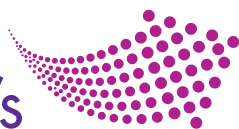




The Scottish Parliament
Pàrlamaid na h-Alba

Scotland's
Futures Forum
Fòram Alba air Thoiseach

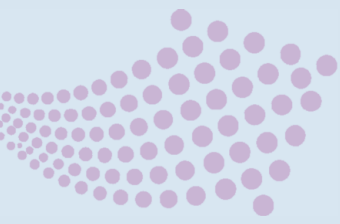


SCOTLAND 2030 PROGRAMME LAUNCH

Wednesday 29 March, The Scottish Parliament



the
technological
context



The Presiding Officer, **Rt Hon Ken Macintosh MSP**, welcomed guests to the launch of Scotland's Futures Forum Scotland 2030 programme which will run over the course of the current parliamentary session. By considering our culture and society from a variety of different perspectives, the programme will offer opportunities to explore the kind of country we want Scotland to be in 2030.

To open the programme, Minecraft developer and videogames entrepreneur **Chris van der Kuyl** and singer, songwriter and essayist **Karine Polwart** were invited to offer their views on the technological innovations we can expect in 2030 and the cultural implications of those developments.



Chris van der Kuyl, Chairman, 4J Studios

Chris began by stating that the debate was timely given the key political developments currently dominating the news, but warned that those developments are in danger of distracting us from more pertinent discussions around how we address the significant technological changes coming our way.

In his view, the rise of "populist" politics had been wrongly attributed to petty nationalism and fears around immigration, rather than the increasing alienation many people feel as a result of technological developments. Chris suggested that therefore, in looking to 2030 and the technological changes we might expect, it is very important that no sections of our community feel left behind.

Using the example of Tesla Motors, Chris illustrated the kind of company that is currently producing ultra disruptive technology which will radically alter our society. Elon Musk, the founder of Tesla, was told he was crazy when said he would produce a better car than the automobile industry. After Tesla released such a car, Elon was told he wouldn't be able to deliver it in volume, yet today, in California, one Tesla model outsells BMW, Mercedes, Audi and Lexus combined.



“

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When the car industry tried to catch up with Tesla they found they were too late and struggled to adapt their manufacturing lines. Moreover, just when everyone thought Tesla was a car company, it started to produce electric batteries and roof tiles that generate solar power. According to Chris, the attitude behind Tesla is “Fail, fail fast, and get on until you succeed”.

With the pace of technological change increasing exponentially year on year, Chris suggested our society will be unrecognisable in 2030. Driverless cars will make professional drivers redundant – in 2030, he said, driving will only be a leisure pursuit – and drones, including those carrying passengers, will transform our infrastructure and therefore life in rural areas.

In Chris’s view, the only way to respond to these developments and the existential challenges they will throw up, is to develop Scotland’s talent base by “overfunding” education. Within the school curriculum, technological excellence should be a given, but he suggested we also need to nurture creativity and innovation, the human qualities that set us apart from machines, in addition to taking a radically different approach to risk.

Chris concluded that, whatever happens politically, we need to build a dynamic and diverse society, injected with creativity and innovation. If we don’t do that, Chris said, the outlook is bleak – but if we do, Scotland faces a fabulous future.



**Karine Polwart, Singer,
songwriter and essayist**



**Technology
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To explore the challenges that technological change might throw up in 2030, Karine shared three imagined stories from the future, which are reproduced at the end of this report. She highlighted that people often respond better to stories than facts, and that stories offer a way to make sense of change. With a background in philosophical enquiry, Karine said she had a particular interest in the ethical issues raised by technological change and the choices we make within that framework.

The first of Karine's stories, *Betty Bags a Booker*, looks at the concept of human dignity in a future where large sections of the community find themselves without paid employment. *A Digital Haven* considers the challenges of social media for young people and how the tension between a desire for solitude and the need to stay connected digitally might play out in a country like Scotland, which often sells itself on its wilderness and natural environment. The third story, *Karmic Payback*, explores the power relationships between 'data generators' and 'data analysts' in a world where our lives are increasingly defined by 'datafication'.



Developments such as 3D printing raise questions about what it is to own an idea

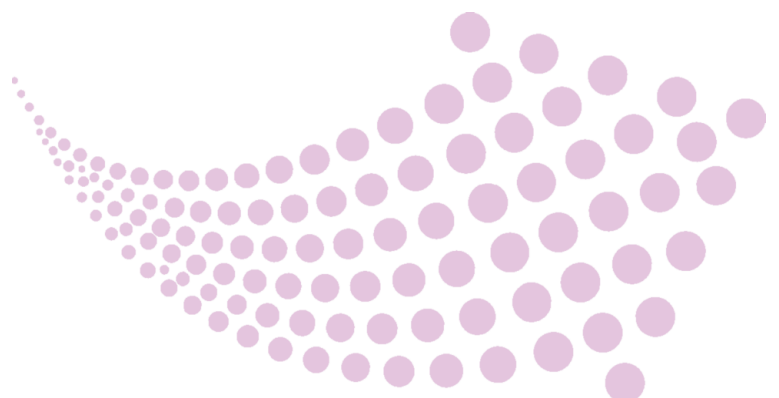


Karine then reflected on the impact of technological changes in her own personal life. While she has concerns about the amount of time her children spend in the digital world and the pressure they face from social media, she also suggested technologists could be working with children to imagine and shape our future given how easily children adapt to technology. Karine also suggested that in a world where there will be more automation we need to look at how we manage that transition, so that people feel safe dealing with machines.

As a musician, Karine highlighted how technological innovations had given her global reach and the ability to undertake all kinds of creative work in her kitchen that would have been inconceivable 10 years ago. As such, technology has opened up creative opportunities for more people and made the creative arts less exclusive. However, she highlighted how, with the streaming of music, that same technology has jeopardised the possibility of anyone having a single identity as a musician.

She suggested that similar copyright issues were increasingly likely to affect a wider pool of people. Developments in 3D printers, for example, will facilitate the production of goods by individuals who don't hold the intellectual property rights and enable the manufacture of goods based on designs licensed under Creative Commons. Karine suggested these kind of developments raise questions about what it is to own an idea and that they have particular implications for the entrepreneurs we are looking to for the technological innovations of the future.

Karine concluded by suggesting the future we choose to invest in will be determined by the values we bake into technological developments now. While technological innovations to date have been driven by efficiency, convenience and speed, Karine said she wants to see entrepreneurship that engenders a greater sense of community and frees people up to create and innovate in ways that have nothing to do with profit or personal gain.





Discussion

Jobs

The discussion opened with a challenge to the view that 50 percent of current jobs would disappear by 2030. It was pointed out that there had never been more people in employment and that similar fears raised in the 1970s had been unfounded because new jobs had replaced those that disappeared in heavy industry.

It was also suggested that we shouldn't look to the past to predict the future because the speed and types of change we are witnessing now are unprecedented. The example was given of global companies, like Apple and Google, which employ much fewer people relative to their size, compared to large companies of the past. It was also noted that unemployment was likely to affect not just the low-skilled but also the professions.

Economy

Significant job losses would have huge implications for the tax system, the delivery of public services and infrastructure, and as such, it was suggested that a failure to adapt to these changes could lead not just to more recessions but to revolution.

With a growing wealth gap and no expectation of benevolence from the emerging global oligarchy, it was agreed that we need to look at what would make for a viable economy in the future and consider how we might distribute wealth through radical policies, like a Citizen's

Income. Caution was expressed about how we define wealth, and the need to consider not just how we distribute money but how we encourage and reward roles that make a positive contribution to society.

Education

Questions were raised about how we educate our children for such a future and how we engage them in the emerging ethical debates. It was suggested that we need an education system that empowers young people, encourages them to take risks, builds resilience and, most importantly, develops critical thinking skills. There was general agreement that Curriculum for Excellence offers a blueprint for the future but its success depends on how it is implemented.



A failure to adapt to these changes could lead not just to more recessions but to revolution





The public needs to engage with the debate to help shape the society of the future as well as to understand the implications of technological changes and make informed decisions



Society

A concern was raised about whether new technological developments would be the preserve of the privileged. Citing the example of personal computers, it was highlighted that innovations can and have been shown to democratise technology by pushing down the price of goods.

There was general agreement that the public needs to be encouraged to engage with the debate to help shape the society of the future as well as to understand the implications of technological changes and make informed decisions. Data sharing was highlighted as an example of a technological issue with significant implications for individuals and society that needs to be better understood. It was suggested that while we are likely to see an increasing arms race between regulation and the industry in this area, it was hoped ethical values would win out with individuals moving away from companies that tolerated data violations.

The final point raised in the debate was a note of caution about what value our future society will place on those who are not natural entrepreneurs, but who value tradition, or embody other very human qualities, such as kindness or humour.

Next Steps

The Presiding Officer closed the debate by thanking the speakers and the audience for their contributions. This debate was the first of Scotland's Futures Forum Scotland 2030 programme. The next debate, on the environmental context for Scotland in 2030, will be held at the Scottish Parliament in June 2017.



News from the Possible Future by Karine Polwart

1

Betty Bags A Booker

Dundee grandmother, Elizabeth McDade, is the surprise winner of the 2030 Booker Prize for her debut novel, *The Bagging Area*. A tragicomic tale of robotics, redundancy and redemption, the story mines McDade's thirty years' experience as a cleaner at the Police Scotland HQ in Dundee – before advanced maintenance bots made cleaning staff obsolete.

“The transition back in 2024 was brutal,” recalls McDade. “The Government was talking up the savings to the public purse, and there was a lot of Guardian guff about the liberation of the human spirit from manual drudgery. But we've been trained to turn up and do what we're told for centuries. And without work loads of folk have no sense of purpose or dignity.”

McDade explains the book's title, “Remember twenty years ago, when the unstaffed supermarket tills first came in? We were all constantly getting buzzed and red-lighted by those ‘unexpected items in the bagging area’. Well we're in the bagging area now, and that's us, isn't it? We are those unexpected items that don't quite fit.”

Known to fellow staff as Betty Donaghy – McDade writes under her maiden name - the 48 year old was a dux medalist at Douglas Academy, before becoming pregnant in her teens. Former head of janitorial services, Tom Anderson recalls, “Betty's been getting printed in the Telegraph letter-pages for decades, under the name E.R. McDade. Brilliant social commentary. But she never wanted anyone to know.”

“When I got laid off,” stresses McDade, “I wrote every morning at the Wellgate Library, just to stay afloat. Thank goodness the council never shut the place.”

Booker Judge Ed Sheeran says, “Elizabeth's debut work speaks to the opportunities and indignities of contemporary technological change and to the ultimate resilience of the human spirit.”

Asked if she missed her cleaning days, McDade remarked, “I miss the craic and the space to think and imagine. Boredom and rhythm are the mother of invention. We're just saturated with stimulation now.”

McDade insists there's nothing remarkable about her ascent, “The talents and voices of ordinary people have been lost to soul destroying work for centuries. So maybe automation does open up new opportunities. At the very least, we've got our stories – and the bots don't have them yet.”

The Bagging Area is published by Canongate Books.

2

A Digital Haven

A controversial rural housing and mental health support scheme nicknamed, The New Luddites, looks set to begin development in Argyll in the summer. An initiative of Clashnahaven Estates, owned for centuries by the McMurrin family, The Haven digital retreat and rehabilitation scheme will remove existing broadband masts from ten percent of the county, ban private drone flights and enforce Digital Abstinence Zones.

The scheme conceals a personal tragedy for estate owner, Sir Anthony McMurrin, whose 17 year old daughter Dominique took her life two years ago after a long period of cyber-sexual-harassment and so-called 'dig-addiction'. "She was unable to cope with the 24 hour peer pressure and abuse," commented Sir Anthony, "Alcoholics can't live in breweries. And vulnerable young people need private, web-free safe houses too."

In an unlikely alliance of old money and neo-radicalism, McMurrin has welcomed so-called digital separatists to the estate. "There's board and work available here on our extensive estate property for people willing to learn traditional crafts and skills," said Sir Anthony. The project will be managed as a not-for-profit enterprise, and will sustain itself through voluntary labour and private health insurance, as well as investment from traditional game sports and organic produce.

Nick Alder of Lothian Broadband, whose fixed-wireless leasehold at Clashnahaven runs out in July said, "Urban areas have standard gigabit fibre services now. And some areas have access to internet drone services. But it's not yet legally considered essential economic infrastructure. Many remote areas still depend on old school building masts on private estates to maintain broadband reach and quality."

"It's another example of entrenched landed privilege holding back economic development," said local councillor, Anna Mackintosh. "This isn't just about interactive entertainment and social media connection, it's about our local smart energy networks, and intelligent household apps, as well as health monitoring services that save rural lives."

Local leisure guru, Miles Graham disagrees, "Sir Anthony isn't right about much but I'm with him on the drone traffic. It's got out of hand here, and our sense of wildness, peace and privacy is being lost."

A spokesperson for the Scottish Association for Mental Health said, "Dig-addiction still divides psychological opinion. But there is unprecedented demand for youth mental health support services exacerbated by digital culture. And the NHS cannot cope. The Haven model of patronage for a combined public/private digital retreat with professionally trained medical staff is both welcome and necessary."

3

Karmic Payback

“I got a Karma health tracker for my sixteenth birthday,” says redundant accountant and data generation campaigner, Agneska Wizniewski, “I loved the sense of knowledge and control I had about my own body and mind.”

Like most users of the era, she didn’t give a thought to what happened to the information collected by the app or who had access to it.

“My thinking was: why on earth would anyone else be interested? And what harm could it possibly do?” says the 30 year old. “It was all about me. I was proud of my health rating. And I loved that my Karma seemed to know exactly what I needed before I did. When I began meditation, I began to get recommendations for prayer bowls and teas. Some people find that stuff creepy. But I felt understood and empowered. I felt safe.”

In her early twenties Wizniewski signed up for an experimental range of underarm implants, in tandem with an individualised wellbeing plan, targeted at the top fitness bracket of Karma users. “The device was so discrete, I forgot it was even there. And the health plan benefits seemed like payback for physical effort and attention to diet, as well as a form of insurance for the future,” says Wizniewski. “I got privileged access to alternative therapies and new dietary innovations, based upon my excellent health stats. And in return I paid modest fees, talked it up on social media networks and didn’t ask questions about my data.”

“I confess I was one of the health elite”.

The mother of two began to get concerned shortly after a miscarriage and subsequent divorce three years ago. “I was struggling to cope. I stopped running and going to the gym and started putting on weight. To begin with the Karma seemed to respond supportively: Take some time out. Accept a complimentary treatment on us. It felt good.”

As Wizniewski’s activity stats fell below elite health level she noticed the sharply rising cost of access to treatments and a marked change in tone. “Ironically at the time I most needed support to deal with stress and anxiety and grief, I started to be denied access to therapeutic support because I wasn’t “investing” enough in my own health. I entered the Karma programme at the top health rating as a young healthy woman, so for ten years it never really occurred to me that these services were like gated communities. I felt like they were my right because I was working so hard.”

The technological applications within public health are well established, and have built upon private sector innovations. Last year, the Royal College of Physicians backed a roll out of discrete implants for patients with acute physical and mental health conditions such as bipolarity and diabetes. “They do save lives”, says RCP Director Norma Blain, “and help us to target interventions efficiently, when and where they are most needed.”



Report written by Una Bartley and designed by Emma Quinn Design (www.emmaquinnndesign.co.uk)
for Scotland's Futures Forum

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