

University of
South Wales
Prifysgol
De Cymru

The
future
edition

Impact



Rowan Williams on shaping citizens

Trudy Norris Grey on women in the boardroom

Peter Hain on the rainbow nation

Technology | Business | Care | Policing | Food

UNIVERSITY OF SOUTH WALES BI-ANNUAL MAGAZINE
EDITION 1

news in brief



The University of South Wales is launched, opening its doors to 33,500 students with campuses in Cardiff, Newport and the south Wales Valleys.



A Military Community Covenant is signed between the Armed Forces in Wales and the University.



TalkTalk CEO, Dido Harding presents the Cardiff Business Club bursary to Business school student Molly Downs in recognition of her academic achievements.



The Rt Revd and Rt Hon Lord Williams of Oystermouth, former Archbishop of Canterbury, becomes Chancellor of the University.



British Lions captain, Sam Warburton speaks to students about the importance of a strong support team.



The University is announced as the UK's anchor partner in the first worldwide open educational resource (OER).



The business focus of the University is welcomed by the Director General of the CBI, John Cridland.



US Ambassador to the UK, Matthew Barzun, visits the University's Cardiff Campus where he meets creative industries students and gives an impromptu lecture on the power of motivation.



Matthew Taylor, CEO of the RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce) is the latest speaker at the University's Centre for Advanced Studies in Public Policy (CASPP).

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Above all else, our University is about the future

Vice-Chancellor **Julie Lydon** introduces *USW Impact*

The business leaders and professionals who founded our University over 100 years ago had an eye to the future. They recognised that in an increasingly complex world, whether in the leading industries of their day or the ever-developing world of the arts and humanities, higher education was going to be increasingly important to the future prospects of their students and their communities.

Now, as Vice-Chancellor of one of the UK's 10 largest major Universities, I shake hands with five thousand new graduates every year. Proudly wearing cap and gown, they are embarking on the next stage of their journey in life. We see their success with pride, and we celebrate their achievements. The creation of a new University also leads us to reflect on our role in the future.

We do not solely equip students for their chosen profession and career, although this is fundamental to what we do as a vocationally focused university and it is a key measure of our success. We also provide a deeper capability to think critically, to ask challenging questions, and to be intellectually flexible in tackling new problems.

As a university community we see our role as being the intellectual crucible: adding value by mixing the elements of academic thought in applied research, policy development in government, and the experiences of the world of industry and employment. In the past twelve months we have provided a platform for intellectual debate with the leaders of the CBI, the Joseph Rowntree Foundation, NESTA, and the RSA.

Continuing in this vein of debate and challenge, it's my great pleasure to welcome you to the first edition of *USW Impact*, our new university magazine. As we did with the two universities who came together to form the University of South Wales, we have drawn the very best elements from their own magazines, *The Silurian* and *Glamorgan Talent*.

In this first edition of *USW Impact* we have asked thinkers from the widest range of the academic community of the University of South Wales to be challenging, provocative and outspoken.

This edition explores the future for our society and democracy. Our Chancellor, Rowan Williams, asks fundamental questions about how universities can produce engaged citizens, while policing expert, Colin Rogers questions the role of the 'bobby on the beat'.



Industry is well represented. Alumna and technology industry leader Trudy Norris Grey issues a challenge for better representation in our boardrooms. Janine Griffiths-Baker and TheCityUK Chief Executive Chris Cummings explore respectively the future for our professions and for financial services in Wales. Khalid Al Begain looks ahead to next generation of computing devices we all use.

As you'd expect from a University with students from 122 countries, we have a strong international focus. Visiting professor Peter Hain looks to the future for the Rainbow Nation of South Africa, while genomics expert Denis Murphy explores how the future food supply can be secured. Another alumna, MBA graduate David Parker, gives his perspective as the head of the London office of Hong Kong Investment

Authority on the economic future of the far East.

We hope that this first edition will challenge, entertain and inform you.

Professor Julie Lydon is Vice-Chancellor and Chief Executive of the University of South Wales



Photograph courtesy of Michael Hall

Shaping citizens

A healthy society in the future needs critical and challenging citizens, argues **Rowan Williams**

There is a great deal being said and written about the public responsibilities of the university these days. It is usually in terms of how universities demonstrate public 'impact', as well as how they reach out to local and national communities. In the context of a far from friendly regime of public funding and an obsessional desire to make sure of value for money, this has not been particularly good news for higher education institutions. As one commentator has pungently put it, there is often a pressure to turn first class academic institutions into second-rate businesses, rather than looking to some other public institutions like galleries and museums, which have brilliantly reshaped their operations, to provide a different and more appropriate model for outreach and impact.

Impact is not all about commercial significance, any more than it is about the bare quantity of public notice. It is a slow burning matter and not always easy to quantify. One of the things that universities should be saying clearly and insistently is that most of the metrics currently used to measure 'impact' are at best clumsy, and at worst counter-productive. People in higher education do their best and most publicly effective work when they are not constrained by box-ticking, and looking over their shoulder towards a set of official requirements.

But equally a university is missing a fundamental aspect of its task if it does not think in terms of the difference it makes.

Who measures this and how, is a matter of proper debate, and I believe we have currently got it seriously and damagingly

wrong. But the issue is a real one. Universities have never simply been nurseries for experts. Not only in Europe but throughout the world, their beginnings are in the processes of training that were thought appropriate for people who would play a leading role in public life. In medieval Europe, this was mostly the clergy; in China the mandarin class; and in Victorian England the burgeoning upper middle class, who would run the expanding bureaucracy of the nation and empire. But with the advance of democracy, all citizens are potentially agents in public life. The formation that was once reserved for a particular class is now relevant to all.

But this means that we must be crystal-clear about the difference between training people to perform publicly useful tasks, and educating people who will ask constructively critical questions in public life, who will understand the forces that shape it and know how seriously (or not) to take the confused mass of propaganda and fashion that swirls around in the overpopulated information culture of our age. The most important bit of 'impact' any university course can have is to help people to become intelligent citizens – and that means helping them to see what a critical argument looks like, and to see what genuine thinking is. Part of the function of a university that works really well, is to bring different kinds of thinking together, and bring them into conversation so that we learn to recognise the same rigour and high expectations in other fields of study and skill.

Learning to appreciate that good thinking is both diverse and convergent, and that it works in many different ways but is always characterised by rigorous self-awareness and self-challenge, is essential to a healthy public life. Citizens who have never thought about what good argument looks like, or who have never been challenged to recognize the solidity and quality of a different sort of skill from their own, are at the mercy of those who know how to press buttons for emotional responses, self-defensive

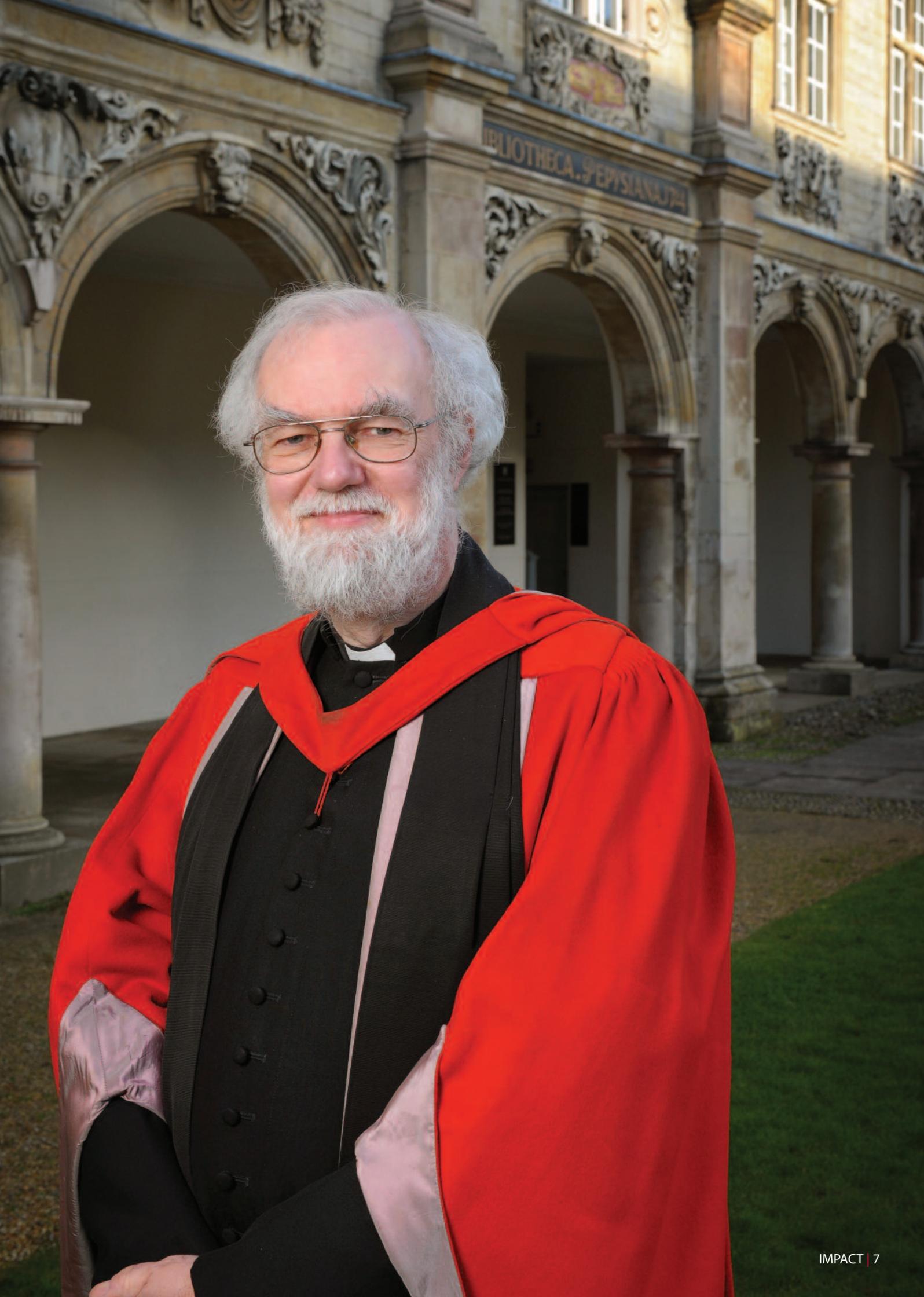
responses, that just reinforce what makes us feel safer and better. All good education should be teaching us how to be free from that kind of slavery.

Higher education in particular needs to ask how it protects its students from becoming passive and safe, and gives them the equipment for raising issues that may change the landscape of what is thought to be possible. So a functioning university will, across the board, want to be sure that students in any subject are thinking about thinking.

Far from this being some sort of navel-gazing exercise, it is essential to equip citizens who can confidently take part in the discernment and management of public life, whether as plain voters, or activists or leaders of various sorts. Some have been scornful of certain subjects offered for study by newer universities, and talk of an erosion of intellectual seriousness. I suspect that there are no inappropriate subjects, only inappropriate or inadequate methods of teaching. Some of the basic issues round self-critical thinking will arise in any area. The job is to make sure they are clearly flagged and explored, in an atmosphere of respect and positive expectation.

As I said earlier, this is, I believe, the 'impact' that matters most – helping to shape a culture in which it is harder to treat the public as fools, harder to exploit prejudice or fear, and easier to conduct constructive argument in public without the melodrama of extreme polarisation. 'The truth will make you free' is a text that as a religious believer, I care about deeply. Its application to the life of the university in the wider society is not the least important aspect of what it means.

Rt Revd and Rt Hon Lord Williams of Oystermouth, Archbishop of Wales (2000-2002) and Archbishop of Canterbury (2002-2012), is Chancellor of the University of South Wales.



Can the 'Rainbow Nation' keep its promise?

Anti-apartheid veteran **Peter Hain** contemplates the future for a democratic South Africa





The horrific police massacre of striking South African miners where 34 were killed and 78 injured at Lonmin's Marikana platinum mine in August 2012, seemed to symbolise the unresolved legacy of apartheid: a wealthy white owned corporation pitted against its poor black workers.

Lawyers representing the families of the dead miners insist that the massacre was preplanned, calling chilling testimony that 22 of the dead were executed in cold blood, away from the initial clash out in front of the media which had left 12 dead. Guns were planted on some of the corpses and witnesses claimed to have been intimidated and even tortured by the police.

Ronne Kasrils said 'Marikana was a watershed'. He was the exiled hard man intelligence chief of Nelson Mandela's African National Congress in its liberation decades and a former ANC Minister, but like many other veterans is now highly critical of the way his party is ruling.

From 1994 under Mandela's extraordinary leadership and insistence on reconciliation, there was a stable transition toward a stable multi-racial democracy. Big business was reassured and stayed, and the white minority were still running the economy even if the black majority ran the government. This deal could not have been otherwise or the peaceful emergence of the joyous 'rainbow nation' would never have occurred.

Global investor confidence was maintained, but most black workers were left on low wages. At Marikana the ANC – aligned Mineworkers Union – a pillar of the anti-apartheid struggle – lost rank and file credibility to a break-away union.

Negotiations collapsed and violence soon followed, the ANC appearing to turn its guns on its own people with dreadful echoes of apartheid.

Marikana has become an emblem of what ANC critics say is a cosy deal with white-run business at the expense of South Africa's poor – triggering grass roots disaffection worsened by local and national ANC leader corruption. There are widespread, anguished complaints that the current crop of leaders seem to be corruptly enriching themselves at the taxpayers' expense, not sticking true to Mandela's values. 'They are looting the country,' ANC activists told me time and again as I travelled around this amazing and beautiful land to make a film for BBC2 broadcast in April 2013.

Yet South Africa remains a vibrant democracy with a vigorous opposition.

It has perhaps the most admired constitution in the world, an independent judiciary and a strong and vocal civil society. It has a wealthy economy and ranks high in both the UN's measure of attractiveness for foreign direct investment and the World Bank's Ease of Doing Business Index, with well regulated, strong financial institutions, banks, stock market, and good corporate governance.

Accounting for fully a fifth of total GDP for Africa – despite having a population of just 50 million in a continent of 1 billion – it is now a member of the China-Russia BRICS nations, and is ideally placed to be the gateway for fast rising African economic growth. The ANC has brought electricity, housing, water and sanitation to millions.

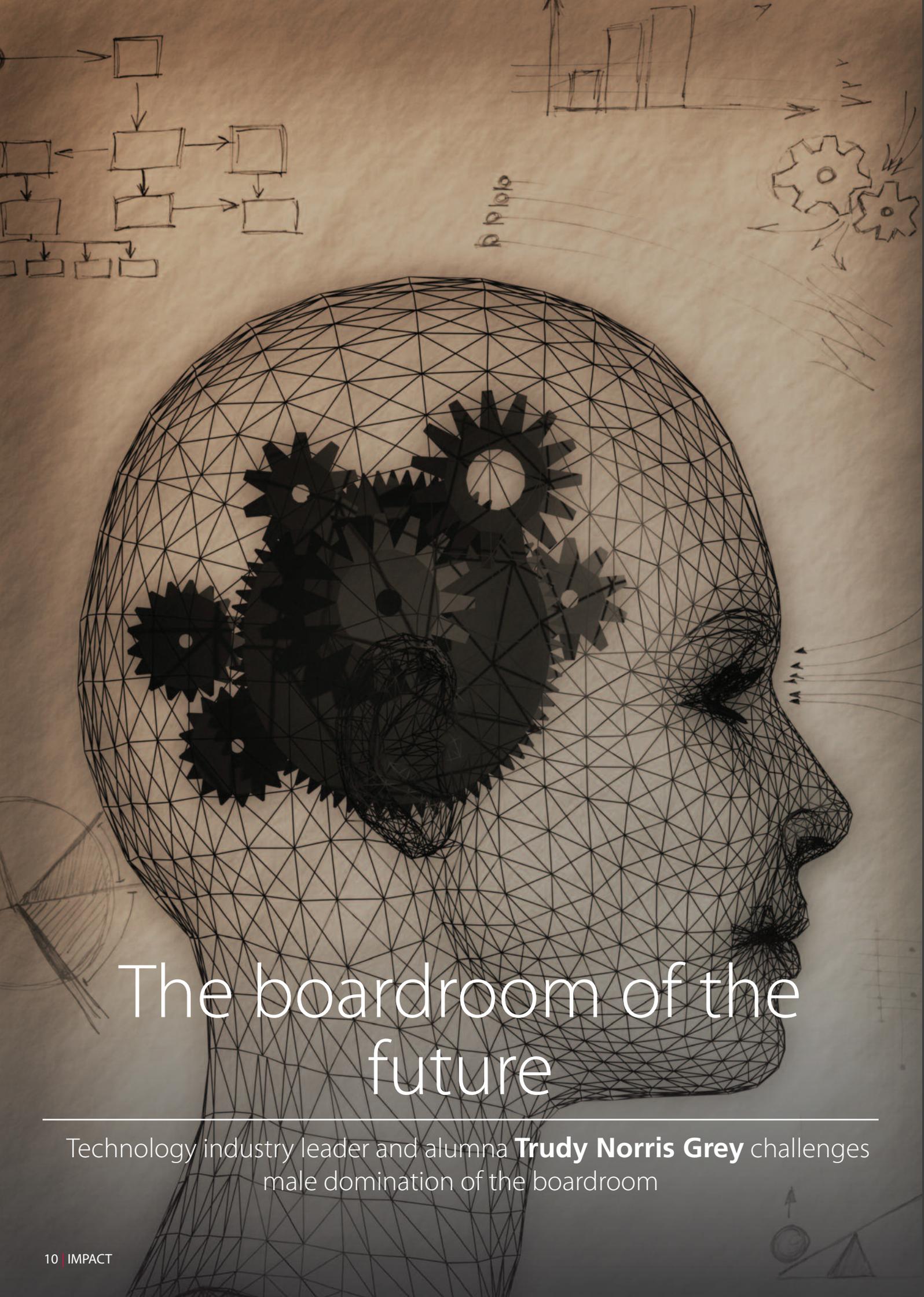
Nevertheless a growing population, continuous migration from sustainable rural subsistence to urban squatter poverty, and three million immigrants from Mali to Zimbabwe, means the demand on government for basic services seems insatiable.

There are horrendous levels of black unemployment, worsened by apartheid's deliberate policy of ensuring blacks had no skills. Despite the ANC doubling the numbers at school, educational performance ranks amongst the worst in the world.

The country remains joyously transformed from dark and evil apartheid times, yet the persistent, embittered, sense of betrayal goes well beyond what I know only too well from my own twelve years a British Government Minister. Seemingly inevitable voter disappointment and disaffection with all parties in all democratically elected governments.

Lonmin is now run by a black Zimbabwean Chief Executive. A new black business elite has been empowered – even creating some black billionaires. But black workers have not benefited as much as they should have done from the country's growth and stability since democracy came about in 1994. Only too aware of this, the ANC is trying out something crucial to those who want an alternative to the predominant, global, neoliberal economic model. But simultaneously maintaining essential international investor confidence and promoting social justice is difficult enough in a society like Britain, let alone in South Africa with an awful apartheid legacy which remains a gigantic millstone around the country's neck. Can the ANC make government a Mandelalike 'cause' once again, or has the sheer wear and tear of governing, coupled with an 'ourtime-to-eat' temptation to self-enrich made that impossible? The answer to that question will determine whether the rainbow nation can fulfil its promise.

Rt Hon Peter Hain MP is Visiting Professor in Governance at the Centre for Advanced Studies in Public Policy, and an Honorary Fellow of the University of South Wales. Member of Parliament for Neath, he is a former Secretary of State for Wales, Secretary of State for Northern Ireland, Leader of the House of Commons, and Foreign Office minister. His biography *Mandela* was published by Spruce (2010) and his memoirs *Outside In* by Biteback (2012).



The boardroom of the future

Technology industry leader and alumna **Trudy Norris Grey** challenges male domination of the boardroom



In 2013, the boardrooms of top UK companies look pretty male and stale. Despite nearly 40 years of legislation prohibiting discrimination on grounds of sex, over 80% of those sitting on the boards of the UK's biggest companies are men.

Latest figures show that just 17.3% of the boards in FTSE 100 companies are women, while the figure is even lower at 13.2% in FTSE 250 companies. There has been some progress since 2010, when Lord Davies recommended a target of 25% women. At this point, boards of FTSE 100 companies were 10.5% female while the figure for FTSE 250 companies was only 6.7%. Cranfield University suggests that the FTSE 100 is on a trajectory to achieve the 25% target by 2015 and 34.4% by 2020, as long as the current momentum is maintained. This assumes that one third of all new appointments will be female – not an unreasonable proposition given that we make up 50% of the population.

In the UK, we have eschewed quotas for women, preferring the so-called voluntary approach whereby companies will be persuaded by the business case for diversity on their board. Few topics are guaranteed to provoke a more heated debate in this country than the prospect of quotas, or indeed any use of state-imposed regulation connected to equality and diversity. The most common objection to quotas is that they undermine the achievements of those who have made it on merit. There is a fear that women may be appointed who are insufficiently capable to perform the role and therefore give the whole process a bad name.

No one wants to feel they got a position to tick a box, rather than because they were the best person for the job. Do we really believe, however, that the current position reflects merit?

Are men really five times more likely than women to be the best candidates for board positions?

If you look at science, technology and engineering companies, women are an even rarer sight around the boardroom table. Yet these are the very industries which need to attract more talent to fuel the UK's economic growth. I chair Women in Science and Engineering, a not for profit organisation which promotes female talent in science, technology, engineering and mathematics (STEM), from classroom to boardroom.

It would be so much easier to persuade girls in the classroom to consider a career in STEM if they could see more women reaching the top in these sectors.

As our royal patron, HRH The Princess Royal said at Offshore Europe in Aberdeen this week, while opening a debate on women in the Oil and Gas industry, that it is time to raise our eyes from the old page that says maths and science is for boys. Exactly the same is true of boardrooms. Let's turn the page to a new future, where women and men from all backgrounds are working

shoulder to shoulder around the boardroom table to build a great future for British industry. This is the future I want for my daughter and my sons – it is better for them, better for business and better for Britain.

Women into Science and Engineering (WISE) inspires women and girls from all backgrounds to pursue science, technology, engineering and mathematics as pathways to exciting, worthwhile and fulfilling careers. We support educational institutions, business and industry to provide a welcoming and positive experience for women. WISE acts as a catalyst and broker – bringing together women, educational institutions, business and industry to create a powerful force for change. Working in partnership, our aim is to ensure that 30% of the UK's STEM workforce is female by 2020.

Join us to build a better future for British industry at www.wisecampaign.org.uk.

Trudy Norris Grey (BA (Hons) Business Studies, 1979-83) is an Honorary Fellow of the University of South Wales. Senior Vice President at Microsoft, she chairs Women into Science and Engineering (WISE).

What does the future hold for care?

The King's Fund Chief Executive **Chris Ham** warns against silos in future health and social care



Integrated care has been widely touted as a solution to the urgent challenges facing health and social care services across the UK. As someone who has long advocated greater integration of care, I very much welcome the interest now being shown by policy makers. I am also worried that without proper forethought, we may end up adopting the wrong kind of integration.

Evidence published by The King's Fund shows that integrated care takes many different forms. In some cases, a single organisation might take full responsibility for health and social care, whereas in others separate organisations may choose to work together through networks and alliances. The scope of integration also varies from a focus on the whole population to integration for people with specific needs or diseases.

The benefits of integration occur first and foremost when barriers between services and professionals are broken down, not when organisations are merged. It is for this reason that priority must be given to clinical and service integration rather than organisational integration. An example

would be establishing multidisciplinary teams based in localities to meet the needs of people most at risk.

Integrated care also needs to be ambitious in its scale and scope. Too often in the past the emphasis has been on small scale pilots seeking to improve outcomes for people in defined localities or those with specific needs. The unprecedented challenges facing health and social care services, now and in the future, demand a much more radical approach, one which promotes clinical and service integration for a city or a county and does so as far as possible for the whole population.

A population focus is essential because the biggest opportunities to improve care are to be found among people with co-morbidities.

The risk in integrating care mainly around people with single diseases such as diabetes or conditions such as dementia is that new silos will be created in place of those they are intended to replace.

Integration should therefore primarily be about people not diseases, with particular priority given to people with complex needs.

Another danger to avoid is to establish integrated care organisations that become unresponsive and inefficient monopoly providers of care to the populations they serve. Some of the evidence from the US suggests that integrated systems such as Kaiser Permanente perform well because they operate in a competitive market.

Knowing that the people they serve can choose to go elsewhere if access is poor and quality variable stimulates Kaiser Permanente to deliver good care at a reasonable cost. The challenge for countries like Wales that have rejected the use of competition in health care is to ensure that integrated health boards behave more like Kaiser Permanente than health authorities in the past which required people to wait months if not years for some treatments and used their budgets with variable efficiency at best.

One way of responding to this challenge can be found in Sweden where county councils are monopoly providers of health care in their regions, and yet compete with each other to do well in the league tables that are used to compare the performance of councils. In effect, Sweden relies on benchmarking, sometimes referred to as 'yardstick competition', and this is used as an alternative to the market. The results can be seen in places like Jonkoping County Council which has been widely studied as an example of a high performing health care system.



Another approach can be seen in New Zealand where the Canterbury District Health Board has achieved a deserved reputation for its work in realising the benefits of organisational integration. A new analysis published by The King's Fund shows how these benefits have resulted from a commitment to integrated care by leaders who have been in post for several years and have developed the skills and capabilities of many hundreds of staff in quality improvement. New Zealand's Auditor General recently singled out Canterbury for its achievements.

In their different ways, Kaiser Permanente, Jonkoping County Council and Canterbury District Health Board show what can be achieved through the right kind of integration: focused on populations, delivered at scale, and driven by competition in one case, benchmarking in another, and leadership and staff engagement in the third.

In all of these organisations, integrated care has been pursued over many years with the benefits taking time to appear.

The distraction of organisational restructuring has been avoided, enabling sustained attention to be given to service improvement. Wales must study and learn from these and other examples if it is to justify its faith in integrated care. Above all, a way must be found of supporting and stimulating health boards to become high performing organisations in a context in which exposure to the market is not an option.

Professor Chris Ham is Chief Executive of The King's Fund.

Emulating Wales's sporting success

TheCityUK CEO **Chris Cummings** predicts a bright future for financial services in Wales



Wales is rightly proud of a rich rugby history that stretches back more than 150 years. With young Welsh players forming the backbone of a successful Lions tour down under, the national team is well placed to maintain this golden era with a third successive Six Nations championship early next year.

There is every indication that the financial services industry in Wales will emulate this sporting success. Major growth is being underpinned by significant infrastructure investment alongside a burgeoning academic sector driving innovation.

Wales is one of the UK's fastest growing locations for financial and related professional services. The sector employs over 60,000 people across the nation and contributes almost 10% of GDP, and this is expected to grow over the next decade.

Wales has a growing reputation for providing quality professional services and support functions, with particular expertise in insurance, ICT support, taxation and legal services.

South Wales plays a particularly important role, with financial centres in Cardiff, Swansea and Newport. Between them, these three cities account for over half of the total employment in the sector, with 22,300 employed in Cardiff, 6,700 in Swansea and 5,700 in Newport. In Cardiff, the number of jobs in the sector has increased by about 60% over the last decade – that's faster than any other UK city.

A recent YouGov survey commissioned by TheCityUK found that 65% of Cardiff residents believe that financial services is a key driver of growth in the region, higher



than in London (60%), Birmingham (55%), Manchester (49%) or Liverpool (43%). The city plays host to a number of major firms, with home-grown talent competing alongside global players such as HSBC, Admiral Group, Eversheds and Legal & General. In addition, it has become the European hub for comparison sites such as Go Compare and Confused.com, both of which are headquartered in Cardiff.

One of the reasons companies are increasingly attracted to south Wales is because of the strength of higher education.

Wales's proficiency in producing industry leading research and focus on ensuring academic institutions are commercially focused provides businesses with the insight and expertise they need to develop innovative new products and services. Firms also need talented staff to help them grow and expand, especially in difficult economic times, and institutions such as the University of South Wales provide this skilled workforce.

The launch of the Centre for Financial and Professional Services shows that the University understands the importance of the sector in providing jobs and generating economic growth. Graduates will experience training specifically designed to develop the skills required to work in the financial sector and compete in a global market – exactly what employers are looking for.

But the financial sector is about more than just south Wales. Jobs are spread across the nation as companies access local talent pools from Aberystwyth to Holyhead, Bangor to Wrexham. Banks, insurers and lawyers serve towns across Wales via local branches and regional centres, while remaining competitive because of their links with the central hub in the capital. Cardiff acts as a gateway into the rest of Wales, just as London is a great shop window attracting businesses to the rest of the UK.

This will become even more the case in just a few years, when Wales will have its very first main line electrified railway. The improvements to the First Great Western line will improve accessibility by cutting journey times from both Cardiff and Swansea to London, which will also help reduce the time it takes to get to Heathrow and other major travel hubs from Wales.

Efficient and effective transport infrastructure is critical for our global competitiveness and will play a vital role in the future of the financial sector in Wales.

Another crucial aspect of competitiveness is political support for the sector. The Welsh Government is clearly committed to championing financial services, as the development of the Central Cardiff Enterprise Zone shows. With super-fast broadband infrastructure expected to be in place by 2015 and the central train station included within the Enterprise Zone, the new business district will complement other world class venues in the city and provide an attractive home for financial services firms looking to establish a base in Wales. Welsh players were firmly flying the flag for the rest of the UK during the recent British Lions test series, and rugby fans from England, Ireland and Scotland joined those from Wales in celebrating the win over Australia. In the same way, financial and professional services firms in Wales are fighting fit and ready to play their part as the UK's financial sector competes on a global stage. The future's looking bright.

Chris Cummings is Chief Executive at TheCityUK and a visiting lecturer at the University of South Wales.



Do the professions have a future?

Janine Griffiths-Baker asks whether trust can be won back



There is little doubt that the public's trust in professionals is at an all-time low. A series of recent high-profile scandals has rocked many professions to the core. Serious malpractice has been uncovered in areas such as banking, politics, law, journalism and medicine, to name but a few. It seems that barely a day goes by without at least one item appearing in the national or international news exposing the latest grave misconduct.

In the wake of such coverage, it is perhaps little wonder that recent polls have shown that, in some areas, fewer than one in five members of the public now trust professionals. Ah, you may say, this is not necessarily a bad thing. After all, excessive trust breeds complacency, and do we really want to live in a society which does not question the received norm? Professionals are not faultless beings and it is, therefore, only right that from time to time we question their abilities and judgment.

Yet the perceived breakdown in trust between members of the public and professional communities has a huge knock-on effect, not merely for those directly involved. General mistrust hurts all participants in the global economy and business especially. Indeed, it could be said that the current global economic downturn is, in reality, a crisis of trust. If investors cannot be sure that prices are a true reflection of the market, they are reluctant to invest. Lack of investment means a lack of growth, and a lack of growth leads to economic recession.

But once trust has been lost on this scale, is it ever possible to regain it?

Has the concept of a 'profession' outlived its usefulness? Traditionally, professions were defined by exclusivity and control. They were powerful associations controlling entry, disciplining members, overseeing standards, regulating themselves and monopolising provision in their own specialist areas. Over the last thirty years, however, these traditional concepts have come under increasing challenge. Significant changes in regulatory structures have seen professional self-regulation move to a regime of 'regulated self-regulation'. Increased competition has also removed previously

accepted monopolies. As a result, professionals have become more entrepreneurial in developing new markets for their services and 'selling' themselves to clients. This, coupled with a growth in consumerism, has seen the relationship between professionals and their clients change fundamentally.

Basic tenets and long-held views have also come under significant pressure. After all, many of these doctrines drew their inspiration from relatively simple relationships in which all parties were known to each other, the professional knew the precise nature of his function and the transaction was geographically confined. This is no longer the case, with some professionals now finding it difficult to keep to their traditional obligations whilst operating in a highly competitive, international business arena.

UK professionals form a key part of our services-based economy, play important roles in the political process, and contribute immensely to the day-to-day running of the country. They are involved in every aspect of life from birth to death, from education to dispute resolution. It is, therefore, difficult to imagine a future without them. How, then, do they go about regaining public trust?

The current crisis in confidence offers a valuable opportunity to re-examine the training and behaviour of all involved in professions.

This includes not only those just embarking on their chosen careers, but also seasoned practitioners – from corporate leaders, who play an essential role in building and strengthening public trust in business, to professional educators, who need to better prepare students for the changes and challenges which will face them in the future.

One current initiative which sees corporate leaders and teachers working together in this way is the 'Ethics and the Professions' programme of Stanford University.

Recognising that students will leave their campus and embark on careers in a wide variety of fields, the Centre for Ethics in Society launched a series of lectures to discuss the ethical implications of working in different professions. By bringing out the issues unique to each profession, the programme offered students (and the larger community) the opportunity to engage with important topics of professional behaviour rarely addressed in the classroom or in subsequent training.

The strategy is novel and inspiring, and may well indicate a way forward, but only time will tell whether it will eventually prove successful. One thing, however, remains certain.

If professions are to survive in anything resembling their traditional form, they need to adapt rapidly to changing circumstances and to renew and transform themselves.

Some are now starting to do so. Let us hope that, by working with stakeholders, consumer groups, regulatory bodies and educators, trust can be rebuilt and a new model of 'profession' developed, fit for the challenges of the 21st century.

Professor Janine Griffiths-Baker is Dean of The Faculty of Business and Society at the University of South Wales, and author of *Serving Two Masters: Conflicts of Interest in the Modern Law Firm*.



The challenges of a connected world

Khalid Al Begain asks how the mobile technology of the future will affect our lives



Connectivity and information access is evolving. In the space of just four decades, our needs have evolved from basic connectivity for e-mail and document sharing, to the Internet revolution and finally the introduction of social media. But where are we going next?

Mobile connectivity has seen unprecedented development over the last 40 years. In parallel, mobile networking and mobile connectivity have experienced equally major change. The start of mobile telephony was in the 1990s with the introduction of second generation mobile networks, followed by the gradual introduction of General Packet Radio Services (GPRS) in 1997 for low rate access, 3G technology in 2001, High Speed Packet Access in 2010 and currently Long Term Evolution (LTE) technology that has been advertised as 4G mobile technology – although it does not yet meet the technical specification of 4G according to the technical standards. So what can we expect in the future?

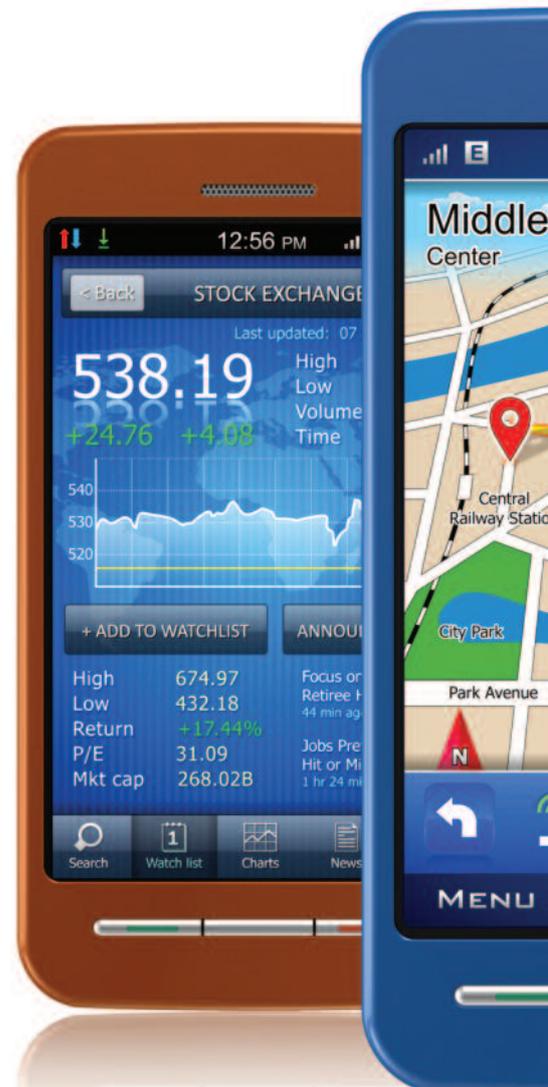
In the coming years the two trends of 3G and 4G will converge, with the main keywords being mobile broadband; sensors; automation; open data and big data; information explosion; security and privacy. Mobile broadband will become the enabler for a wide range of services such as mobile TV and video sharing on the move. LTE network deployment will reach 60% of people all over the world in 2018 and mobile users will reach 7 billion. New technologies such as LTE Advance, Voice and Video over LTE, as well as mobile video conferencing, will become available to enable newer creative services and applications.

People connectivity will be overtaken in the coming few years by sensor connectivity. It is predicted that over 50 billion sensors will be connected to the internet in 2020 – equating to six devices per person – creating what is called “The Internet of Things”, and paving the way for the realisation of the concepts like Smart City and Smart Community. Ambient sensing and automation will become global phenomena.

As a result, according to networking equipment manufacturer Cisco, it is predicted that:

- Data traffic will grow to approximately 12 times its size between 2013 and 2018
- By 2016, 1.3 zettabytes of data will whiz around the world’s wires, compared to 372 exabytes in 2011
- The number of video downloads is expected to increase five-fold between 2013 and 2016

- Digital television uptake will surge from 694 million subscribers last year to 1.3 billion in 2016
- Peer-to-peer traffic volumes will rise, from 4.6 exabytes a month to 10 exabytes a month by 2016



Storing and making sense of this data will no doubt create new challenges. This has evolved into the new concept: Big Data refers to datasets that grow so large that it is difficult to capture, store, manage, share, analyse and visualise with the typical database software tools.

Knowledge extraction from the Big Data will be the next revolution, namely the Knowledge Revolution.

This will not be straightforward, however. The collected data is incomplete and, as such, it may provide intuitive knowledge in contrast to traditional algorithms, as not everything can be abstracted into data for computers to act upon. In the future, service delivery will be based on massive abstractions and virtualisation technologies. This Big Data will not be Open Data – it can be owned by many different authorities and organisations. A large portion of this data will be personal data, which raises serious questions of privacy and security. Who can store personal data and in what format? How can we make sure data is securely stored and shared? How can we make sense of data without violating personal freedom? How can we stop

malicious and criminal use of data? These questions will need to be considered, together with the technological research and development.

Professor Khalid Al Begain is Director of the Centre for Excellence in Mobile Apps and Services at the University of South Wales.



Policing the past and the future

Policing expert **Colin Rogers** asks whether the “citizen in uniform” is a thing of the past



“If you want to know the time, ask a policeman,” goes the old music hall song written by Augustus Durandeu in the 19th century. Despite the fact that it was a cynical accusation that police officers of the day relieved drunks of their watches late at night, it also highlighted the fact that there were large numbers of blue uniformed officers engaged in foot patrolling the streets of the nation.

‘Bobbies on the beat’ is still the mantra of politicians who seek to be elected on a law and order mandate, and this appeals perhaps more to nostalgia than the reality of policing a consumerist society undergoing economic hardships. The past 30 years or so has seen a tremendous change in policing in this country, and highlighted the fact that policing does not exist in a political, economic or social vacuum. Indeed the rationalisation process undertaken by the police organisation in light of these changes has seen, to some extent, the withdrawal of the ‘bobby on the beat’ and the introduction of other policing provision, such as community support officers, volunteers and of course the rise of community safety

partnerships to assist in dealing with crime and increasing efforts in the field of crime reduction.

Now, with the high demand of calls for the police, who will have seen their budgets cut by nearly 25% in 2014 compared to 2008, the days of random foot patrols and having time to talk to people seems to have gone, or at least been greatly reduced. Increased surveillance by CCTV, multi level type policing, rapid response and ‘notional’ neighbourhood policing are all attempts to deal with the large numbers of calls, while also placating the community need for some form of policing presence.

The anomaly is of course that recorded crime has steadily fallen over the last decade or so, and this is true since 2008 when the recession started to bite and numbers of police officers and the rationalisation process really kicked in. This of course has given ammunition to those who wish to slash funding for policing in this country and has provided momentum for those who wish to see much more change in the way the police do their business.

So what could future generations look forward to in terms of their policing? All the indications are that it will become more technologically driven, focusing on ‘core’ policing issues such as terrorism, serious organised crime, internet crime and other considered more serious forms of criminality.

This may mean the public police in some senses retreating even further from direct contact with the public, leaving any walking and talking to unsworn officers such as community support officers – who to my mind do a really good job – other volunteers and agencies and the possible greater involvement of private security. This further opens up the problems of accountability to the law and the community, especially when private security is used.

This all sounds positive in terms of economic policies.

However, there are some concerns regarding the way the economic rationalisation process is being driven relentlessly in an effort to save money.



Robert Peel is reputed to have written nine principles upon which our democratic model of policing is founded. Principle number seven states that the police are the public and the public are the police. What this means in effect is that the police act in concert with the public and are citizens in uniform. They carry out their work within and with the public to achieve success. This is vital to our democratic model of policing.

If not careful, public support for our police may become diminished over time as visible representation and community interaction become less and less.

Further, reverting back to a focus on the police proving themselves through numbers-how many thefts are detected etc, at the risk of quality interaction with the public at street level may also erode the public support that the police depend upon.

That said there are some fundamentals about our policing that still apply today and are important for the future. In particular, the police need to maintain contact with, and the support of, the public if they are to remain supported. By doing so the democratic policing model utilised in this country, and envied by many in other countries who do not possess it, will remain in place.

Professor Colin Rogers is a former police officer and Research Co-ordinator at the Centre for Police Sciences at the University of South Wales.



Feeding the next generation

Genomics expert **Denis Murphy** addresses the future of global food security



We scientists at the University of South Wales are working with colleagues in Malaysia and the USA to help tackle one of the most pressing issues of our time, namely global food security (access to sufficient food). The United Nations predicts that the world's population will increase by over two billion in the next few decades.

We will need to feed these additional people in the face of threats to agriculture from climate change, new diseases, and environmental degradation.

At the Genomics and Computational Biology Research Group at the University we are working on tools to help plant breeders increase food supplies in key regions of the world where food security is an increasing threat.

We are using a combination of computational tools and crop genetics to improve key food crops. For example developing and refining bioinformatics methods to analyse recently sequenced genomes of major crops such as oil palm. Oil palm is an important source of food, fuel and renewable chemicals. Edible palm oil helps feed over one billion people every day. In August 2013, the complete DNA sequence of the oil palm genome was published by researchers from the Malaysian Oil Palm Board (MPOB) in a landmark paper in the prestigious journal, *Nature*.

The challenge now is to use this vast amount of genomic knowledge, which cost several million dollars to assemble, for practical crop improvement.

For the past 15 years, I have worked with MPOB to help improve and extend their plant breeding programme. My research group at the University of South Wales is now working with colleagues at the University of Southern California to develop cutting edge bioinformatic tools that will help MPOB to decipher the newly released genomic data sets. This will enable the team to identify and manipulate key genes that control traits such as crop yield, disease resistance and nutritional quality.

The challenge of analysing and exploiting very large data sets is part of the so-called 'big data' problem that is also a serious issue in other fields such as medicine and economics. In the case of oil palm I believe that the most important target is to increase the yield of edible oil from the palm fruits. This oil is by far the most important economic product of palm plantations so increased oil yield will both generate more profits for the growers and produce more food for countries like China and India that are major importers of edible palm oil.



Success in increasing the yield of oil will also have environmental benefits for countries like Indonesia and Papua New Guinea where huge areas of tropical forest and peatland are currently being converted to oil palm plantations. In some areas this has resulted in the displacement of endangered species such as orangutan. It can also lead to environment damage including increased release of greenhouse gases. Because demand for oil palm is bound to increase in the coming years, the pressure for further

growth of plantations, and the associated negative ecological impacts, looks set to increase even further in the future.

However, if existing plantations can be replanted with new high yielding tree varieties, I am confident that the drive to convert pristine land to new plantations can be significantly reduced. This would help oil palm growing countries like Malaysia and Indonesia to answer the concerns of Western environmentalists while at the same time

producing sufficient palm oil to meet growing demands in other Asian countries.

Therefore this joint research between the University of South Wales and its US and Malaysian partners has the potential to have significant impacts both on global food supplies and key environmental factors.

Professor Denis Murphy is Head of the Genomics and Computational Biology Research Group at the University of South Wales.



Research and publications

USW research consortium to support arts development fund

A research consortium led by the University of South Wales has been selected to support a research and development fund for the arts in Wales. The Digital Research and Development Fund for the Arts in Wales is a partnership between the Arts Council of Wales, Arts and Humanities Research Council (AHRC) and Nesta to support arts projects across Wales to work with digital technologies.

The aims of the £400,000 fund are to expand audience reach and engagement, and to explore new business models for the arts sector in Wales through the use of digital technology, with support from the academic consortium. Aberystwyth and Surrey universities make up the other partners in the consortium.

The consortium, called 'Re-DrAW' (Research & Development for the Digital Arts in Wales), will aim to re-draw the landscape for technology and arts sector interaction through collaboration and participation in a number of projects, whilst capturing and sharing lessons learned.

Research highlights characteristics of murder investigations

A major piece of research is examining the characteristics of difficult-to-solve murders – and how detectives may be able to confront them by changing their practices. The study, led by Fiona Brookman, Professor of Criminology at the University of South Wales, will also examine how the nature of murder investigations themselves may inhibit the likelihood of a homicide being detected. Professor Brookman, whose acclaimed work around homicide typology entered the 2006

Murder Manual, hoped the study would provide findings to improve the solvability of difficult cases. The chair of the Criminal Investigation Research Network (CIRN) is currently analysing the data gathered during intensive interviews and observations of detectives in the UK and the US. The paper is entitled *Difficult-to-Solve Homicides: a UK-USA Comparison*, and is likely to be published in either the *Policing and Society Journal* or the *Journal of Homicide Studies*.

Innovative new book on dyslexia and DCD published

Professor Amanda Kirby, Medical Director at the University of South Wales's Dyscovery Centre, has published a new book on how young people with specific learning difficulties cope with college and university. An expert in Development Co-ordination Disorder (DCD), also known as Dyspraxia, and the overlap with other specific learning difficulties, Professor Kirby draws on decades of practical, professional and academic experience in the book, entitled *How to Succeed with Specific Learning Difficulties at College and University*.

She explores the challenges that young people can face when starting college or university, both in work and home settings, such as learning new skills, meeting new people and coping with a new environment. Professor Kirby says: "Low self-esteem and failure need not be an option for children with DCD and Dyspraxia. People rarely realise how common DCD is, affecting around 1 in 20 of the population, and how it can impact in the short and longer term for individuals in all aspects of their lives."



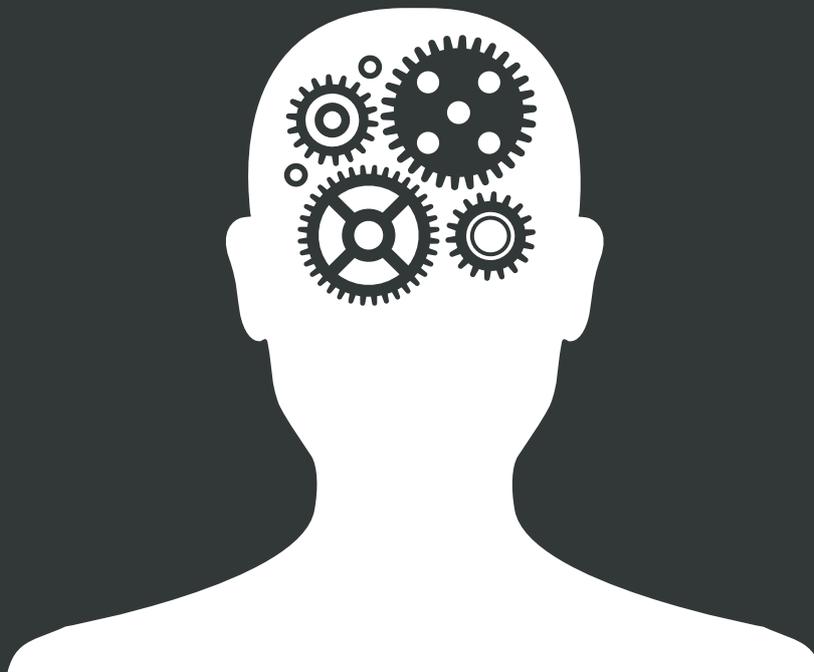
Exploring race and emancipation in the Civil War

University of South Wales historian Professor Chris Evans has travelled to Kentucky, US as a visiting fellow of the Filson Historical Society.

Professor Evans focused his studies on race and emancipation during the American Civil War, and based his research on Kentucky because of its enormous political importance.

He was made a Visiting Fellow of the society in May this year, and recently visited its Louisville headquarters to work on his project 'Escaping from Slavery in the Nineteenth Century: George St Leger Grenfell in Civil War Kentucky'.

Professor Evans said: "Known as 'the Bluegrass State', Kentucky was relatively quiet; Virginia was far more bitterly fought over, and in terms of the western theatre of war, the battles in Tennessee, Kentucky's southern neighbour, proved far more significant. Looking at Kentucky allows us to appreciate how the ending of slavery was not the inevitable outcome of victory for the North in the Civil War."



Alumni focus

Alumnus **David Parker** talks to *USW Impact* about his time at our University, and looks at the economic future of Hong Kong and the Far East



IMPACT: What is your job, and is it the career you wanted?

DP: My job is to promote Hong Kong as a business destination and gateway to Asia, as well as to assist businesses to set up operations there. I'm based out of London and work with businesses from start-ups through to corporates across the UK and parts of Europe too. Some of these businesses are based in sectors where Hong Kong has traditionally been a world leader such as Financial Services. Others are based in sectors where Hong Kong is quickly developing an international reputation, such as Creative and Digital. Sometimes these worlds collide, such as FinTech: financial technology ventures disrupting the world of finance through innovative new products and services. My chosen career path is trade and investment, so I'm very much doing what I've always wanted to do.

IMPACT: How do you feel the University has helped you get to where you are now?

DP: I studied business at the University through to MBA. It developed my understanding of business and management on a much deeper level and allowed me to test theories in an international context. While the courses covered a great deal of invaluable theory, I was also able to undertake my MBA in the context of the real world and based my dissertation on the learning needs of entrepreneurs and

founders in Wales after noticing that many talented people launch ventures because they have a great idea but they don't always have all of the necessary skills to convert it into a profitable and growing business. This combination of academic study and its actual application in the business world is what the University was particularly strong at supporting.

IMPACT: What is your strongest memory of your time as a student?

DP: While I didn't appreciate it enough at the time, on reflection its setting just north of Cardiff in the heart of the Taff Valley – on a clear and sunny day the outlook is panoramic! I was reminded of this when I recently visited on business for the first time in almost 15 years. I also loved its campus style with the library as its beating heart. Everything about it oozed 'learning'.

IMPACT: How important was higher education in helping set up your future career?

DP: It is sometimes said that it's the person not the qualifications and I wouldn't disagree with that. However, this overlooks the fact that universities contribute to a person's development in so many ways other than study alone. One of the things that I learnt which has helped in my career is the self discipline required to manage a project, from inception to successful delivery. Another is public speaking. My role requires me to frequently deliver high level presentations at conferences and events and I honed this skill at the University where I was on stage at least once a week presenting group feedback to fellow students at MBA lectures.

IMPACT: How do you see the future of foreign investment evolving?

DP: The world is becoming more and more competitive. Hong Kong ranks fourth in the world for foreign direct investment but my organisation, Invest Hong Kong, works with a driving intensity to keep it that way. For example, this year we launched StartmeupHK to attract entrepreneurs to come to Hong Kong to pitch, helping us to attract the brightest and most talented business people to help drive our ambition to make Hong Kong Asia's Creative and Digital hub. There is no let up as other locations in Asia and around the world will be quick to take our place if we stop delivering compelling propositions to the international business community.

IMPACT: Any advice for current students?

DP: Learning doesn't stop on graduating. In many ways that's just the beginning of a lifelong journey in terms of personal development. I have learnt more from my failures than my successes and from my mistakes than my achievements. So be brave and give things a go, take measured risks, embrace change and do try to see the world. I've been lucky enough to travel and to have lived in the US – that taught me a lot and grew my confidence considerably.

IMPACT: What has the University meant to you, in a few words?

DP: I am doing this interview because the University gave me so much and now it's time to give a little back. I'm enjoying being active with the University's Alumni in London and have even had discussions with its management team about opportunities for the University in Asia via Hong Kong – exciting times!

David Parker (Masters in Business Administration, 1998-99) is Head of Investment Promotion at Invest Hong Kong.



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Staying in touch

Cadw mewn cysylltiad

USW Impact looks back at this year's Alumni reunions

Mae *USW Impact* yn bwrw golwg yn ôl ar aduniadau ein cyn-fyfyrwyr dros y flwyddyn



This 30th anniversary reunion brought together BA (Hons) Business Studies graduates of 1983, joined by their tutor Bob Morgan, who still teaches at the University.

Yn yr aduniad 30 mlynedd hwn daeth â graddedigion Astudiaethau Busnes BA o 1983 ynghyd, gyda'u tiwtor Bob Morgan, sy'n dal i ddarlithio yn y Brifysgol.

Photographs courtesy of Graham Davies | Lluniau gan Graham Davies



The University of South Wales hosted its first alumni reunion at the House of Lords, Westminster, which was kindly sponsored by Lord Morris of Aberavon.

Cynhaliodd Prifysgol De Cymru ei haduniad cyntaf i gyn-fyfrwyr yn Nhŷ Arglwyddi, San Steffan, a noddwyd drwy garedigrwydd yr Arglwydd Morris o Aberafan.

Photographs courtesy of Tim Hodges | Llundiau gan Tim Hodges