the big players, there are schemes based on co-housing and starter home initiatives, novel forms of credit to help house students, and many experiments in managing student populations. As Darren Smith showed, local authorities and universities in the UK are beginning to explore ways to meet the challenges.

Housing markets, however, are in the eye of a rumbling storm, and the future is highly unpredictable. For most students and parents the prospects for financing student life in purpose-built, perhaps even generic, accommodation are fraught with uncertainty. Graduates themselves may start defaulting on their student debts, or even go bankrupt, if opportunities in the labour market fail to provide an attractive alternative. Already the numbers of students living at home with parents are growing in the UK. Some students even commute up to four hours a day to and from their place of study. Although the luxury end of the market has quality buildings and well-equipped student residences, most students have to negotiate worrying financial and geographical complications.

Today’s students are lucky in a sense, in that they do not need to be at university or on campus to be working towards a qualification; they can do at least part of it from home.

The interplay of new spatial and cultural patterns may well produce a totally different experience of academia, for all concerned. Even if universities continue to be important features of towns and cities, they are unlikely to create new residential markets or regeneration opportunities indefinitely.
WHAT IF THE ECONOMY FAILS TO RECOVER, LEAVING SEVERAL GENERATIONS TO WONDER HOW OLD PROMISES OF FUTURE PROSPERITY WERE SO UNREALISTIC? WHAT IF CREDIT BECOMES A LUXURY THAT ONLY THE FEW CAN ACCESS, LEAVING MOST YOUNG PEOPLE WITH LITTLE OPTION BUT TO STUDY FROM THEIR PARENTAL HOME OR, AT BEST, FROM WHAT IS LEFT OF DEDICATED STUDENT ACCOMMODATION?

One thing always seemed certain: that there would always be students, and that they would have specific accommodation needs of their own. In the 20th century and earlier, being a student was a rite of passage that took place in a recognisably youthful environment. In the 21st century this luxury is available only to a tiny minority. Only the elite universities offer some dedicated housing, either within their institution or in rented accommodation close by. The days of student ‘rooms’ – plural – are long gone. Pressure on space forced students, like everyone else, to live more densely in the wake of the series of economic shocks since 2008.

In the late 20th century the onset of adulthood and its responsibilities was already blurring into a long period of extended youth, leading to greatly deferred parenthood, so that the idea of generations became less meaningful. Starting a new home separated from parents or guardians is a dream only a few can afford, and living at home through a protracted period of study or apprenticeship – and beyond – is now the norm.

What this means for the urban fabric of most towns that host universities is a loss of the identity once given by student and academic exuberance to street life, the arts and the economy. Studying counts as work like any other: students have merged into the mass of society, and rarely possess any particular cultural attributes. There is little in the way of rowdy student life, but equally there is not much demand for the things that used to characterise university towns a decade or two ago: bookshops, youthful retail and meeting places, student theatres or clubs – let alone political and volunteering initiatives. What remains, however, are periodic tensions over whether local resources are directed towards supporting higher education or other deserving institutions. The sheer scale of the university estate, for instance, is a source of substantial resentment in many places, where the promises of economic expansion that accompanied campus expansion have simply not materialised.

This also means that buildings that were supposed to become dedicated student housing are available to a range of users. This is just as well, since everyone is having to adapt to a culture of frugality and steady-state economics, and all the political headaches that go with it. Studentification – how people miss it!

Even if living at home is on an upward trend, as the Sodexho Report cited above indicates, in some cities – whatever the economic situation – space is likely to remain a scarce and thus extremely expensive resource. In a global city like London, any number of events or processes could lead to student housing becoming a major block for the future of its universities. Combining a view of an extremely resource scarce future with an extremely entrepreneurial student body, Torange Khonsar, overleaf, presents some ideas that she and her students have developed. They are radically different again from either of those presented above.
On 1 July 2008 Under Secretary of State Ian Wright announced that the numbers of empty homes in England had risen to 762,635 – the highest level for nine years – yet the strategy for building student residences still remained to develop prime sites near universities.

There are plenty of examples of student residences governed by students on campus, but none where students are in control of the places they live in, or of the financial and practical arrangements involved.

In 2020, things could be very different.

Affiliated to existing student societies, a group of 20 students set up a student residential initiative called SHED, short for Student Housing Enterprise and Development.

The initiative draws students from different disciplines, including architecture, law, social and political sciences and business studies, all of whom bring their expertise to the effort.

They began by setting up a website to host:

- an archive of empty houses and sites around the campus, with potential for occupation; and
- a manual of how to refurbish existing houses and create self-build mobile living units cheaply with recycled materials.

With support from a handful of universities and students, SHED were able to develop their scheme further with additions to their information pages:

- a ‘harvest’ map of where to source recycled materials;
- a list of available mobile living units;
- a map of where the mobile units can be parked, and for what period of time;
- a list of students using the scheme.

More students joined, and other campuses elsewhere began to develop an interest. To make use of this momentum, SHED organised events. In fact these drew on a model of student governments on campuses such as NACURH, Inc. (the National Association of College and University Residence Halls, USA), which was already up and running in the first decade of this century.

Perhaps the most radical aspect of the scheme has been its economic basis. Without this the practical, building side would probably not have materialised. SHED became the organisation that governed access to accommodation outside the standard monetary system. Such alternative currencies are familiar from the thousands of local schemes put into place at local level to cope with recurrent and debilitating problems in the mainstream financial sector.

With SHED, the good relations that had been built between the two universities involved and the originally small group of students were key to creating structures for the initiative to happen. Other institutions were amazed at the cooperation, but SHED pointed out that the situation was not that different from the relationships that universities in the last century had with their student societies.

The students receive free accommodation in exchange for the volunteering work required to run the initiative. This work consists of:

- searching for and negotiating empty houses and sites for three- to four-year periods;
- maintaining the website, and updating the empty sites archive;
- help with refurbishing newly acquired accommodation;
- finding new locations to source free, recycled or cheap materials for the build;
- updating the ‘harvest’ maps;
- events organisation, and liaising with local communities and residents.

SHED approached the Empty Homes Agency, and with their assistance found that it was possible to negotiate with landlords to use empty homes over a two- to three-year period. The empty homes are transformed by SHED and groups of students into short-term liveable spaces. Further, the material used for this is found around the city. SHED recycles these discards as useful building material, and this is perhaps another reason why it has found favour with the universities, themselves struggling to lobby decision makers to maintain the fabric and image of the town.

There are also some mobile units. These tend to be sited in the empty plots available in the city, such as parking bays, rooftops, derelict sites and gap sites.

Whether this model will become an alternative to commercial student residences or a complementary social alternative depends on how many universities support and encourage the programme. The aim would be to make the construction work be part of a course within the university, with obvious pedagogical benefits. The aesthetic for the new-build mobile units and the refurbishments is usually a contemporary one, where traditional crafted jointing and construction techniques are used to transform discarded ‘rubbish’ into designed constructs. This is in sharp contrast to the factory-made facades of commercial developments, and creates visual diversity in the urban context.

Since the SHED programme is promoted by an architecture department as part of a live projects programme, there is the assurance of at least one built living unit per year. If more departments and institutions become involved, the number of residences will start to increase.

Such a programme, although unconventional and in parts perhaps even naïve, could be achieved wherever a number of universities with a handful of lecturers and students believe in it and want to implement it. This would alter the relationship between the university, privately run halls and students, and it would produce countless synergies and contribute towards dialogues that could strengthen initiatives such as SHED and allow new ones to emerge.

Darren Smith’s scenario suggests a future of passive consumerism in student housing; Torange Khonsari’s the total opposite. Both are premised on there being substantial pressure on accommodation and space in the future. Of course, space will be less of an issue if the UK turns out not to be a winner in the international academic race.

**IMPORT–EXPORT**

With respect to the shifting international market, the UK certainly has the advantage of the English language, which is now the *lingua franca* of academia. International students already make a significant economic contribution in the UK, not to mention an academic one, with over a third of graduates in Masters and PhD programmes being international. If government money becomes unavailable to domestic students, attracting foreign students into the UK will remain a top priority. The problem is that the honeymoon period may already be over. There are ample signs that international students are experiencing disappointments of one sort or another, and that alternative opportunities beckon elsewhere. Universities beyond the UK now routinely provide not only texts but also lectures in the English language, and offer dedicated support to international students.

In terms of joint ventures and partnerships, overseas governments no longer appear as keen as they were to accept foreign institutions into their systems. China is waiting to see how current programmes succeed before it opens up more. Meanwhile, the numbers of undergraduates, as well as research staff, making the journey away from the UK are growing year on year.
The balance between home and overseas students is a highly controversial issue as well as a complex one. A reduction in the numbers of foreign students coming into the UK would have a financial impact on campus, but internationalisation also has social ramifications. Overseas students do not routinely stay on in the country to renew and refresh the academic system, the economy or the wider community. Yet the UK also suffers from reduced social mobility, which will affect the ability of domestic school-leavers to enter its universities. Meanwhile, in the USA, there is evidence of stagnation in the sector, which extends to a slowdown in the recruiting of top talent from overseas. From the UK’s perspective it is worth considering the possibility that the USA’s attractiveness to international talent may yet rise as a new political culture develops around a new president.

Meanwhile, given what is happening in India, China and other emerging economies, it is not totally inconceivable that in the future British students might find themselves drawn to go abroad. In the midst of financial uncertainty it is as easy to succumb to apocalyptic hyperbole as it is difficult to make an intelligent guess about the future. A range of extremely worrying prospects do, however, suggest themselves, and are worth keeping in mind, if only to ensure that they remain in the world of fantasy!

In 2029, instead of paying exorbitant fees to UK institutions and being treated like cash cows, as they were at the turn of the millennium, young people from China, India and South America find better student experiences closer to home. As the traffic in undergraduates has turned around, UK campuses have ended up with growing numbers of poorly achieving home-grown students and surplus space.

The process has been driven by financial turmoil far more significant and longer-lasting than a standard wobble in investment markets. When privatised construction and deregulated finances met mass unemployment, an already difficult situation was exacerbated by violent social unrest. It also became virtually impossible to insure against losses to climate change, pandemics or terrorist attacks. Running 19th- and 20th-century carbon-hungry infrastructures in an age of extremely limited access to fossil fuel has been a constant headache.

Quality of life in the UK, in short, declined for almost everyone, with privatised space and commercial services making only a marginally better offer than run-down public services. Communications and other technologies failed to enhance a love of genuine knowledge. Rather, they helped create a world of disconnected, even sociopathic narcissism. Older generations of university graduates are baffled that the UK’s brightest school-leavers do not share their preference for a strictly secular cultural environment, while the attitudes and social expectations of the rest – the underachievers – have made a life of the intellect à la Oxbridge as alien as a life on Mars. Apart from a handful of apex universities, the West has lost its cultural and educational hegemony. China, India, the Middle East: all have several luxury-class campuses – some super-luxury, in fact. Their domestic educational systems produce more able undergraduates and so facilitate increased academic success. In some of these countries the costs of living...
and of operating a campus are substantially lower than they are in the UK. Those ‘international’ students who once were expected to flock to English-speaking countries are now staying at home, either in a handful of franchise campuses (see the contribution by Paul Temple) or in good-to-excellent undergraduate institutions. At graduate level the situation is somewhat different, but the UK’s remaining universities find that attracting talented research students is harder than even their wildest nightmares could have anticipated.

Enthusiasm for higher education in China has continued at a steady pace since the reforms of the 1990s, and has led to staggering increases in the numbers of graduates and the amount of resources dedicated to the university sector. Ambitious academic aspirations were bolstered from the early part of the century by the return of Chinese graduates and researchers from overseas, where many had worked in the world’s best institutions as part of the world’s best research teams. Chinese architects, some returning from apprenticeships abroad, had been building the massive Zongguancun Science Park in Beijing since the early 1990s. In 2008 already, 68 universities and countless companies occupied over 36,000 hectares. Some former inhabitants had to be moved to make way for the scientists, but the major campuses have retained older buildings and landscapes inspired by the classical Chinese tradition. As places of study, these campuses rival the most beloved of the landscapes inspired by the classical Chinese tradition.

But in the end it may have been the curriculum that was the deciding factor. Since the beginning of the century, China and the other developing economies were vigorously promoting national science and technology policies through educational reform that bit vertically through the system. In fact, already in 2009, the technological wizardry that underpinned success in the knowledge economy depended on mathematical and engineering skills that the UK found hard to nurture. They also insisted on what they called the ‘comprehensive’ nature of a university education. They nurtured the humanities and the social sciences as well as ‘hard’ science, and successfully resisted calls to revamp the curriculum to suit the short-term requirements of the labour market, which UK policy by contrast had recast as a ‘user’ of university outputs.

Now, in 2029, the impacts of all this within the UK are not limited to the abandonment or downgrading of previously student-focused neighbourhoods and districts. They can be felt in the loss of a substantial proportion of the eligible age group who have opted to study abroad. The world’s academic centre of gravity has, indeed, moved east. If once British students left home mostly to undertake postgraduate degrees, it has now become popular to move abroad, either in a handful of franchise campuses or in good-to-excellent undergraduate institutions. At graduate level the situation is somewhat different, but the UK’s remaining universities find that attracting talented research students is harder than even their wildest nightmares could have anticipated.

It is to be hoped that this scenario is fanciful. However, current trends give pause for thought. There are reports of China’s academic graduates not finding employment at home, but as its economy and infrastructure are transformed, a balance will emerge. Certainly it is unlikely that expensive degrees at UK institutions will prove attractive, if good facilities are available at home for a fraction of the cost.

The implications of the scenario for towns and cities are equally nightmarish, conjuring up images of science-fiction dystopias where once cutting-edge constructions and beloved buildings stand empty and idle as the surrounding environment no longer supports the functions for which they were built. The situation would be made far worse if it were compounded, as is quite likely, by large-scale ecological and geopolitical calamities.

Sustainability in the Curriculum

Tomorrow’s universities could respond to changing social and educational needs at the same time as they address ecological stresses, and make for happier neighbourhoods into the bargain. This kind of win-win situation would be far preferable to one where institutions responded to climate change under duress, and where society adapted to a post-fossil-fuel world amidst chaos.

A key shift that would help would be to make the university a resource that is useful to its surroundings. In some institutions ecological issues are already embedded in the teaching of many disciplines: in business studies, law, many engineering and ICT-related subjects, and of course in the natural sciences. To achieve the win-win situations such action promises, universities and local authorities would have to work together on very long-term strategies. At the same time, government policy on education as a whole would have to deliver sufficient numbers of students who are good enough and motivated enough to support top research, so that the inability to import academic talent would not be disastrous.

By deploying imagination and initiative now, and using the curriculum to those ends, the worst nightmare futures could be averted. In the following scenario the university has reclaimed its civic mission by networking its way into the broader society. It collaborates with local businesses and opens its doors to wider participation, and in return procures expertise and know-how for municipalities as they tackle the technical challenges of a changing environment.
Today, in 2030, universities are populated by newly inspired school leavers. They still look for a ‘preparation for life’ tradition of undergraduate experience, but now it tends to be across town or a short train ride to the nearest city, rather than far away. Many cannot leave their home towns because their personal carbon budget does not allow it. But this ever-young cohort of freshers has been educated in low-energy buildings, where sustainability has seeped into every part of the curriculum. They expect their university to be up there with the best in terms of building operation. From the early part of this century there was massive investment in the public estate through Building Schools of the Future (BSF), city academies, further education colleges and universities. As these programmes progressed, and the transformational agenda extended outwards from the curriculum more widely into the community, these new spaces were available to be used in the evenings and over summer holidays. The advantage the school sector had over the universities was the blanket approach of the building programme, looking to replace or renew nearly every school in England. By 2008 sustainability had become fully embedded within the programme, and although at that stage the tools used to consider energy reduction and generation were rough, at least they were being used.

As the programme continued towards 2020, most schools were designed to zero-carbon standards. Design teams began to use the benefits of the quickly evolving tools, and delivered delightful, low-energy school buildings that also inspired a new generation to exceed expectations academically. This is the generation that has now reached undergraduate age. Because of the economic difficulties of the early part of the century, politicians were often unwilling to force the pace of the climate change agenda. But the seminal report by WWF, ‘Weathercocks and Signposts’, highlighted the fact that easy steps such as installing low-energy bulbs and reducing the numbers of plastic bags were not going to save the world. WWF were among those who suggested a step change ‘to inject new urgency into the environmental debate – urgency that will necessarily demand that we move far further than the “business case for sustainable development” will take us; recognising that environmental challenges will not be met while maintaining a narrow focus on the happy coincidence of economic self-interest and environmental prudence.’

This was also one of the largest challenges for the higher education sector: how to mitigate the flagrant energy footprint of the old building stock. Whereas the unprotected 1960s buildings had robust frames that could be stripped of their inefficient skins and upgraded, or crushed onsite to reuse embodied energy, elsewhere the heritage and energy lobbies went head to head. The balance shifted as we approached ‘Armageddon’. At the University of East Anglia the estates team blazed a proactive and inclusive trail to heritage protection of the listed Denys Lasdun buildings with a Conservation Development Strategy. Detailed analysis and strategies set the agenda for the way forward, outlining the assets and priorities for conservation. This has led to progressive improvements over several years in terms of energy use and behavioural change that is more hopeful in terms of sustainability.

Other older universities argued that UEA was at an advantage, being master of its own destiny on its 1960s campus. Pre-20th-century buildings offer their own problems, and only by looking outside the campus gates and boundaries could the scale of the problem be addressed. And the protection of Georgian and Victorian buildings is still emotive. But securing skilled and professional development teams within university estates departments facilitated large-scale projects that were also able to deliver neighbourhood energy systems and provide sustainable and renewable powered networks.

In this way the universities were key players in promoting and enabling changes to be made to the local carbon economy. Before they took the initiative, no one was really leading, acting as client to deliver these schemes.

WHAT IF?

THE CURRICULUM Responds TO ENVIRONMENTAL SUSTAINABILITY - Rupert Cook

What if, 20 years from now, education has been revalued and secondary schools are producing gifted and motivated students? What if the cost of mobility is too high for most towns and cities, and they operate on post-globalisation economic and political strategies? What if some towns and cities are at an advantage because they have put arrangements in place to cope better both with climate change and with wobbly world markets and political conditions? What if significant improvements have been made in delivering as well as in measuring actual energy consumption and end-user (student and staff) satisfaction?
The beauty of this scenario is that it offers a genuine win-win situation. But only if money is put where so much mouth has been, will this future be possible. Even though environmental sustainability is a standard aspiration, both of architects and of higher education institutions, the environmental performance of educational buildings is still difficult to assess. Only if initiatives now in their infancy will be supported, can they yield results within the next decade.

The scenario involves interesting academic implications. It suggests that sustainability resides in students living at or near their homes, but, more crucially, that sustainability is nurtured by boosting their motivation and their capacity for technical innovation. This scenario might be seen as problematic from the point of view of the universities, for whom it poses limits to the scope and depth of collaboration across the globe. Indeed, it would probably curtail cutting-edge academic research as we know it, as talented students would no longer be able to migrate and contribute to international excellence. The point is, however, that whatever universities might wish for, in this scenario ecological and social strains will see to it that even top research universities might have to scale down their operations. One option would be for them to revert to more civic functions. In that case, the value of ‘talent’ and academic performance would have to be reassessed. In sharp contrast to prevailing views, talent may turn out to be something that is in fact more evenly distributed than current orthodoxy accepts, and in fact spreading it around more could have major social benefits.

In this sense the districts with universities at their heart were at a distinct advantage.

The complexities of ownership, contracts and balancing energy profiles of building types forced collaboration on a level not seen before. Institutions needed to forge new relationships and understand external priorities. Back in 2008 a few were trying to find the way. King’s College, London, was in talks with Somerset House and adjacent commercial developers to set up an ESCO (an energy service company) under ‘Carbon Contracts’ to deliver renewable energy generation. In this scheme any additional savings over a benchmark are reinvested in the new infrastructure locally. Now, in 2030, it is plain to see that those who acted quickly to respond to the climate change agenda were able to save huge amounts of money, at the same time as setting contemporary standards.

Now, the university has been leading the community on building for some years. AUDE, back in 2008, commissioned a study on the sustainable treatment of 1960s buildings. Local office buildings are now fitted with insulation, the concrete frame is exposed to avoid the need for cooling, improved windows are fitted, and solar shading is installed to deal with rising temperatures. All this work was done ten years ago in the universities, and now the evidence shows the commercial sector that the sums add up. Campus tours are booked up, and many prospective students now make their first contact with the university at these events. It builds sustainability into the infrastructure, as well as trust and faith that a piece of the city is in good hands.
Since the Second World War, higher education has been a growth industry. It has also been beset by financial problems. After the 1960s expansion of British higher education it soon became clear that university expenditure was something that could grow explosively, with ‘the government insisting on ever larger numbers of graduates at lower cost’. But by the late 1990s many universities were, or almost were, in deficit in a way they had not previously experienced. There was increased demand for academic skills, but costs had also risen. Some have discussed this as a shift from higher education as a public good to a private good, whose benefits to the individual are substantial enough to warrant being treated as an investment in future earning potential.

In a parallel development it has become routine to debate universities in language that elevates ‘innovation’ and ‘creativity’ to unquestioned values. More specifically, universities and their social functions have been discussed for about two decades through the metaphor of the triple helix, made up of government, industry and university. Together they are being asked to respond to the economy’s need for more productivity and efficiency. The consequent shift in emphasis and in academic culture is reflected in the change of name in June 2007 of the UK’s relevant ministry, now the Department for Innovation, Universities and Skills.

Indeed, growth in student intake has been enormous, and constant expansion of research output has changed not just higher education in general but the physical estates of research universities in particular. Campuses must now accommodate administrative offices, including technology transfer offices (TTO), or have these services nearby. This has also produced the classic science and technology parks, where incubator units, joint ventures and blue-skies research teams jostle for space, but also capitalise on the locational benefits and serendipities that arise as talented individuals and motivated research groups come together. There are, however, misgivings within academic communities about some of the changes that are taking place, to do with the perceived commercialisation of research and with the radical growth in student intake. Students see their time in higher education as an investment, and so it is no surprise that they tend to be demanding. Student discontent over insufficient resources has already led to campus protest. In particular, studies in fine arts, design, architecture and laboratory-based fields require space that expanding institutions are not always able to guarantee.

Despite the widespread notion that academic autonomy is best served by generous public funds, the arrival of increased numbers private sector players is a fact. The debate rages on, but whatever happens it is probable that, as the private higher education sector grows, it will concentrate on commercially profitable areas, including business and management, and areas of science and technology. A key example of this is the USA’s Phoenix University, which has over 300,000 students on several campuses, and which explicitly seeks profit by providing education to mid-career workers, but which has, admittedly, a mixed academic reputation. Whilst corporate money is often discussed in relation to university futures, so far private donations by wealthy alumni have had a more significant role in shaping campuses, particularly in the USA, which still scores highest in international rankings. Especially among the elite, endowments and rents from landownership help bolster finances.

Ties between academia and industry are hardly a new phenomenon. Still, today’s universities are exhorted by governments to engage more fully in technology transfer, and to behave like corporations by capitalising on their output – that is, by securing the benefits of their creativity in patents and similar instruments. Intellectual property regimes and universities today have a complex and constantly changing relationship but, overall, universities are treated as wealth creators. Pressures impinge on them that pull in opposing directions: profitability on the one hand, and visible public benefit on the other.

New financial instruments are being developed to sustain and expand Higher Education. Mergers have been common, though not always uncontested, and some proposed...
mergers, for example of London’s UCL and Imperial College, have been halted amid controversy. Elsewhere ‘super-universities’ have emerged, such as Manchester, which now has over 35,000 students. Others – the University of London, for example – may yet fragment. New forms of collaboration, including international partnerships and university franchises, are also up and running. Finland is experimenting with a form of university governance based on a public–private foundation. This will govern the institution that is being created out of the merger of Helsinki Technical University, Helsinki School of Economics, and the University of Art and Design Helsinki. Incidentally (or not), the new institution is called Aalto University, in honour of the architect.

As the knowledge economy embeds itself in ever-more locations, it is likely that the infrastructure will come to reflect the needs of the mobile knowledge workers who are its main supports. The forthcoming Aalto University even construes its identity as industrial, and is setting up what it calls factories to organise its work: Design Factory, Media Factory and Service Factory. No new physical infrastructure has as yet been announced, let alone constructed, but the physical footprint of any new facilities will extend well beyond the walls of lecture halls, studios or laboratories. The management of the new university will want it to be porous, and hope that traffic between academics and others will be both vibrant and productive.

As in Silicon Valley and Silicon Fen, the university successes of the future will influence their environments more than vice versa, and become major players in their regions. Their facilities will be dispersed around the region, and transport infrastructure that serves their needs more than others’ may well be prioritised.
UNIVERSITIES: THE POWER BEHIND THE REGIONS

Universities have always been connected with regional prosperity. Now they are in the driving seat...

The University of Metropole has just about sewn up the research market in the Western Region. The five-year deal with Aristalios Limited to provide its research base staggered industry hopefuls, who expected Blue to go in with the University of Mid-North. The final stitch may well be the merger of the University of Metropole with the University of Clifton, its smaller rival. If that union goes ahead, it will have cornered the market in the area both for students, at some 350,000, and research – an estimated £700 million contract research income.

Just as commerce is on the lookout for the brightest innovators, universities scour the globe for talent and research potential. To attract all this latent interest, the places where they study and work need to be attractive. It is a highly competitive world, and to students and academics the ‘university experience’ counts for a lot. The physical environment has a key role to play.

But universities are totally self-funding, and students are paying high fees. Expectations are high. The places we create must both support the needs of a modern student lifestyle and meet the demands of modern working cultures. Students expect to be able to be physically near their university and their leisure pursuits – and their workplace, if they are working too. Workers likewise expect an easy journey to work, and ready access to retail and leisure pursuits.

Even with today’s sophisticated communications technology, large numbers of people still come together. They need to be transported. They need to be supported by retail, health and habitation services. Successful economic regions are sucking in huge investment on the back of this.

For some, such deals foreshadow the destruction of yet another best-loved town or city. For others, they herald a new era where urban areas are not just the preserve of gangland culture, but also places for quiet reflection and learning.

One coastal region lost its university three years ago. There was little local economic activity to speak of, and the university found it hard to get funding either for research or for teaching. Very quickly the town became a dilapidated wasteland; the 10,000 students who had frequented the shops and cafes no longer came. Redundant buildings were hard to reuse or fill; now there are empty shops and cafes, and a disused bus terminus. Crime is up. Not ‘the experience’ the average student (let alone parent) is looking for!

Many of the residents are retired, and do not have huge disposable incomes to support the retail community that once was there. One developer has been looking at how to develop these buildings into more housing. But the buildings, some listed, are not always easily adaptable. Anyway, can the area support mere housing? If not, they are working too. Workers likewise expect an easy journey to work, and ready access to retail and leisure pursuits.

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But doesn’t this just reflect the economic reality of being in a global world driven by regional economies?

As we have learned, a thriving regional economy must be underpinned by strong innovation and research. But the development of skills and knowledge has been important too: so, rather than abandoning more traditional education courses, these universities have developed extensive education and training programmes, reaching right into the heart of companies to foster a better-skilled and more knowledgeable workforce.

Research is carried out in all sorts of places, not just within the university walls but collaboratively within the local businesses, although such programmes are run by the university. Education, too, happens in different ways. There are some long courses, more traditional in concept. There are short courses of only a few weeks; and then there is the more recently developed learning contract, where students have a long-term contract research income.

What if in 2029 a breed of super-universities has been created through mergers? They are huge, and tightly linked to regional business. Most, having decided they could not continue operating under the lethargy-inducing strictures of government accountability, have jettisoned the notion that higher education should be state-funded.

What if the state-backed, all-purpose educational system that values Anglo-Saxon, Norse and Celtic as much as it values commercial success disappears altogether? After all, commerce will demand continuous updating of skills and knowledge, which only highly resourced institutions with a critical mass of disciplines and facilities can yield. What if towns with no knowledge-intensive industry survive only as leisure providers or equivalent? Will universities purveying knowledge for its own sake then form a specialist and luxury niche market? Will some institutions simply disappear?

Will the role of the state be reduced to that of onlooker and provider of infrastructure? If so, urban landscapes will be geared towards the needs of a kind of techno-bohemian elite that began to be identified in the 1990s with the rise of Internet culture and smart drugs. Massive universities will have a massive range of accommodation, with the most upmarket departments able to house both research and leisure in luxury.
with the university, which supports them throughout their career, providing them with mentoring, and giving access to tailored short courses. Despite the benefits of communication technology, the places have to cope with greater numbers of people, from very short-term visitors to longer-term students taking courses of more than a year, as well as staff.

The most telling effect on many towns is that the distinction between the commercial districts and residential areas has virtually disappeared. Many long-term students want to live near the university. This has seen a growth in the service economy, healthcare, retail and leisure, which as a consequence has attracted other people too.

To cater for such a varied population, different types of residential accommodation exist. There are ‘learning hotels’ for students to stay for a period of say two weeks for a course: during the summer these are often used for tourists. Semester residences have been developed where students can stay for a semester – particularly students from abroad, who find it harder to find local accommodation. Then there are the more traditional apartments and housing for longer-term residents who just prefer to live in the area.

With so many people living and working in the area, there is a significant demand for retail and leisure. Even these can be closely linked to learning. For example, book stores have become another type of learning zone, with more than just access to hard copy knowledge. These ‘information stores’, cafes and many other types of retail store have ‘learning posts’. These are hotspots dedicated to learning, where you can get access to online education sources such as e-journals and other sources of information. Publishers have been keen to do deals with the big coffee bar chains and bookstores to provide free or very cheap access to their electronic journals and other information resources. Very fast wireless computing has meant it takes only seconds to download material onto readers of one sort or another. Much of it is in the form of video. People who grew up in the early days of web sites such as YouTube use this type of site and medium for information research. However, this widespread use of recordings has prompted the growth of public discourse where there is interaction between people.

Enterprising bookstores have developed this idea, and have put on public lectures on significant developments of the day. This seems to bring together students and the public. These places have large areas of floor space dedicated for working and reading, as well as lecture halls, so that there are hordes of people in, working together.

The numbers of people travelling, their destination and the time of day they travel, have changed the patterns of transport and the infrastructure. There is a more even spread of travel during the day, because not everyone needs to be at their office for a 9.00 a.m. start. Individual modes of transport such as bicycles, rather than cars, have grown, because many places are now friendlier to cyclists than to motorists. The efforts of governments to reduce car ownership have not reaped much reward, so the answer seems to be to take the opportunity to redesign parts of the city to exclude the car. On what roads there are, there are more trams and buses. While universities have a primary location, they do have hubs around the region. This has raised the issue of creating fast and efficient transport links between them, primarily rail. But getting these systems built is hard, and is often frustrated by an outmoded development planning system and land ownership. One enterprising university sees travel as a group learning opportunity, with trains having seminar rooms and tutorial spaces, and group working spaces with a dedicated rail link between the centre and a campus 40 miles away.

Universities have had to face the increasing complexities of property portfolio management. At the same time they have to invest in their physical infrastructure to keep their position in the global market for students and academics. This issue has been around since the last century, but with more opportunities provided by the network of relationships with business and the community they have been able to reduce the number of buildings they own or lease. Universities have core buildings that they tend to own, or have long leases on. They are the physical heart of the institution, often housing the vice-chancellor’s office, along with other administrative activities and state-of-the-art lecture theatres. Some are modern, some are old, but they all embody the distinctive qualities of the brand.

There is a significant demand for short-term space, perhaps for new joint research projects, but the space for these is hard to come by. A new model of building ownership...
has emerged. It has been developed to enable flexibility in demand for short-term space that the property market cannot always meet. The University of the North has set up a trust with several local commercial organisations to provide a managed stock of space that any of the partners can use. This arrangement gives them some control over ‘rental’ costs, which have tended to be steep on the open market. These buildings are scattered around the region, and also provide space for start-up joint venture projects.

Since so many buildings now have some connection with learning or research, the distinction between the private and public realms has become blurred. We can wander around parts of the city we never could before. People have almost unlimited access to the lower floors of most buildings as well as external spaces at ground level. Often the more private activities in organisations happen one or two floors above or below the ground floor, leaving that floor essentially accessible. Often the core teaching and research space is at high level, with public spaces at the lower levels, the ground floor and the first few levels above and below ground, so that people generally can permeate the buildings. This has meant that there are more private external spaces at higher levels in buildings.

However, access to parts of buildings and external spaces is actively managed. The patterns of access are changed during the day by the building managers, partly to encourage greater use of some parts of a building, but also because of commercial sensitivities, which may dictate who can go where, and when. With so many people having access to ‘private’ buildings, because more space in them is used for learning and the cultivation of ideas, your competitor is just as likely to be in your building developing ideas competitive to yours as you are in theirs. So it is crucial to keep valuable data and information safe from unwanted scrutiny.

Universities touch the community more than ever before. They have become the powerhouses of regional economies. Underpinned by their alliances with commerce, they reach into all parts of the community – into life even! The size of such universities is measured not just by the few hundred thousand students enrolled on their courses, but by the millions of people who are within their catchment.

This scenario is hardly fanciful as it suggests an intensification of processes that are already under way, of economies of scale. What it hints at regarding surveillance and of privatising space – whether these happen together or separately – is also already a live issue. Anecdotal evidence suggests that research institutions already have space for legal experts, and for corporate ‘guests’ whom some consider little more than industrial spies. Surveillance technologies will bore deeper into the research workplace, and into the mobile tools that enable work to go on 24 hours a day, all year round. For the time being many university campuses operate a mix of porous and closed-off, even fortified, environments, according to the nature of the work being carried out within.

New technologies are likely to have profound effects on accessibility, ranging from security measures to digital devices and other platforms that enable education and research to take place. Just as in workspaces in the commercial sector, academic work takes place both in virtual settings and in physical space. Both can be classified according to their usage, with public open access spaces at one extreme giving way to privileged spaces to which one must be invited and given access, and finally to private, protected spaces at the other extreme. The way spaces are organised for the use of the academic community will have profound effects on the wider population. Public-looking but factually private spaces may become prominent parts of an urban landscape, and if they do, as in the scenario above, they will surely be saying something about the power of the university and, conversely, the fragility of the links that tie it to its host community. The line between an inclusive and an exclusive space may be thin, but they are significant.

Contrary to predictions that the future would make distances unimportant and places insignificant, in fact the importance of geography and physical environment has arguably become more, not less, significant economically. The same applies, as we have seen, to universities – perhaps even more so. Besides the importance of an attractive setting, even when the academic world has recourse to virtual technologies and online degrees, at its best it remains resolutely human. In this respect university managers are right to worry about retaining superstar academics: it is they who bring in the best students.

POLARISATION AND HOMOGENISATION

Technology will not render places and buildings obsolete, but it is one of the undisputed drivers of change on university campuses. It has never been easy to future-proof research facilities, and the best, most durable ones have needed – and have been able – to adapt flexibly to new needs. Libraries, teaching rooms, lecture halls and academic offices all pose their own challenges. The top academics of top universities have so far been able to enjoy the luxury of large offices for their sole use, a privilege that
some estates managers would dearly love to bring to an end. Although breakthroughs in science and new interests create needs for new kinds of specialist facility, with mass access to HE there is also much loss of specificity in the university’s spatial needs. Some universities adapt by embracing all that is seen to be popular and good value in the short term. Others will be more able and willing to develop facilities that combine what is special about universities with the capacity to adapt to change.

Lessons can undoubtedly be shared with office designers. There is much overlap in the needs of campuses and offices: both require social space and opportunities for collaboration and non-standard working practices. Both have also seen the growth of open-plan, technology-rich spaces. But universities must still cater to certain specialised functions. Change in specialist facilities is driven by operational needs – ensuring the effectiveness of the spaces – and by pedagogical considerations – the various relationships between staff and students. Such facilities will be shaped by whether distinctions can be made between student-centred learning and a self-service education. Laboratories and other specialist research equipment obviously pose their own specific challenges. What is interesting to note, however, is the attractiveness of the concept of a laboratory and experimentation for universities in general. The word ‘laboratory’ is now popular and in widespread use in areas, such as the humanities and social sciences, where a few years ago it would have felt distinctly peculiar.

The standard-format lecture hall still features, but it may be too inefficient to survive long. In those universities where business studies and technological disciplines are to the fore, even the open-plan office is under consideration, despite protests from academic staff.

Prospects for transferring education and research into a dematerialised world, enabled by communications technologies, follow patterns of generational change. Virtual learning environments (VLE) may not displace material learning environments, but they are already embedded in the curriculum and accessed by students as a matter of course. Second Life, the online world where millions have already taken part-time residence as avatars, bought and sold goods including real estate, and pursued virtual lives, is probably already used as a platform in the majority of British universities for teaching and learning.

LIBRARIES

Despite digitalisation, libraries still need to accommodate a huge rate of increase in holdings, and this is a focus of much architectural as well as logistical concern. So-called ‘cloud computing’, which includes the storage of data and software on servers connected to the Internet rather than in a user’s own facility, is being offered as a solution to the space needs of digital information, but this also has its critics. The problem is acute, because digital recording and storage, though relatively efficient in terms of space, are unproven, and the technology needed to make them useful is in danger of itself becoming obsolete.

Libraries may develop in a variety of directions, reflecting their social value and use. In some countries even public libraries enjoy popularity and attract investment; in others they are under pressure to compete with leisure and entertainment in ways that risk diluting their very raison d’être. Both public and academic libraries have seen great transformations in recent years. The word ‘library’ itself is beginning to sound quaint – or reassuring, depending on one’s perspective – as institutions set up information centres, learning and study centres, hubs and learning streets. Academic libraries, in particular, are moving books out and trying to bring people in. Whatever accommodation changes are brought about as libraries become Internet and digital information repositories, there is little consensus on future directions.

The library could be many things to many people: a treasure for everyone, a learning resource, an enabler of research, and a repository of records. Whether or not there is hyperbole in talk of the information revolution, the consensus seems to be that the placid world of libraries and librarians is bound to change. Huge networks already provide broad access to digital materials, and more are being developed, but there are also dangers of new digital divides, and of ever-growing demand from students, who inhabit virtual worlds with more ease than the older generations. Some envisage reduced roles for faculty, who may cease to be the inspirational individuals at the heart of a student experience and instead become cogs in a learning machine, possibly sidelined by publishing conglomerates, which will control academic output in research journals and input in teaching materials. The e-book is likely to alter reading habits, as is the relentless spread of very small personal information devices. It is difficult to see, though, that the popularity of the traditional book, so versatile and cherished, will be significantly diminished.

As institutions show variety and even polarisation in their architectural and academic quality, so too will their libraries. This will be reflected in their host towns and cities as well. In the best-case scenario, an academic library may by a significant asset for non-academic users. Its external appearance certainly will impinge on the wider community, and the degree to which it is accessible to the public will express something about its sense of mission and purpose.
'If you are here for your library induction, or you want to learn more about the library, please follow me.'

The voice from our guide rings out momentarily and is quickly swallowed in the airless, carpeted entrance hall. As we step into the warmth of the building, a vast block wrapping two sides of one of the many open spaces around the campus, the twists and turns of the long thin lobby feel disorientating. Best to just follow the herd: a mass of young people, the occasional elder academic visible among them, march resolutely towards the entry point to the university information source.

'Have your pass cards ready. I will tell you when and where you need to use them. Once you have fully matriculated you will be able to access all areas relevant to you through biometric scanning, should you need to.'

The tour group, a snaking queue of fifty-odd freshers, shuffles obligingly through multiple gates and boards one of the bank of waiting lifts. We are discharged several floors later into a narrow corridor, punctuated by doors labelled according to subject, access level, permitted user groups …

'This library is a fortress of knowledge. Here we collate, filter and protect academic writings, categorise them according to subject, and store them safely, both physically and virtually.'

The librarian, young and authoritative-looking, recites his spiel with a religious fervour:

'Access to texts is available to all. By carefully controlling who has access, and at what levels, to each text, we can maintain a safe academic environment, where only rigorously checked and completely relevant works reach our students and staff.'

Within the library it feels hard to remember where you are, what floor you’re on – even what city you’re in. I search vainly for a view out, anything to connect me to the place I’m in, but see only repeated structures, spaces, signs.

'Set texts and any extracts recommended by your lecturers will arrive automatically in your university mail in-box at the relevant point in the course. For licensing purposes these texts will of course “expire” and be removed from your account at the end of the programme of study…'

'Why do we need to come to the library at all then?'

The question, muttered somewhere within the crowd ahead of me, mirrors my own thinking: if everything is to be provided for us, sent when and where we need it, why return to this place?

I remember a book I read about the early days of the Internet – the World Wide Web, source of the ubiquitous www preface. Dryly, and somewhat disapprovingly, it detailed the rise and fall of free data, the heady days when anyone could access Internet pages from anywhere in the world, chat to people they’d never met, read things that hadn’t been verified by anyone. This was the sort of knowledge I’d been dreaming of when I came to university – unchecked, unfiltered, maybe even unread. A jumble of ideas, sorted and categorised, but still able to be stumbled upon, browsed, dipped into. Instead, this library promised more of the same knowledge I’d been given at school and online. Both data and recipient carefully vetted, set lines of communication, compartmentalised knowledge and unbreachable borders. I could be anywhere.
WHAT IF?

- Prue Chiles and Anna Holder

What if the university library in 2030 is a treasure open for everyone?

A teacher leading a school group through the part-open, part-covered spaces of the library and embassy halls stops to exclaim.

The students, young children, wander around, gazing open-mouthed at the illuminated volumes on display in glazed cabinets contained in the walls. The flickering, glazed screens of the various facades are less exciting to them – this is the ubiquitous technology of the world they were born into – but their teacher points out the scrolling texts and images moving across a semi-translucent wall opposite. Stories of new scientific findings, meteorological movements and current questions of academic communities beamed in from across the globe, all undulating, flickering changing: a space alive with information.

I am sitting in the mezzanine, looking down over the coming and goings of the library and the surrounding embassies. The home-workers, wandering into the city centre for food or to see an exhibition, the occasional school groups and tourists passing through the city, all provide a welcome distraction from a slow-going paper. My choice of a university fully entwined within the city was for this – the escape from homogenised academia, a scaled-up academy. The hustle and bustle of the everyday is visible at street level and from the working spaces overlooking the street. Anyone can pass through the halls and arcades of the library, the lecture spaces. Many are old buildings reused, or built upon, above and around. Pathways through the halls link to the wider city networks: the buses and trams, the footpaths and parks; a permeable web of people and places. Here the work of the university is transparent, its ideas and ideals on show.

Above and below me, spiralling ramps and staircases beckon to the other realms of the library. Reading rooms line the exterior walls of this slender tower, their wide windows framing views of the city, which stretches out into towns and villages of the region beyond. Below, the stacks of books, periodicals, papers and pamphlets stretch down into the earth over several floors.

The stacks are my favourite place in the university – in the city even. The musty, dry smell of leather, paper and cloth pervades this clean, light and airy space. Controlled columns of light illuminate the central walkways, and wide, softly glowing work screens line the exterior walls, linked into networks in the university and wider world research groups. Working here can be as connected or disconnected as you like, and social, face-to-face discoveries of knowledge are another draw to the library’s work spaces.

I have a pile of books ready for me to check out upstairs, preselected online, and retrieved from the stacks in less than an hour, via the all-pervasive technology of the book retrieval system. Indeed, the harvesting and retrieval of information is something the university continues to pride itself in – particularly via the Internet, and academic networks.

Automated programs trawl the virtual fields of online knowledge, harvesting new ideas, discoveries, facts and opinions, policies and manifestos – a ‘just-in-time’ constantly changing snapshot of what is out there to know. In this context, editing and printing yearly textbooks becomes a daguerreotype exercise of capturing and setting down swift-moving subject specific wikis – an archiving process almost. The academic community moves persistently onwards: adding, updating, changing shared caches of knowledge, in time and in tune with changing methodologies, discoveries and concerns. The serendipitous experience of the library is not yet beaten, however, and the ability to move so seamlessly from searching to seeing to reading ensures that the stacks are still the deep and beating heart of the university.

© Anna Holder

The connected library

a: The ability to move seamlessly from searching to seeing to reading, ensures the stacks are still the deep and beating heart of the university.

b: Reading rooms line the exterior walls of this slender tower, their wide windows framing views of the city, which stretches out into towns and villages of the region beyond.

c: Pathways through the halls link to the wider city networks: the buses and trams, the footpaths and parks; a permeable web of people and places.

d: Linked into networks in the university and wider world research groups, current questions of academic communities beamed in from across the globe, all undulating, flickering and changing: a space alive with information.
It is highly likely that the university estate will become more important as a financial asset. It will be managed in innovative ways that maximise its usefulness, and so it will have to be flexible and adaptive. It could, perhaps should, be in operation around the clock and all life long. Learning new skills could happen in a more organic way than is the case at present, with people of all ages and capabilities better integrated into a lifelong process of constant learning. New uses and new users will be attracted to higher education through lifelong learning. This would make it more affordable for everyone, as technology and sharing facilities mean more efficient use of its large, often underutilised spaces.

The implication is that the curriculum will actually be delivered in a range of spaces. One model for thinking about future space needs divides it into ‘core’, ‘flexible’ and ‘on demand’. The core represents the physical place and probably the heart of an institution, important above all for atmosphere and brand. Generic teaching spaces that are easy to adapt to changing needs can be shared with outside institutions and businesses. And campuses already provide host communities with cultural and sports facilities, helping towns make optimum use of expensive buildings. Such gains are, however, partly offset by the introduction of more amenity and commercial facilities, such as cafes and shops, which take up valuable space even as they create an income stream from users.

In the past, university building was inspired by developments in pedagogy and views of human development. Today, exhortations to create ‘fun’ and ‘interactive’ spaces for the creative juices to flow more freely are routine, in both the office and the academic sectors (for instance at MIT’s Stata Center). One possible future for education is that it will become more integrated: higher education and further education will blur into each other; study will be part of everybody’s life. To some extent such a development follows the success of several generations of adult education, but it is also driven by changes in technology and in society.

Drivers for change will be demographic, shifting career patterns and life trajectories, the needs of industry and simply the need to improve resource efficiency. Dramatic intervention may be needed, with government ensuring that the entire workforce remains employable, and that older citizens can benefit from the many advantages that continuing formal learning can bring. Should this happen, the physical infrastructure needs would be considerable, but flexible buildings and efficient use will go a long way towards making it happen.

An example of the kinds of synergy that a university and the wider community can achieve might be Warwick Arts Centre, the largest arts complex in the Midlands, owned by the University of Warwick.
What if education becomes integrated into a single policy framework, rather than divided up between those responsible for children and those concerned with adults? What if childhood, youth and maturity in fact cease to be meaningful categories for thinking about learning? And what if universities cater to this shift by spreading out their already very varied functions across space and age groups?

Then, by 2029, the university as ivory tower, if it ever existed at all, will definitely be a thing of the past. The UK’s universities will be part of a vertically and horizontally integrated educational infrastructure, indispensable for continually reskilling the labour force.

Surely eventually government, together with the active intervention of industry, will have to break down the old silo mentality that has dominated education, and help a critical mass of institutions to become flexible and creative, as well as resilient in all respects. DEGW’s Andrew Harrison considers the possibilities.

EDUCATION IN 2029 AS A LIFELONG PROJECT

The next 20 years should see the transformation of the UK educational system into one that comprehensively and equitably provides skilled, healthy members of society through programmes such as Building Schools for the Future, and through investment in further education (FE). In March 2008 the Learning Skills Council announced £2.3 billion for the redevelopment of 150 colleges by 2016 to create zero carbon colleges and to ensure local access to work-based learning through the construction process. In 2010 there will be a major shift in FE, with the transfer of £7 billion to local authorities to help colleges and sixth forms deliver the reforms needed to raise the education and training leaving age to 18. At the same time a new Skills Funding Agency for adults will oversee the distribution of funds to the sector, manage the performance of colleges, and run the new national Apprenticeship Service.

Higher education must also respond to a wide range of challenges. There has already been major rebuilding in many UK higher education institutions as they strive towards efficient, effective and adaptable facilities. In this process, artificial boundaries and barriers between schools, colleges, universities and their communities will need to be replaced by higher levels of educational integration and resource-sharing. This should lead, by the late 2020s, to the creation of inspirational and effective learning communities where everyone can gain access to education and fit-for-purpose educational facilities at every stage of their life.

The future for the university is bright. For it to be at the centre of the learning community ‘from cradle to grave’, however, there will need to be a rethinking of what a university is, and of how the boundaries between the university and the community within which it operates will take shape.

THE UNIVERSITY AND LEARNING CENTRES

The norm will be for schools and universities to have links of mutual influence, and to share a wide range of resources and space. Schools will have access to university libraries, sports and specialist facilities such as science laboratories as part of their distributed learning landscape. Universities will have access to community learning centres. These will combine advanced individual and collaborative digital research settings with social facilities that will allow students from higher education institutions to interact all day, every day.

These facilities will effectively blend living, learning and working, and people from across the community will use them to access local resources and the global learning community. Telepresence systems (advanced video conferencing systems) and other visualisation devices will allow students from around the world to collaborate. These may also provide access points into virtual worlds, where students can meet their fellow students and lecturers ‘avatar to avatar’. More than 200 universities already have virtual campuses in Second Life, for example. Harvard already offers a course on Internet law that meets solely in virtual space.

These community learning centres will be particularly important for students based in remote rural areas, and for students trying to fit academic activities around their working or personal lives. Precedents already exist. In the USA the University of Phoenix operate 190 campuses across the USA, often in redundant space in shopping centres and other community facilities, where students can get together for face-to-face learning activities and access university resources day and night.

LIFELONG LEARNING

- Andrew Harrison

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THE UNIVERSITY AND BUSINESS

Over the next decade, with declining numbers of post-school enrolments, there will be more opportunities for income provided by continuing professional education and industry-specific training programmes. Most universities already have some form of business incubator function to help research staff and students capitalise on their intellectual property and establish businesses. If successful, they may well move on to a university-linked business or science park and gain further benefits from the association with the institution, but also from other potential partners or collaborators in the same sector.

While this type of collaboration is well understood within the sciences and engineering disciplines, it is less well developed in the humanities and social sciences. Start-up consultancies and sole traders often have to resort to commercial serviced office providers, or take advantage of ad hoc work locations such as cafes and hotels. The Business and Intellectual Property Centre and the range of individual and collaborative work settings in the public areas of the British Library are examples of business and academic functions coexisting within the same space.

These spaces successfully provide access to knowledge and expertise, along with access to technology and resources in a range of work settings. Other shared work settings combine access to technology and expertise with a wider range of social and community-building activities.

The Hospital Club in Covent Garden, for example, is a members’ club for the creative industries. Housed in a former hospital, it contains TV and music recording studios, an art gallery, bars and a restaurant. The club hosts a wide range of networking events, including ‘First Tuesday’ for entrepreneurs, private music performances, dining, book and film clubs. The club is used extensively as a work location from 9.00 a.m. to 2.00 a.m. for both individual and collaborative working.

The coming decade will see universities becoming a more important part of the distributed workplace, where they will increasingly form partnerships with private developers to create mixed-use academic and business buildings. These buildings will be able to provide short-term space for academic research projects or new business units as well as start-up space for individuals and companies. Alumni may also continue their connection with the institution through university clubs that operate within these facilities. These blended work and social spaces can also be used to foster new academic and industrial partnerships, and to encourage participation from industry throughout the university.

THE UNIVERSITY AND LEISURE

University facilities such as sports and health centres, theatres and art galleries are often at the heart of their community. The university campus may also provide a major element of green space that can be enjoyed by all.

Evening and short courses also provide an opportunity for community access to the university as people of all ages further their leisure and academic interests. University staff will increasingly take their expertise out into the community and provide an academic component to a wide range of leisure and cultural experiences. Cruise ships will become popular locations for learning. Cunard, for example, provides lectures by Oxford Shakespeare scholars, art and film historians, astronomers and political commentators alongside performances by celebrities.

THE UNIVERSITY AND OLDER STUDENTS

In the United Kingdom more over-60s are signing up for part-time courses. Already in 2002 7 per cent (237,000) of the 3.5 million people undertaking education and work-based learning were over the age of 60 – an increase of 300 per cent since 1994.71 Computing, mathematics and the sciences top the list of subjects attracting the 60-plus age group. With almost half of students aged over 60 signing up for courses in these areas it should not be assumed that growing older implies diminishing ability, skills or interest.

Involvement in continuous learning may also bring health benefits for participants. In 2000, the Institute for Employment Studies in the United Kingdom researched the impact of learning on older people. The survey of more than 300 people aged 50 to 71 found that 74 per cent of those who said their health was excellent or very good were engaged in some form of learning. In addition to a link between education and good health, the research showed that learning had a positive effect on people’s enjoyment of life, self-confidence, and ability to cope. More than a quarter of those surveyed reported more involvement in social, community, or voluntary activities as a result of learning.72

The University of the Third Age (U3A) is one of many organisations around the world dedicated to increasing opportunities for learning for older people. The movement was established in France in 1972, but has since grown rapidly into a global affiliation of related organisations. In the United Kingdom there are now over 150,000 members.73 The movement recognises the immense resources, skills, and experience of older people no longer employed full-time. Individual members are encouraged to see themselves as both learners and teachers, and to give their services voluntarily. There is no restriction on membership, and no educational qualifications are awarded.

In the United States, college-linked retirement communities already exist at more than 60 campuses nationwide. The number of such communities is predicted to increase significantly over the next two decades as many of the nation’s 76 million baby-boomers reach retirement age.

The nature of the relationship between the retirement community and the university varies. Often the community is affiliated with the school, and residents include alumni and former faculty members. Some retirement communities have informal ties to university programmes. Others offer their residents access to university healthcare services and gerontology experts, the opportunity to attend classes and
cultural events on campus, and the chance to learn and live alongside the college community.

Older adults can contribute to the diversity of campus life and stimulate the development of the campus environment by actively using facilities and participating in social and intellectual activities; they can also support the university in its teaching, research, and public service activities through, for example, guest-lecturing, mentoring, participating in applied research projects, or volunteering, both within the university and among the wider community.

Property development and financial considerations have also influenced the decision to create on-campus retirement communities. Colleges and universities are seeking ways to develop their property effectively and expand and diversify sources of revenue. Collegiate retirement communities have great potential to contribute to this goal by adding land value and generating revenues from the sale or lease of land and facilities. They also provide the potential for income from membership fees as well as from gifts, donations, and bequests from residents who are relatively affluent and often comprise alumni, friends, and retired faculty and staff.

While it may be possible to replicate the American model for university-linked retirement communities in the United Kingdom, it does not fit comfortably within the European social agenda, or the concerns about social sustainability and inclusiveness, since most of the US communities are exclusive, gated communities set within the wider university campus. Greater opportunities exist in terms of reinventing the retirement community as a more vibrant mixed learning community that is equally viable in the inner city and in suburban locations. Academic institutions could work in partnership with a housing association or a private housing developer to create a retirement community that included a range of occupancy types and shared facilities that could be used by both the residents and the wider community.

Most likely by 2028 education-linked retirement communities will be common in the UK and will provide a wide range of benefits.

THE UNIVERSITY IN 2030

The university, as a key part of the overall learning landscape, will consist of a range of intensively used facilities supporting learning for the whole community, as well as an extended range of community and business activities. It will be occupied by different groups, for different purposes, at different times.

Putting the university at the heart of a community’s learning landscape could result in the creation of communities based around a learning and resource centre linked to the academic institution. This could, for example, include a ‘work centre’ for freelancers or people wanting to work near home, a library and information resource centre, and a range of teaching and meeting spaces suitable for both face-to-face and distance learning activities. The creation of learning-centred communities of this type is entirely consistent with government policies to widen adult participation in learning in the UK.

Providing new types of learning environment closely linked to the places where people live may encourage the residents of these communities to sign up for learning activities, even where a formal university or college setting might discourage them. As well as helping achieve wider social sustainability goals, learning-centred communities may also provide significant opportunities for a wide range of academic institutions across the UK. Where an institution has a significant land bank, the creation of these communities may provide an opportunity to maximise the value of this asset or, if an institution has redundant buildings or campuses, to regenerate the sites and reinvent their role within the wider academic institution. An institution without land, redundant buildings, or financial resources to act as a developer can still participate in learning-centred housing developments by providing the academic programme, access to learning resources, and an ‘academic brand’ that can help to differentiate the development.

The heart of the university will remain ‘on campus’, but as it is permeated by new and more diverse uses it will break out from its physical confines for good. Whether online or on campus, in youth or in old age, what people will value is the opportunity to explore and share ideas and interact with other people undertaking their own lifelong learning journeys. The university as an institution will, however, have been transformed into something new.

With this kind of scenario the pressure to accommodate more part-time and other ‘non-traditional’ students will be eased by ensuring that the building stock is exploited to the full. The traditional campus-based university experience may then become substantially diluted, at least for some. To what extent buildings, iconic or otherwise, will then endow an institution with a brand identity, let alone a cherished and well-used central location, is debatable. Probably those institutions that already enjoy a high profile, such as the Ivy League Dartmouth College, will be best able to respond to the demand for adult learning, not just by sharing spaces but through funding dedicated spaces for it. At the moment, although there is much talk of the importance of adult education, particularly for those not in full-time employment, the reality is that resources are tight and facilities are stretched. A final thought on lifelong learning: if conventional curricular requirements give way to more work-oriented and instrumental types of learning, there is a danger that a qualification will have to have a ‘best-by’ date on it, as it will have provided the student not so much with a formative experience and skills to develop, as with a set of economically useful aptitudes. On the other hand, it is likely that as lifelong learning progresses in a number of directions, the world-class research university will survive, and as ever, it will still be the privilege of the few.
THE ROLE OF COMMUNITY, THE PLACE OF TECHNOLOGY

Assuming that higher education institutions as a whole retain a special function and role in wider society, and that their value remains irreducible to measures of commercial return, they will still have to engage with the authorities of host towns and cities. Whether as giant regional universities as in Alastair Blyth’s example, or through spreading into every aspect of urban life as in the preceding scenario, higher education faces the future as part of a wider political and economic context. To develop their offer without alienating neighbours, and without losing opportunities for synergies, Higher Education Institutions cannot work in isolation. Rupert Cook of Architecture PLB sees that, in building new facilities and refurbishing old ones, happy results can occur only through a serious reorientation of consultation towards long-term, fully engaged deliberation. This will be difficult to achieve. After all, it has been talked about and tried for decades now, with mixed success. But the sheer scale and economic significance of the Higher Education sector means it cannot risk alienating neighbours and neutralising its potential.

London South Bank University in its urban context ©WWM Architects
WHAT IF?
COMMUNITY ENGAGEMENT
- Rupert Cook

What if reinvigorated public engagement makes investment in universities successful and sustainable? What if decision makers are able to draw on the university as a long-term resource? What if government policy gives regional and local players the tools and resources to develop their own models of collaboration and building?

In the 1990s, many who were affected by urban change were still not really influencing outcomes, despite talk of community participation. The statutory period of consultation, reinforced by the requirement for the ‘Statement of Community Involvement’ to support planning applications, was cited by some as a reason not to involve communities. Though by this stage applications could reach the point of sudden death, leading to refusal or unpredictable changes, much of the basis for objections came for misunderstanding or misinterpretation, and they were often dismissed as ‘nimby-ism’. Applicants, as well as communities, were frustrated.

Universities learned about the importance of public involvement from the culture sector, notably museums, that the audience is not, and does not want to be, passive. Universities learned from the pitfalls of the culture industries too, after many unique places that reflected their patrons’ eccentricities and that had once held bizarre collections had disappeared. Too much had been replaced at the turn of the century by sanitised white space, ‘architect’s nice’ supported by lottery money. By the time the universities joined the game, they had realised that homogeneity is not a long-term answer.

Developing more refined practices of ‘stakeholder engagement’ at the turn of the millennium resulted in a shift away from consultation based on the community-led projects of the 1960s and 1970s where the universities often acted as the client. The new form was more subtle. It began to concentrate on areas where the wider stakeholders have actually had real opportunities to influence ideas, the brief and design.

London South Bank University was not alone in having new opportunities for major projects early in the new millennium, having spent the 1990s dealing with the legacy of largely untouched stock from the time of the polytechnics. It had experienced unexpected delays due to community pressure, and because the schemes were being reviewed by the then newly formed Southwark Design Panel. The turmoil this caused within the institution led it to ask serious questions about the relationships between the university, local institutions, neighbours and businesses. It developed a fresh approach.

The Bankside area, or the Borough, had already undergone huge changes. Many partnerships were in place: for example, the local strategic partnership, the Southwark Alliance, had already led to sharing of resources for campus safety, redeploymnet community policing in the period leading to exams. The South Bank Employers’ Group had also made a major impact on the area, with projects focused on cultural and public realm improvements spun out of the South Bank Partnership formed in 1994. Adding in small and medium-sized enterprises and local residents completed the picture.

Of course, real community engagement requires significant work. The process needs to be carefully prepared, to allow all possibilities to be discussed, including dream scenarios. There has to be an understanding of funding, future opportunities and openness about corporate ambition where possible. For instance, does the university want to expand and diversify or specialise? What other work has been done in the area? What other institutions have big plans? Are there community plans? In the South Bank and Southwark area, WWM Architects proposed the Bankside Urban Forest, linking the locale with its pre-urban past, and reintroducing nature to the city in the spirit of Robert Macfarlane’s remarkable understanding of our lost wilderness. On Housing estates, Artist Fritz Haeg worked with residents and schoolchildren focusing on the city producing food. By putting all ideas on the table, even dream-like new futures could be imagined.

As a result, looking back from 2029, South Bank University has increased student numbers, and it produces high-quality research in a handful of disciplines. But, even more than that, it is a player on the urban scene, useful and responsive to its surroundings, to Southwark and to the neighbouring London boroughs. It remains tightly linked to businesses that trade in the areas of its academic strengths. In sum, even those who once resisted its expansion have benefited from its investments in sustainable infrastructure, and arguably
from its investment in young people in the region.

Where universities in London had to work out their route within the complexity of a huge city, in smaller towns the shift towards genuine collaboration was perhaps easier. Winchester galvanised itself into action after being publicised as having one of the UK’s largest carbon footprints. The Historic City of Winchester’s activists formed Winchester Action on Climate Change in 2007. The University of Winchester, having gained full university status in 2005, was wholly within the city, and was one of the founder members of WinACC. Early on it began to embed sustainability and BREEAM into the development of its estate. Leading by example, it began to put pressure on employers within the city to respond to the sustainability agenda, and as they progressed, Winchester began to become a focus for environmental businesses. Winchester had several major central car parks, which enticed cars right into its historic heart. Under pressure from WinACC this was transformed, the environmental agenda was made a real priority, and the Council’s land became a showcase for zero-carbon development, which attracted interest from developers such as Bioregional. Linking action within the social housing estate, where householders were offered ‘upgrade’ packages to move step by step to zero-carbon living, investment occurred early to save on rising energy costs, helping fight fuel poverty.

High ecological footprints are closely aligned to high wealth, and Winchester is a wealthy city. Over the years, what has this meant for the city, which now hosts two universities? Rather than being a leader in innovation or enterprise, the university is just well bedded into the community; its buildings make a great contribution to the city. But most of all it is the social and community links that have thrived, and the culture that the university has promoted, of engaging with ecology, technology and issues of social justice from an informed base. It wasn’t long ago Winchester had no university. Now the city could not imagine a future without one.

In such a scenario institutions across the range – adult education units, training institutions, former polytechnics and, where possible, top-end research institutions – develop together in response to local and regional concerns. They can only succeed, however, where processes at larger scales make this possible – that is, if funding and decision-making powers are devolved. Sustainable collaboration between academia and city leaders will also require considerable commitment from individuals and departments on all sides to keep it going. If the partners for collaboration are grassroots organisations or community groups, the input from the academic side will have to be that much more. Short of such close collaboration, to be better able to share their strengths, institutions can also work together in networks. The Bloomsbury colleges in London are already showing the way, keeping their individual strengths but pooling resources to recruit and house students and to lobby decision makers.

Besides these, other examples of this kind of collaboration are already being developed. ‘Smart City Futures’ is a project based in Manchester that explores the synergies that could be gained if universities and urban areas harnessed the strengths of the academic world to the benefit of the city and the region. The key word ‘creative’, and a key aim is a co-creation by the city-region, together with academia, to generate a ‘modern renaissance’.

Universities may well resist calls to spread into the community, preferring to pursue loftier goals, and clearly there are limits to what kinds of Higher Education Institution could pursue this model of civic engagement. However, both of Rupert Cook’s scenarios, environmental sustainability and sustained collaboration, are surely high on the agenda, even if, as he indicates, they are full of challenges.

TECHNOLOGY THAT JUST IS

It has been suggested that the ultimate ecological triumph would be the virtual campus. But reports of the dematerialisation of learning, by making it virtual, have been widely exaggerated. In the UK, the Open University pioneered distance learning and used available technology in extremely effective ways, garnering deserved praise and being copied by institutions overseas. But the model has certainly not been copied or developed so as to make university campuses, or even student–teacher relationships, recede into history.

Technology astonishes, and can undoubtedly be complicated, and yet it is utterly mundane. Basing a future scenario on some as-yet unrealised gadget would be courting ridicule. However, it is undeniable that technological change has had profound impacts on the academic experience. But technology is far more than novelty tools; it is our culture. The idea of the network, buzzword of the turn of the millennium, applied to material linkages as much as it did to social behaviours. The result is that for much of the population the important content of life does take place partly, even largely, in virtual reality. How that virtual world is organised, and how it interacts with the fleshy biological world, is another serious matter for universities and their host cities to consider together.

Thoughtfully assembled technologies could create optimal university environments that could be shared by town and gown at the same time as they make linkages across different scales. The university could invite everyone to collaborate and participate. Spearheaded by research, and willingly supported by the youthful inhabitants and users of university facilities, technological know-how and scientific interest in cutting-edge knowledge could go hand in hand with an explicitly green political imperative, to the benefit of all.

The possibilities offered by virtual reality do not necessarily pose tremendous problems. Anyway, human beings are mostly adept at moving between realities and registers. But technology is equally unlikely to obliterate the importance of place. As the institutional frameworks are being established to make it possible, tomorrow’s universities could develop technologies to enhance it.
WHAT IF?

TECHNOLOGY BLENDED WITH PEOPLE AND PLACE - Prue Chiles and Anna Holder

What if Higher Education is overwhelmingly designed around mobile technologies and global communities of interest tied together through virtual networks? What if, at all levels and in all fields, people are able and willing to contribute and collaborate to generate data and capability? Crucially, what if this triumph of the virtual goes hand in hand with a revaluation of place and geography?

1. GLOBAL

We’re talking about the now familiar university ‘embassies’, outposts of universities from China, India, Alaska and others, in the city, where we have a physical base that students can go to for ‘home’ support. Room-size screens stream real-time images from the university campus in China/India into our university.

I am meeting a new PhD student today from southern India. I'm here, over at her mixing-Embassy, and having a meeting with the project director and the other team members working on this EU futures project, to develop a new building material that picks up traces of the local geological strata. How it works with the new silica glass that produces energy is exciting. These transformational projects are in prototype stage now, and are about to be installed here in the university and at six other global locations. The project is getting a bit unwieldy, with four different continents involved and over 50 PhD students, half of whom are on the professional PhD programme. It’s bonus points from the vice-chancellor, though, as the prototype production workshop is in the region and is being visited by a delegation from the World Trade Centre.

We have booked the first-floor meeting room, which feels like the Hong Kong and Shanghai Bank felt when I first went there back in 1993. I nearly went for the top meeting room on the 30th floor, but that feels too ‘ivory tower’ today – we need a presence in the city.

From here you can see the bustle below, but it is quiet behind our electro-chromatic glass. Before the opacity changes you can just see the hills if you crane your head – or of course if you walk out onto the balcony. Although I love the big screen downstairs, with its real-time images from the campus at Mumbai, if truth be known I want to be inspired by the local landscape, incised valleys and moors, and to think about the weekend.
2. REGIONAL

The central belt area of 3,000,000 hectares is the most popular part of the UK to live, within an hour and a half of any part of the country, and with experimental transport systems and green power for all those outdoor types. It is defined by its topography: the hills, incised valleys and rivers are harnessed to a third wave technology revolution. Sponsored by the university’s international research base, parallel projects are occurring in similar regions around the world.

It took a long time for the planners to realise that the tram could be part of a green network in the city. The transport planning department in the university finally formed a partnership with the city’s strategic planners, and a whole tranche of European money helped this become the most extensive and dense network of trams anywhere in the world.

It’s a demonstration project, surpassing even the trams in Portland, Oregon, which are the length of a small city block and free to use.

It’s a whole day today of seeing colleagues and students. After lunch, a meeting out in the hills, followed by one in a city 80 km away – and I’ll still be back in time to meet my son for an early supper. At last an integrated transport system – train, tram, bus, all battery powered. It’s 8 years ago now since I gave up my car.

That 15 minutes in the morning doing my voice mails is a godsend – I don’t have to do them on my eye phone in bed – really bad habit – and I don’t have to wait to get to work to get onto the network. Everyone is on the trams – speaking quietly into one form of device or another – or just chatting; I’m used to concentrating now, and the super sound absorbers on the tram help. I was just thinking back to the first decade of the century, when our academic lives were ruled by the tyranny of e-mails. I could spend five hours a day on them. Now I am more disciplined. It helps that the voice recognition transfer mails take a fraction of the time – and they are also more personal.

The productive landscape of both hi-tech and organic food production has given this region – and others – more power, and the capital cities and their universities are now struggling to give anything like the same quality of life. I never thought I’d stay here – but there’s no point in moving now – I’m a lifer!
3. CITY/UNIVERSITY

The university is an almost seamless set of structures within the city. At ground floor level the buildings are one, with public/university ‘mixing desks’ — a name for what we call university/city mingling, teaching and learning.

The towers rise from the mixing desk bases — these are tall and slender, giving fantastic views and increasing privacy — gleaming spires and ivory towers. The entire city could be a classroom for real-world learning.

Tall was a dirty word for university buildings until the second wave of open lifts — the paternosters — came on the market. Four-person, super-stable, totally open; ‘chat platforms’ some call them. Just time for a quick cup of coffee, and so much more fun than closed lifts. Manufactured in partnership Poland — the last place to make the old paternosters — is this another production success for this region, achieved with engineering help from this university.

The rigid floor plates of high-rise buildings have become more mingled — with eight paternosters on each floor around an oval atrium. They are now seen almost as the new vertical quadrangle, and they are great meeting places.

The dramatic new semi-underground 500-person auditorium for the music department is the most popular venue for chamber music in the city. It also offers the experience of coming up into the landscaped courtyard for the interval: by day a quiet university garden; by night a thriving part of the city’s cultural life. The auditorium is intelligent, and is one of the venues for large-screen real-time streaming across to some of our partners in uni-embassies abroad.

This makes sponsorship a good marketing opportunity, so I believe the auditorium has paid for itself twice now. The city and the university are now working together to build the city centre. The canals through the city are well used, and the green corridors work brilliantly.

4. MIXING DESKS

The mixing desk takes many forms. Most are in the bases of the towers. This is, at heart, how we all work now. Attached to all these paradigms are small group spaces, and lots of them — the way we teach now. There are some lecture theatres, but most double as other public venues, and we use all the large meeting spaces in the city to teach from.

What we call ‘expose’ is where my tour gets personal. I feel proud that a project we did 15 years ago helped start the change. The university decided, in what was almost an accident, to open up an old building it didn’t know what to do with. This became the first mixing desk — a front door for the university to welcome in the city. It criticised itself, and asked the city to comment. The building was renovated, leaving the listed building as it is but set apart inside a responsive skin — a totally new environment for temporary or permanent exhibitions and showcases, showing the best work done both by staff and by students at the university. It also has some permanent collections that are open to view. The first few expos caused quite a stir — but if a university can’t be radical, who can?

Then we have what used to be the library. These mixing desks are at the heart of the university: they are where they always were, in the heart of the city, where old men come and read the paper and school-kids do their homework. The city provides half of the librarians and half of the technology. More people work in libraries now, and services are more personalised than before. This public side to the library, open to all, has comfy workstations, with glazed screens looking out onto the square. A hushed book café environment, fully networked, with instant access to the whole reference collection.

The university hasn’t lost any of its intellectual property — in fact quite the opposite. It is known for its knowledge from five-year-olds to 90-year-olds — not bad for a post-industrial, post-production, post-everything place. A setting for a quiet revolution, and hearteningly political.

A lot of the time we still work like we used to, in our own personal spaces — but of course more connected. These collegiate spaces higher up the towers serve both individuals and groups. The dark ages of non-acoustic sliding partitions are gone — the problem of academic cellular versus open plan is a thing of the past. Space is well used, and shared where relevant, but that ivory tower — it still exists.

Higher education will develop as a mix of technology-enabled and traditional work. A truly ‘blended’ form of learning is still waiting to be implemented as a pedagogical project, even if technology as such is routine and ubiquitous. If a university does project out into the community, it is probable that it will blend education with entertainment. It will also need to cater to the different needs of students, researchers, visiting scholars and the broader public by incorporating specialist facilities in its wider estate. In this way its accountability to the wider host community may be augmented, and the process of planning expansion might be made easier. Yet, in contrast to the above scenario, it may have transformed itself completely in the process. Instead of being a unique institution reaching out to interested parties beyond, a higher education institution may become one of any number of stakeholders, part of a fluid network of powers, all of whom have an interest in securing the best possible deals for themselves.
The expert contributions and the commentary in this publication suggest that, although there is much planning and even more talk, at this time there can be no grand vision of tomorrow’s university. In spring 2009, the future looks even more unfathomable than it did a few years ago. One constant, however, that is likely to survive for the time being is the prominence and importance that decision-makers still attach to the future of higher education. This means that the physical needs of the knowledge economy are likely to continue to be prioritised. As higher education is identified as saviour, places with universities will feel the changes. And so will those without them. Many are already spoken of as lacking a future, and this will introduce its own problems. Depopulation is a serious if under-reported contemporary problem, even if it is not – as it was once in the Soviet Union – stimulated by demolishing entire villages deemed to be without perspectives, to have no future.

If universities are today being asked to respond directly to social needs, not to mention economic ones, there are precedents for such a utilitarian approach, particularly in the history of the Soviet Union. Writing in the 1940s, the philosopher of science Michael Polanyi made many heartfelt and erudite pleas for knowledge to be supported for its own sake. In one of them, at least, he argued against the Soviets’ claim that any current five-year plan ensured a perfect harmony between society’s needs and scientists’ interests. Polanyi was interested in nurturing science as free but not random or undisciplined enquiry, an aspiration that many academics today would share. The world has moved on, science is more expensive to do, and people are used to the overriding imperative to be competitive. And so it may be unfair to insinuate that there is any resemblance between the contemporary university and a discredited system such as higher education in the Soviet Union. Yet when the call for universities to make themselves ever more useful to society is translated into far-reaching policies with long-term, concrete effects that shape everybody’s environment, the analogy fits well enough to provoke.

Change is inevitable, and does happen even without external, even government, encouragement. Yet in the case of a huge and pervasive sector such as higher education, the direction of change depends on answers to the question: to whom is higher education responsive? Given that genuinely innovative research and much of the curriculum have always emerged out of a complex web of individual yet networked effort – which it was already hundreds of years ago – academic work has historically been responsive and responsible to a range of parties, both public and private. This state of affairs seems likely to continue, and is likely to be reflected in the way architects, planners and local/regional executives in turn respond to higher education.

Despite the disintegration or diversification already noted, it is difficult to imagine a future where the top-level research university is significantly different from today’s. Many universities – although perhaps not those at the very top – will try to bolster their position through significant building projects. Yet architecture and buildings will always be tangential to the success of an institution. Top academics may operate in laboratories, seminar rooms and lecture theatres, break-out spaces and virtual learning environments, but to a remarkable degree they live inside their heads. Yes, some research requires expensive infrastructure, but all academic work depends crucially on nourishment for the mind. The academic successes that have been linked to the knowledge economy, Silicon Valley being the standard example, have been born of contingent events and regional histories that facilitated productive collaboration, but that no amount of planning or investment could have produced at will.
Oxford, Bologna, Krakow, Heidelberg and a handful of other older university towns suggest another model, but one that is even more impossible to conjure up out of nothing. The residents of these cities and the alumni of their universities are lucky to be enriched by these institutions – physically, culturally and perhaps even spiritually. Their urban form tends to be considered people-friendly, and they offer a high quality of life, even for those who have nothing to do with academia. Where they have expanded, the best have been able to do this without causing severe or sudden ruptures, and many now have buildings and townscapes that mix the very old with the very new in ways that make it easy for inhabitants to cherish them. This, in turn, translates both into good maintenance and into thoughtful retrofitting, as well as into opportunities for totally new buildings.

For the rest, however, current trends suggest a need for novel forms and new norms for architectural production and urban planning. Expansion will not necessarily benefit towns and cities nor automatically boost regional economies. Collaboration, we have argued, must be strengthened. But the even harder message of this publication is that despite the seductive impulse to seek comfortable consensus, decision makers and universities also face difficult choices as growth pits preferences and interest groups against each other. Money will be spent here rather than there. This will have to be justified. Similarly, if less obviously, access will be open here but not there. Institutional spaces will be open to these people but not those. Friendly rhetoric will not make security requirements disappear. Particularly where higher education is a newcomer, the question of access will require thoughtful bridging of the gaps between town and gown.

Yet the aspiration to merge academic and other civic institutions is not self-evidently a ticket to a better world. It could equally mean a loss of the variation that has helped make universities resilient. Merging academia into everything else could also impoverish intellectual life in universities.

More mundanely, higher education beyond the super-elite could just become a bland and uninspiring route to slightly better salary prospects. This seems likely to be the case if universities consider it their duty to always respond to the demands of those beyond, now predominantly styled as its ‘users’. As a recent article puts it, ‘An engaged university may be a driver of innovation but it may also be one that fosters the commodification of higher education, placing the private good character of higher education above the public good.’\(^8^8\) At the extremes, if academia became either completely privatised or completely beholden to future equivalents of communist regimes’ five-year plans, its defining features might be altered beyond recognition. In that case the hitherto implausible notion that it would disappear altogether might become more realistic. Yet even if that happened, non-utilitarian intellectual inquiry would probably not disappear; it would most likely migrate to institutional, or non-institutional forms, we can as yet not even imagine.

Until this happens, the core missions of academic research and undergraduate education are long-term projects that do often sit uncomfortably with the short-termism of markets. But if higher education were confident enough of its peculiar assets, and were self-critical enough to make sober judgements, it could show the way for the rest of us, providing models of sanity in an uncertain and sometimes frightening world. At least, some of it could.
EEVA BERGLUND trained as an anthropologist at Cambridge University. For some years she pursued an academic career, exploring environmental and regional politics and the social dimensions of scientific and expert knowledge. She spent two years as a post-doctoral researcher at the University of California, Berkeley and then moved to London to take up a lectureship at Goldsmiths College.

In 2002 she left academia for a more varied existence, and now mostly writes about people and their environments for a variety of audiences in both English and Finnish. She has pursued her interest in the changing shape of higher education in both peer reviewed academic publications and online. In between writing and voluntary work she also gained an MSc in spatial planning at UCL. Having become a trustee of Women’s Design Service, a London-based organisation promoting women’s interests in the built environment, she wrote its history, published in 2007 as Doing things Differently: WDS at twenty.

DICKON ROBINSON is an independent advisor on architecture, housing, property development, sustainability and urbanism to organisations in the government, voluntary and private sectors. A past Director of Development at the Peabody Trust, he has long standing links with the housing, architecture, construction and urban regeneration sectors. He was a Cabe Commissioner between 2000 – 2007 and chair of Cabe Space. He is currently Chair of Building Futures at the RIBA, Chair of the Stratford City Environmental Review Panel, a member of the English Heritage Urban Panel, a member of the Bath Urban Regeneration Panel, a patron of the Urban Design Group, and visiting Professor of Architecture at Mackintosh School of Art in Glasgow.

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Alastair is a UK registered architect and member of the RIBA. He joined the OECD in August 2007 from the University of Westminster where he ran a research programme looking at performance evaluation for higher education buildings. He also taught in the School of Architecture on the Part III programme on professional practice, architectural technology, design management and construction law.

In architectural practice Alastair specialised in project briefing working on a range of education and commercial projects. He co-authored “Managing the Brief for Better Design” published in 2001. Following an earlier career as an editor and journalist for the Architects’ Journal and the RIBA Journal, he continues to write for a range of architectural, property and construction publications.

PRUE CHILES combines research and practice with teaching. At the University of Sheffield Prue is the Director of Architecture. She initiated the acclaimed Live Projects programme and has continually forged links between the University and the City. She also directs the Bureau of Design Research, founded by her in 2002 within the School of Architecture, redefining the role of the architect in relation to the university, the community and practice. The Bureau of Design Research carries out a variety of design projects, research consultancy and consultancy projects with both local and national bodies and has built up a reputation for innovation and expertise in the area of school design, community visioning and regeneration and sustainable futures.

This work is augmented by her practice - Prue Chiles Architects. Formed in 1999, the practice has undertaken a number of innovative buildings including the widely published “Classrooms of the Future.”

RUPERT COOK is a Joint convenor of the RIBA’s Higher Education Design Quality Forum (HEDQF) and was a founder member of Winchester Action on Climate Change (WinACC). He has taught full time and is a visiting design tutor and critic at Oxford Brookes. He has lectured on broad architectural issues as well as specific buildings.

Rupert is a Director of architecture plb, registering as an architect in 1998. He has a broad range of experience across a range of projects including; university, housing, mixed-use, arts and cultural buildings. He is currently working on a number of projects for The Royal Veterinary College, University of London and for the City of Westminster’s Housing Management Company CityWest. He is also currently designing a near zero carbon house on Chichester Harbour.
ANDREW HARRISON is leader of DEGW’s learning and research teams. He has led a number of major international research projects including the European Commission supported research project Sustainable Accommodation for the New Economy, published in 2003 as 'The Distributed Workplace' and Project Faraday in 2007.

He is project director for a DCSF funded research project on the impact of Personalised Learning on school design. Other educational projects he has directed included Remodelling and Change Management research and professional development projects for the National College for Schools Leadership, the development of the brief and concept design for the National Skills Academy for the Creative and Cultural Industries, the development of the brief and concept design for the British Library’s new Digital research Centre and estates strategy and building briefing projects for many UK universities including the London School of Economics, Manchester Metropolitan University and Sheffield Hallam University.

ANNA HOLDER is a Research Assistant at the University of Sheffield and at the Bureau of Design Research, researching design and education, socially sustainable communal housing, alternative forms of entrepreneurship in design and inclusive methodologies of design and research. She has worked in practice in the fields of architecture, urbanism and landscape, in the UK and the Netherlands, and is a member of the Voluntary Design and Build architecture network.

TORANGE KHONSAR is a practicing architect/artist and lecturer. She obtained her professional Diploma at the Architectural Association in London and also studied at Dundee University. Her research interests include how users of public space engage with their environment and how design and programmatic strategies can support and facilitate physical, economical and social infrastructures in the public realm.

She has written extensively and has had a number of works published both in the UK and the middle east. Recent titles include What is the role of participation in architecture?, Open house international publication, edited by Maurice Mitchel and Participatory Urbanism, Shahrbod publication, Tehran. Torange also speaks regularly at conferences and has exhibited widely, including at the Baltic in Gateshead, with the British Council in Oslo, Budapest and in Berlin. Torange was founder and a partner of 3A Architects and is currently leading Public Works: an art and architecture collaborative which uses art led participatory processes and their methodology to explore how existing social networks can inform spatial, architectural and urban proposals.

DR DARREN P SMITH is Reader in Geography, and joined the University of Brighton in 2001. Darren completed his Phd at the University of Leeds in 1998. He coined the term ‘studentification’ in 1999 - to describe the effects of high concentrations of university students in established residential neighbourhoods. In 2005, Darren researched and drafted the Universities UK Guide on studentification, funded by DfES, in partnership with ODPM and LGA.

Darren has advised many local authorities, universities, policy makers and local communities on the links between student accommodation and ensuring cohesive community relations. He has also investigated student housing and town:gown relations in Australia, USA, Canada and Ireland. Darren is currently managing 3 on-going research projects on student housing in the UK. Darren’s other research interests include urban regeneration, gentrification, change in the countryside, housing and migration, and population change. Darren is the Chair of the Population Geography Research Group of the Royal Geographical Society.

DR PAUL TEMPLE is senior lecturer in higher education management at the Institute of Education, University of London, where he is co-director of the MBA programme in higher education management. His research interests are in institutional effectiveness and change in higher education. He has recently finished working on a Framework 6 project on university change across Europe, and is now involved in an international project studying university-business partnerships.
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3 To help discuss this unwieldy process in a manageable way, the words ‘university’, ‘higher education’ and ‘tertiary education’ are used interchangeably throughout this publication.

4 Examples abound. In south-east London, Goldsmiths College has the eye-catching Ben Pimlott Building by Alsop and Partners. The now emblematic example from the USA is probably Frank Gehry’s spectacular Stata Center at Boston’s MIT.


7 Figures based on UKU, Higher Education in Facts and Figures, Summer 2008.


19 In 2007 the Department for Innovation, Universities and Skills announced reductions in funding for students who wish to study for a degree if they already have a similar-level qualification in another subject. This is known as the ELQ (equivalent or lower level qualification) policy. http://www.dius.gov.uk/publications/hefunding.html (December 2008).


23 Data are available from many sources. These are from UUK’s The Economic Impact of UK Higher Education Institutions: Summary, February 2007. http://www.universitessuk.ac.uk/Publications/Bookshop/Pages/Publication-258.aspx. (November 2008)


28 Ibid.


31 Charles Clarke, Education Secretary, Foreword to Education White Paper, 2003.


35 The OECD’s Programme on Educational Building (PEB) offers information on existing campuses in its newsletter, PEB Exchange: http://www.oecd.org/dataoecd/17/59/381168377.pdf


37 Ibid.


43 For example Simon Fraser University in Burnaby, Canada, where a new campus, UniverCity, is being built with a self-consciously progressive approach to all dimensions of sustainability. http://www.university.ca/about_us/overview.2.html (November 2008)

The scenario projects into the future, but the SHED initiative is already now (autumn 2008) being implemented via an undergraduate live studio at the Department of Architecture and Spatial Design at London Metropolitan University, taught by Torange Khonsari and Sandra Denicke Polcher. Over the next three years students will build a mobile student residence unit and set up the organisational infrastructure required, including websites and archives.

For example, the news that the government would have to cut student support for middle-income families from 2009 was greeted with calls for attracting more international students: ‘Grants for “middle income” students to be cut’, The Guardian, 29 October 2008.


Michael Moss, ‘“Nine o’clock and all’s well!”, or “fire, fire, the library’s burning”: the future of the academic library’, Minerva, 2008, 46: 117–125.


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Ibid.
ACKNOWLEDGEMENTS

Mike Althorpe, Building Futures/RIBA
Dr Eeva Berglund
Alastair Blyth, Programme on Educational Building, OECD
Ian Caldwell, King’s College, London and RIBA-HEDQF
Patrick Carpenter, Queen Mary University of London
Sue Cavanagh, Equality Challenge Unit, London
Dr Prue Chiles, University of Sheffield
Rupert Cooke, architectureplb
Jacqueline Cox, University of Cambridge, University Archives
Delegates to HEDQF Conference on 14.02.2008 ‘The Learning City’
Professor David Fisk, Imperial College, London
Fiona Duggan, RIBA-HEDQF
Andrew Harrison, DEGW
Anna Holder, University of Sheffield
Dr Phil Hubbard, Loughborough University
Torange Khonsar, Public Works and London
Michael Lenz, Draught Associates Ltd
Jing Lu, Building Futures/RIBA
Anna Minton
Prof Olavi Nevanlinna, Helsinki University of Technology
Robin Nicholson, Edward Cullinan Architects
David Noel, RIBA-HEDQF
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Prof Jeremy Till, University of Westminster, London
Tamsie Thomson, Building Futures/ RIBA
Stephan Vincent-Lancrin, Programme on Educational Building, OECD
John Worthington, DEGW

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- The Professional’s Choice
- Housing Futures: 2024
- 21st Century Schools
- 21st Century Libraries
- 2020 Vision: Future Healthcare Environments
EXECUTIVE SUMMARY

Hopes are high for a future built on expanding higher education. It receives strong support from both government and the private sector. It is part of an international market. Its growth will not just affect individual institutions; it will have huge impacts on towns and cities. Yet academia is undergoing an internal transformation of its own, and its future is far from clear.

Given the effect that university expansion has already had on architectural and urban form around the world, Building Futures at the RIBA wanted to stimulate informed debate. This publication offers twelve future scenarios each projecting twenty years into the future to ask ‘what if’ certain trajectories of change take hold. Their impact could be unexpected and greatly contribute to the role of higher education in cities.

Compiled by experts with a special interest in university building, the scenarios are embedded within a commentary about the academic, social and economic drivers. The text was mostly written before the extent of global financial turmoil became apparent, but in light of the events of 2008, the speculations it offers are particularly productive.

**The Place and Space of Higher Education** lays out current trends. These suggest that in the future the sector will be internationalised but also fragmented. It will produce a variety of urban experiences. Who will benefit most? Under what conditions might iconic campus architecture and purpose-built student accommodation turn out to be good investments?

**Change Comes to Town.** The UK’s student population may grow, but we cannot be sure of the consequences. If living at home and working for pay continue to increase, or if international students fail to come to Britain, what will the relationship between ‘town’ and ‘gown’ look like then? How do environmental sustainability considerations affect our options?

**The Market Rises Again.** Given the significance of education and research for regional development, universities are substantial players in economic and political life, producing significant effects on urban infrastructure as a whole. What forms of inclusion and exclusion might this engender? How will technologies, for example in libraries, be used in the future?

**Life-Long and Around-the-Clock.** Shifts in the life course and expectations of educational services are the focus of this chapter. Demographic factors combined with the costs of building have already put pressure on educational resources. Is the solution to turn education into something that is dispersed throughout society and/or linked to the workplace? What would this demand of architecture and planning?

**The Role of Community, the Place of Technology** looks at integrating expansion to fit urban development more broadly. How will virtual networks combine with face-to-face activities and geographical space? What forms of collaboration are likely to serve sustainable and inclusive ends and what might these mean for how universities evolve?

**Growing by Degrees** concludes with an invitation to think carefully and critically about planning for higher education and the forms of architectural production associated with it.