

The weekly magazine  
for higher education



## Australia trumps UK in global student race 6

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# T H E TIMES HIGHER EDUCATION

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# Questions



LARGE WOOD LETTERS



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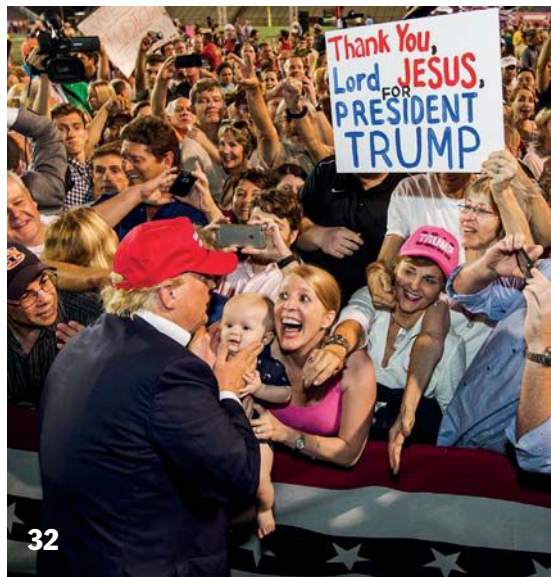
## Did fake news start with Zuckerberg or Gutenberg?

Manipulating the news is nothing new. It's been happening since Gutenberg's printing press. And yet today, there seems to be greater fear of fake news than ever before. Is the reach and influence of Facebook and Twitter as significant as some would have us believe? Or is this a social media myth that needs to be busted? Queensland University of Technology is digging into the data to find out. Investigative work by QUT Professor Axel Bruns is already giving policymakers reason to pause.

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## THE WEEK IN HIGHER EDUCATION

● ● ● *The Sun* reported on "research" that looked at "the weekly rent of university hall and meal costs but also crucial students' expenses such as the price of a pint in Wetherspoon's or a kebab". TotallyMoney compared the living costs at the 50 highest-ranked institutions in the *Sunday Times* Good University Guide. "The University of Warwick ranked first as the cheapest university town in the UK [Coventry] for students to live in, with a weekly rent of £72," *The Sun* said on 10 July. The Warwick locality "also has the second cheapest kebab at £3.99". Universities minister Sam Gyimah's idea of creating a "MoneySuperMarket" guide to higher education institutions has been skewered by many in the sector. But, in introducing the idea of comparing kebab costs by provider, *The Sun* could be the donor of a meaty metric to the minister's app.

● ● ● John Lennon derived the line in the Beatles' *A Day in the Life* about "4,000 holes in Blackburn, Lancashire" from

a *Daily Mail* story – and maybe some aspiring lyricist will read the news that "Oxford professor counts 93 penises in Bayeux Tapestry", related by *The Times* on 13 July. Size really does matter, according to George Garnett, the University of Oxford medieval history professor who identified 88 equine and five human appendages. Writing in *BBC History Magazine*, he notes that Harold is depicted "mounted on an exceptionally well-endowed steed". However, "the largest equine penis by far is that protruding from the horse presented by a groom to a figure who must be



Duke William, just prior to the battle of Hastings". Professor Garnett concludes that "the virility of the two leading protagonists is reflected in that of their respective mounts" and that the presence of penises of "predominantly prodigious dimensions" was among factors intended to make the tapestry "appeal to laymen more than clerics".

● ● ● *The Guardian* reported on 12 July that, after UCL "advised lecturers to carry out random spot checks on students' identity documents", some scholars have been warned that they could face hefty fines for failing to report student immigration breaches. An email sent to staff at the Bartlett, UCL's faculty of the built environment, "warned that a £20,000 fine for failing to report immigration breaches by international students would be deducted from a lecturer's 'discretionary account', which provides financial support to research staff and also covers expenses for conferences, travel, training, computers and equipment". One for the higher

education pay talks perhaps – how much is a part-time border force officer worth?

● ● ● "We don't need every teenager to get a degree", was the headline from the *Daily Mail* (which must have missed the latest participation figures) as it reported on Dame Martina Milburn's pre-appointment hearing with MPs for the job of chairing the government's Social Mobility Commission. Dame Martina, chief executive of the Prince's Trust, now confirmed in her social mobility post, said: "I think a lot of kids are being forced down an academic route that doesn't suit them and actually doesn't play to their strengths." She added: "If I'm using a carpenter to build me a new cupboard, I want someone who loves wood and loves what they do and can do it. I don't really care whether they've got a degree or not." Dame Martina is probably unique in seeing the UK's skills and vocational education challenge through the lens (or keyhole?) of her new wardrobe.

● ● ● More interestingly, a "Social Mobility Employer Index" published on 11 July found that growing numbers of major British employers "now conceal the name of prospective employees' university during the early stages of the application process as they strive to improve the diversity of their workforce". *Times Higher Education's* report said: "Of the more than 100 recruiters who participated in the Social Mobility Employer Index – who collectively employ more than 1 million people – one in five said that they removed the name of applicants' alma maters to avoid this affecting shortlisting decisions...if the trend continues, it could erode prestigious universities' selling point that they offer a passport to the best-paid professions." This sounds like progress for employers, who have been outsourcing their recruitment processes to university admissions departments since before outsourcing was invented.

# CREATING **NEW** OPPORTUNITIES



THE UNIVERSITY OF  
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**THE  
WORLD  
NEEDS  
NEW**

University of Newcastle Ma & Morley  
Scholars meet Jack Ma, Executive Chairman  
and Founder of Alibaba Group

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# Powers for good

Universities are key to innovation, but how close should they be to Silicon Valley and how can they ensure that everyone, not just business, benefits?



“What do we talk about when we talk about innovation?”

The question was posed by Stephen Toope, vice-chancellor of the University of Cambridge, at a recent conference held by the technology company Huawei and *Times Higher Education*.

Innovation is a word that’s thrown around in business, government and higher education, but which is rarely well defined. The risk is that it means lots of different things – or perhaps nothing at all.

“You may know the lines by John Steinbeck: ‘Ideas are like rabbits; you get a couple of them and learn how to handle them, and pretty soon you have a dozen.’ If only innovation were as simple,” Toope told an audience in London as he addressed this ambiguity head-on.

“Innovation is the process of putting new ideas into practice; it certainly relies on ideas, but it is fundamentally about applying them to improve a product, a service, a process or an experience.”

Change and improvement, whether within an institution, business or society, are “constant and necessary”, Toope argued, and while economic impact is a key aim of innovation, “entrepreneurship is not always intrinsically innovative, and innovation can be found in many areas beyond the realm of commercial exploitation” – including universities.

How? In research – for example, applying known technologies to new fields; in teaching, by engaging students in new ways to transform their experience; and, Toope argued, through social innovation, including new approaches to the delivery of public services and by supporting social entrepreneurs.

This role in the conception, gestation and delivery of innovation that benefits society must mean close interaction with the technology giants. This is particularly pressing when developments in artificial intelligence and machine learning threaten – or promise – to change everything.

As Toope put it: “Innovation doesn’t happen in a vacuum, and as history teaches us, new technologies are not always, by default, used to the benefit of society.

“As we plunge headlong into the digital revolution, universities have a key role to play at the interface between technology and society.”

In our cover story this week, we take a closer look at the state of that relationship, and how the power dynamic between universities such as Stanford and the California Institute of Technology and the Silicon Valley firms

spawned by many of their brightest students and faculty have evolved.

This is about where what Toope calls the “locus of innovation” now sits, but it’s also about related questions, such as how basic research is supported within different business models (and when the talent flows mainly one way), and how things may shift again in response to the “techlash” that some believe is currently under way.

But questions around the relationship between universities and Silicon Valley are by no means confined to the tug of war over the most talented computer scientists. There is also the question of how and to what extent universities can use their wider expertise to consider the social impacts of their innovations.

That universities must play a central role in the shaping of our brave new world is clear.

At the Huawei/*THE* event, Toope quoted a World Economic Forum report authored by the president of Carnegie Mellon University, Farnam Jahanian: “It is up to us [universities] to provide the ethicists, artists and philosophers who can point the way, the policy experts and economists who can draw the map, and the cognitive scientists and sociologists who can ensure that the destination is designed for people, as well as machines. And it is up to us to ensure that these scholars are working side by side with applied researchers and technologists who are driving the revolution.”

No less a figure than Henry Kissinger (aged 95) made a similar plea writing in *The Atlantic* this month.

The epoch-defining questions about the future of artificial intelligence, he warned, “are being left to technologists and to the intelligentsia of related scientific fields” while “philosophers and others in the field of humanities who helped shape previous concepts of world order” are too often excluded because of their own lack of technical expertise.

This needs to be fixed, he writes, and “if we do not start this effort soon, before long we shall discover that we started too late”.

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“Universities’ close interaction with tech giants is particularly pressing when developments in AI threaten – or promise – to change everything”



# Australia on track to overtake UK in global student race

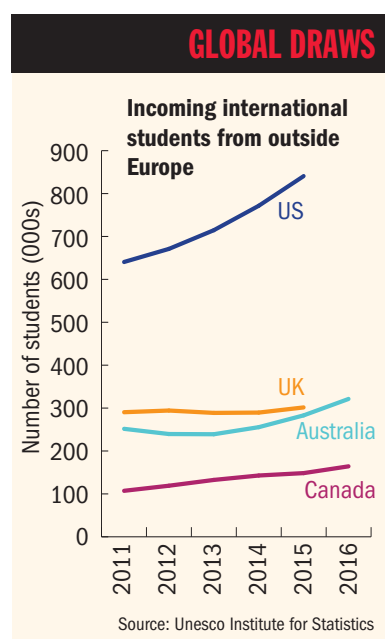
Research shows overseas numbers have surged Down Under while Brexit will 'compound decline' in UK's global position. Ellie Bothwell reports

Australia is poised to overtake the UK as the second most popular global destination for international students, according to a new analysis.

The research, based on international student enrolment figures from across the world, says that it is likely that Australia has already outstripped the UK in terms of the number of overseas students from outside Europe and suggests that the UK's position as the top destination for continental European students is "about to be decimated by Brexit".

The result, it concludes, is that "Australia may have surpassed the UK in 2018" in terms of total international student numbers in higher education, and "if not will almost certainly do so in 2019".

The US is comfortably the top



destination in the world for international students.

The paper, "The UK in the global student market: second place for how much longer?", from Simon Marginson, director of the Centre for Global Higher Education at UCL, was published on 19 July and draws on data from the United Nations Educational, Scientific and Cultural Organisation and the UK's Higher Education Statistics Agency.

Unesco figures on incoming international students from all parts of the world appear to show that the UK was comfortably ahead of Australia in 2015 (the most recent year for which it has data) with 431,000 overseas students, compared with 294,000 in the Antipodean nation.

However, examining the data over time shows that the gap



**A big bite of the market** Australia has been

between the two countries has narrowed substantially, with international student numbers growing by just 2.6 per cent between 2011 and 2015 in the UK and by 12.1 per cent in Australia over the same period.

National data obtained by *Times Higher Education*, which report slightly different figures, suggest

## Secret report reveals snowballing international

Published figures routinely underestimate international enrolments in Australian higher education, according to confidential data that suggest that top-flight universities are monopolising the sector's only significant source of revenue growth and driving domestic students towards minority status.

Department of Education and Training data obtained by *Times Higher Education* show that research-intensive universities have massively increased their intake of foreign students since 2014, with one doubling its overseas enrolments. Four of them – the universities of Sydney, New South Wales, and Melbourne, plus Monash University – now collectively host more international students than Scandinavia.

The secret report suggests that published DET data and some university annual reports underestimate

the true number of overseas enrolments by several thousand. The department did not explain the discrepancy, saying only that the report was "drawn from a different dataset" from its published figures.

The secret report tracks the numbers of enrolled and commencing students recorded on the DET-administered Provider Registration and International Student Management System. It documents overseas student numbers in the first 11 months of 2017 compared with the equivalent periods of the preceding 15 years.

It shows that after a dozen years of only modest foreign enrolment increases, Australia's top universities dramatically escalated their overseas intake from 2014.

Leading the pack was the University of Sydney, which increased its overseas enrolments from about

15,530 in 2014 to 30,943 in 2017. It overtook the University of New South Wales and the University of Melbourne to become Australia's top higher education exporter after ramping up its foreign enrolments by almost 8,000 in 2016 alone.

International enrolments over the three years rose by about 65 per cent to 23,176 at Monash, by 52 per cent to 24,415 at Melbourne and by 49 per cent to 24,785 at UNSW. Other big growers – albeit from a much smaller base – included the Australian National University, which increased international enrolments by 61 per cent to almost 9,000.

Charles Sturt and Southern Cross universities in New South Wales both more than doubled their foreign enrolments, to 9,100 and 3,500, respectively. But overseas student numbers rose only margin-

ally at Melbourne's La Trobe and Victoria universities, and they fell significantly at the University of Canberra, Federation University in regional Victoria, Brisbane's Griffith University and Perth's Curtin and Murdoch universities.

The figures suggest that growth in Australian higher education exports is dominated by large universities from the prestigious Group of Eight network, while other institutions admit foreign students at a more modest rate, and a third group struggles to maintain numbers.

This could add to fears that snowballing education exports are pushing the higher education sector into a dangerous over-reliance on foreign tuition fees. Go8 universities, which attract the vast bulk of students from China, the largest market, are considered particularly vulnerable.



PICTURES: GETTY

rapidly catching up to the UK on international student recruitments

that these rates of growth have continued in 2016. There were 442,000 non-UK students in the UK in 2016-17, according to Hesa, and 391,000 overseas students in Australia in 2016, according to the country's Department of Education and Training.

The paper adds that, according to government figures, in 2017 the

number of international students in Australia climbed by 14.7 per cent and that high growth continued into 2018.

Professor Marginson blamed the UK's waning appeal to non-European Union international students on the government "running a post-study work visa regime that is much less attractive than that on

offer in Canada, Australia and, until recently, the US".

"It is this, not Brexit, which will ensure that the UK moves down to number three in the global student market in 2018 or 2019. Later, however, Brexit will compound the decline in the UK's global position by driving UK numbers down," he said.

Professor Marginson added that if EU students are charged international student fees post-Brexit, "then it is impossible to imagine anything other than a substantial overall drop in EU students entering the UK, and that will erode the UK's already declining global market share".

"There will no longer be a strong UK performance in Europe to mask the deteriorating UK position in the rest of the world," he said.

While Professor Marginson noted that "all reports from Australia indicate continuing high growth" in overseas students in 2018, he acknowledged that it was "almost certain" that rapid growth in the number of students from China would "slow".

"Following Australia-China tensions, and criticism of China in the Australian media – including some claims that Chinese students threaten Australia's national security – the Chinese ministry has made successive website announcements that Australia is not a safe place for students from China. It looks almost certain that education agents and parents/students will respond by shifting at least some of the traffic

from Australia to North America," he said.

Philip Altbach, research professor and founding director of the Center for International Higher Education at Boston College, said that he was "not surprised" to see "how well the Australians are doing" in overseas student recruitment.

"They're very aggressive – they see international students as a major income source," he said.

"The things that are working against increasing numbers for the UK [include] not just Brexit, which I think is the main driving force, but also real restrictions on granting visas and the general terms and conditions, especially on working in the country after finishing studies," he added.

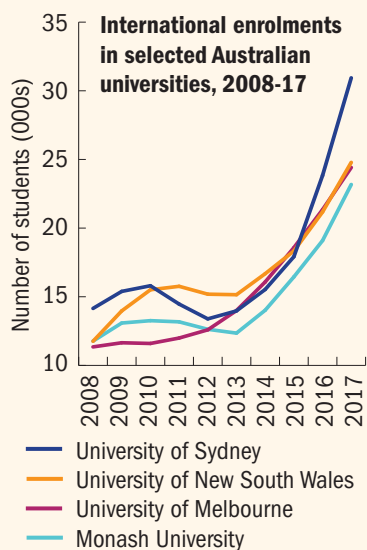
However, Professor Altbach said that it was important to note that there was generally "significant instability in international student numbers", which made long-term trends hard to predict.

Michael Peak, head of higher education systems research at the British Council, said that while the overseas student number gap between the UK and Australia was "narrowing", the latest visa data show that key sending countries to the UK are "strengthening or renewing their interest in studying in the UK". For instance, the number of granted student visas from India grew by 68 per cent between the first quarter of 2017 and the first quarter of 2018, he said.

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## enrolments Down Under

### AUSTRALIAN HOTSPOTS



Over the past three years, the Go8 share of public universities' international enrolments has risen from about 41 per cent to 48 per cent in the state of New South Wales, from 43 per cent to 45 per cent in Victoria and from 63 per cent to 75 per cent in the Australian Capital Territory.

The Department of Education and Training would not commit to publicly releasing the report or producing similar statistics in the future. A spokesman said that the data had been produced for consultation with "key" stakeholders. "It was agreed that the information would not be publicly released," he said.

Considered alongside published enrolment statistics in university annual reports, the confidential data suggest that international students constitute about 35 per cent of enrolments at Monash, 41 per cent



**Record catch** Australia's elite are landing more overseas students

at UNSW and 52 per cent at Sydney.

A University of Sydney spokeswoman disputed this, saying that foreign students represented 37 per cent of last year's recruits. She said that the secret report overstated the university's international enrolments because of time lag issues in student visa data, and because it included students who had withdrawn or had enrolled at the university's English-language college.

She added that the university's annual report had overstated the overseas share of enrolments because of rounding and timing

errors. The online version of the report was changed after *THE*'s enquiry.

Monash University acknowledged high concentrations of foreign students at Go8 institutions, particularly Chinese taking business, marketing, finance and accounting courses. Deputy vice-chancellor Sue Elliott said that Monash had been "working hard" to diversify not only the source countries of its international cohort but also the courses those students entered.

Melbourne said that the growth in foreign students, particularly at postgraduate level, was consistent with its curriculum design and student load planning.

The Tertiary Education Quality and Standards Agency declined to say whether it was planning to issue universities with guidance on maximum proportions of overseas students. It said that Australia's Higher Education Standards Framework did not prescribe such limits.

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## UUK heads: England's OfS fails to show devolved nations 'respect'

England's new regulator, the Office for Students, has been accused by the most senior UK university leaders of failing to show "due regard or respect" to the devolved nations, according to a letter seen by *Times Higher Education*.

"Our motivation in raising these concerns with you is about safeguarding both the cohesiveness of the UK higher education sector and its international reputation," says a letter sent to Sir Michael Barber, the OfS chair, by Dame Janet Beer, the Universities UK president; Sir David Bell, the UUK vice-president for England and Northern Ireland; Julie Lydon, the Universities Wales chair; and Andrea Nolan, the convener of Universities Scotland.

The letter, sent last month, follows friction between the OfS and the nations over the redrafting of the UK Quality Code.

That is the subject of another unpublished letter, also seen by *THE*, sent by the Welsh, Scottish and Northern Irish sector members of the UK Standing Committee for Quality Assessment – all pro vice-chancellors or more senior – which warns that "there are some around the table who are not sufficiently concerned to maintain the strength and distinctiveness of a UK sector-wide reputation", which is "in danger of being damaged, both by an apparent lack of regard for the views or needs of the devolved nations; and indeed by the abrasive approach taken by the OfS".

The complaints underline that the OfS – created by the government to promote competition and a market in England – has a very different character from its predecessor organisation, the Higher Education Funding Council for England.

The letter from the UUK leaders to Sir Michael says: "We have... become increasingly aware that the experiences of OfS engagement with the devolved nations have been less than satisfactory.

"Some policies with important UK-wide implications have been pursued without an apparent full awareness or recognition of the statutory positions in place.

"We are particularly concerned



about the appropriateness of English driven changes being pushed through UK-owned infrastructure without due regard or respect for other administrations with a stake in those processes."

The letter refers to the redrafting of the UK Quality Code, saying "key strengths of our...UK higher education sector are in danger of being damaged if we are unable [to] have effective and constructive dialogue". It also calls for dialogue on other key areas, including changes to the teaching excellence framework, "in terms of the speed of reforms and relevance across the UK".

In the letter to Sir Michael, the UUK leaders "request a meeting as a matter of priority to discuss how we can work collectively to ensure a UK-wide infrastructure".

The separate, earlier letter from UKSCQA sector members in the nations, sent to Andrew Wathey, the Northumbria University vice-chancellor who chairs the committee, says that the "haste" of the Quality Code redrafting process was "due to the demanding position and timelines set by the Office for Students".

New expectations and practices of the code were published in March, to form the basis of a fully revised code scheduled for publication in November.

The letter adds: "Being presented with a position by the OfS that demanded an immediate decision, coupled with the threat that OfS would refuse to use the code within its framework, not only demonstrates disregard for the opinions around the table from the devolved nations, but also served to place others in the sector with more nuanced views in an invidious position."

An OfS spokeswoman said: "We have sought to ensure that it was possible to retain a genuinely UK-wide Quality Code and are very pleased that, through close joint working, we have been able to achieve this.

"Our commitment to the UKSCQA represents our ongoing

commitment to a UK-wide view of quality, and we look forward to working with colleagues on shared agendas in the future."

The spokeswoman added: "We are in constructive dialogue with UUK and will be meeting with them in the autumn for further discussions."

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### Excellence initiatives

## India's slimmer excellence initiative is an 'intelligent' approach

India's decision to slim down its Institutes of Eminence excellence initiative after months of chaos has been hailed as a "sensible decision", but concerns remain that it will not support enough public universities to reach world-class status.

The Indian government had pledged to bestow Institutes of Emi-

nence status on 20 universities – 10 public and 10 private institutions – but last week it announced the names of just six universities (three public and three private) that would be supported through the scheme.

N. Gopalaswami, head of the Empowered Expert Committee, which was in charge of shortlisting the candidates, told CNN-News 18 that it "could not find 20" suitable universities, with reports suggesting that this was on the grounds of the weak quality of teaching and research.

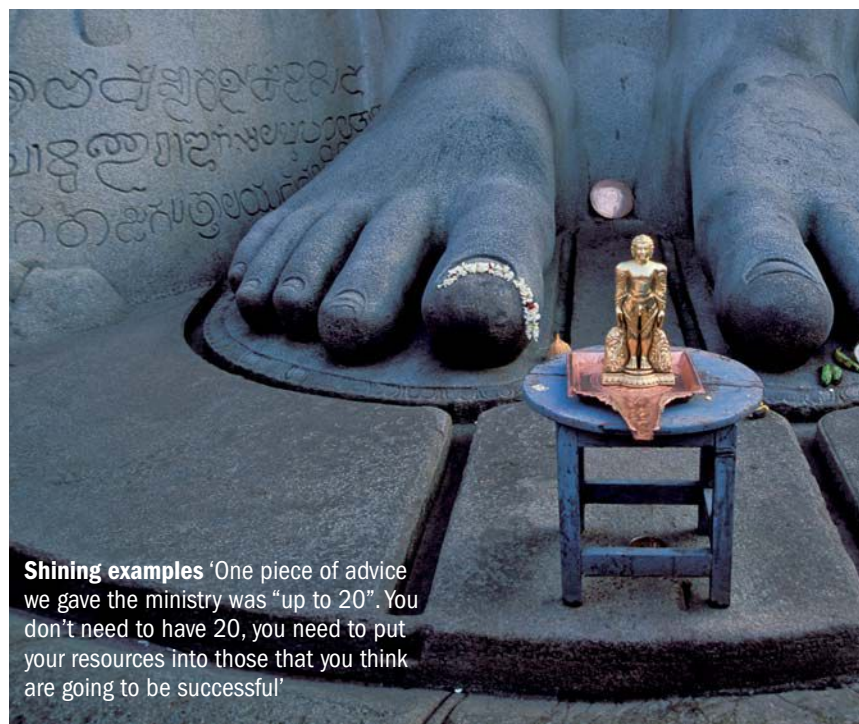
Local news reports claim that the committee had shortlisted five other public universities but that the Ministry of Human Resource Development chose not to grant them the award.

In another interview with *The Hindu*, Mr Gopalaswami said that institutions that failed to win the designation in this round could reapply.

The initiative aims to create a regulatory structure to allow select universities to develop as world-class teaching and research institutions. The government previously announced that each public university under the scheme would receive 10 billion rupees (£110 million) over five years.

The government had initially planned to select the institutions by April, but it scrapped its initial shortlist after using the wrong indicators.

Alan Ruby, senior scholar at the Alliance for Higher Education and Democracy at the University of Pennsylvania, who advised the Indian government on the initiative, said that it was "a sensible decision to concentrate" resources and "choose those places that you think are ready now" to achieve



**Shining examples** 'One piece of advice we gave the ministry was "up to 20". You don't need to have 20, you need to put your resources into those that you think are going to be successful'

world-class status.

“One piece of advice we gave the ministry was ‘up to 20’. You don’t need to have 20, you need to put your resources into those that you think are going to be successful,” he said.

“In some ways, it’s actually an intelligent decision. Just because someone says ‘up to 20’ or someone says ‘we’re going to have 10 public and 10 private’, you don’t actually have to meet the quota. If they’re not good enough, they’re not good enough. You don’t admit them. If anything, I was actually encouraged [by that announcement].”

But Antara Sengupta, a research fellow specialising in higher education at the Observer Research Foundation, an independent thinktank based in India, said that the announcement left her “wondering why couldn’t we give the Institutes of Eminence tag to at least all 11” of the shortlisted candidates.

“Given that the annual budget already earmarked Rs1,000 crore [£110 million] for each of the 10 public IoEs, it is only fair to support more public universities to help them prepare for excellence and, eventually, [higher positions in] global rankings,” she said.

“Similarly, for private institutes, since the government does not have to make any financial commitments, it needs to come up with certain special guidelines to support and encourage a few able private institutes to also come into the said league.”

She added: “Investing in education can never be a waste of money, if done strategically.”

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## Research funding

### UK universities’ research funding deficit soars to £3.9 billion

The extent to which research in UK universities is being underfunded has jumped by more than a fifth in a year, according to the latest estimates of the “full economic costs” faced by higher education institutions.

According to a report from the Office for Students, research activity in UK universities in 2016-17 was in “deficit” by almost £3.9 billion, compared with £3.2 billion the year before.

This meant that UK universities recovered 71.5 per cent of the full economic costs of research based on the amount of income specifically received for research rather than teaching.

The figures are based on data collected as part of the Transparent Approach to Costing (Trac) exercise, which attempts to estimate the full costs of different university activities such as teaching and research when factors such as staff time and use of buildings are taken into account. Research grants normally cover only a certain amount of the costs associated with projects, with the shortfall being made up by other university income.

For universities in England and Northern Ireland, research was in deficit by almost £3.4 billion and recovered 70.7 per cent of its full economic costs, a deterioration from 74.1 per cent in 2015-16.

This was “notably lower than in 2010-11, when the recovery rate on research peaked at 77.8 per cent”, adds the report – which focuses on England and Northern Ireland, with figures for the UK published in an annex.

Research sponsored by UK charities continued to be among the most underfunded; the report estimates that just 60.7 per cent of the full costs of such research were recovered in 2016-17. For European Union-funded research, the figure was 65.2 per cent and for UK research councils it was 71.8 per cent.

The deficit in research funding is in essence covered by using a large surplus made from the teaching of overseas students.

A report published last year by the Higher Education Policy Institute analysed Trac data from

2014-15 and found that overseas students were through their tuition fees in effect subsidising UK research to the tune of £8,000 each over the length of an average course.

The latest Trac data suggest that there was a slight fall of 5.6 per cent in the surplus made from non-publicly funded teaching – which represents primarily non-EU students – in England and Northern Ireland.

Overseas students still in effect generated a surplus of £1.2 billion for the sector in 2016-17, but the growth in the research deficit meant that universities recovered only about 97 per cent of their full economic costs overall, a potentially unsustainable position in the long term.

Nick Hillman, the director of Hepi, said that the OfS report was “very important” and had implications for the government’s current review of post-18 education funding being led by Philip Augar.

“Universities are under unprecedented pressure to show where their different income streams go, and that is unlikely to reduce,” he said. “These figures are at least helpful in showing why cross-subsidies are essential if you want to be good at research as well as good at teaching.”

Mr Hillman said it was therefore “bizarre” that universities were being restricted from expanding recruitment of overseas students to help stem the research deficit.

“When you put all that together, you have to cross your fingers to hope it will be reflected in the thinking of the Augar review and the government’s response to it,” he said.

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## Harassment

### Performing arts students ‘scared to report abuse’

A survey has revealed the widespread prevalence of sexual harassment, inappropriate behaviour, bullying and discrimination in UK higher education institutions specialising in the performing arts, and students’ fears that they will not be taken seriously if they report misconduct.

The survey – published on 19 July and conducted by the Equity union, the Incorporated Society of



Musicians and the Musicians’ Union – aimed to discover whether the sexual misconduct crisis in the creative industries exposed by the #MeToo movement had its roots in the colleges that feed into the sector.

Of 600 students at specialist drama schools, music colleges, conservatoires, dance colleges and universities who submitted a response, 51 per cent said that they had experienced sexual harassment, inappropriate behaviour, bullying or discrimination. Nearly three-quarters (73 per cent) of these were women, while 18 per cent were men.

Respondents who said that they had experienced misconduct were able to select more than one option to describe their experiences, and many did: 57 per cent reported inappropriate behaviour, 42 per cent cited bullying, 36 per cent specified gender discrimination, and 27 per cent said that they were victims of sexual harassment.

While 58 per cent of respondents said that they had been involved in a case in which a fellow student was the alleged perpetrator, 42 per cent accused members of permanent teaching staff of wrongdoing.

Significantly, however, more than half (57 per cent) of respondents said that they had not reported their concerns to their institution. Only 13 per cent had reported all the cases that they had been involved in, with 24 per cent stating that they made reports in some cases but not in others.

When those who had not reported their concerns were asked why, 54 per cent of respondents said that they felt at risk of not being believed or taken seriously, 47 per cent feared damage to their reputation, and the same proportion felt that their complaint might not be handled appropriately.

Forty-five per cent of respondents said that the behaviour they experienced “seems to be culturally acceptable” in their institution, and this was backed up by students’ comments.

“Everyone already knew. He was notorious for it,” one student said. “I had mentioned it to several



members of staff who said: 'It is just his age, he really does care about his students and sometimes you just need to laugh things off,' another student reported.

Of students who had reported their concerns, students were more likely to be dissatisfied with the outcome of the investigation (48 per cent) than satisfied (43 per cent).

"My treatment worsened because [the perpetrator] knew I had complained about [them]," one student said. Another complained: "Several lecturers colluded and made my life hell."

The organisations that conducted the survey said that institutions should consider introducing a safeguarding model similar to that operated for under-18s, including naming a designated pastoral officer for students to report concerns to. The idea of anonymous reporting should also be considered, the organisations said.

"Although many higher education institutions are doing good work to ensure the safety of their students, it is clear that there are several issues that must be addressed and taken seriously," said Christine Payne, Equity's general secretary. "This report clearly demonstrates a culture of fear that is preventing students from reporting abuse. This is unacceptable, and our solutions, as set out in the report, must be considered."

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## Research funding

# Is Wellcome's £250 million fund the leap forward science needs?

A new funding scheme designed to promote daring, "high-risk" research has been given a cautious welcome by scientists.

The Wellcome Trust's £250 million Leap Fund aims to support ambitious projects that have the potential "to fundamentally change science or transform health" within a five- to 10-year timespan. It is open to innovators from around the world with "bold ideas that would fall outside the remit of conventional life sciences funding" because "they are deemed too high risk, need to overcome a major scientific or technical hurdle to turn a theoretical goal into reality, or because the individual does not have an academic back-

**Taking flight** 'We need to protect curiosity-driven science [by having] the means to pick out these people who are not listened to...who have ideas which don't fit into a particular outcome. Over the past 10 years, we've ignored that'



PICTURES: GETTY

ground in the life sciences".

The programme appears to be a dramatic step away from the tight boundaries of responsive mode funding applications. It will operate at arm's length from the trust and will be led by a chief executive who will decide which ideas to back and

will have the power to reallocate funding as needed.

But the initiative, which will account for about 5 per cent of Wellcome's spending over five years, could spark concern that it will limit the amount of funding available to the trust's traditional beneficiaries.

John Dainton, emeritus Sir James Chadwick professor of physics at the University of Liverpool, said that the fund had "laudable aims" but that more details were needed before scientists could get excited.

"I will always strongly oppose over-powerful centralisation [of

## Peer review 'works against' early career researchers

Peer review is facing a fresh challenge, with an Australian university network questioning its value for assessing grant applications by junior researchers.

The Innovative Research Universities group says that peer review disadvantages researchers in their early careers, when they rely on competitive grants to cover their salaries and when unsuccessful funding applications "often mark the end of a research idea".

In a submission to a parliamentary inquiry into research funding arrangements, the IRU says that the benefits of peer-review assessment are countered by "drawbacks" including gender, age and ethnicity biases. The submission adds that peer review by subject-based panels can undermine interdisciplinary research, and also that it "must be balanced against the cost of administration".

The ideas resonate with moves in Europe, where experts have backed trials of

radical approaches such as lottery-style grant allocations or a "universal basic income" for researchers.

The IRU says that grant-awarding bodies could embrace a "mix of methods". Examples include "funding everybody", allocating funds at random, or fostering "scientific citizenship" by reserving grants for researchers with avowed commitments to professionalism and open science.

The observations pit the IRU against umbrella group Universities Australia and the prestigious Group of Eight network, both of which have thrown their unqualified support behind peer review.

"Expert peer review should be reaffirmed as the core determinant of excellence for funding the most outstanding and deserving ideas," Universities Australia insists, while the Go8's submission says that all types of public research funding should be allocated on the basis of peer review.

But IRU executive director Conor King said that it was "worth questioning" the role of peer review in funding assessments. "I guess we're opening up the question for debate," he explained.

"We want to ask the hard questions about when it is worthwhile. A lot of effort goes into this, and we need to be confident that it adds a significant improvement to the outcomes."

The IRU's submission says that peer review must achieve demonstrably better outcomes than random allocation "to justify the assessment costs and timeframes".

But other methods also have drawbacks, it stresses, with data on scientific citizenship "hard to gather". Grant mechanisms based on "automated impact indices", which target researchers with the strongest publishing records, help to eliminate favouritism but "can be gamed".

The submission says that the costs of peer review are "probably justified" for grant

schemes targeting established researchers. "However for funding postdoctoral research, the rationale is weak," the submission says. "Expedient and comprehensive selection processes are important for all competitive grants, but particularly for selecting early career researchers whose careers often depend upon external funding."

The submission cites Australia's Discovery Early Career Research Award, which covers salary costs – a lifeline for fledgling researchers lacking tenure. But the selection process takes eight months, and 84 per cent of applications are rejected.

"Unsuccessful Decra applications are more likely to mark the end of a research idea – and potentially a career – than the start of a process of refinement for future applications," the submission says. It suggests that administration of the scheme be handed over to academic institutions.

**John Ross**

funds],” he told *Times Higher Education*. “We need to protect curiosity-driven science [by having] the means to pick out these people who are not listened to...who have ideas which don’t fit into a particular outcome. Over the past 10 years, we’ve ignored that.”

“The [main] issue will be how are the researchers and their projects identified given the ambitious remit.”

Lee Cronin, Regius chair of chemistry at the University of Glasgow, said that he hoped that the new fund “does things differently and takes some risks”.

“Often people say there is a valley of death in technology development from the lab to market but it is even worse now in academia with an ideas valley of death from the mind to the grant proposal,” Professor Cronin said. “This valley of death comes from narrow peer review, interdisciplinary proposals being incorrectly reviewed by ‘experts’ in one area who think they are equally capable of commenting on another, [and] the inability of funders to take risk.”

“I think the UK is suffering big time from the innovation and ideas death that is currently going on driven by changes to funding, paperwork, and the need to account for funding spent. If we don’t do something now it might be too late.”

Ed Whiting, Wellcome’s director of policy, argued that the fund’s innovative model would allow it to back “unconventional and disruptive thinking”.

“On the one hand, the overall purpose of the fund is to try new things, to take theoretical propositions and take them into practical reality; but the way it will do that is to make quite clear choices and to be quite hands-on about the way that it operates,” he told *THE*. “I think that recognises that to find the ideas in the first place, you need to be open...but then to bring those proposals along you also need to be very directive in the way it is done.”

The fund’s first programmes are expected to begin in 2020. No potential candidates have been suggested to lead the fund yet, but Mr Whiting said that it would most likely be someone with experience of dealing with risk management.

“It could be someone from the commercial sector, a venture capitalist,” he suggested. “It could well be a very qualified highly expert scientist in their own right, but I would be surprised if they had the breadth of experience that we are particularly interested in.”

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## Rankings

### Latin American underdogs reap research rewards from global links

Ecuador and Chile are the top-performing Latin American countries when it comes to their universities’ research influence and international outlook, according to *Times Higher Education*’s most comprehensive analysis of the region yet.

Brazil dominates the *THE* Latin America University Rankings 2018, claiming 43 places – a third – in the table, and six of the top 10 spots.

But an analysis of countries’ performance based on their median pillar scores in the ranking shows that higher education excellence in the region extends well beyond Latin America’s giant.

Ecuador comes top on the pillar measuring citation impact, with a median score of 86.5 out of 100, while Chile is second with a score of 70.9.

The countries also achieve the best scores on the international outlook indicator – which is perhaps no coincidence, given that previous studies have shown that there is a strong positive correlation between internationally co-authored research and citation impact.

Ecuador scores 71.6, while Chile is close behind at 66.4 on this indicator, which measures universities’ proportion of international students and international staff as well as their share of research publications that have at least one international co-author. In comparison, Brazil

### Latin America University Rankings 2018: top 10

Latin America rank 2018	Latin America rank 2017	World University rank 2018	University	Country
1	1	401-500	State University of Campinas	Brazil
2	2	251-300	University of São Paulo	Brazil
3	3	501-600	Pontifical Catholic University of Chile	Chile
4	7	501-600	Federal University of São Paulo (UNIFESP)	Brazil
5	6	601-800	Monterrey Institute of Technology and Higher Education	Mexico
6	4	601-800	University of Chile	Chile
7	9	601-800	Pontifical Catholic University of Rio de Janeiro (PUC-Rio)	Brazil
8	5	601-800	University of the Andes, Colombia	Colombia
9	11	601-800	Federal University of Minas Gerais	Brazil
10	NR	601-800	Federal University of Rio Grande do Sul	Brazil

NR = Not ranked

scores a median of just 28.4 for international outlook.

However, Chile and particularly Ecuador lag behind when it comes to their research and teaching environments.

Argentina is well ahead for teaching environment, scoring 66.9, followed by Brazil with 46.2. Chile and Ecuador languish with medians of 30.2 and 17.4 respectively.

Brazil achieved the highest average score for teaching environment last year, but this year’s table has expanded to include 129 universities across the region, up from 82.

While Brazil is still top for research environment, scoring 59.8, Argentina is close behind with a median of 56.7.

Overall, 10 countries feature in the 2018 Latin America University Rankings, but this analysis is based

only on the six countries that have five or more institutions in the table.

The ranking is underpinned by the same 13 performance indicators as the *THE* World University Rankings 2018, but the weightings have been adjusted to give less prominence to citation impact.

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## Technology

### All learning ‘is going to happen digitally’, Coursera boss says

Eventually “all learning is going to happen digitally”, according to Jeff Maggioncalda, the chief executive of online learning platform Coursera.

But Mr Maggioncalda was not rehearsing the tired trope that massive open online courses offered by the likes of Coursera will drive traditional universities out of business. Instead, he was predicting that learning on university campuses will increasingly take place online over the next five to 10 years.

“The boundaries between online and on campus will blur together, and they already are,” he told *Times Higher Education*. “Students will sit in the classroom on computers, interacting, asking questions and taking notes. It’s a much more engaging interactive learning session.”



Mr Maggioncalda highlighted how the universities of Leeds and Illinois already offered Coursera Moocs to campus-based students.

“People are using them as a more effective textbook,” he said.

Mr Maggioncalda, who replaced former Yale University president Rick Levin at the top of Coursera last year, also predicted significant increases in the use of communication technology such as two-way video and data analytics to personalise digital learning, and make it more flexible.

Where learning would increasingly shift from university campuses to online platforms, Mr Maggioncalda said, was in the area of lifelong learning.

“In the future, lifelong learning is going to be a necessity,” he argued, since, as automation becomes more prevalent, jobs will be made obsolete and workers will require new skills. “People will be scrambling to upgrade themselves,” Mr Maggioncalda said.

Mr Maggioncalda said the “most intense version of this” was taking place in India, where there is a huge population with many people working in industries at risk of automation.

“The rate of growth of Coursera in India is higher than in almost every other country, though in Latin America we have very high growth rates as well,” he said. “In some developing countries it is Darwinian: learn or lose your job.”

He added: “People need to get new skills and in my view people will get them increasingly online because they cannot move their families to campus and pay high tuition.”

Coursera’s strategy is to offer more online degrees. The California-based platform recently announced that it was offering its first degrees from UK universities, a new public health master’s from Imperial College London, as well as a computer science bachelor’s from the University of London. “We currently offer four with six more coming, but ultimately will have hundreds,” Mr Maggioncalda said.

Mr Maggioncalda also predicted that degrees would increasingly be divided into micro-credentials. As the idea of lifelong learning takes hold, “you will be able to earn parts of degrees, maybe just the part you want then, and come back later”, he said.

Mr Maggioncalda concluded: “The university degree isn’t going to go away but it will evolve.”

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## University funding

### Australia’s funding freeze puts courses on ice

Australia’s freezing of teaching grants has sent more chills through the university sector, contributing to job cuts and course cancellations from Cairns to Canberra.

James Cook University in northern Queensland has said that the mid-year intake will be the last opportunity for students to sign up for face-to-face undergraduate psychology, sports and exercise science degrees at its Cairns campus.

The university will also discontinue its master of economics programme, downgrade its creative arts and media degree to arts major status and transform a master of business administration programme into an online-only offering.

In a statement, James Cook said that the cuts were part of a “change plan” to help the university refresh its curriculum, attract new students and ward off financial pressures triggered in part by “reduced Commonwealth funding” and a “highly volatile public policy environment”.

Meanwhile, the University of Canberra has jettisoned 95 staff and is laying the groundwork for course

adjustments next year, changes partly prompted by the government’s funding freeze.

A spokesman said that the “voluntary separation programme”, which was launched in February and is expected to save Canberra about A\$12.8 million (£7.2 million) from next year, would help to “inoculate” the university against the funding freeze.

The freeze, revealed days before Christmas, in effect ended Australia’s uncapped system of university funding. It is expected to cost the University of Canberra A\$17 million and James Cook A\$29 million between now and 2021.

The funding change was revealed so late in the 2018 admissions cycle that most universities elected to proceed as they had planned, deferring any curriculum changes until next year.

But the multi-campus Australian Catholic University reacted immediately, cancelling admissions to at least 30 courses in changes that also affected some continuing students. The Australian National University discontinued its diploma of languages programme, blaming the funding freeze.

Last month, the University of Tasmania’s vice-chancellor, Rufus Black, told the ABC that the freeze, which is projected to cost his institution A\$178 million over four years, could prevent his institution from accepting enrolments from

mainland Australia.

However, a Tasmania spokesman said that it had not been necessary to do that, partly because the government had granted the university an extra A\$41 million to fund 1,500 sub-bachelor places.

James Cook’s provost, Chris Cocklin, said that the changes at his institution had not been triggered solely by the funding freeze. “But there is no question that the capping is an encumbrance on the university – it constrains the ability to grow,” he said.

Professor Cocklin said that some of the axed courses might have been terminated anyway because they had not proved popular with students. But the funding freeze had “sharpened the resolve” of the university to abandon courses experiencing soft demand – particularly as the government had flagged funding cuts months earlier.

The provost said that he had not been surprised when the government enforced savings by axeing the uncapped university system. “It achieved what they wanted to achieve, and it made the universities look like the bad guys,” Professor Cocklin said.

He said that Queensland institutions were preparing for a further hit in 2020, when a dip in school-leaver numbers – the result of a historical change in school admission age – is expected to temporarily slash the university intake.

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## Research ethics

## Proposed research misconduct watchdog ‘only part of the solution’

The creation of a new body to oversee research misconduct investigations could help to enforce transparent reporting by UK universities, but would offer a solution to only part of the problem, according to experts.

In their report on research integrity, MPs on the Science and Technology Committee recommended the creation of an independent committee tasked with ensuring that institutions have followed appropriate processes to investigate misconduct, similar to the model operated in Australia and Canada.

The recommendation responds to concerns that universities face a possible conflict of interest if they are policing their own conduct, and to fears that, even when malpractice is uncovered, institutions have been covering it up.

The committee report expressed concern about the use of non-

disclosure agreements by universities to “keep misconduct quiet”, highlighting that this potentially made institutions “complicit in future misconduct by that individual” if they went on to be employed elsewhere.

The committee report reveals widespread concern among UK universities about a regulatory approach, with the Russell Group of research-intensive institutions highlighting that a culture that “places an emphasis on compliance with rules can be counterproductive, as it may encourage people to do the minimum, just enough to comply, as opposed to incentivising



people to strive to improve research behaviours and practices”.

But Jim Smith (pictured inset), director of science at the Wellcome Trust, told *Times Higher Education* that a new research integrity committee could help to “put the subject [of misconduct] into context and to identify the extent of the problem”, if nothing else.

Because failure to reproduce experiments could occur for a number of different reasons, he added, it was “important to distinguish between them, not least to assuage public concern”.

John Hardy, chair in molecular biology of neurological disease at UCL, said that the “advantage” of creating a national body would be that “the integrity issues could be separated, at least in part, from the employment issues”, making the investigation process “less torturous” for all involved.

A concern, however, would be to make sure that “policing research integrity does not create a layer of costly bureaucracy”, he noted. “We need to be careful [and ensure] that the remedy for combating poor research integrity is not worse than the disease.”



The proposed research integrity committee, which would operate under the auspices of UK Research and Innovation, would have the power to recommend the removal of public funding from institutions that did not deal with misconduct effectively.

Simon Kolstoe, a senior fellow in the School of Biological Sciences and university ethics adviser at the University of

Portsmouth, said that the committee would be placed with UKRI because the UK Research Integrity Office – an independent charity that provides advice on the issue – had declined to take on a watchdog function.

However, UKRI was not the best place for such an operation, Dr Kolstoe said.

“If it is hosted by UKRI, it is very unlikely to have any influence over the commercial sector – probably the sector that requires the most scrutiny,” he said. “It struck me during the inquiry that there was too much focus on research funding that comes from government finances, and little worry about the vast majority of research that comes from other funding.”

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**Change for good** Martin Lewis (below) says revising terminology would improve communication and transparency

# Be clear: label loans a graduate contribution

**Change would be more than cosmetic, consumer finance expert Martin Lewis tells John Morgan**

Consumer finance expert Martin Lewis (pictured inset) has long argued that dropping the terminology of “student loans” in favour of “graduate contributions” would be a crucial change to England’s student finance system. He has a succinct response for those in politics and the media who would inevitably attack such a change as an attempt to pull the wool over students’ eyes.

“If people want to criticise a change that improves communication and transparency and lets people make the right decisions, because they call it a political spin – well, they can fuck off. And you can quote me on that,” the Money-SavingExpert.com founder, who has become a key voice on student finance and influence on ministers, told *Times Higher Education*.

The Westminster government’s review of post-18 education is expected to report in the autumn, and dropping the terminology of “loans” is certain to be on its agenda. Mr Lewis’ passionate views on this and other aspects of student finance could prove significant.

Mr Lewis stressed that his position on the review chaired by Philip Augar reflects the remit that the government has handed to the panel, who are “not looking to radically reassess the system”, but rather to “try and improve what we have”. His views should not be taken “as me throwing my lot in with the current system”.

“If we’re going to fix things, the first thing we need to do is actually call [the student loan] what it is: a graduate contribution,” Mr Lewis argued.

As in his recent appearance on the BBC’s *Question Time*, he fizzed with anger at those politicians and journalists who cite figures on the near £60,000 of “debt” with which graduates can emerge. This is a “red herring” because graduates’ repayments are determined by their income, not their “debt” levels. For “all but the highest earners...this is effectively a 30-year increase in income tax above £25,000” rather than a loan, Mr Lewis said.

But when he gives public talks on student finance “people, even after

they’ve heard me explain it, even after they’ve got it, [ask] ‘why is it called a loan?’ My answer is it shouldn’t be called a loan. ‘Why is it called interest?’ It shouldn’t be called interest.”

He added: “Most of the questions [from the public] I still get are, ‘I’m so worried about this loan; what happens if my child doesn’t get a high-earning job?’ You would never get asked that question if you called it a graduate contribution system.”

When graduates are presented with the amount of interest added to their loan, “people are understandably petrified and they try to pay it off”, he said.

The word “interest” should be replaced by “uprating” and the name of the Student Loans Company should be changed, he argued.



Mr Lewis’ involvement with student finance stretches back to his time as secretary general of the London School of Economics students’ union. Later, after chairing the Independent Taskforce on Student Finance Information, set up in 2011, Mr Lewis reacted furiously when ministers broke a pledge to uprate the repayment threshold in line with average earnings, a move that retrospectively hit students who had already taken out loans.

To prevent any such “ethical breach” recurring, Mr Lewis argued that student finance terms should be “fixed – and fixed would mean [they] cannot be changed without primary legislation”.

## ‘Regressive moves’

Meanwhile, he said that “the UUK [Universities UK] position and the Russell Group position” on the Augar review, “which includes things such as cutting interest rates and bringing back student [maintenance] grants, is actually based on more fundamental change in the system”.

Mr Lewis called these moves “regressive because [they help] rich graduates over lower-earning graduates”.

The “only people who will pay less if you cut interest rates”, he continued, are the highest earners – those who repay the principal of their loan in full and thus then repay the interest.

“It’s not a question of those changes being wrong,” he added. “It’s a question of those are not the core priorities.” Instead, Mr Lewis argued, students should be given “bigger [maintenance] loans to enable them to live better at university. And then if they earn enough afterwards, they can repay it.”

Mr Lewis said of the factors behind his involvement with student finance: “I tend to latch on to anything where there is fundamental public misunderstanding in the financial and consumer finance sphere. And this to me is one of the biggest issues where constantly, societally, we talk about the issue wrong and people don’t get it.”

He added: “I don’t want university and education to be the privilege of the middle classes...I want every bright child for whom university is right for them to go. I don’t want them to be put off for the wrong reasons.

“I accept that our financing system isn’t perfect, but we should at least communicate it right so they can make the right decisions. That’s where the passion comes from.”

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ANKARA - TURKEY

# Has the death of the lecture been greatly exaggerated?

**Glasgow vice-principal calls for defence of 'slow and difficult learning'. Jack Grove reports**

Calls to replace the traditional lecture with more interactive teaching miss the value of “slow and difficult learning” and ignore evidence supporting its educational importance, a conference has heard.

In a fiery debate at *Times Higher Education's* inaugural Teaching Excellence Summit, James Conroy (pictured inset), the University of Glasgow's vice-principal for internationalisation, hit back at claims that lectures almost always delivered worse student outcomes than “active learning”, in which students typically work in small groups, calling the claims “half-baked nonsense” and “horse manure”.

Contrary to recent claims about the ineffectiveness of lecturing, there is a large body of evidence – including studies by the University of Cali-

fornia, Los Angeles educationalists Robert and Elizabeth Bjork – that suggests that long-term “retention and recall is stronger than people imagine” from lectures, Professor Conroy said at last week's event at the University of Glasgow.

“We have persuaded ourselves that the attention span of students is very short [and] desiccated...so we



have created a learning system that meets these low expectations,” said Professor Conroy, professor of religious and philosophical education.

Speaking in a separate session, Professor Conroy said that “the idea that the lecture is a lousy place to learn is a self-fulfilling prophecy”, which led to poor preparation of lectures and badly received talks, adding that universities should “defend slow and difficult learning”.

“This is not to condemn active learning – of course we use many different types of teaching – but it is an appeal for a bit of balance,” he said.

Professor Conroy's defence came in response to a keynote lecture by Carl Wieman, a Nobel prizewinning physicist from Stanford University who has lately focused on how to improve science teaching. In his address, he stated that “there is no point in lecturing any more” because active learning led to better student



**Ossified?** some academics believe that the

learning than lecturing in almost every scenario. Student engagement rates are 40 per cent higher when active learning is used compared with lectures, while dropout rates were more than 50 per cent lower, according to studies contained in his 2017 book *Improving How Universities Teach Science*.

Asked if good lecturing produced better student outcomes than badly done active learning, Professor Wieman replied that the “research suggests ‘no’”. “In some cases they may be equivalent, but there are no cases I know about where even reasonable active learning does not beat good lecturing,” he said, adding that there is “no evidence where active learning underperforms lecturing”.

## Richard Arum: undergraduate education in US is

Undergraduate education is “declining and failing” in US universities because students are not studying enough outside the classroom, an influential educationalist has claimed.

Speaking at the Teaching Excellence Summit, Richard Arum (pictured inset), dean of the University of California, Irvine's School of Education, blamed falling levels of independent study by students on institutions, stating that they are failing to enthuse students to study or inspire them to prepare for lectures and seminars.

Professor Arum – co-author of the controversial 2011 book *Academically Adrift: Limited Learning on College Campuses*, which sparked worldwide debate on the quality of university learning outcomes – told delegates that recent studies showed that US undergraduates were studying for just 12 to 13 hours a week on average in 2016. This is roughly half the level in 1960, when students committed an average of about 25 hours a week to independent study.

“A third of college students say they spend less than an hour studying alone a day,” said Professor Arum, who underlined that the “academic engagement of students is very low”.

Undergraduates now spend three and a half times more time socialising and engaging in recreational activities than they do on preparing for class, Professor Arum added.

This ratio is not surprising given the relatively easy demands of today's degrees, he explained. “If you look at courses today, half of them do not require 20 pages of writing over the course of a semester,” said Professor Arum, who added that another “dark truth” known by academics was that students often did not show up to class.

Even at Harvard University, lecture theatres are sparsely attended, he added, stating that students “do





traditional lecture is dead because active learning produces better student outcomes

Even though some online lectures on YouTube and other platforms received tens of millions of hits, this popularity gave no clue about the learning value of such talks, Professor Wieman told delegates.

“Pornography has lots of hits, celebrity scandals get hits – I give them no credit for hits, so come back and show me how these [measures] correspond to learning,” he said.

Speaking to *THE*, however, Professor Conroy said that the traditional lecture still worked well when done right because it “requires concentration, analysis and judgement” from students, which were key skills demanded by employers.

The supposed unanimous verdict against lecturing actually reflected

“confirmation bias” among researchers who did not acknowledge significant studies showing the efficacy of the lecture, he added.

The desire to abolish lectures was “almost religious” in its fervour and was similarly based mostly on belief rather than evidence, Professor Conroy continued. It was linked to another mistaken belief that graduates required new and different skills from those possessed by previous generations to cope with the “Fourth Industrial Revolution”, he added.

“Students need tomorrow what they needed yesterday – the capacity to think, reflect, engage and turn things upside down,” said Professor Conroy.

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## ON BOARD: HELP STAFF ADAPT TO FLEXIBLE LEARNING SPACES

**Expensive campus upgrades may have a limited effect on learning unless academics are given time to adapt their teaching to new learning spaces, a conference has heard.**

Frank Coton, vice-principal for academic and educational innovation at the University of Glasgow, told the Teaching Excellence Summit that his institution was currently converting many of its lecture halls into “active learning spaces”, which contained fewer seats but more space for tables to enable student discussions.

When its new £91 million Learning and Teaching Hub building opens in August 2019, the university will have 50 flexible learning spaces, including a 500-seat lecture hall, representing about 35 per cent of its centrally bookable rooms. With a further £2 million a year due to be spent on converting older lecture halls as part of a £1 billion, 10-year campus renovation plan, the majority of its teaching rooms will eventually be flexible spaces.

However, Glasgow is highly aware of the need to support staff as they adopt new teaching methods, including the use of electronic clickers and small group work, that will be made possible by the new spaces, Professor Coton explained at the summit.

“Although it costs a lot of money, changing the physical spaces is actually relatively easy to do – the biggest challenge is taking colleagues on a journey with us, where they evolve their approach to teaching,” Professor Coton told *THE*.

In addition to introducing new technology and the “flipped classroom” into their teaching methods, academics would need to adapt to a different “power balance” within the classroom, where students would be invited to interrogate lecturers’ ideas more extensively, he said.

“Within the lecture space, academics are completely in control – it’s a scenario they control, and many have never put themselves in a position of vulnerability, where it’s possible they don’t know an answer,” said Professor Coton.

He hoped that staff would adopt teaching models used at Nanyang Technological University, in Singapore, where lectures began with multiple-choice questions, allowing staff to focus on areas of knowledge that had not been properly understood. However, Glasgow had noted the experience of McGill University, in Canada, where staff had initially been resistant to using the new flexible spaces after being offered “training” by their institution, said Professor Coton.

“McGill found that if you provided training in these spaces, you should not call it ‘training’ because staff did not turn up,” Professor Coton told delegates.

“If you call it a meeting of staff interested in this, then people will come along,” he added, stating that it was better for lecturers to see the benefits enjoyed by other staff using these spaces, rather than requiring staff to use the new areas.

“At this point, you get a ripple effect where staff can see the potential benefits for their own teaching,” he said.

**Jack Grove**

## declining and failing

not show up – a third of students were not in their seats”, he said.

“What we are selling or doing is not connecting with students,” Professor Arum said. “They are changing, and their expectations are changing – we are about a decade behind in meeting students where they are.”

Such low levels of academic engagement also pointed to a lack of academic rigour in many universities because “students are getting B+ [grades on average] even when they are studying for less than an hour a night”, he added.

In *Academically Adrift*, Professor Arum and Josipa Roksa claimed

that nearly half of undergraduates showed no substantial improvement in critical thinking, reasoning or writing skills in their first two years of study. At the *THE* summit, he said that 36 per cent of students had shown no discernible improvement in their critical thinking skills as measured by the Collegiate Learning Assessment system, which he admitted was a much-criticised measurement.

Professor Arum also highlighted low levels of civic engagement among US students, reporting that a recent survey found that a third of students read the news, in print or online, no more than once a

month, and that 39 per cent admitted to never having had a political discussion or to having only one a month.

“Our liberal political order is under siege, and our education system is partially to blame for this,” Professor Arum said.

The sociologist also urged educators to move beyond the traditional “research versus teaching” debate, saying that it was time for more research into what constituted good teaching and how student learning outcomes could be measured effectively.

“People will look back in 100 years’ time and will be puzzled and incredulous that universities had amassed so much impressive research capacity but had failed to use this to tackle the problem of

undergraduate education,” Professor Arum said.

“It is easier to find researchers willing to march for science against President Trump than to conduct research that will improve undergraduate education.”

Leading global universities such as Harvard and Glasgow should take a lead in the search for effective measures of student learning, building on current measures of critical thinking now being used in the US, Professor Arum added.

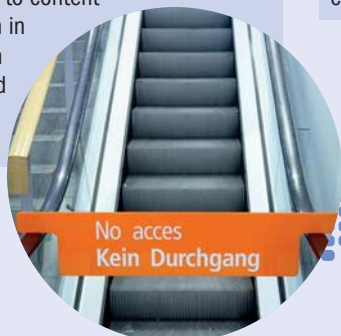
“If you do not commit to the science of learning outcomes, then none of the lower-tier [universities] will – you have to do it because it is a moral imperative and you will become a model for the rest to follow,” he said.

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## Germany

### Information impasse with Elsevier

Negotiations between the publishing giant Elsevier and German research organisations have collapsed, after academic leaders refused a subscription deal that they said was “unacceptable” for the academic community. At the German Rectors’ Conference in Bonn, Horst Hippler, lead negotiator and spokesman for the Deal Project Steering Committee – a nationwide coalition of nearly 200 institutions – said that “excessive demands put forward by Elsevier” had left the group with “no choice but to suspend negotiations”. Subscription contracts for a number of German institutions expired on 1 January this year, but Elsevier agreed to maintain access to content in the short term in the hope that an agreement would eventually be met.



## Turkey

### Graduates arrested over display of cartoon

Four recent graduates of Middle East Technical University in Ankara have been arrested for displaying a cartoon mocking the nation’s president at their graduation ceremony. Originally published by a satirical magazine, the cartoon was the subject of a defamation lawsuit by Mr Erdoğan 12 years ago. However, an Ankara court dismissed the case, saying the cartoon was within the limits of freedom of speech, Reuters reported. Meanwhile, the Erdoğan government has fired another batch of almost 200 academics as part of a wider round of sackings of 18,500 state employees – as a crackdown following the failed coup attempt of July 2016 continues.

## Russia

### Loss of accreditation a ‘blow to intellectual freedom’

“Absurd” and “overzealous” regulation has been blamed for the decision to deny accreditation to one of Russia’s most respected independent universities. The Moscow School of Social and Economic Sciences, a not-for-profit postgraduate university with about 300 students, has been told by Rosobrnadzor, Russia’s federal education regulator, that it had lost its accreditation because of a number of alleged violations of education standards, the independent Russian news site Meduza has reported. The Riga-based site described the move as a “blow to Russian intellectual freedom”. The university’s rector, Sergey Zuyev, said that the institution would continue operating, albeit without the accreditation that allowed it to issue state-approved diplomas.



## United States

### Court orders that professor must be reinstated

Marquette University must reinstate and pay damages to John McAdams, a political science lecturer who criticised a graduate student by name on his personal blog over how she handled a classroom discussion that turned to gay marriage, Wisconsin’s Supreme Court has ruled. “While the professor’s case was about an alleged breach of contract, the decision touched on the current campus speech climate, especially for political conservatives, such as Dr McAdams,” Inside Higher Ed reported. “It also broke with a long judicial tradition of deferring to colleges and universities on tenured personnel matters.”



## Switzerland

### Green light for innovation strategy

Switzerland has approved a revised international strategy designed to maintain the nation’s “leading position in the area of education, research and innovation”. The first draft of the strategy paper was produced in 2010. It has now been updated in the light of recent developments around global challenges such as digitisation, migration, climate change, security and demographic change. It also takes account of the creation of the merged State Secretariat for Education, Research and Innovation, the innovation agency Innosuisse and the Swiss Innovation Park. As in the past, the strategy will be implemented through dispatches from the Federal Council submitted to the Swiss Parliament.



## China

### Government shuts joint overseas operations

The Chinese government has closed about a fifth of joint institutions and programmes with foreign partners owing to their “poor teaching standards”, the Ministry of Education has announced. In a statement, the ministry said that it had terminated 234 of 1,090 “Chinese-foreign joint education institutions and programmes at undergraduate level or above”. These include five jointly managed institutions. A high number of the programmes were joint courses with institutions in the UK and Australia. The ministry said that “concerns have been raised over a small number of underperforming joint initiatives, which were found to have poor teaching standards and be lacking in educational resources”.

## China

## It pays to invest

China's massive investment in universities, research and development has helped to propel it to the front rank of the world's most innovative economies, a league table suggests. The east Asian giant has crashed into the top 20 of the Global Innovation Index, an annual ranking published by the World Intellectual Property Organisation, Cornell University and the French business school Insead. China climbed five places in the 2018 iteration of the index, leapfrogging Canada, Norway, Austria, New Zealand and a fading Iceland to claim 17th spot.



## Australia

## A little flex in the framework

Australia appears set to back away from its prescriptive qualifications hierarchy, in the latest example of policy catch-up with the UK. The federal government has appointed a panel to review the Australian Qualifications Framework. Australia was an early adopter of qualifications frameworks, which offer a transparent way of comparing learning levels nationally and internationally. "Other countries, particularly in Europe, have moved towards qualifications frameworks as a tool to facilitate an agile workforce suited to rapid technological, industrial and social change," say the consultants PhillipsKPA in a paper commissioned to provide "contextual research" for the review.



## World policy

## Broaden Horizon Europe



London and Brussels have been sharing a rare summer heatwave. But while UK universities remain consumed by anxiety over retaining access to European Union funding programmes post-Brexit, the hot topic in the EU's capital is what those funding programmes will actually look like.

The question of UK participation in Horizon Europe, the EU's next seven-year programme for funding research and innovation, is beyond the remit of this discussion; however, many other key issues need to be settled. That is because, while the European Commission presented Horizon Europe as an "evolution" rather than a "revolution", the plans it published in early June contain several major departures from the previous Horizon 2020 programme.

One of the proposals that will require scrutiny is the unresolved tension between Horizon Europe's commitment to both investing in university-based research and supporting the industry-driven narrative that more funding is needed for commercial innovation.

This concern was among those raised in a rare joint statement by 14 European university associations, including the League of European Research Universities, the European University Association and the European Alliance for Social Sciences and Humanities, in response to the commission's plans.

The European Parliament has called for the commission to increase its proposed budget for Horizon Europe from €100 billion (£88.5 billion) to €120 billion, but the communiqué goes further and suggests a budget of €160 billion: double the budget of Horizon 2020.

It also calls on the parliament and the commission to address the need for a more equal distribution of the budget between the framework's three pillars.

Of prime concern is ensuring continued support for the "research excellence" pillar. This encompasses the European Research Council and the Marie Skłodowska Curie Actions, which fund researcher mobility. Although the ERC's proposed budget will increase by €3.5 billion, it will represent only about 25 per cent of the overall Horizon Europe budget, whereas it was 32 per cent of the Horizon 2020 budget. There is near-universal acknowledgement of the value of these programmes' investment in the next generation of scholars. It raises the visibility of European research and support world-class

research with impact far beyond the academy. They deserve a substantially larger rise than is currently proposed.

The second pillar of Horizon Europe, "global challenges and industrial competitiveness", aims at supporting collaborative research with a stronger focus on innovation and impact. This will receive a major funding boost. Yet the university associations rightly highlight the uneven distribution of support across the five designated "clusters", or themes, ranging from €15 billion for work on "digital and industry" to just under €3 billion for addressing challenges around "secure and inclusive societies". The communiqué says that a fairer distribution would "capture the fact that they all are the most pressing challenges our societies are facing".

The statement also warns of the need to reflect a stronger human and social perspective, and to stimulate links between research, innovation and education.

Horizon Europe aims to be at the service of Europe's citizens by helping to address challenges to economic growth and prosperity. However, it focuses again on economic development driven by technology and neglects the social dimension to Europe's major issues. Yet in 2017, the commission itself called for greater recognition of Europe's social challenges; the current proposal for Horizon Europe should give these more equal consideration, and see them dealt with consistently across the whole programme.

As the university bodies' statement observes: "Industry's short-term interest should not prevail over society's long-term benefits from Horizon Europe." And "close-to-market activities should be complemented explicitly with [funding for] fundamental research".

Under an accelerated timetable, the commission hopes to complete discussions with the European Parliament before next May's elections. This makes it harder to undertake serious debate around this critical programme, but it is vital that it occurs. The commission's proposals currently fall short of building on Horizon 2020's success and addressing the issues that most concern EU citizens.

Gabi Lombardo is director of the European Alliance for Social Sciences and Humanities, which represents more than 50 European disciplinary associations. Jon Deer is deputy director of the research division at alliance member the London School of Economics.

## Analysis

# Who is the strongest of them all?



## Student data from our Europe Teaching Rankings reveal national strengths. Simon Baker reports

Finding ways to fairly evaluate the standard of university teaching has been a hotly debated topic in recent years, one that in the UK has reached fever pitch thanks to the dawn of the teaching excellence framework.

And that is even before attempting to find a way to compare teaching standards from one country with another.

However, the publication of *Times Higher Education's* Europe Teaching Rankings – and the European Student Survey underpinning it – offers some new resources to try to unpick how different higher education systems fare when it comes to pedagogical performance.

Although the data are far from perfect – the first year of the survey and ranking is very much a pilot and features only about 250 institutions across eight countries – there are already interesting insights that are emerging about the strengths and weaknesses of teaching in different nations. Some of the more

fascinating insights can be found in the student “engagement” pillar of the ranking, which makes up 40 per cent of each university’s final score. It is comprised of five separate metrics that reflect results from the survey, which canvassed the views of about 30,000 students across the continent on how their university performs on its teaching.

On the metric that specifically looks at how engaged students are with learning, the UK and the Netherlands appear to gain the best responses while countries such as Spain and Italy noticeably lag behind.

But the other metrics in the pillar sometimes show different results: on student interaction – based on whether learners feel able to collaborate with each other and connect with academics – Spain clearly comes out on top while the UK is, at best, average.

The six survey questions that underpin both these metrics reveal

even more about the possible strengths and weaknesses of different teaching cultures.

For instance, Spanish universities on average do particularly poorly for how well students feel their institution supports critical thinking (apart from a couple of outlying universities that perform very well).

These are results that do ring true with those who know the Spanish system well.

José Manuel Martínez, director of the Real Colegio Complutense at Harvard University and a former Spanish government adviser, has spoken before about how the country’s system is slanted towards individuals learning hard facts rather than developing the skills to challenge and question what is in front of them.

“It’s a system that has privileged increasing the gigabytes of information that the student received and, as a consequence, it has resulted in a narrowing of the space that faculty and educational leadership at centres and universities had to promote critical thinking,” he said.

Professor Martínez said that

some university teachers had managed to “stray off the predetermined path” and pass on these skills to students but that they were often fighting against the tide.

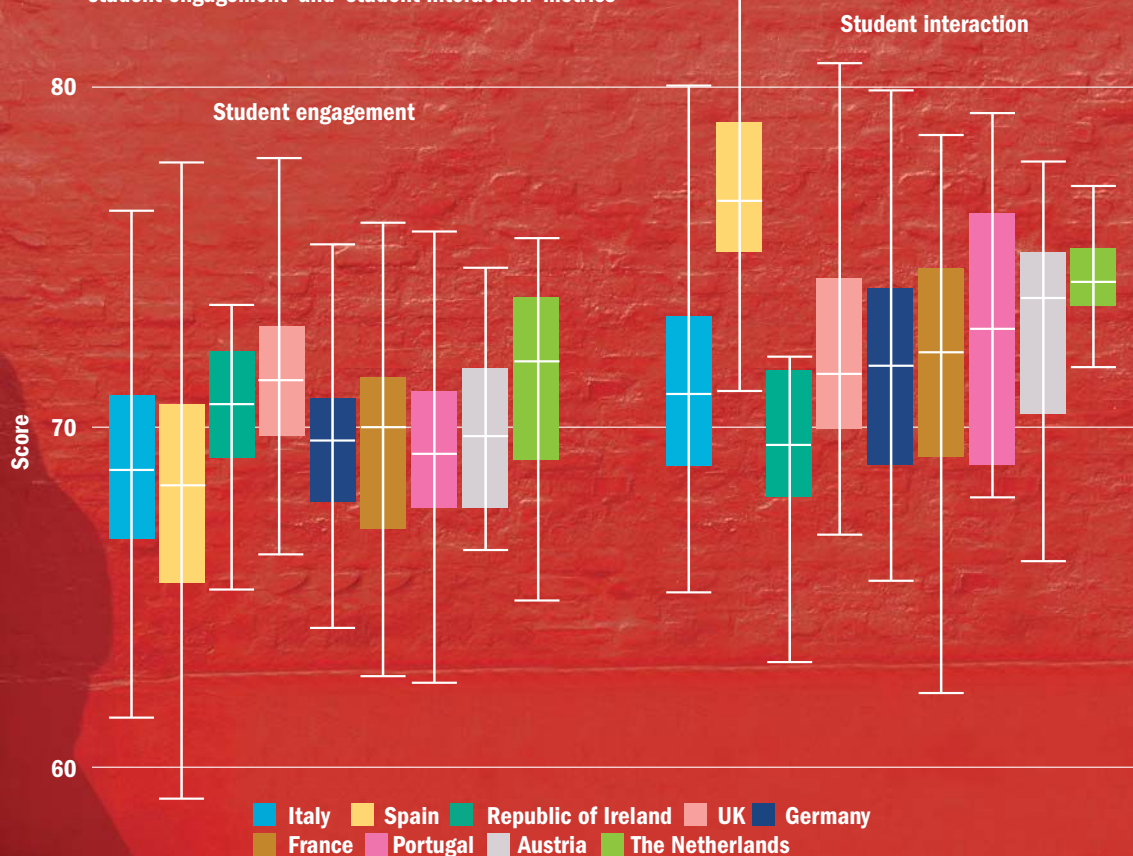
“The space available in the educational system is only reserved for those professors that – due to their vocation, a sense of personal responsibility and with the ability to do so – manage to carve out that space and make the most of it in order to impart such important skills,” he said.

Professor Martínez said that the Bologna Process, aimed at harmonising higher education systems across Europe, had been a bit of a “missed opportunity” to move Spanish teaching in the right direction on this front.

However, he also noted that Bologna could be the reason that Spain does well on interaction because it had encouraged and enabled universities to use “different formats, such as seminars, workshops or tutorships”.

“That has ultimately allowed higher education institutions to pay more attention to instruction focused on practice rather than

Distribution of university scores by country in the 'student engagement' and 'student interaction' metrics



Source: THE DataPoints

plain and simple lecturing," he said.

Looking across the results of the two survey questions underpinning the interaction metric shows that Italy also competes well with Spain on how students view their interactions with teachers – but not so well on collaborative learning.

Of the other countries with more than 10 universities in the ranking, the Netherlands has a strong showing on both survey questions, but it is notable how others, such as Italy,

are much weaker on collaborative learning than on interaction with academics.

Meanwhile, looking under the bonnet of the engagement metric – underpinned by four survey questions – also shows some interesting trends across the same group of countries.

France and Germany have a very strong showing on how they support students to make connections between what they have learned,

but appear weaker on applying learning to the real world, for instance.

Hans de Wit, director of the Center for International Higher Education at Boston College and former president of the European Association for International Education, cautioned that strengths and weaknesses in teaching differed just as much between universities in a country as between nations.

There were also myriad factors

influencing the state of teaching in higher education across Europe, including history, culture and access from secondary education.

But Professor de Wit said that it was possible to observe that institutions in central and eastern Europe were still "emerging" when it came to teaching standards, while those in southern Europe were possibly "slow on improvement".

"But even there it is difficult to generalise, as several universities – for instance the [polytechnic] universities in Italy and private universities like the Central European University in Hungary...are doing great work," he said.

Professor de Wit also pointed towards the important distinction between the differing missions of "research universities on the one hand and universities of applied sciences and some specialised institutions in their approach to teaching".

This is where much richer data from the survey covering more types of institution will be invaluable in the future for providing a clearer picture of teaching across Europe.

For instance, the results for Germany – which performs poorly on how well students feel they are being prepared for a career – have to be seen in the context of the survey and ranking featuring a large number of research institutions and many fewer applied science universities.

"Around 400 universities of applied sciences have their main strength in practical and labour-market orientation," pointed out Frank Ziegele, executive director of Germany's Centre for Higher Education.

"Germany's strength is underestimated by only looking at the 'usual suspects', the comprehensive research universities."

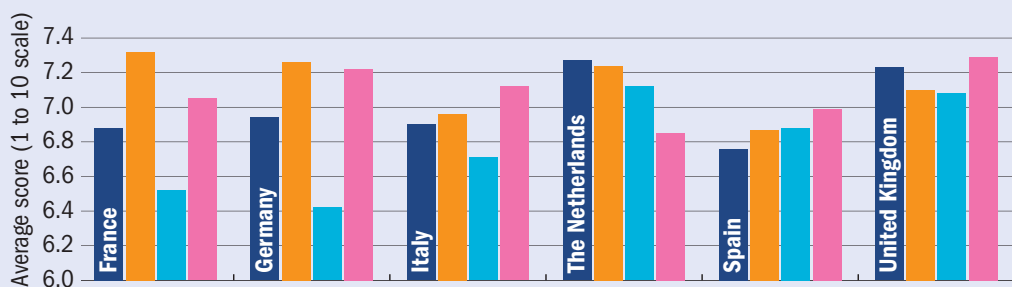
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## READY FOR YOUR CLOSE-UP? CONTINENTAL COMPARISONS

Average scores for 'engagement' metric questions in European Student Survey

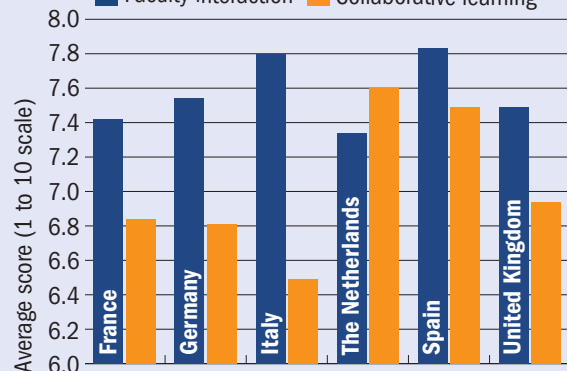
Critical thinking Connecting learning Applying learnings Providing challenge

Source: THE DataPoints. Note: Based on scaled survey results.



Average scores for 'interaction' metric questions in European Student Survey

Faculty interaction Collaborative learning



## Obituary

### Joanne Ravel, 1924-2018

A pioneering female chemistry professor has died.

Joanne Ravel was born in Austin, Texas in July 1924, one of 10 children in a family that had emigrated from Poland in the early 20th century. She would spend her whole life in the city, studying at Austin High School before going on to a first degree (1946) and then a PhD (1954) at the University of Texas at Austin. In 1956, she took up a position as a research scientist at the Clayton Foundation Biochemical Institute at UT Austin.

Although she continued her research work at the institute for the rest of her career, the university was aware that there was not a single female lecturer in the chemistry department. In 1972, therefore, she was appointed associate professor, teaching an introductory course on biochemistry as well as supervising both doctoral and postdoctoral students. She was later promoted to professor and, in 1979, Ashbel Smith professor, a post she continued to hold until she retired and became emeritus in 1987.

It was also through the university that Professor Ravel found love. For many decades, one of the major features in the Texan sporting calendar was the annual American football match between the two largest universities in the state, UT Austin and Texas A&M University. It was while attending this event at College Station on Thanksgiving Day in 1945 that Professor Ravel met her future husband Jerome Ravel, a returning veteran. They were married the following year, and it became a family tradition to attend the game every year. When he died in 2003, she created a scholarship in his honour for students specialising in primary care.

A member of the American Society of Biological Chemistry, the American Chemical Society and the American Society of Microbiologists, Professor Ravel was also what an obituary in the *Austin American-Statesman* described as “a yellow dog Democrat” (ie, a southerner who would rather vote for a yellow dog than a Republican), adding that she occasionally wrote to the newspaper “suggesting the government consider taxing people like her more and using the money to provide services for those in need”.

A keen traveller, Professor Ravel went to Israel with her grandson Ben when almost 90 and had an emotional meeting with relatives last heard from before the Second World War and believed to have been killed in the Holocaust. She died on 28 June and is survived by her daughter Margaret, son Stephen, four grandchildren and four great-grandchildren.

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## HE&me

**Ewine van Dishoeck is professor of molecular astrophysics at Leiden University. After starting her academic career as a chemist, she switched to study the molecular composition of gas clouds in nearby star systems, and the formation of stars and planets, using some of the world's most advanced telescopes. She has been awarded numerous international prizes for her pioneering work, most recently the 2018 Kavli Prize**

### ● When and where were you born?

In 1955, in Leiden in the Netherlands.

### ● How has this shaped you?

Leiden is a university town, and my father was a professor in ear, nose and throat medicine. So I became familiar with the academic world at an early stage. My mother was an elementary school teacher. My birth card has me as a baby crawling towards the university building – so clearly my parents were thinking of me going in the academic direction.

### ● Who inspired you early on?

When I was in the second year of high school, my father was on sabbatical in San Diego, so my parents enrolled me there. This was in 1968 – so this was an interesting time, just before the first Moon landing. There I had an African American female teacher in science; she was very inspirational. In hindsight, I realised this was quite extraordinary at the time; she let us do all kinds of exercises, it was a mix of theory and hands-on teaching that I had not yet experienced.

### ● Can you divide your life into a before and after?

The moment that I switched from studying chemistry to pursuing astronomy – that was the key event in my life. You can also say it was of course meeting my husband, because he was the one who triggered it. I really liked chemistry, and was convinced I wanted to continue in quantum and theoretical chemistry. But the professor had just died in that area, so I was told to look somewhere else for a PhD. Then my husband

– my boyfriend at the time – he was studying astronomy, and had just been to a series of lectures, including one on molecules in space. He said to me: “Isn’t that something for you?” I realised that interstellar space was this perfect laboratory.

### ● When you talk to people about your work, what surprises them the most?

What surprises them is how accurately we can determine the composition of cosmic clouds even though we cannot go there. Remote sensing is incredibly accurate – we really have the fingerprints of so many different molecules, from simple to complex. I also surprise them by saying that the water we have here on Earth, the water in our bodies, is already more than four-and-a-half billion years old. Those hydrogen and oxygen atoms came together in the cloud before it collapsed to form our solar system. As one of my colleagues put it: the water on Earth is older than the Sun itself.

### ● Would you want to go into space?

I would love to be the science officer on the Starship *Enterprise* and fly into the Orion nebula. But I have no desire to go to Mars. I’m happy to sit here on my beautiful Earth.

### ● Some of your research has focused on water in space. Would it surprise you if extraterrestrial life were discovered in your lifetime?

I certainly wouldn’t be surprised, but it may be another 50 years or so before we have undisputed evidence. In nearly every forming star and planetary system there is enough water and organic material to make life; in one planetary system there are 6,000 oceans of water, for example. Going from organic molecules to living organisms is still a step that we don’t understand, but there are chemists who say there are thousands of ways to do it. The ingredients are certainly common; even within our own Milky Way, there could be more than a billion Earth-like planets. Whether life originates



there, we don't know; the chances are certainly non-zero. Multicellular life took a very long time to develop on Earth, and from there it's still another step to intelligent life.

● **It's a cliché, but does studying space make earthly events seem less important?**

It makes you somewhat humble. It also means that these things happening here on Earth, like people fighting, are put into a totally different perspective. We all live under the same beautiful starry sky.

● **If you hadn't become an academic, what would you have been?**

My husband and I met in an orchestra, and there was a time I was thinking whether to continue

“These things happening here on Earth, like people fighting, are put into a totally different perspective”

in music or research. But I always felt in music I wouldn't be able to get as far; I knew I had some talent, but not very much. What would be my future? Probably a music teacher; that didn't sound as exciting as being a researcher.

● **What one thing would improve your working day?**

Less administration. It's this lack of trust – after an exam, you used to just give a grade and that was it. Now you have to fill out I don't know how many forms. For everything these days they want to cover every eventuality, so you end up filling out more and more forms that take away time from what we should be doing, namely teaching and spending time with the students to talk about research.

David Matthews

## Appointments



**Sir David Bell**, currently vice-chancellor of the University of Reading, will be the next leader of the University of Sunderland.

Sir David, who has led Reading since 2012, will join Sunderland in the autumn, following the departure of Shirley Atkinson later this month. Sir David, who was England's chief inspector of schools between 2002 and 2006, and permanent secretary at the Department for Education between 2006 and 2012, said that he had “always had the greatest respect for [Sunderland's] inclusive ethos and how it delivers opportunities and personalised support for students from all walks of life”. “I am particularly excited about the prospect of working with students, staff and partners to deliver a flexible, relevant academic curriculum and a compelling research agenda,” he said.



**Andrew Atkinson** has been named the next principal of the University of Dundee. Professor Atherton, currently deputy vice-chancellor

and professor of enterprise at Lancaster University, will take up the post in January 2019 following the retirement of Sir Pete Downes. The former senior deputy vice-chancellor at the University of Lincoln said that Dundee was “establishing itself as one of the UK's best universities, based on an outstanding student experience and research that genuinely transforms and improves people's lives”.

**Sam Kingman** has been appointed pro-vice chancellor for engineering at the University of Nottingham. Currently associate pro-vice chancellor and deputy head of the Faculty of Engineering, Professor Kingman has been at Nottingham since 2000 and was one of the youngest professors in the UK when he was awarded a personal chair six years later.

**John Hyman**, currently professor of aesthetics at the University of Oxford, will be the next Grote professor of the philosophy of mind and logic at UCL. The London institution has also named **Nilanjan Das** and **Lavinia Picollo** as lecturers in philosophy, with the pair joining from New York University Shanghai and LMU Munich respectively.



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# Join forces

To win equal pay, female academics should pursue mass claims against their universities, says a Birkbeck scholar

**T**he ongoing gender pay differentials announced last week by the BBC were disappointing given that UK law guarantees women the same pay as men for doing equal work or work of equal value. However, the fact that those differentials have come down markedly since figures for high-earning individuals at the broadcaster were first published last year is testament to the collective action that women at the broadcaster have taken to enforce their rights.

Nor are they alone. Women at Birmingham City Council and retailers such as Morrisons, Asda, Tesco and Next have all pursued collective legal action to claim equal pay. And feminists at Birkbeck, University of London, have recently begun following their example – backed up by a major law firm famous for winning high-profile equal pay cases.

Average pay for men is higher than for women at many universities because of pervasive gender differences in starting salaries and promotion rates.

**“Across a career of 40 years, such disparities amount to a total average salary loss of £216,000 for women in England”**

These arise because the deans and heads of department who award them are typically biased – consciously or otherwise – towards men. But what matters legally is whether men and women do “equal work” or “work of equal value”. The answer is typically, yes. They have to meet the same performance targets and are required to have the same prior experience and achievements to get their jobs in the first place.

In many UK universities, workload is evenly distributed regardless of gender or seniority. For example, women paid a lecturer’s salary are often expected to teach the same number of modules, lead the same number of courses and publish as much as men paid at higher senior-lecturer rates.

Making an equal pay claim requires the woman or women affected to write to their university human resources officer responsible for equality issues, asking for a reimbursement of the difference between their pay and that of a male comparator paid more to do equal work in the same institution. Only one comparator is required, from anywhere

in the university, and their job title or staff grade is irrelevant if, in practice, they have similar job responsibilities and experience, and add the same “value”, such as tuition income, to the university.

Claimants can request backdated compensation for up to six years, and if the university is not forthcoming after independent attempts at arbitration, they can take the case to a tribunal, with the help of an employment solicitor on a no-win-no-fee basis.

Some universities wheel out excuses, such as claiming that women’s lower average pay is the result of maternity leave or career breaks. Apart from the fact that women should not be penalised for making such choices, such arguments are statistical hogwash. Many female academics are childfree, and many of those who go on maternity leave return within a matter of months, with no detrimental effect on their salaries.

Averages are irrelevant to equal pay claims, but they do speak volumes. According to figures from the Higher Education Statistics Agency, the average academic gender pay gap across English universities was 10.5 per cent in 2015-16. At Birkbeck, female academics were paid £4,675 less than men. Elsewhere in the capital, the gender gap at Brunel University London was £6,584; at King’s College London, it was £9,508; and at City, University of London, it was £10,457. The list goes on.

Such figures are not small change. Across a career of 40 years, such disparities amount to a total average salary loss of £216,000 for women in England – and more than £400,000 at City. As a recently launched petition argues, that gap could be plugged in part by redistributing money from the exorbitant salaries paid to senior managers – which are often in this range for just one year.

The push for equal pay is not an attack on male university staff. The majority have no say over women’s starting salaries or promotions, and many are supportive of the campaign. But, ultimately, it is up to women to join together to mount equal pay claims. Without that, the inequality will surely continue.

**The author is an academic at Birkbeck, University of London. Academic and support staff at Birkbeck interested in joining the collective equal pay claim can email [academicfeminists@gmail.com](mailto:academicfeminists@gmail.com).**

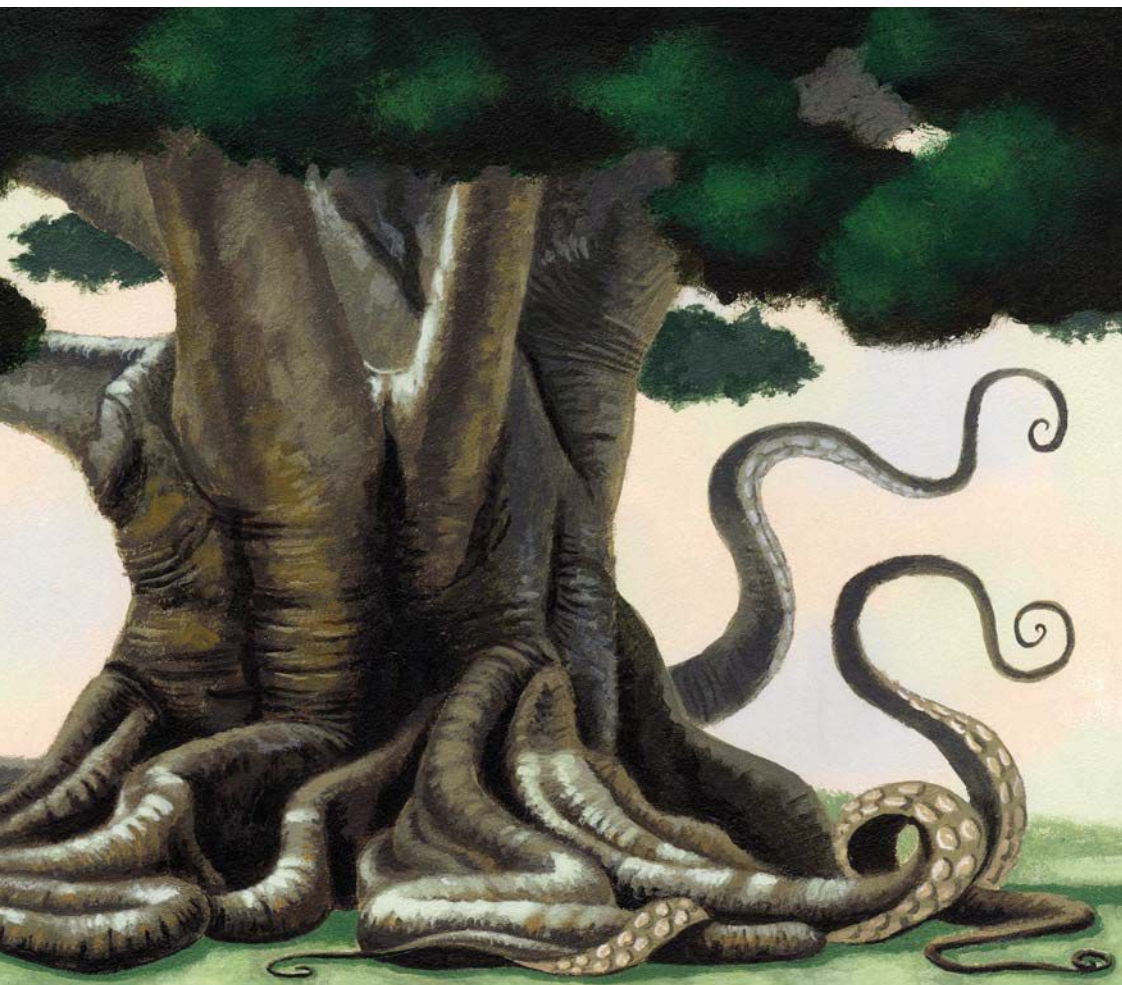


**A**cademics are naturally divisive creatures. Yet they seem agreed that something called “neoliberalism” is the ultimate source of their common woes – with both their university administration and society more generally.

Neoliberalism’s signature policy instinct is to convert monopolies into markets, resulting in more competitive environments. It first emerged among economists in the early 20th century, amid the takedown of the corporate monopolies perceived to be restricting new entrepreneurs’ market access and stifling innovation more generally. The original neoliberals were progressive, in the spirit of Theodore Roosevelt and Woodrow Wilson. However, once Wilson imposed a national income tax (partly to finance US involvement in the First World War) these same economists worried that the state might itself become the new corporate monopoly.

The spread of broadly socialist policies over the next few decades, including the New Deal and the welfare state, turned this misgiving into neoliberalism’s dominant theme. By the time it became the house ideology of the Reagan and Thatcher governments in the 1980s, it was focused on divesting the state of its powers over the provision of health, education and other welfare services. “Marketisation” now became the state’s main business.

Neoliberalism arrived in UK higher education as early as 1963, with Lionel Robbins’ landmark report. This offered a strategy for breaking Oxbridge’s long hegemony via the creation of US-style campus-based universities



# Academic monopolies are nothing to be delighted about

Neoliberalism is many academics' *bête noire*, but it is also a litmus test of their democratic sensibilities, argues Steve Fuller

specialising in social science and other “modern” subjects. Thirty years earlier, Robbins had hired neoliberal luminary Friedrich Hayek at the London School of Economics.

A less capital-intensive follow-up was the 1992 “new universities” legislation, which upgraded the status of existing polytechnics and teachers’ colleges to swell the ranks of people entering university.

It is difficult to deny that this approach – with its audit regimes for research and teaching that place all universities in the same competitive pool – has helped level the playing field in higher education. Indeed, neoliberalism generally isn’t given sufficient credit as an effective democratiser. Perhaps that’s because neoliberals have tended to turn a blind eye to past damages. Instead of

penalising past winners through taxation – seen as an illicit form of restorative justice – neoliberals invest conditionally in prospective future winners.

The underlying psychology here seems sound, helping to explain the global appeal of neoliberal policies, which cut across traditional social, political and economic divisions. It is based on intuitive notions of fair play: people prefer to lose after they have been given a chance to win than to have a victory subsequently taken from them.

But why, then, are academics in particular so antagonistic? The answer is that neoliberals are more principled in their hostility to inherited privilege than academics are. The latter’s authority over their field of knowledge is tied to mastery of a discipline-based “expertise” that is the legacy of a specific line of

researchers over many years, if not generations. Acquiring such expertise – and its associated jargon – entails substantial entry costs, ranging from attending the right schools to accessing the right funds.

Academics generally wear all this as a badge of honour but, to neoliberal eyes, the arrangement looks like a mutually reinforcing system of information bottlenecks, resulting in an artificially maintained hierarchy of “knows” and “know-nots”. It is the intellectual version of the ultimate economic evil, rent-seeking: a phrase inspired by David Ricardo’s – and later Marx’s – disdain for landowners who increased their land’s value simply by restricting access to it, rather than using it productively.

In response, academics say that restricted access ensures high-quality knowledge. But, like other claims to elite privilege, this assertion is self-serving unless it can be put to a test in which the academic establishment is

**Many appear wedded to the idea that the delivery of high-quality research and teaching depends on the means by which they have been delivered in the past**

not pressing its thumb too hard on the scale. Thus, the recent UK Higher Education and Research Act allows non-academic actors to compete on the playing fields of research and training if they have already shown a capacity to deliver such “services”. More generally, neoliberal policies promote the use of altmetrics as an independent check on the club-like character of academic peer review, while requiring academics to court extramural constituencies.

Yet, compared with other sectors of society, higher education has tended to respond to these “market challenges” in unimaginative, if not reactionary, ways. Academics appear wedded to the idea that the delivery of high-quality research and teaching in the future depends on the means by which they have been delivered in the past. Thus, their proposed “innovations” tend to be marginal, such as putting academic lectures online, publishing in open access journals and serving up the same courses in less time.

There has yet to be anything in the higher education market comparable with the creative destruction wrought by the motor car’s replacement of the horse as the primary mode of personal transport 100 years ago. That innovation required a much more radical rethinking of means to ends than self-described “radical” academics appear willing to engage in today.

Steve Fuller is professor of sociology at the University of Warwick and author of *Post-Truth: Knowledge as a Power Game* (Anthem). He will be debating with Philip Mirowski at Lancaster University on 24 July about whether neoliberalism can lead to a positive future for the university.

# Curiosity killers

Long before university, China's young lose their intellectual sparkle in years of rote prep for English-language tests, says Bob Fonow



A child's mind is a precious gift. And China's education system is a magnificent achievement. As an adviser to a small after-school programme in Beijing for high-achieving students, I'm often delighted by the curiosity and creativity of Chinese students in primary and middle school. However, I am just as frequently distressed by the withering of that intellectual sparkle once they get to high school and university.

The reason for this dismal phenomenon, it seems to me, is very simple. It is the contagious marketing meme that preparing young people to win admission to a top US or UK university is more important than preparing them to flourish once they get there.

I don't blame the universities for requiring overseas students to sit SAT, TOEFL or IELTS tests. Measuring students has merit. And I understand that some students need extra help. A weekend or holiday programme reviewing what to expect on the test makes sense. But worried Chinese parents are forcing these courses on their children years before they make their applications – even though test scores are valid for only two years.

In my programme, we have had parents ask for TOEFL training for their seven-year-old son (we said “no”). And several of our first-year high school students took a 14-day, 9-to-5 SAT programme during the last winter school holiday, rather than enjoying a break and travelling with their parents. By the beginning of

spring term, when they should have been rested and ready to learn, they were exhausted. The light in their eyes had gone out.

I find all this particularly curious because, as a business owner and management consultant, I consider university to be a tool, a stepping stone to an adult career, not a goal in itself. Moreover, the irony is that endless test prep isn't even the most effective university application strategy. Years of memorising the answers to previous tests, over and over again, inevitably makes young people miserable, dull and mediocre – and damages their interest in learning.

In the past three years – especially since the SAT was reformed – the students I've observed who've scored highest are those who read great literature and important articles about science and world affairs. They take part in the global conversation instead of taking SAT prep; they write their own application essays, and they are accepted on early decision by whichever top US institutions they apply to. They have exactly the “scholarly aptitude” that the SAT is supposed to identify.

Those students who take long test-prep classes generally get lower but still respectable SAT and TOEFL scores. However, they fall down on their application essays because they have little to say. Nor can they show much of the evidence of achievement or community involvement outside school that would convince an admissions tutor that they will

enhance a diverse student body. So when they apply for early decision, they are more often deferred to regular admissions, or just rejected.

A couple of stories highlight my concerns. A ninth-grade middle school pupil was taken by her mother to a large TOEFL test-prep “academy”. The girl's vivid and expressive prose, to me, indicated a deep talent, but a young foreign salesman said that she wasn't trying hard enough. She needed to seriously change her style and acquire much more vocabulary – for which, of course, she needed a long period of study at the academy. On our programme, this student had just started a study of Thomas Mann and E. M. Forster, but it was impossible to convince her mother that this might be a better path to a top university. The meme had done its work.

In another memorable case, an eighth-grader told me that she was learning TOEFL “techniques”. I gave her a sample test and asked her to show me one. She immediately went to the first question, underlined a couple words, then went to the first paragraph of the text and tried to find those words there. I asked her why she didn't read the text first. “Because, at our age, we don't understand it,” she answered. And why should she?

So what's going on? Well, there is a high degree of Tiger Momism in Beijing: a city many now consider the centre of the new Eurasian empire. Its cognoscenti and newly prosperous denizens determine bragging rights partly on the basis of their offspring's test-prep scores.

Moreover, competition for a prosperous future is fierce in a country of 1.4 billion people. If you aren't well connected, sending your children to a renowned foreign university is seen as a good option – especially if you believe, as many Chinese do, that the competition for admission is less intellectually endowed and prepared. Seven days a week of study and one week a year of vacation are the price to pay for a good job: tears now, joy later.

So this is just the Chinese way, then? Not really. Some memorisation is necessary to learn any subject, but memorised vocabulary without a social or geographical context is quickly forgotten once the test is complete. The Chinese way has always involved a love of and respect for genuine learning.

Moreover, the modern Chinese way has been to proceed on the basis of what works and what doesn't. Some test prep may help to improve individuals' university admission scores, but bingeing on it will stymie the country's future development.

China needs inventors – not just imitators and innovators. Innovation can mean designing a better soft drink can, or taking a few calories out of a McDonald's hamburger. Invention means creation. And that comes from thinking deeply and reading widely – before, during and after university.

**Bob Fonow is managing director of consulting firm RGI Ltd, based in Beijing and Virginia, and the non-executive chairman of an education services company in Beijing. He has long experience in corporate turnaround and US government strategy.**

## Greek history contains some thrilling yarns

I read with interest your interview with Richard Clogg about his recent memoir, *Greek to Me: A Memoir of Academic Life* ("HE & Me", 14 June). Clogg (pictured below) is a master at cataloguing intrigue, as he demonstrates in those pages. It is at the heart of his account (already told in his previous book, *Politics and the Academy: Arnold Toynbee and the Koraes Chair*, 1986) of how Arnold Toynbee, its first incumbent, came to resign in 1924 from the recently founded Koraes chair of modern Greek history, language and literature at King's College London.

In 1988, Clogg himself failed in his attempt to be appointed to the same chair, and we are invited



## The good old dais

James Conroy is right about the self-fulfilling nature of the lecture's alleged uselessness ("Don't believe the anti-lecture myths, says Glasgow vice-principal", News, 12 July, [www.timeshighereducation.com](http://www.timeshighereducation.com)).

However, people such as Stanford physicist Carl Wieman, who stated that "there is no point in lecturing any more", are capitalising on a perfect storm with regard to contemporary higher education, for the following reasons:

First, many lectures – as a matter of fact – do not offer value for money.

Second, the neoliberal audit culture is always on the lookout for alternative practices that provide more value for money than the current ones.

Third, Wieman works in a field – physics – where there are clear learning outcomes, which makes it relatively easy to compare alternative teaching approaches (notwithstanding the tradition of charismatic lecturers, such as Richard Feynman).

Finally, academics have largely forgotten that the lecture was designed for students to see what it looks like for a knowledgeable person to speak in their own voice.

**Roger Juanson**

Via [timeshighereducation.com](http://timeshighereducation.com)

## Tweet relief

"The #good, the #bad and the #ugly" (Features, 12 July) highlights the benefits as well as distractions that social media hold for academics.

A few months ago, I deleted my Twitter account and significantly improved my mental health. I do not miss the constant stream of mostly useless tweets at all. I have not signed up to Facebook and cannot see any reason to do so.

Unfortunately, LinkedIn seems to be becoming a social media site rather than a professional networking site with routine stages in professional life trumpeted as if they were research breakthroughs. Luckily, I am old enough for none of this to matter in my career but I do worry about the effect on younger academics.

**msl\_csp**

Via [timeshighereducation.com](http://timeshighereducation.com)

## China chasing glory

It is hardly surprising that China could overtake the US on research impact by the mid-2020s ("In research race, China on course to overtake US soon", News, 12 July).

According to the Japan Science and Technology Agency, China now ranks as the most influential country in four of eight core scientific fields, tying with the US. The agency took the top 10 per cent of the most referenced studies in each field, and determined the number of authors who were affiliated with the US, the UK, Germany, France, China or Japan.

China ranked first in computer science, mathematics, materials science and engineering. The US, on the other hand, led the way in physics, environmental and earth sciences, basic life science and clinical medicine.

China is also rapidly catching up in physics, where the US has long dominated. It is spending more than \$6 billion (£4.5 billion) to build the world's largest particle accelerator, which could put it at the forefront of particle physics.

**Godfree Roberts**

Via [timeshighereducation.com](http://timeshighereducation.com)

## Wellcome change

I am broadly in favour of the Wellcome Trust's controversial new Leap Fund ("Is Wellcome's £250 million fund the leap forward science needs?", News, 13 July, [www.timeshighereducation.com](http://www.timeshighereducation.com)).

Any plan that frees grants from the sinking ship that is our underfunded, over-managed university system here in the UK

is worth a try.

Innovative thinking, especially in global public health, may very well flourish in less developed countries. In recent years, the trust has had an unfortunate reputation for destroying what it cannot control, and falls prey to the shifting whims of its own managers. In this, it is not alone among funders.

Surely new, worldwide outreach is worth the relatively small risk that this new plan offers.

**fgcook**

Via [timeshighereducation.com](http://timeshighereducation.com)

## Elusive enthusiasm

In "Richard Arum: US undergraduate education is declining and failing" (News, 11 July, [www.timeshighereducation.com](http://www.timeshighereducation.com)), Arum, dean of the University of California, Irvine's School of Education, "blamed falling levels of independent study by students on institutions, stating that they are failing to enthuse students to study or inspire them to prepare for lectures and seminars".

I would like Arum to tell the rest of us how to "enthuse and inspire" students to study and prepare.

As far as I can tell, students have not changed that much in decades – the big change took place in the early 1970s, as research shows.

And I doubt that professors were all that much better back in 1960.

It is not all about grade inflation, either. In the big class that I teach, with a median grade of C+, attendance is between about 70 per cent and 75 per cent, on average. A lot of the students just do not care, and never will. They get flushed out, in my case, with Ds and Fs. And I know that I am hardly unique.

**manyworlder**

Via [timeshighereducation.com](http://timeshighereducation.com)

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**I can testify to the fact that the reality was far more banal than Clogg's entertaining account**

to see dark forces at work. Claims such as this, and others in the book, are indeed titillating, but they affect individuals and institutions; and as a survivor of the relevant Koraes chair committee I can testify to the fact that the reality was quite different from and far more banal than Clogg's account. However entertaining the telling, two and two do not make five; they only make four.

As for the distaste that Clogg expresses at the idea of fundraising from generous Greek philanthropists, his book makes clear that his own later appointment in the University of Oxford relied on it and that, embarrassed or not, he himself played a part in attempting to raise such money.

**Dame Averil Cameron**  
Oxford

# Applying nudge strategies to higher education

Ben Castleman is assistant professor of education and public policy at the University of Virginia and the founder and director of the Nudge4 Solutions Lab. Ethan Fletcher is managing director at the nonprofit behavioural design lab ideas42



As higher education administrators face increased

pressure to improve graduation rates – which hover around 59 per cent at four-year schools – some are taking a cue from Nobel laureate Richard Thaler, who was awarded the Prize in Economics for his pioneering work in applied behavioural economics last year, bringing nudge strategies to the mainstream. Thaler and colleagues’ insights about how people make decisions when faced with complex choices and complicated processes have spawned a range of efforts to bring behavioural science to higher education – from initiatives to reduce “summer melt” and apply for financial aid to strategies that help students reframe challenges and respond in productive ways.

To implement successful innovations in their own schools and colleges, educators need clear, digestible information about which innovations have worked, in what contexts these innovations were effective and what resources are required to put in place a similar innovation for their students.

That’s why we took the most effective, cutting-edge behavioural innovations from leading researchers and put them into a free toolkit specifically for educators: Nudges, Norms, and New Solutions. The innovations we feature in the toolkit cover the spectrum from when students are in high school all the way through college. Along with the toolkit we launched the Nudge Hotline, which educators can contact for free support from a behavioural designer tailoring evidence-based nudge strategies for their student population.

For example, many people know that an “I’m just not college material” mindset is common among first-generation and underrepresented students. But how can educators promote a sense among

students that they do belong in college? A belonging exercise created by Greg Walton and colleagues detailed in the toolkit substantially decreased the academic achievement gap between African American and white students in college.

The evidence also suggests that setting goals and making plans supports students to persevere in college. But it isn’t always easy for educators to prompt students to set effective goals. An intervention to facilitate goal-setting at McGill University engaged students in a two-and-a-half hour workshop, in which the researchers prompted students to reflect on, prioritise and affirm their commitment to achieving their goals. Students on academic probation who were assigned to the workshop experienced an increase in GPA of 0.5 relative to the control group.

Of course, not all the challenges students face can be addressed at the university level. We also call on policymakers to leverage behavioural design to make it easier for students to access beneficial programmes and opportunities. Policies that automatically registered high school students for college entrance exams, waived the exam fees and moved the test to a weekday increased the likelihood of students enrolling in four-year colleges by three percentage points. Incorporating behavioural design at policy level can positively affect outcomes for thousands of students.



# Are academics to blame

Matthew Flinders is professor of politics at the University of Melbourne



I have spent the past couple of months being on sabbatical and gorging myself on the scholarly fruits that have been piling up on my desk for some time. What fun it is to swim from genre to genre, from topic to topic with a little more freedom to explore beyond your micro-specialism.

That is, until an argument makes you stop and tread water; to question your intellectual tribe and its contribution to society.

Steven Pinker’s *Enlightenment Now* (2018) is the literary equivalent of being hit over the head while open water swimming by the chap in the guide boat who was supposed to be looking after you.

His argument is as simple as it is bold: overall, the world is not declining into chaos and disaster but “people are getting healthier, richer, safer, and freer, they are also becoming more literate, knowledgeable, and smarter”. There is no “hellish dystopia” but a world defined by progress based upon the insights of science and the Enlightenment. Pinker offers a powerful polemic that is almost bursting with apparently unquenchable optimism: the world has never been a better place to live in.

Variations of graphs appear over and over in his book, each one measuring an apparently indisputable measure of human progress. The problem is, however, reconciling this vast body of data on global human progress with the rise

How can educators promote a sense among students that they do belong in college?

# Online support net

Nicola White is a research associate in the Department of Education



I set up the Facebook group Parents Who Study with

Rebekah Farrell after we discovered that we were both parents who were completing PhDs. Even though we were at opposite ends of the world, we found that we were experiencing the same isolation and self-doubt.

On returning to my PhD after six months of maternity leave I found that I was doubting my ability to write and meet deadlines. I was worried that my brain had turned to mush from all the sleepless nights.

# for the rise of populism?

versity of Sheffield, president of the Political Studies Association of the UK and a member of the Economic and Social Research Council

of populism, which is in itself arguably reflective of a large amount of frustration and anger among huge sections of the public who don't "feel good" but feel "left behind", as Robert Wuthnow describes in *The Left Behind*.

And yet if life is actually improving in relative terms for most people, why have so many people been seduced by populist temptations? Who or what is to blame?

"I believe that the media and intelligentsia were", Pinker writes, "complicit in populists' depiction of modern Western nations as so unjust and dysfunctional that nothing short of a radical lurch could improve them."

This intelligentsia includes the social and political sciences and, although he

notes that "it may sound quixotic to offer a defence of the Enlightenment against professors", he proceeds to rally against the "dystopian rhetoric" of academe, the cultural pessimism of professors, and even accuses them of poisoning voters against democracy.

Academics are, apparently, "progressophobes" who chip away at the public's confidence in conventional politics and, through this, may have unwittingly created a vacuum that populism has filled.

I could not escape a vague sense of uneasiness; a feeling that in some oblique and indirect way there might be a link between the critique of the "new optimists" and the psychoanalytic temperament of political science. Not only has the discipline's long-standing focus upon "endism",

crises and failure been well documented, even its more quantitative approaches tend to be laden with fairly pessimistic assumptions about human nature.

John Kenneth Galbraith once advised that if you ever want a lucrative book contract, just propose to write *The Crisis of American Democracy*. This is true to the extent that even when the arguments that reside within the pages of books such as

Pippa Norris' *Democratic Deficit*, Ivan Krastev's *Democracy Disrupted* and David Runciman's *How Democracy Ends* are as balanced and measured as they are coherent and constructive, they are published under a title that resonates with "endism".

Therefore, if democracy is not in terminal decline, the general message emanating from political science seems to be that it is in pretty bad shape. It is hard to find a positive vision within the discipline that sees the world's problems against a backdrop of progress. That democracy is "in trouble" appears to be something of a "self-evident truth" within political science and Pinker certainly seems to think such beliefs are "dangerous", but can academics really be blamed for the rise of populism? I'm not convinced.

To make such a claim seems to overestimate the public influence of academe while also underestimating the amount of international data on the rise of "disaffected democrats". This seems to leave Pinker facing a "blame boomerang" that stems from his urge to shoot the messenger, in this case the critical professor, rather than looking at the underlying emotional currents of populism. Progress may well have occurred but (ironically) it is also the nature of that progress with its increasingly unequal and precarious dynamic that is really to blame. But, then again, maybe I'm just one of those progressophobes.

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# works are vital for parents who study

the division of psychiatry at UCL, and Rebekah Farrell is a PhD candidate in the School of Global, Urban and Social Studies at RMIT University

I was worried that I was functioning as only half the parent and half the student that I should have been. During my PhD, in all honesty, I felt pretty lonely. I could no longer participate in the random nights out that my peers enjoyed because of childcare duties and/or a lack of money for childcare.

Rebekah was also experiencing a similar loneliness in Australia. She was trying to juggle her PhD with her new baby and with work commitments. She had also experienced the death of her supervisor and found that it was difficult to know who to talk to.

We realised just how little support there was available for

student parents. We found much solace through the connection because we were able to talk to each other about our shared experiences and struggles.

We created the Parents Who Study group to extend that friendship and to provide a community of support for parents who are currently completing a course or are about to embark on one.

The group now has about 250 members from all over the world.

Whatever time of day it is, there is someone who will listen and provide support. Just to know that you are not alone is often

all you need in the dark hours of the morning when your child will not sleep and you have deadlines looming.

The opinions provided are from peers (both fathers and mothers) and the comments are not filtered by institutional policies or political interests – they are people's honest, unbiased experiences of where they found

financial support, how they juggle deadlines and sleepless nights, what childcare arrangements they make.

Such information is invaluable when you are at the precipice of making a decision to start a course or to leave one.

This group enables you to ride the waves when something positive happens to you, and it provides a virtual hug when it feels impossible to meet all the demands being thrown at you. This is why it is critical to have this support network for parents who have decided to or are thinking of embarking on a qualification.



# How green is the valley?



After the Cambridge Analytica scandal, the entanglement of the academic and tech worlds faces increased scrutiny. Will academics still be able to access social media companies' data? Is Silicon Valley denuding universities of their top researchers? And could joint positions in industry and academia offer a workable and ethically defensible way forward? **David Matthews** reports



**A**leksandr Kogan knows all too well how a tie-up between academia and the tech world can go very, very wrong.

He is the University of Cambridge neuroscientist who earlier this year achieved international infamy for passing on Facebook profile data from tens of millions of users to the parent company of Cambridge Analytica, the now-defunct political consultancy accused of using this information to target potential Donald Trump voters in the 2016 US presidential election (something the firm has denied).

Now living in New York and working on a new online survey tool, Kogan (pictured right) acknowledges that the bad publicity has in effect ended his academic career. “I completely missed how people were going to react,” he says.

For some, this might sound like just deserts. Kogan used a Facebook app to harvest profile data from not only those who installed the app but their unwitting Facebook friends, too (something no longer possible after Facebook changed its rules in 2014). Some reports have suggested that his colleagues thought that what he was doing was unethical; Kogan had an application to use the data for academic purposes rejected in 2015 over concerns about consent.

As Kogan tells it, he was naive – but not greedy or ethically lax. He says he did not personally gain financially from his Cambridge Analytica deal, but simply wanted more funding to help gather a juicy research database from the world’s biggest social network. He had “no inkling” anyone would be upset.

“All this seems unbelievable and silly now, but from that vantage point it seemed sensible,” he says. “I’m a sceptical scientist [but] not a sceptical person.”

Neither his manager nor colleagues raised ethical objections to the tie-up, Kogan insists (a Cambridge spokesman said he could not comment as this would constitute personal information). “The university is very encouraging of its faculty members to go and do entrepreneurial activity,” partly as a way to hit impact

targets in the research excellence framework, he adds.

Yet Kogan’s “entrepreneurial activity” culminated in denunciation of the university on the biggest stage possible. Facebook founder Mark Zuckerberg, called before the US Congress after the scandal blew up in April (pictured below), asked “whether there is something bad going on at Cambridge University overall that will require a stronger action from us”.

Earlier this month, the UK’s data protection watchdog, the Information Commissioner’s

**“Aleksandr Kogan’s ‘entrepreneurial activity’ culminated in denunciation of the University of Cambridge on the biggest stage possible”**

Office, revealed that it is investigating whether Kogan has committed a criminal offence. It announced that it is to audit the Cambridge Psychometrics Centre, where Kogan worked, for compliance with the Data Protection Act. The ICO is also to carry out, with Universities UK, a broader review of academics’ use of personal data, in both their research and commercial capacities. And the office has fined Facebook the maximum possible £500,000 over its part in the Cambridge Analytica scandal.

In response to Zuckerberg’s question, Cambridge pointed out that it had worked for years on publicly available research that used Facebook data, including studies co-authored by Facebook employees. Nor is it by any means the only university to establish partnerships with the world’s biggest tech firms: earlier this year, for example, France’s École Polytechnique announced a new chair in artificial intelligence – funded by Google.

But the Cambridge Analytica scandal is just one instance of the “techlash” that many observers consider to be under way against the likes of Google, Facebook, Uber and Amazon. Silicon Valley’s finest stand accused of a litany of failings, including providing a



platform for Russian interference in foreign elections, monopolistic behaviour, workforce exploitation – and simply making us feel miserable through the relentless interpersonal comparisons facilitated by social media. “There’s Blood In The Water In Silicon Valley” ran one headline on BuzzFeed late last year.

**S**o should reputation-conscious universities reassess how they work with Big Tech?

James Williams has worked on both sides of the fence. A former Google advertising strategist, he is now a doctoral candidate at the University of Oxford’s Oxford Internet Institute. His new book, *Stand Out of Our Light*, warns that Silicon Valley’s tools of distraction risk undermining our personal and collective will and freedom.

Williams thinks that researchers and universities that are funded by tech firms, or dependent on their data, are yet to apply the same “sensitivity” over conflicts of interest that is normal in, say, pharmaceutical research. “There is a sexiness to tech companies that’s obscured these questions of the power dynamics,” he says.

One of the earliest examples of the relationship turning sour came



in 2014, with the publication of a study, authored by researchers from Facebook and Cornell University, that involved manipulating the moods of more than 600,000 Facebook users by exposing them to positive or negative emotions. The study, “Experimental Evidence of Massive-Scale Emotional Contagion Through Social Networks”, published in *PNAS*, constituted a huge experiment on subjects whose consent was not sought, and triggered a major backlash against Facebook, the university and the journal.

Kogan, who collaborated with the social network until 2015, says that “Facebook has data that can answer any question I’m interested in”. But he recalls that the social network became “increasingly conservative” about working on academic papers in the wake of the reaction to the *PNAS* study. “That paper gave [them] so much negative attention that they clamped down hard on anything being published,” he says.

Now, following the Cambridge Analytica scandal, Facebook is introducing further restrictions. Previously, academics could gather anonymous data about user behaviour, but Facebook is “shutting [that] completely down”, according to Anja Bechmann, an associate professor at Aarhus University in Denmark, who studies social media and arti-

ficial intelligence and is one of dozens of academics to sign a letter earlier this year warning that the changes will stymie academic research.

“If we want data, we have to work with [Facebook] directly”, Bechmann says. The fear is that “only the lucky few” will be permitted to do so: namely, the most prominent scholars from the most famous universities – and primarily those based in the US. Facebook will in effect be able to “choose the assigned research and research question and team”, she warns.

This is particularly unfortunate since, as social life has moved online, social media offers a much richer dataset than things such as traditional censuses for social science research, says Bechmann – who has compiled a lengthy list of publications that she says could not have existed without access to social media “application programming interfaces” (APIs), which third parties use to glean data from these sites.

“It’s not good for democracy or our understanding of society that [the public] don’t have access to research on [social media] data,” she says.

Facebook did not respond to questions from *THE*.

The issue of access to data goes wider than social media companies, however. For instance, the race is on in Silicon Valley to create safe, reliable self-driving cars – to which end, companies like Google and Uber have amassed mountains of street-level images and scans from roving test cars in order to teach self-learning artificial intelligence how to deal with every conceivable situation on the road.

This data – a potential geographer’s treasure trove – “is being held on to very carefully” by the companies that collect it, says Andrew Moore, dean of Carnegie Mellon University’s School of Computer Science, despite a recommendation from the Obama administration that it should be made publicly available.

But in other data-heavy areas, researchers don’t need a relationship with a tech company, Moore points out – medical data, say, comes from teaching hospitals. And nine in 10 Carnegie Mellon



academics are “quite satisfied” with the access they have to big data, he says: “We get approached very frequently by companies who want us to help them with large amounts of data, as opposed to us going out begging for data and the companies saying no.”

But Carnegie Mellon has suffered its own tech-related headaches. In 2015, Uber left Moore’s department “scrambling to recover” after tempting 40 academics and technicians away with huge salary bumps to form a lab in Pittsburg, *The Wall Street Journal* reported. There was a “tough period of three weeks when we were trying to figure out how we are going to move forward with our research”, Moore said at the time. Defections have continued to occur: earlier this year, for example, the department lost Manuela Veloso, head of machine learning technology, to financial services company JPMorgan Chase.

**“In a faculty of around 200, Moore loses 10-15 people a year to industry, with only around five coming the other way”**

Stemming this tide of researchers to the tech world has become a big issue for universities, particularly in hyped, lucrative areas like artificial intelligence. It was a key concern of a recent national AI report released in France, which recommended – highly optimistically, as one of the authors admitted – doubling the salaries of graduate students in this area to stop them leaving.

Moore, who himself worked at Google for eight years, describes his job as “like managing a sports team. You’re going to be recruiting many folks, but you don’t expect them to stick around forever”. His main strategy for recruitment and retention is to appeal to researchers’ idealism. It remains easier, typically, to change society for the better in an academic rather than a corporate position, he says. For instance, computer science researchers at Carnegie Mellon have created an online tool that scans online

adverts to detect and identify sex traffickers in the US, facilitating “almost daily arrests”. That is “incredibly rewarding” for the academics behind it, Moore says.

And while corporate researchers may not have to write government grant proposals, nor do they have access to unlimited resources. “The sadness is that you see them getting really excited about getting hold of a single intern for three months in the summer – whereas professors get to work with five to 10 graduate students,” Moore notes.

Still, in many cases, working for a big tech company can be the best way to get a new tool into the public domain, he admits. “It’s not just the data, but the access to the channels to take an idea and get it released to millions of users. That is very exciting.”

Then there is the money question. Last November, *The Guardian* reported on fears among AI researchers that “the crème de la crème of academia has been

## CAMPUS, INC: SHOULD UNIVERSITIES VENTURE INTO BUILDING BUSINESSES?

**When the London tech start-up Magic Pony was sold for a reported \$150 million (£102 million) to Twitter in June 2016, just 18 months after it was created, City investors sat up.**

Admittedly, it wasn’t quite the jaw-dropping levels of profit enjoyed by Instagram founder Kevin Systrom, who sold up to Facebook for \$1 billion in 2012 after a year of business, but it was further evidence that the UK capital was a growing rival to Silicon Valley for machine learning (Magic Pony uses neural networks to enhance images), following the sale of predictive text company SwiftKey to Microsoft for £174 million months earlier and DeepMind to Google for £400 million in 2014.

While Magic Pony’s founders, Rob Bishop and Zehan Wang, were graduates of Imperial College

London, they did not fit the familiar “university pals strike it rich” narrative of Google or Facebook. They met at Entrepreneur First, a business incubator based in south London that seeks to bring together the brightest minds to see if they can come up with businesses that will fly.

“It’s a pretty unique model,” believes Joe White, the company’s chief financial officer, who joined in 2016 having sold Moonfruit, the website building company he co-founded just after graduating from the University of Cambridge, for \$40 million in 2014.

“We’re sometimes conflated with traditional incubators as our output is similar. The difference is that we bring people together pre-team, pre-idea,” White explains. The 100 recruits in each cohort are offered a

£2,000-a-month stipend for their first three months, as they set up their companies and develop investment pitches. The 20 or so businesses that look the most promising are then given £80,000 and a further three months of support – including mentoring from successful entrepreneurs and introductions to potential investors and customers – in return for an 8 per cent stake.

Recruits are typically in their mid- to late twenties, and are often PhD students or postdocs. “They have to have an edge,” explains White, and “a deep specialist knowledge” is an obvious example of one. A recent team, for instance, paired a graduate of a PhD in black holes with someone from the finance world to create an AI financial adviser.

That company has

already attracted £1.6 million in venture capital investment. And with 10 London and three Singapore cohorts now complete, Entrepreneur First has developed companies with a total combined value of £1.5 billion, which have raised more than £300 million from venture capitalists, White says.

Yet the company’s heavy reliance on university talent raises the question of whether this is the type of thing UK universities and business schools should be doing themselves. Could such a blurring of the university and tech worlds be one way for them to maintain a connection with their most promising early career researchers in computer science, while also tapping into the vast amounts of money to be made in the tech world?

White demurs. “Univer-

sities, like many industries, get good at doing a certain thing. They are very good at educating and producing world-class research, [but] the venture capital world is at odds with this environment, so having these things operating beside each other is very difficult.”

For him, universities should confine their involvement with the tech world to investing some of their endowments in it. He cites Stanford University’s lucrative investment in Sequoia Capital, early investors in PayPal, Google and WhatsApp – although he concedes that few UK universities have remotely comparable amounts of capital to play with.

White also cautions against universities’ preference for what he calls the “intellectual property bear hug”, whereby they “grab hold of anything

that looks promising”, taking large ownership stakes in the spin-off company and thereby “stifling” its further growth. In a recent example, a nascent tech company struggled to win seed funding because the PhD student who ran it had given up a 50 per cent share to his institution. The investment was secured only after the university reduced its share to 10 per cent.

“[The PhD student] was a researcher, not an entrepreneur, so didn’t understand the deal at the time,” White says. “But it meant his idea wasn’t going to get off the ground – investors won’t back something if so much has been given away. [For universities], it’s better to have 10 per cent of something that becomes massive, than 50 per cent of not very much at all.”

**Jack Grove**

bought” by Silicon Valley. In one case, for instance, Apple convinced a PhD student at Imperial College London to drop their studies for a six-figure salary.

Nor is that *crème de la crème* confined to technological fields. Tech firms have also taken to hiring university economists. According to Susan Athey, professor of the economics of technology at Stanford University, this is not only because they want to better understand the complexities of online markets, but also because they feel a need to counter the looming threat of anti-monopoly regulation. “In-house economists can directly inform regulators and also help outside economic experts learn about the institutional facts, access data and become informed”, Athey has written. “Every week, I am contacted to help fill a position, or I hear about a new hire by firms like Airbnb, Netflix, [music streaming service] Pandora or Uber.”

But it remains computer scientists that tech firms most crave. According to Moore, researchers with experience of building autonomous systems – such as robots that can work underground – number in the “few hundreds” globally, and are consequently like “gold dust” to companies. Moving to a tech company nets such people a compensation package three to five times what they could earn at a university.

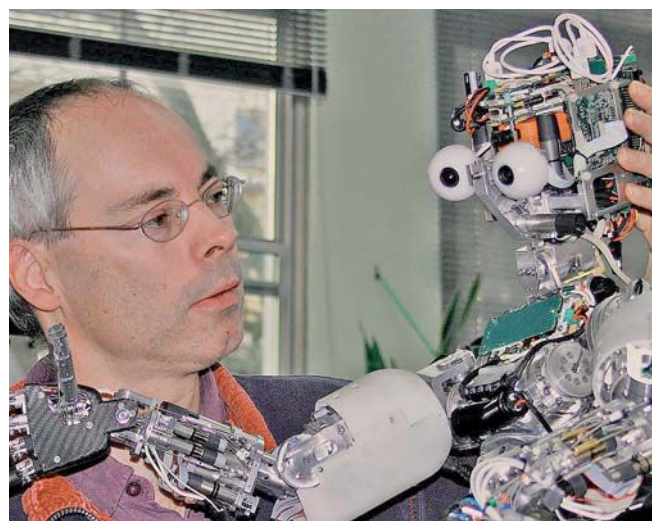
The result is that in a faculty of around 200, Moore loses 10-15 people a year to industry, with only around five coming the other way. This has required him to hire about 50 new academics in the past three years. His point to his recruits is that they should see the revolving door as a plus: “You can do these round trips,” he tells them.

But is a revolving door really a healthy state of affairs? Writing in *The New York Times* last year, the data scientist Cathy O’Neil warned that one consequence is that “professors working in computer science and robotics departments – or law schools – often find themselves in situations in which positing any sceptical message about technology could present a professional conflict of interest”. For this reason, academia is “asleep at the wheel” when it comes to warning

lawmakers about tech’s downsides, she added.

Her article attracted strong rebuttals on social media, particularly from academics in the humanities and social sciences, who pointed to their often robust criticism of tech firms. But Moore admits that the revolving door does indeed create “somewhat of a conflict of interest”.

“I don’t think I would ever come out and make statements against a specific company – unless, of course, I knew it was doing something really bad,” he admits. “But if a company frustrated me in a particular month, or something like that, it does not make good business sense to moan about it publicly because usually it’s part of a bigger relationship.”



GETTY



One option for academics who want to work for tech firms but also want to keep a foot in the academic world, are joint appointments. These have become increasingly common. Amazon’s chief economist, Patrick Bajari, is also professor of economics at the University of Washington, for instance. And in 2014, seven academics from Oxford’s computer science and engineering departments were recruited to joint positions by DeepMind, a London-based AI company bought by Google in that same year and best known for creating a program capable of beating humans at the board game Go. Three of the academics – including Royal Society fellow Andrew Zisserman, a computer vision expert – remained professors at Oxford. As part of the deal, Google also gave a “significant seven-figure sum” to their departments.

*Times Higher Education* contacted the three professors for an interview, but a spokeswoman for DeepMind instead provided a statement from Murray Shanahan (pictured left), professor of cognitive robotics at Imperial College London, who is also a researcher at the firm. “The major incentive for me [in accepting a joint position] was the chance to pursue my research full time without the drain of other academic duties,

with access to fabulous resources and in the company of the best like-minded people on the planet,” Shanahan says.

That motivation could be compared to that which attracted many academics to the fabled Bell Labs in the US, the corporate laboratory whose researchers won eight Nobel Prizes between 1937 and 2014. But are DeepMind researchers entirely free to choose what they research? The company’s spokeswoman says that the company does not “influence who researchers with dual affiliations collaborate with outside of DeepMind”. But she did not answer questions about whether there are any restrictions on what academics with joint affiliations can publish.

For his part, Shanahan admits that before he joined DeepMind, he “considered...the potential loss of freedom and independence I might experience from being part of a big corporation. Would I still be free to say and do what I liked (for example, to speak to the press) to the extent that I was as a full-time academic?” But after a year of working for the company, it is a case of “so far, so good”.

Moreover, despite being so

potentially lucrative for big tech companies, machine learning and artificial intelligence have remained very open fields. Researchers were up in arms earlier this year, for instance, when Nature Publishing Group proposed a closed-access journal to serve the discipline. “The general advantages of being open about research in this area outweigh the potential or perceived advantages of being secretive,” says Zoubin Ghahramani, a professor of information engineering at Cambridge and chief scientist at Uber (the increasing demands of the latter role requiring him to relocate from Cambridge to San Francisco in August).

“Of course, Uber is a company, and so we have to be careful with respect to any commercially sensitive information,” he says. “So obviously we wouldn’t want to publish our business practices, which other companies might be very interested in, and we have to be careful about other things like IP and so on. But the norm...is in favour of openness.”

In the development of self-driving cars, “very little even in this field is about having a particular secret sauce for something”, he argues. “It’s not like one research

“As part of a big corporation, would I still be free to say and do what I liked to the extent that I was as an academic?”

paper is going to make a huge difference” as to whether one company wins the race to build a reliable vehicle.

But some remain troubled by the potential ethical compromises to which joint appointments could expose academics. This is particularly the case in Germany, where such positions remain hotly contested. The country is keen not to be left behind when it comes to artificial intelligence, and has created a “Cyber Valley” near Stuttgart that brings together university researchers and companies. And Martin Stratmann, president of the Max Planck Society, Germany’s vast basic research network, explains that it has hired heavily from the US to bring in directors for the Institute for Intelligent Systems, founded in 2011, that constitutes the “nucleus” of the project.

But he is dead set against allowing his academics to work for more than one master. “In the Max Planck Society...we do not have joint appointments,” he says. “We want to define our own rules. We have our own ethics rules. We have our own ethics councils – so we decide where to go.”

But others dispute that the ethical strains potentially imposed by joint positions with tech firms are uniquely acute. Uber is currently facing questions over an incident earlier this year in which one of its prototype self-driving cars – carrying a human observer – hit and killed a woman crossing the road in Arizona. So what would Cambridge’s Ghahramani do if he felt the company was rushing out a solution before it was safe?

“If something didn’t match my ethical standards, I would speak out,” he insists. “I think this is the role of whistleblowers in any kind of situation.”

DeepMind’s Shanahan also denies that “having a joint appointment puts me in a different position to any employee of any company or organisation”. Moreover, he does not expect to be confronted by any particularly serious ethical conflicts in his current role.

“One of the reasons I’m comfortable working at DeepMind is that there is a strong ethical ethos to the company,” he says. “So I don’t anticipate having to face such a moral dilemma.” ●



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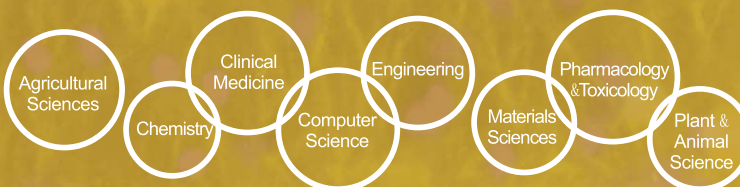
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# The age of entitlement

Millennials are portrayed as having it harder than previous generations, but while **Vieno Vehko** empathises with their burden of tuition debt, she finds it hard to respect a group that neither reads critically nor takes responsibility for its learning

**I**'m so lost! Your course is so confusing. Like, I really have no idea what to do and, like, I'm ready to simply cry and, like, drop this crazy course."

Susie, a major in education, blinked, but no tears came; she just kept glaring at me with her elaborately made-up brown eyes. She had texted me the previous day about how stressed she was about my course, and I had invited her to come to my office at her leisure. But this wasn't a great start to our heart-to-heart.

Of course, I felt terrible; tears even came to my eyes. "Susie," I said, "you are a wonderful student. You're bright and ambitious and doing the work; what can I do to help you?"

"Well, I can't do the work," she responded. "This lesson plan format is stupid, and the lexical assignment doesn't make sense; I don't know what you mean when you say 'analyse a lexical item'. What does *lexical* mean, anyway?"

My first thought was to ask her if she had any idea how to use a dictionary, but I restrained myself from showing anything but compassion.

"Susie," I said, "*lexical* means *word*, or *vocabulary*. Did you read the directions?"

She hedged. "Everything is so confusing, what exactly do you want me to do? I don't know what *analyse a grammatical item* means, or, like, what is a *function word*...Like, this is all too hard, and the lesson plan, it's insane: like, really disorganised."

I took a deep breath and walked Susie through both assignments, apologising for her confusion. At the end of the meeting

I promised that I'd look at the instructions again. "Send me an email with what you think will make it easier to comprehend," I said.

She nodded, but I knew I'd get no email. Susie was taking my online course but she never came to the optional face-to-face study sessions that I had organised – at the cost of a lot of extra work for me – because I wanted everyone to succeed. She told me she didn't have the time or the inclination to show up.

Like so many of my students, Susie takes 18-21 credit hours per semester because it costs the same as taking 12-21 hours. She hopes to graduate with the least possible debt. But students that take this approach often end up cramming too much coursework into a schedule that also includes doing up to 40 hours of paid work a week – not to mention the millennial's obligatory three hours a day of Netflix and a similar number for social media and going out with friends. Overloaded and stressed, these students cannot focus on their academic tasks.

Nor do they see the point of doing so. American millennials do not view college as a place to learn; rather, they see it as a place to get a kind of "I'm certified and intelligent" tattoo that entitles them to start their professional pursuit of the American Dream – and start paying off the \$140,000 of debt that I've known some MA and PhD students to get into.

But if millennial students feel cheated when they are asked to knuckle down in the library, I feel cheated by having to ask them. I spent a decade of my late life preparing for a job that I thought would involve training people to

think. Yet I soon realised that this is not what is expected of me at all. The modern American academic's unspoken job description is to keep students on their courses and to make sure they graduate – whether they learn anything or not. The modern university is a factory, not a greenhouse.

This fact is underlined at every faculty meeting of my Midwestern public research university. Our dean booms: "Enrolment is down 20 per cent, folks; if you want our college to survive, make sure you join the voluntary Saturday recruitment drives!" A committee I attend just decided to lower the required high-school GPA for admission again, and to offer students the option of video interviews instead of face-to-face.

This suits the academics, too. Many tenured professors are unwilling to give their time to chaperone visiting students around the college and we can't ask the far more numerous adjuncts to do so because while their precarious employment conditions make them less likely to complain, the fact that they are paid by the course gives them no incentive to sit on committees or participate in recruitment drives.

That leaves non-tenure track staff like me to both pull the cart and shovel out the stalls.

**S**tudents suffer in this system, too. Take Louis, a handsome young black man in his mid-twenties, who comes to class wearing a black bandanna and leather jacket. He has such a sweet aura and regularly reiterates, in his soft voice, that he wants to be a teacher and work in inner-city schools: his



neighbourhood. He listens when I talk, and thinks before he responds. But he is near to failing my course because he doesn't do the work. Why? He has a small moving company and drives all over the state, hauling furniture and moving folks. He works whenever he gets a gig; he has to eat and pay tuition. He's so busy this semester that he doesn't have time to show up for anything, much less office hours.

Then there is Yusef. My colleagues like him because he is jovial, brings them small gifts and shows up for most of their classes. Yusef is a Saudi man in his early thirties, with a wife and kids here in town. And he is ambitious. The work he sends me in video format is definitely his, but the text assignments he submits are sophisticated and error-free, and are definitely not his.

We all know that our college needs international students because they pay far more money than residents. No university wants any international student to leave since incoming enrolment from outside the US has drastically dropped owing to visa regulations and the ambience created by our current president. Yusef shows up for 10 minutes here and there, with a smile and a gift, and then takes off. In his culture, charm and small chunks of work are enough to gain a degree.

Then there is Stephen, a working literacy coach, always well-dressed, but puffed up with pride because he already has a good job and a wife who earns great money. Stephen was initially someone I looked forward to teaching; he was respectful, did the work and offered great questions. But when the time came for me to comment on his research paper draft, he went ballistic. He accused me of not knowing how to edit, of personally attacking his paper, and of singling him out because, as a professional, he made me feel threatened. His ire almost bowled me over when he came in for office hours.

I kept my cool and just asked him a series of questions. His answers led me to understand that no one had ever told Stephen that he was anything but a gifted, superior student.

And why not – he was literate, upper middle class, white, male and studious. All through school he had behaved and listened and done whatever his teachers asked of him. Even in college, his instructors had not challenged him to move beyond his current levels of competency – because mediocre was safe and good enough. In my enthusiasm, my mistake had been to ask him to carefully revise and organise a paper so that its structure met my own academic standards.

**T**here has been a lot of millennial-bashing in the news recently. There is also a lot in private, among faculty; my colleagues all report similar experiences to mine.

Some retort that my generation should get off its high horse and work harder to understand how much more difficult young people have it these days. And I've tried to portray some empathy and understanding. I know millennials' dilemma with tuition debt; I feel their pain. But it remains truly difficult for me to respect them as students, as potential scholars and as thinkers.

Another reason for this is Linda. A woman in her late fifties, Linda is what we call a late-life student. And she is phenomenal. She can read and follow directions. She has no trouble with anything, whether it be face-to-face interaction or online coursework. She likes the course design and workload. She even thanks me for every critique, and wants to discuss her work further. The ease with which she negotiates every assignment and required revision seems almost too good to be true given that she has never taken an online course before, lacks any prior training in linguistics and is a busy working mother and grandmother. I wonder if we share a kind of generationally kindred brain, and her performance makes me wonder even more why the millennials make such heavy weather of studying. They are used to online work; they are more tech-savvy than either Linda or myself is, and yet they are angry, frustrated and confused with my course and with me.

Tentatively, my conclusions focus on the

millennial persona. To return to Susie, the blamer, complainer and shamer, she is training to be a teacher, yet she doesn't seem able to take responsibility for her own learning. She feels entitled, and she sees me as a service person: an academic clerk of sorts. Yes, I'm long in the tooth, but in my day I would never have dreamed of requesting an office hour and blaming a professor because I did not understand terminology.

It was clear that Susie had not read the syllabus, or the assignment instructions; if anything, she had skimmed a few things in the module and then got frustrated and angry. But her emotional upset, in her mind, was valid, and, to relieve her anxiety and reassure herself, she shifted the burden of her inadequacy on to my tired shoulders. She used the magic words *I'm thinking of dropping your course* because she knew that every modern academic lives in fear of them.

To be honest, I shouldn't have accepted that burden. But I did – not merely out of fear of a slap on the wrists from my superiors but also because I don't like emotional outbursts; I hoped that, becalmed, Susie would go away and do some work – or at least just go away. Nor do I enjoy being thought of as a bad teacher. Most importantly, I don't like to give up on young people – especially those who are planning to be the future teachers. But it is terribly disheartening to meet the Susies of this world.

As for Louis, I'm at a loss. His attempt to juggle 40-plus hours of paid work with a full academic load is insanity in my eyes. I can accept his late submissions in the hope that he may ultimately turn in something that passes muster, but I can't help him balance his life, and I sense that he is playing me as a soft touch. Still, his case makes me sad: he is the one who suffers for his choices in the end, after all.

I've suggested that he apply for a Fulbright English teaching assistantship, so he can go abroad and see how others live. At least it would broaden his horizons. However, such awards require a clear demonstration of competence in expressing ideas in print. I'm not sure Louis will be able to rise to that challenge – especially after a long day of driving.

I know about that requirement because I, too, recently applied for a Fulbright award – to go to Estonia. I spent a lot of time teaching abroad in my previous career, and I just can't get used to US students' attitude. Stephen, in case you're wondering, got his A. His pride was restored. But my interactions with him only deepened my sense that his is a generation that I just can't teach.

Millennials don't read. They don't think as critically as they could. And they're not interested in learning for learning's sake. They want the Dream. They will go into debt to get that degree they believe will help them pursue it, but they have lost respect for knowledge, rigour and hard intellectual work. Working among such entitled puppies makes me feel like an academic platypus out of water. ●

**Vieno Vehko** is a pseudonymous assistant professor at a Midwestern university.

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NEW ZEALAND

# Inside the lab, a battle rages

The values of research must be preserved despite political and economic pressure, says Harry Collins

**The Secret Life of Science: How it really works and why it matters**

By **Jeremy J. Baumberg**  
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Published 23 May 2018

In a 2006 article in the *Hedgehog Review* called “Invisible Science”, Steven Shapin started with McDonald’s and noted how that iconic company is impregnated with science at every pore: food production and safety, nutrition, packaging, advertising, customer relations...

In late modernism, science is everywhere, employing more than 4 per cent of the workforce, according to Shapin. Yet scientific research done in universities and related-research institutions employs only about 4 per cent of the science workers. If we go to the household names of science, Newton, Einstein, Planck, Crick and Watson, we will find that they make up an even smaller proportion of science – a fraction of a per cent of the 4 per cent of 4 per cent.

If we try to define science by what it does rather than its demographic penetration or its media representation, we could say that it comprises those activities that have a chance of producing exact solutions to problems in the foreseeable future. It represents a very small proportion of those activities that are inspired by this aim but do not actually deliver, such as those attempting to predict next year’s inflation and employment rates or the hours when it will be raining in London the week after next. Such activities driven by scientific aspirations swamp science in the narrow sense of the term because life is generally complex and chaotic, whereas the traditional icons of science dealt mostly with the simple and empty spaces of the very large or the very small.

Jeremy Baumberg is a successful

scientist in the field of nanotechnology: professor at 30 and fellow of the Royal Society at 40. His chosen cross-section – the secret life from which he removes the lid – is the professional life of the research scientist and the institutions that support it: the publication system, the grant-giving system, the peer-review system, the refereeing system, the publicity system. It is great to see a professional scientist reflecting on these things. Richard Feynman notoriously, if inadvertently, pointed out that scientists do not need to know much about how science works in order to do it, but on the rare occasions when they do turn their attention to these matters, the result can be as good as or better than what philosophers, sociologists and historians produce. Baumberg is certainly up there when it comes to reflective description of the professional waters in which he swims.

This is a lively book filled with all manner of diverting sidelines: did you know that for every one of the 4 quadrillion ants on the Earth’s surface, we have made about 4,000 transistors? Yet I am going to concentrate on the part that focuses on the ever more feverishly growing level of activity in every sphere of research science. This is driven not by the desire to find out more about the natural world, but by professional careers and the desperate need to defend science and scientists within the hostile worlds of politics and free market economics.

What we see is a continual increase in the number of journals and the number of papers published. This is spurred by academics’ need to publish, to satisfy the requirements of agencies that rank university departments on their published output. At the same time, publishers are making an expanding fortune out of a business in which most of the work is produced, assessed and edited free for them. About half of



**Electrical impulse** a lively book filled with all manner of diverting sidelines: did you

the resulting output is never referred to by anyone and is probably never read by anyone except the author and the editors, while only a very small proportion makes any real impact. Baumberg suggests that the uncited stuff is important to save people saying the same thing again and again, although that seems less of an obstacle in the social sciences!

Meanwhile, we could all be publishing for nothing on the internet and, because of its speed, that is usually the way new results are promulgated in subjects such as physics. Ironically, the reason that we need ponderous, costly, old-fashioned print publishing is to create scarcity! If there were no way to limit what is officially worthy of publication, we would not be able to choose between candidates for academic posts and would find it even harder to select what to read from the

overwhelming torrent of technical words. Baumberg is broadly optimistic about peer review as a limiter and judge for journals and grant agencies, but I think that there is more cause for concern in the social sciences.

The same kind of feverish story can be told for academic conferences, which are multiplying at such a rate that the successful scientist is travelling almost continuously – mostly to no scientific purpose. It is a pity that Arthur Koestler’s 1972 novel, *The Call-Girls*, does not get a mention. When we come to publicity, we find science shortened and oversimplified to get an audience, again both necessary and concerning. Baumberg points out that the best-selling science books are all by theorists. This troubles me, since many are virtually incomprehensible and this strand of science seems to be becoming

## THE AUTHOR



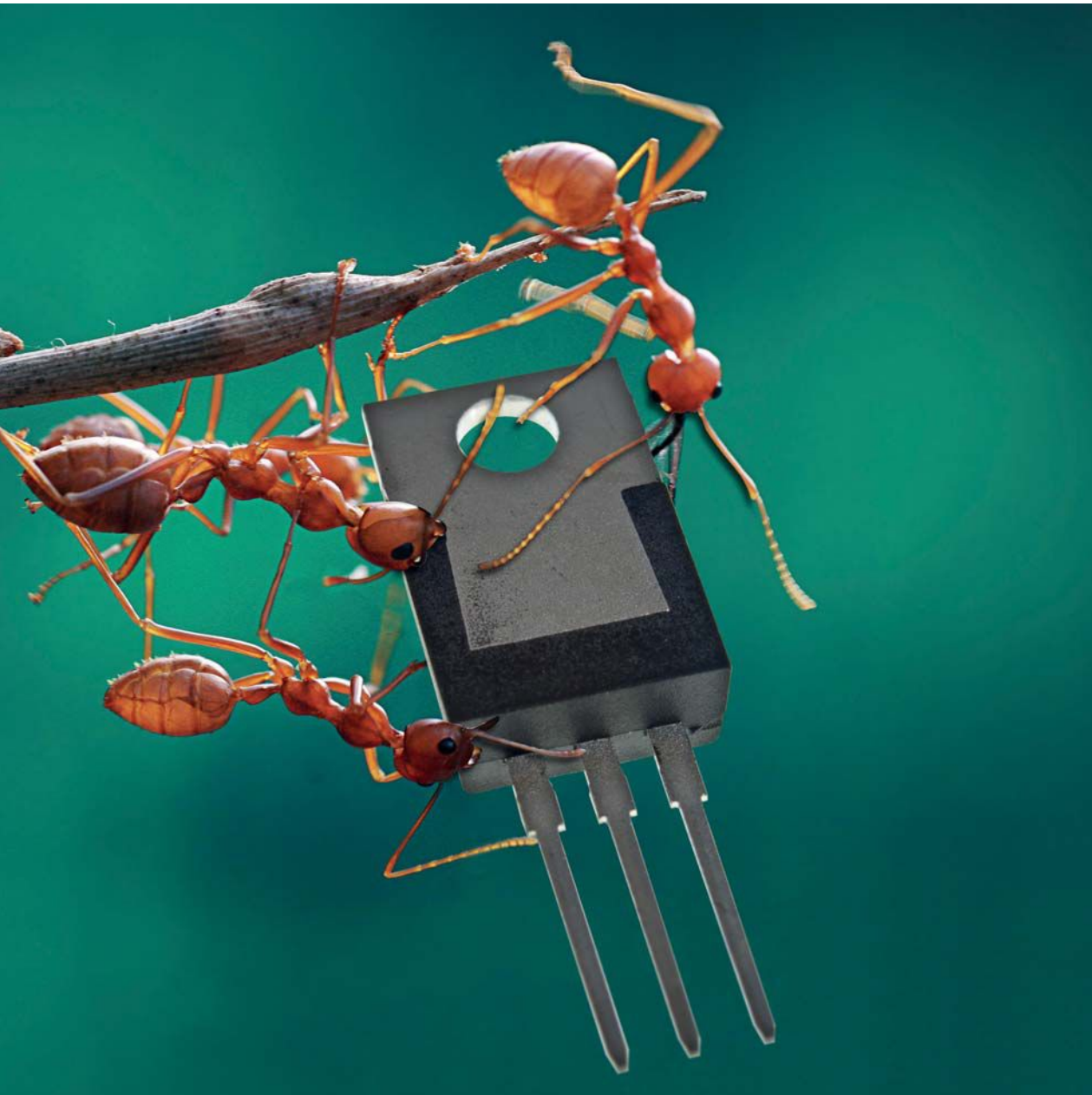
Jeremy Baumberg, professor of nanotechnology and photonics in the University of Cambridge's Cavendish Laboratory, grew up in Leeds, close to the moors, and still feels his "deeper roots in Yorkshire, drawn to northern principles of pain before pleasure... as well as to the decaying industrial architecture of mills, canals, rust and stone, places I was desperate to leave for steel and glass science fiction but that now speak to my soul".

As he recalls it now, Baumberg was "supremely lucky to get into Cambridge, despite my messing up science questions, because my interviewer ran the college music society and, at the time, I was intensely wedded to the piano, particularly the romantic and dramatic repertoire of Rachmaninov and Chopin. Studying natural sciences was profoundly important because it taught me not to be scared of disciplinary boundaries, which has guided my science since."

Although always "interested in how we do what we do", Baumberg decided to devote serious attention to "how science works" after becoming "increasingly puzzled by colleagues' complaints about different parts of our science system, as well as annoyed at the universal media model for heroic scientists...An opportunity for a sabbatical in San Sebastián gave me the wonderful space to reflect and research."

Asked about ways to improve the life of working scientists, Baumberg urges us to "reflect deeply on why we go to conferences, how we might rank them, and to invent gatherings that stimulate our imaginations and friendships while avoiding boring collectives of massive size. I have also become a strong advocate of creative anarchy – avoiding the relentless winnowing of diversity spread when adopting best practice throughout the science ecosystem – by starting new ways of doing things, of measuring things or funding things. I see that as my role now, of disruptive stimulation."

**Matthew Reisz**



ALAMY MONTAGE

know that for every one of the 4 quadrillion ants on the Earth's surface, we have made about 4,000 transistors?

**“Remove the legitimacy from scientific expertise and political leaders are left free to decide what climate change means and whether vaccines are safe”**

part of a very peculiar entertainment industry, with large numbers of people desperate to have the equivalent of the Latin Bible on their shelves. Can that be good?

My own cross-section of science is different and, oddly for a sociologist, much more elitist than Baumberg's. I have spent 45 years investigating the searchers after gravitational waves – whose leaders received the Nobel prize for the eventual discovery just last

year. They stand, of course, not for themselves, but for scientists of a particular type. To my surprise and the scorn of my cynical colleagues in the social sciences, I have described them as potential leaders of democratic societies. The norms of scientific activities such as gravitational wave detection strongly overlap with democratic norms. Also, as has become painfully clear with the advent of Donald Trump's fake news and alternative facts, scientific expertise is one of the moderating checks and balances needed to stop democracy declining into populism – the exercise of power justified as the expression of "the will of the people". Remove the legitimacy from scientific expertise and political leaders are left free to decide for themselves what climate change means and whether vaccines are safe.

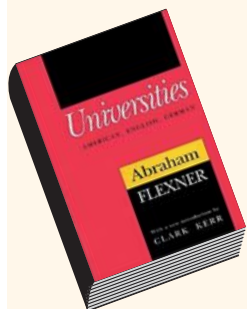
Science looked at in this way

permeates the whole of society, not via McDonald's and its products but with values and expertise that can provide some friction for politics. Baumberg's description of science as answering to competition under capitalism is in tension with science as a bulwark of these values. That is why we need to read the book – not to find ways to make science a better servant of the economy but to consider how to preserve its central meaning in the face of political and economic pressure. After all, what use is all the economic success in the world if we live in a state that shamelessly grants the right of truth-making to the powerful? Science is even more important for what it *is* than for what it does. This is science's heaviest burden.

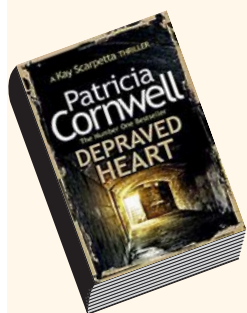
**Harry Collins is distinguished research professor in the School of Social Sciences, Cardiff University.**

## WHAT ARE YOU READING?

### A weekly look over the shoulders of our scholar-reviewers



**Bruce Macfarlane**, professor of higher education, University of Bristol, is reading Abraham Flexner's **Universities: American, English, German** (Routledge, 1994). "Originally published in 1930, this is ostensibly one of the first real comparative accounts of higher education systems. In truth, it is more of an entertaining, straight-from-the-hip critique of everything Flexner regarded as wrong with universities in the late 1920s. This includes college sports, pastoral care and schools of business administration, activities he regarded as distractions from universities' serious mission: conserving and interpreting knowledge, searching for the truth and training students to 'carry on'. Flexner helps to debunk the contemporary pretensions of universities that seek to tackle society's 'grand challenges'. Yet his nostalgia for the university of the late 19th century proves that concerns about the 'decline' of the so-called modern university have been around for a very long time indeed."



**Carina Buckley**, instructional design manager, Solent University, is reading Patricia Cornwell's **Depraved Heart** (HarperCollins, 2015). "Dr Kay Scarpetta has been called to a crime scene: a young woman fell to her death while changing a lightbulb. But being Scarpetta – and Cornwell – things are not what they seem. Unfortunately, what they seem to be is a little dull, bogged down in legal niceties and relayed, to an extent that suggests a paucity of ideas, via video clips on Scarpetta's phone that only she can see. The story, such as it is, relies too much on exposition and has an awkward line in self-conscious status signalling. Scarpetta and her niece Lucy are rich and highly intelligent: we know. Bad things happen to them. Oh, do we know. But after 22 previous books, many of them truly tense, fast-paced and fully developed, Scarpetta has finally run out of energy."



**Karen McAulay**, performing arts librarian and post-doctoral researcher, Royal Conservatoire of Scotland, is reading James Raven's **What is the History of the Book?** (Polity Press, 2018). "My own research is into the history of Georgian legal deposit music, but I've often thought that not enough consideration is given to the points of similarity and difference between the history of the musical score and that of the book. Both exist to convey their creators' message in conventional codes, whatever the printing format – one through musical notation and the other in text. Raven's introduction to the history of the book starts with the earliest books, and embraces bibliographic description, economics, copyright and other controls, library curation, readers and reading practices. It's exactly what I need to introduce me to what the discipline embraces, how it began and how it is developing. Ample notes and a generous bibliography will also prove very helpful."

# Keep your hands on the wheel!

## Driverless cars are limited in their understanding and inherit their coders' biases, warns John Gilbey

**Artificial Unintelligence: How Computers Misunderstand the World**  
By Meredith Broussard  
MIT Press, 248pp, £20.00  
ISBN 9780262038003  
Published 29 May 2018

In the summer of 2009, I sat in a conference room in the heart of Silicon Valley and listened to two contrasting speeches about the future of artificial intelligence.

The protagonists were Marvin Minsky from the Massachusetts Institute of Technology and Larry Page, co-founder of Google. Both were engaging, profoundly inspiring and left me with a bad case of impostor syndrome – but it was clear that AI meant wildly different things to the two speakers. Minsky, the *enfant terrible* of AI then in his early eighties, was pitching for the classic goal of "general AI", the backdrop to HAL 9000 in Stanley Kubrick's 2001, Ironman's filmic sidekick J.A.R.V.I.S. and every other cynical artificial sentient being from fiction. Page was promoting a much more limited, but pragmatically deliverable, "narrow AI" based on systems far from true intelligence but able to provide limited solutions based on big data and intensive number crunching.

Almost a decade later, AI has come by default to mean "narrow AI" in most contexts, and many new books promote this still-developing field with something approaching religious fervour, appearing to regard it as offering the inevitable solution to pretty much every challenge that we face. Yet the vibrant tech-future painted by these authors, in a rich palette of deeply marketing-led language, deserves, I believe, to be tempered with a healthy scepticism.

Thankfully, Meredith Broussard is – among many other things – a coder, which gives her important new book a depth of understanding missing from some other titles. Assuming little prior

knowledge, she leads us carefully through the foothills of current computer technology, giving a real insight into how AI systems actually work, how limited they currently are in scope and understanding, and why we should be cautious about accepting their decisions without careful scrutiny.

Grounding us in sound engineering practice, Broussard lays out a practical example of how a simple machine learning project can be built and operated – along with the potential pitfalls and problems – using the Python programming language as the medium and the passenger list from the sinking of the *Titanic* as the dataset. Among the lessons are that real-world data collections are dirty, messy and often incomplete, and that how AI systems deal with this is almost inevitably based on the assumptions, background and biases of whoever develops the algorithm. It is reassuring, in the light of recent global events, to see decision-support systems in judicial environments, election expenditure reporting structures and the internal ethics of self-driving cars linked to a common set of arguments in favour of truly human oversight and accountability.

Illustrated with examples from Broussard's own work and experience, this is an intensely personal journey that gives a real sense of travelling with a friend. Her descriptions of hackathons and other aspects of start-up culture are honest and atmospheric, capturing the social as well as the technical aspects of the marketplace in a way that anchors moments of technical innovation in their time and place. Hopefully, this book will gather a wide general, as well as academic, audience. It deserves to become a classic – but, even more, it deserves to be read and debated.

John Gilbey teaches in the department of computer science at Aberystwyth University.



**Real-world thinking** Cheng uses the topical issue of 'black lives matter' to illustrate the danger of false equivalence

## The Art of Logic: How to Make Sense in a World that Doesn't

By **Eugenia Cheng**  
**Profile, 320pp, £14.99**  
**ISBN 9781788160384**  
**Published 5 July 2018**

Logic is fundamental to mathematics, but mathematicians sometimes find that correct logic is insufficient to win real-world arguments. Following in the tradition of George Boole, Lewis Carroll and John Venn, who provided algebraic or diagrammatic aids to logical calculation, Eugenia Cheng enhances her reputation as a popular mathematics writer with this perceptive analysis of logic and its limitations.

She shows us the dangers of false dichotomies (the existence of white privilege is not refuted by one black person being better off than some white people) and false equivalences ("black lives matter" does not mean that some lives do not matter), and how arguments cannot be resolved when the two sides rely on different unstated assumptions. In her examples, Cheng bravely chooses sensitive topics – white privilege, sexual harassment, fat shaming – and her lucid exposition illuminates the ways in which misunder-

standings create conflict. Although she does not hide her own views, she is not writing about what is right or wrong, but about how to make judgements. We are shown how, rather than ascribing a refusal to be convinced by one's logical argument to an opponent's blind irrationality, one can examine the assumptions on which their position is based and thus argue in a way that might actually change their mind.

As the book reaches its conclusion, Cheng writes about emotion and its relation to logic: they are not opposites, but two important aspects of being human that can work effectively together. She describes the roles of emotion and logical rigour in pure mathematics – emotion, important in the initial stages of an investigation, when one is looking for ideas, then takes a back seat to logic when the details of a proof are worked out, and again becomes important when presenting one's work to others. For those who think that they value logic above all else, there is useful advice on understanding the importance of emotion and the limits of pure logic when it comes to persuading others.

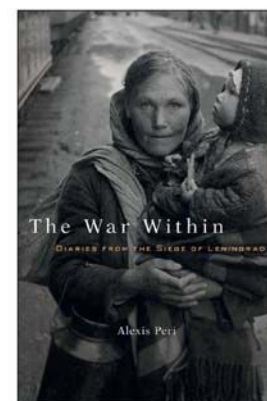
For those who think more visually than I do, a great strength of the book will be its use of diagrams (that perhaps reflect the author's background in category

theory). The tone is generally friendly, if occasionally perhaps a little preachy, and Cheng writes sensitively about delicate topics (although one example, about the logic of staying put in a fire, should have been changed after the Grenfell tragedy). However, I feel that she follows too much her own advice, that one can avoid being wrong by making a practice of qualifying statements with phrases such as "I think that". In doing so, she inadvertently shows how such phrases make arguments less convincing!

While I sometimes wanted to quibble – for example, I found the analysis of Zeno's and Carroll's paradoxes rather simplistic – I was engaged throughout. Overall, Cheng is successful not only in helping readers think more clearly, but in helping them understand why others sometimes appear to be illogical. This book has the potential to help understanding and avoid confrontational arguments that serve only to entrench opposing views. While hardly the "survival guide for our post-truth world" promised by the back-cover blurb, the reader will indeed be helped to "see, argue and think better".

**Tony Mann is director of the Greenwich Maths Centre at the University of Greenwich.**

  
**Harvard**

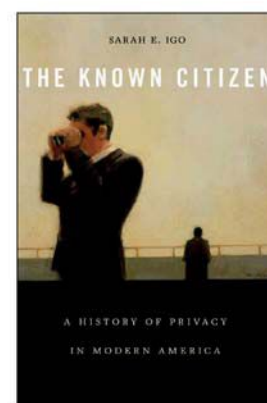


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# Lone wolves and birds of a feather

What separates the maverick from the herd?  
Helga Drummond wonders

**Copycats and Contrarians: Why We Follow Others...and When We Don't**  
By Michelle Baddeley  
Yale University Press, 320pp, £18.99  
ISBN 9780300220223  
Published 29 May 2018

The question of why many people imitate others while a few remain independent has fascinated scholars. *Copycats and Contrarians* brings a multifaceted approach to the theme, delving into medicine, economics, entrepreneurship, neuroscience, animal behaviour and mob psychology.

The result is an admirable literature survey, well researched, accessible and comprehensive without being too long. It opens with the death of Diana, Princess of Wales in a car crash in 1997, recalling the public displays of grief and the anger directed towards the Royal Family, particularly the Queen. Other examples include "shaken baby" syndrome, tulip mania, sub-prime lending and Steve Jobs as contrarian.

Anyone seeking ideas for multi-disciplinary research will find plenty of options. The chapter on animal herding is especially engaging and reminds us how herding can be highly functional. The chapter on neuroscience, by contrast, mainly shows us how little we know about herding and the brain. It tells us that there is something there, but it is not clear what these brain activations mean or why they matter.

Yet for all Michelle Baddeley's authority, it is never really clear what overarching point she is trying to make. Moreover, the questions posed are too familiar to cause much excitement. Why do people copy one another? Is it a good or bad thing? Such questions have become conceptual ruts. Yet the author never asks whether we need new questions.

Some of the examples, too, are shopworn, such as selfish dictators and cruel prison guards. We also

know that copycat behaviour can exacerbate flash crashes in the price of securities. Few readers will be surprised by the observation that it is hard to switch off from work when our mobile phones are always on or that it can often be better to be conventionally wrong than unconventionally right.

The work on contrarians is more interesting, not least because it opens our eyes to how they can unleash great wealth by doing things differently. Remember the days before tablet computing, when Microsoft and PCs seemed impregnable? Is Samsung foolish to try to create its own operating system? Or is it precisely what the company needs to lure customers bored and frustrated by Android?

The book also contains counter-intuitive insights concerning the potential wisdom of crowds, the logic of speculative bubbles and money systems as relying on copycat behaviour. The last chapter is the most disturbing. It concerns the impact of social media and over-connectedness, delving into fake news and false information such as impossibly glowing online profiles. The material on the emergence of opinion leaders is also thought-provoking, to say nothing of that on Donald Trump's skill in manipulating social media to become president. By the end, the reader is left wondering what is real and longing to escape from this hermetically sealed world.

But that chapter is frustratingly short. More important, there are still no new thematic questions. Indeed, the book ends like the first draft of a PhD thesis by observing that we need to know more about why people herd or rebel. It would certainly be interesting to know more about why people sometimes rebel. Conformity, however, is in danger of being done to death.

**Helga Drummond is professor of decision sciences at the University of Liverpool Management School.**

## NEW AND NOTEWORTHY

### Bat

**Tessa Laird**  
**Reaktion Books**

The Reaktion Animal series, now covering everything from albatrosses to zebras, explores the biological and the cultural life of different species. Few have attracted as wide a range of responses as bats. Seen as ill-omened and associated with madness by some, they are elsewhere regarded as good luck charms and have inspired artists such as Jeremy Deller and philosopher Thomas Nagel's famous essay "What is it like to be a bat?" Tessa Laird's dazzling study takes in everything from Colombian breast plates to Chinese matchboxes, not to mention the Australian newsreader who raised an orphaned flying fox.

### Autobiography: A Very Short Introduction

**Laura Marcus**  
**Oxford University Press**

Autobiography, writes Laura Marcus, "is not merely one genre among many, but a nodal point for perennial questions posed in literature and in life". It is also, sometimes under the rubric of "life writing", at the heart of much recent academic research. This book considers examples ranging from St Augustine to Julian Assange, exploring how different authors put the focus on confession, consciousness, childhood and the public self. It also explores the place of photographs in autobiography; autobiography as performance; psychoanalysis in (and of) autobiography; unauthorised autobiographies; autobiographical novels, fiction interpreted as autobiographical and the new hybrid form known as autofiction.

### The Right Amount of Panic: How Women Trade Freedom for Safety

**Fiona Vera-Gray**  
**Policy Press**

Women in public spaces, argues Fiona Vera-Gray, habitually make decisions about "where to go or how to get there, what to wear or where to look, often without even thinking about it – not so much a choice as just 'what you do'". This study draws on interviews and detailed notebooks produced by 50 women in the UK to reveal the extent of such "safety work", which often "requires a reduction; women made to feel small and to take up less space in public". If we want to create a world where women no longer have to "routinely trade their freedom for safety", listening to their testimonies would be a good start.

### Civilization and Disease

**Henry E. Sigerist**  
**Cornell University Press**

Henry Sigerist (1891-1957), claims Elizabeth Fee in the introduction to this book, was "the first medical historian to enjoy celebrity status" and whose work "continues to be influential", both among historians and "left-wing medical professionals". Astonishingly wide-ranging in his interests across cultures and in the arts as much as the sciences, he suggested, for example, that William Harvey's work on the circulation of the blood "showed the same preoccupation with movement as did baroque art". Based on his six Messenger Lectures delivered at Cornell University in 1940, *Civilization and Disease* compellingly relates developments in medicine to economics, social life, the law and religion, and also to philosophy, literature and even music.

### The Ethnobotany of Eden: Rethinking the Jungle Medicine Narrative

**Robert A. Voeks**  
**University of Chicago Press**

We often tell ourselves a powerful story, according to Robert Voeks, that "the biblical Garden of Eden, God's sacred oasis of perpetual spring, healing leaves, and life everlasting, was hidden deep in the primordial rainforest". But although it makes a compelling argument for preserving such rainforests, is it really true that there is or was a world of "noble natives" and "mysterious shamans" which is also full of "miraculous drug plants"? Or is this largely just a Western fantasy? Here the author, drawing extensively on his experiences of working in Borneo, Brazil and Mozambique, carefully untangles what may actually be true from what we would just like to believe.

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Cardiff Business School is widely regarded as one of the leading business and management schools in the UK, ranked 6th in the UK for the quality of its research and 1st for a supportive research environment in the 2014 Research Excellence Framework (REF). We educate over 3,500 students annually, including over 1,500 international students. Cardiff Business School is placed in the top 100 of global business schools by the THE, Shanghai and QS World 100 rankings. We have an international faculty of world-leading scholars and our research reputation has helped us become an attractive centre of scholarship for colleagues from the UK and beyond.

As the world's first **Public Value Business School**, Cardiff Business School has a commitment to delivering societal as well as economic value through the undertaking of world leading inter-disciplinary research addressing the grand challenges facing business and organisations:  
[https://www.youtube.com/watch?v=Cft\\_feTpNxm](https://www.youtube.com/watch?v=Cft_feTpNxm).

The School is seeking to make a number of academic appointments across and between its disciplines in support of excellence in both its teaching and research activities and consistent with its Public Value agenda.

- **Lecturer in Sustainable Business Operations (Teaching & Research)**  
Ref 7462BR  
Closing date: Sunday, 29th July 2018.
- **Lecturers in Accounting or Finance (Teaching & Research)** Ref 7597BR  
Closing date: Sunday, 12th August 2018.

- **Lecturer in Accounting or Finance (Teaching & Scholarship)** Ref 7593BR  
Closing date: Sunday, 12th August 2018.
- **Chair in Accounting or Finance (Teaching & Research)** Ref 7581BR  
Closing date: Sunday, 12th August 2018.
- **Lecturers in Management, Employment and Organisation Studies (Teaching & Research)** Ref 7585BR  
Closing date: Sunday, 12th August 2018
- **Lecturer/Senior Lecturer in Management (Teaching & Research)** Ref 7586BR  
Closing date: Sunday, 12th August 2018.
- **Reader/Chair in Management, Employment and Organisation Studies (Teaching & Research)** Ref 7587BR  
Closing date: Sunday, 12th August 2018.
- **Lecturer/Senior Lecturer in Marketing or Strategy (Teaching & Research)**  
Ref 7584BR  
Closing date: Sunday, 12th August 2018.

For further details and to apply please visit: [www.cardiff.ac.uk/jobs](http://www.cardiff.ac.uk/jobs) and click on 'Academic Vacancies'.





**The Hong Kong Polytechnic University (PolyU)** is a government-funded tertiary institution in Hong Kong. It offers programmes at various levels including Doctorate, Master's and Bachelor's degrees. It has a full-time staff strength of around 5,300 including 1,400 academic staff. The total annual consolidated expenditure budget of the University is in excess of HK\$7.5 billion. Committed to academic excellence, PolyU aspires to become a leading university that excels in professional education, applied research and partnership for the betterment of Hong Kong, the nation and the world. For further details about the University, please visit PolyU's website at [www.polyu.edu.hk](http://www.polyu.edu.hk).

The University is now inviting applications or nominations for the following post:

## Head of Department of Electronic and Information Engineering (Ref.18053101)

The successful candidate will be appointed as Chair Professor/Professor normally on regular terms of appointment, commensurate with his/her qualifications and experience, and hold a concurrent headship appointment. The headship appointment is normally for an aggregate period of six years in two three-year terms of office. Post specification can be obtained from [http://www.polyu.edu.hk/hro/job/en/external\\_adv/deans-heads.php](http://www.polyu.edu.hk/hro/job/en/external_adv/deans-heads.php). Other suitable candidate(s), if deemed appropriate by the University, may be appointed as Chair Professor/Professor.

### Remuneration and Conditions of Service

Terms of appointment and remuneration package are negotiable and highly competitive. For general information on terms and conditions for appointment of academic staff in the University, please visit the website at <http://www.polyu.edu.hk/hro/TC.htm>.

### Application

Applicants are invited to send a detailed curriculum vitae, and direct any enquiries, to the **Chairman of the Search Committee for recruitment of Head of Department of Electronic and Information Engineering, Human Resources Office, 13/F, Li Ka Shing Tower, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong or via email to [hrcsie@polyu.edu.hk](mailto:hrcsie@polyu.edu.hk), quoting the position being applied for and the reference number.** It is optional for the applicants to include two to three reference letters in their applications. **Consideration of applications will commence in September 2018 until the position is filled.** Candidature may be obtained by nominations. The University reserves the right to make an appointment by invitation or not to fill the position. General information about the University is available at <http://www.polyu.edu.hk> or from the Human Resources Office [Tel: (852) 2766 6562]. The University's Personal Information Collection Statement for recruitment can be found at [https://www.polyu.edu.hk/hro/job/en/guide\\_forms/pics.php](https://www.polyu.edu.hk/hro/job/en/guide_forms/pics.php).

[www.polyu.edu.hk](http://www.polyu.edu.hk)

Opening Minds • Shaping the Future



The University of Queensland, ranked consistently among the world's top universities according to several key independent rankings, has educated and worked with outstanding people for more than a century to deliver knowledge leadership for a better world.

The School of Political Science and International Studies is at the forefront of teaching and research in political science, international relations and peace and conflict studies in Australia. The School's academic teaching and research staff include internationally recognised scholars who are leaders in their research fields and award winners for innovation and excellence in teaching. The Head will provide a vision and implement policies that will foster excellence in research, teaching and engagement in the School. This vision will aim to enhance the teaching and research excellence of the School within a financially sustainable resource environment. It will reflect an awareness of the national and international context in the discipline, as well as an understanding of contemporary issues in curriculum development, policy and international educational debates.

Visit [www.uq.edu.au/uqjobs](http://www.uq.edu.au/uqjobs) to obtain a copy of the position description and application process.

**Applications close 9 August 2018 Job No. 504596**

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## SRHE

*Society for Research into Higher Education*  
Advancing knowledge Informing policy Enhancing practice

### Applications invited for new research funds

**Closing date: 1st September 2018**

The Society for Research into Higher Education (SRHE) is an independent and self-supporting international learned society. Its aim is to advance understanding of higher education, especially through the insights, perspectives and knowledge offered by systematic research and scholarship.

As part of the Society's programme of strategic initiatives aimed at sustaining research into higher education, the Society is offering a series of annual research awards.

This scheme is funded entirely by the Society, and it is intended to support new research into higher education. The Society is offering:

- research awards of £10,000 each for research focused on any aspect of higher education submitted under three overarching themes: Higher Education Policy, Higher Education and Society, and Higher Education Practice.

These awards are only open to individual members of the Society. For further details about the benefits of SRHE membership, visit [www.srhe.ac.uk](http://www.srhe.ac.uk) and click on 'Join Us'

- scoping awards of £5,000 each for the exploration of any new or emerging area of higher education research leading to the development of a plan for further research.

These awards are open to all and applications are welcome from members and non-members of the Society.

Further information and application details for all these awards are available on our website at [www.srhe.ac.uk](http://www.srhe.ac.uk). All enquiries to [srhe@srhe.ac.uk](mailto:srhe@srhe.ac.uk)

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# SES

## Society for Educational Studies

### 2020 Anniversary Awards

#### Small Grants Scheme

The Society for Educational Studies are delighted to announce the launch of the 2020 Anniversary Awards marking the sesquicentenary of the Elementary Education Act of 1870 in 2020, to support new research on educational reform legislation in a changing society.

The Society for Educational Studies invites bids from researchers interested in making an original contribution to knowledge in the field of educational studies. Applicants applying for these grants must be affiliated with a British university, college or school and will be asked to become members of the SES if they are not already members. (Membership fee for 2018 is £30).

The maximum grant available for those applying for a 2020 Anniversary Award is £10,000 over one year. A maximum of six grants will be funded, depending on the quality of the applications.

Details of how to apply can be found at: [www.soc-for-ed-studies.org.uk/grants](http://www.soc-for-ed-studies.org.uk/grants) or by emailing SES Administrator Aidan Thompson [a.p.thompson@bham.ac.uk](mailto:a.p.thompson@bham.ac.uk)

**Closing date for applications for the 2020 Anniversary Awards is 17.00 hours on Friday 31st August 2018.**

A Gold  
University

# THE POPPLETONIAN

YOUR OFFICIAL

NEWSLETTER



**Whither Poppleton?**  
Concerns about the future of our institution intensified last week following reports that an advertisement had been placed online for "An Entertainments Manager". Although the proliferation of managers is now an accepted feature of higher education, the nature of this latest appointment raises new concerns about the future of our beloved university.

GETTY MONTAGE



## Ding-dong, the don is dead

We regret to report the brutal murder of one of Poppleton's senior academics.

According to police reports, Dr Liam Poster of our Department of Earth Sciences was found lying in a pool of his own blood at the bottom of the stairs leading to his tutorial office early yesterday afternoon.

Shortly after the discovery, the Poppleton police announced that another of our leading academics, Professor Roger Windows, the only surviving member of our Department of Medieval Philosophy, had been taken into custody and formally charged with the brutal slaying.

What could possibly lie behind this appalling tragedy?

Mr Ted Odgers of our Department of Media and Cultural Studies believes that the

catastrophe was the "inevitable outcome" of the battle between two very different views on the best way to capture student attention in lectures.

Dr Poster, the murdered man, was apparently a passionate disciple of Professor Patricia Owen-Smith of Oxford College, Emory University, who only recently, in the pages of *Times Higher Education*, characterised her method in the following distinctive manner: "I begin our class with the sound of a Tibetan singing bowl."

But, if Mr Odgers' analysis is to be believed, Dr Poster's wholehearted commitment to Tibetan donging inevitably brought him into conflict with Professor Windows, who had been very influenced by recent Birmingham City University

research in which students who engaged in 10 minutes of silent mindfulness meditation before a lecture were better able to recall its contents. "That was quite enough for me," wrote Professor Windows on his website. "I now begin all my lectures by asking students to maintain absolute silence and focus on nothing other than their own breathing, how their chest rises and falls, how their belly pushes in and out, and how their lungs expand and contract. It is a classic mindfulness exercise."

Mr Odgers claims that the conflict between Dr Poster and Professor Windows, the battle between the so-called Tibetan Dongers and the so-called Birmingham Breathers, came to a head when, apparently under the instigation of Dr Poster, several students invaded one of Professor Windows' lectures and disrupted his silent breathing mindfulness session by loudly and gratuitously donging a significant number of Tibetan singing bowls.

Mr Odgers was anxious to stress that he, personally, was neither a Donger nor a Breather. Indeed, when it came to gaining full student attention at the beginning of a lecture he believed that few techniques could rival that displayed by his own head of department,

Professor Gordon Lapping, who had recently arrived 10 minutes late for his second-year lecture on Gender Fluidity, stumbled up the steps leading to the lectern, fallen heavily across the cable leading to the overhead projector and ended up impaling himself on the business end of the blackboard pointer.

Mr Odgers was, however, reluctant to compare this highly successful attention-grabbing technique with that employed by either the Dongers or the Breathers. In his uncharacteristically judicious words, "Clearly, more research is needed."



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