



Television is 100!

What next for TV?

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“FOR PEOPLE OF MY BACKGROUND, VERY POOR EAST END PEOPLE, TELEVISION WAS A PHENOMENON. I MEAN, WE COULDN’T AFFORD A MOTOR CAR - OUT OF THE QUESTION. REFRIGERATOR WAS AN UNNECESSARY LUXURY. BUT TELEVISION! OH, IT WAS LIKE THE EIGHTH WONDER OF THE WORLD!”
THE VIEWER’S VIEW, 1977 (BBC ARCHIVES)

Attempting to grasp the technical and cultural achievements of television is like trying to comprehend the size of the universe; nobody is exempt from the impact of TV, nobody can realistically say they don’t know what it is and have no need for it, in the way you might dismiss the Internet, or electric vehicles, for example. Television is so ubiquitous and has played such an integral role in our lives it is a challenge (especially with this wordcount) to step back and assess its origins, its impact and its future. For you, reader, I will give it a go.

Frequently blamed for dumbing us down, making our eyes square and dulling our senses, TV has been responsible for recording the biggest moments in recent history (coronations, royal weddings, the moon landing, the World Cup, assassinations, war, Diana’s funeral, Michael Jackson’s interview with Martin Bashir, Scott and Charlene’s wedding) to peppering our vernacular with references you’d only get if you watched



Big Brother, Top of the Pops, The Fast Show or any number of gameshows, there are countless others (and that's just British TV). 'Computer says no' is part of everyday language and impossible to explain without reference to TV.

TV has also been the existential bogeyman for the cinema industry throughout the last century as technology came and went (VHS, Betamax, 3D TV, DVD, laser disc, Blu-ray, cable, satellite and now of course we are in the brave new world of streaming), not to mention the evolution of the hardware itself. From a small box in the corner that barely evolved in 50 years to wall-mounted, 4K digital flatscreens complemented by eardrum popping surround sound, the rise of the home-cinema system has seen the television become the focal point of our living rooms, hanging on a bracket over the mantelpiece. With all that in mind it is miraculous cinema has endured at all.

INVENTION OF TELEVISION

The invention of the television (the first use of the word 'television' is attributed to Constantin Perskyi in 1900, who used it in a paper read to the International Electricity Congress in Paris on August 24) was far from a one-off Eureka moment conducted by one man in isolation, much as history likes to pinpoint single dates in a convenient, linear manner; the reality is John Logie Baird's first mechanical television transmission on October 2,

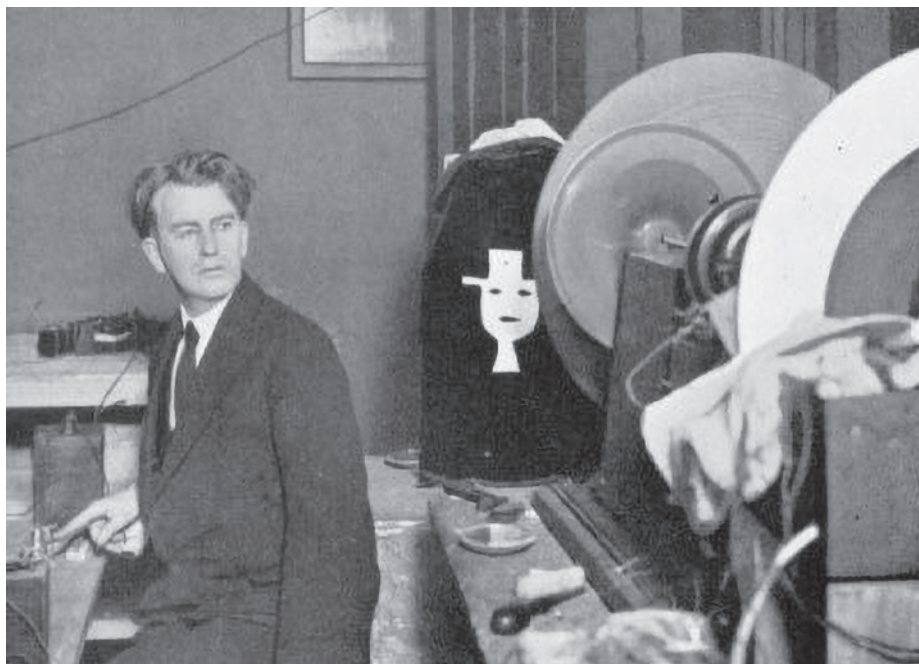
1925 was the result of decades of work by scientists and engineers on both sides of the Atlantic working towards the common, if imprecise, goal of the production and transmission of a moving image, an extension of the radio, and the credit for which is hotly contested even now.

Other big names working on various forms of what we now know to be television included Charles Francis Jenkins, one of the founders of SMPTE, who was developing electro-mechanical TV, Vladimir Zworykin and Philo T Farnsworth who worked on electronic TV, and let's not forget Leon Theremin, also put into operation a mechanical TV in 1926-1927, but is often overlooked as he was based in Russia.

Richard Welsh, President of SMPTE was correct in his assessment that "The early evolution of television is not a story that's told that much. There's an assumption that television was just invented at a certain place and a certain time, but the reality is people were thinking about television in the late 1800s, building mechanical devices to get an image on a screen. It wasn't about broadcast at that point." This was in the heyday of the Industrial Revolution, a time of frenetic innovation, supreme Victorian confidence and seemingly endless funds to throw at R&D, so it is perhaps not surprising that television's embryonic early stages coincided with the development of cinema and the radio.

In 2025 this seems so long ago but we are fortunate that Iain Logie Baird, grandson of John is a passionate custodian of Logie Baird family history and told Broadband, "My father was only 11 years old when John Logie Baird died. So my father knew him, but only as a child. He was allowed into the lab only very occasionally; he did see colour television around 1944 with 600 lines, which was quite comparable to the PAL system that we had over 20 years later." Iain also added some texture to the story, explaining that the advent of rising populism and nationalism in the 1930s did little to advance the technology and a lot to pit opposing groups against each other. One can view this in the spirit of competition of course, but at one stage Iain tells us the British, Americans, Germans, Japanese and Russians were all racing to establish patents and manufacturing partners simultaneously. "There was even a small Canadian contingent of inventors, because their patents were bought out, or they borrowed patents from my grandfather, in one case."

The story goes that Baird was in London, experimenting with a ventriloquist dummy, one of three nicknamed 'Stookie Bill' in a laboratory in Soho when he achieved his first clear image - just two eyes and a mouth, prompting him to race downstairs and put his assistant William Painton on a stool in front of the camera, asking him to stick his tongue out to make sure it worked. Painton, not realising the



The television transmitter apparatus in operation at 22 Frith Street in early 1925 as would have been demonstrated for Selfridge and Bosdari. The 'mask' is visible at centre. To the right of it is the large double-8 lens disc, a smaller light interrupter disc, and the large 'monitor' disc, white at its outer edge, that was perforated with 16 rectangular holes. In the foreground is a wooden box with what looks like a drainage tube. Image source: Tiltman, Baird of Television, 1927

historical significance of this, had to be paid half a crown to cooperate. A few months later on January 26, 1926, Baird invited forty distinguished scientists from the Royal Institution to witness a slightly perfected transmission, recognising the importance of credibility in such a fiercely competitive environment. It was a cunning move and it worked; television's life as a scientific innovation was officially underway and Logie Baird made history. Philo T Farnsworth was working on much the same concept in the US and on September 7, 1927 at a laboratory in San Francisco achieved the same, but this time as an electronic transmission.

Interestingly, only two Stookie Bills have survived, Iain told me. A colleague of Logie Baird ended up with one, which was passed down through the family, stored in a cupboard for safe keeping over many decades until one Guy Fawkes night, "when they needed something to throw on the fire." One can only imagine the dull realisation and ensuing, lifelong regret that followed.

DOCUMENTING OF HISTORY

Ian Nock of Fairmile West, a technology consultant and SCTE Member said the history of television could be summed up by the phrase, "I only see so far because I am standing on the shoulders of giants," adding "Patents were all defined before

the actual invention happened, and that's why when talking to SMPTE, IEEE, IET and the RTS there's still a frisson of annoyance and competitiveness about who actually invented television. The invention was pure John Logie Baird, because he was the first, even only by a few weeks, to get it working fully."

Even now, Iain said, there's a lot of sensitivity. "I was talking to an engineer and when they heard that the IET were marking the centenary on 2 October they told me, 'That's not the first date, it was the 26 January. I'm disgusted that someone like you would be doing that.'" Disgust seems a bit strong, but there is obviously still enormous pride in the evolution of what the rest of us take completely for granted, and a reminder that history is often written in real time by the loudest voices, not necessarily because that's what happened.

Back to Soho; after that half-crown was handed over the milestones followed thick and fast, investors rolled in, big names took an interest, competition intensified. Baird and Farnsworth continue to innovate, becoming friends during this period as RCA and EMI battled for patents, market share and manufacturing dominance. Evolving on a fairly straight trajectory, it wasn't as rapid as you might expect, given the pace and innovation of the late Industrial period. "The slow development of what became television

that took place between 1925 and 1945, when it was standardised, when people defined solutions for mass market deployment. That should only have taken 15 years, but they had a little thing called a war and a massive recession that destroyed investment in television, except for ministry applications. This was a long, drawn-out development," Iain Nock explained.

World War II led to a shutdown of television in the UK for the duration of the war, and resources redirected towards radar technology.

FROM THEN TILL NOW

Fast forward 100 years and it is astonishing that a single analogue device has endured as long as it has. From 1925 to 1990 and the advent of digital TV, analogue television was all that was available, and nothing really changed much at all. TVs got very, very small for a few years in the 80s, and then very very big, and gradually, very very flat (interrupted briefly by the now obsolete curved TV: "The 2010's technological shooting star. Emerging on the scene and in the blink of an eye, it was gone. The TV nobody really asked for", according to Spy.com). Now in 2025, the television world has switched off analogue and is looking ahead to a switch off of another kind altogether: from digital to IP. 2034 sounds a way off but it's only nine years, and what seems like just another milestone is throwing up a multitude of technical, commercial, social, political and even existential considerations; against all of that, nine years seems like nowhere near enough time.

THE CURRENT LANDSCAPE

Discussing the evolution of television can't be done in a vacuum. While technically not a lot changed from 1925 to 1998, after that everything changed. The late 20th century could have seen more technological progress, but the general public's appetite for upgrading hardware was suffering from considerable fatigue by 1999, never mind confusion. The financial pressure to keep up with the barrage of formats inflicted on them, a new one every few years by the early 90s sounds ridiculous now; music alone during this period was available on vinyl, cassette, CD and minidisc, but by 2008 the iPod was dancing its way into our homes, introducing the world to mp3s, iTunes and later Spotify, heralding a new product

again, the Bluetooth speaker. We all remember people giving away their record collection in favour of CDs, only for those to become obsolete after 20 years. Men In Black was released in 1997 and Tommy Lee Jones' character drily captured the mood: "I guess I'll have to buy the White Album again."

Progress was consumer-led, because the hardware was expensive to replace, and CDs themselves were retailing as much as £16.99 on occasion, while costing record labels 13p per unit. There was a curious point from around 2005, when the beleaguered public had to juggle their Blackberry (no camera really and no internet access), digital SD cards of varying sizes for their cameras, printers that required CD Roms to install on their desktop computer, TomTom to stick on their dashboard and just to lighten things up, everyone gave each other digital photo frames that Christmas; how exciting, technology was the future! All these gadgets required their own unique chargers and there was no Amazon to fall back on if you lost one, and not a lot of online help available either. Innovation was plentiful if clunky and often bizarre; nothing talked to each other and anyone reading this will have a few lingering SD cards in drawers at home containing long forgotten photos they will never get to see.

Globalisation, online retailers, cheap Chinese imports and the dominance of a

few gigantic brands have done much to soften that particular blow and the public have raced ahead, its appetite for sexy, well designed, compatible tech and new generations of anything from handsets to electric cars to games consoles inexhaustible.

PUBLIC SETTING THE PACE

Because hardware is now cheaply available, formats wars are behind us and everything is online, the public is setting the pace; increasingly savvy Gen Z generations onwards do not know the world without the Internet; once again, as we have seen in other articles in Broadband Journal, it is the attitudes of generations that are affecting commercial and technical shifts, for better or worse. Gen Z have no attachment to the BBC or terrestrial programming; for them, there is no nostalgia for Doctor Who and Bagpuss; Antiques Roadshow and Songs of Praise isn't aimed at them either. Linear TV in their home is about as relevant as owning a copy of the Yellow Pages.

POWER OF THE INTERNET

The Internet's influence has affected everything from the software powering the hardware to fragmentation of audiences; world events like Covid have accelerated such fragmentation as other content providers like Paramount sought to keep

up with Netflix, Amazon Prime, and particularly Disney, who brought forward the launch of their own platform during lockdown to capitalise on millions of cooped-up households.

For advertisers and networks, what seemed an opportunity has become a significant problem. Fragmenting audiences have resulted in a number of unforeseen consequences. "The biggest failure is that the content providers, HBO, Disney, Paramount, saw the success of Netflix and wanted a bigger portion of that money. So they invested heavily into something of their own." Natalie Colakides is a Technology, Media and Telecoms Research Analyst with S&P Global Intelligence and says the outcome has resulted in market saturation, poorer quality and more confusion. "There is less money to go around; and you can't find content anymore without googling it on your phone. You have no idea what's out there anymore."

SCALING BACK LINEAR TV

The Radio Times seemed an anachronism even in the 80s, but we could do with something like that now, especially for the less technically literate. At the same time, linear TV channels, which older audiences depend on are reducing their output. Italy had 400 two years ago; it now has half that. ITV announced a slashing of budgets and a slew of redundancies in May, reducing running times of daytime favourites Lorraine, Loose Women and This Morning. While this affects the viewing pleasure of audiences, it also significantly affects the media production industry; presenter Kirsty Allsop bemoaned the short-sighted actions of ITV recently, telling The Media Show podcast, "We know that we live in an increasingly different TV universe. No one could ever have predicted 25 years ago that this would happen, and streaming has affected absolutely everything. But it's desperately sad that these cuts have come to daytime because daytime is where people learn their craft, where producers and directors get their first chance, where new talent is discovered. It's a gentler, easier place. And when the cuts hit that kind of television, it's a bad time for all the legacy, terrestrial channels."

Reducing the output from terrestrial because of external pressures is understandable, but will affect the industry, as Kirsty points out, and audiences alike. IBC Chair Stephen Nuttall



Sony Trinitron KV-4000KV

said “there are definitely some big policy questions around how terrestrial TV could either be reduced in scope or completely eliminated. Those will take quite a bit of time to run through because you do still have an older audience in particular that’s very loyal and reliant on linear TV.” It’s a smaller number than it was, but it is still a larger demographic than the disinterested Gen Z demographic.

Richard Lindsay-Davies, Chief Executive Officer, Digital TV Group (DTG) stressed the industry is well aware of the dangers of digital exclusion, while scaling back linear TV. “Television is inclusive, we’ve got to make sure it stays inclusive.” He went on, “The DTG have just done a piece of work for Ofcom with Goldsmiths University on older audiences and how they use television. We tested those candidates on other things like searching through a programme guide, searching through a broadcast app like iPlayer or ITVX, and then an actual search typing stuff in and then a voice search. The findings suggested that we introduced a layer of complexity to each stage and ultimately lost 25% of them in the process.

“That shows us the importance of making sure for those that need it, there’s a television experience that is just like a television experience today. Over-stimulated old people staring at a Samsung or LG home screen, looking at everything on there, channels have sold bits of real estate everywhere and the whole commercial model is bewildering; they’re just terrified. We also used eye tracking technology; if people’s eyes become furtive and dancing around, that’s a direct indicator of anxiety and stress levels. There’s nothing worse than seeing someone trying to use a television but getting anxious about it.

“We will have to intervene to make sure usability functions in future; there will probably be a level of requirement on broadcasters to make sure television has a simple interface. They clearly are on broadcasters to make sure that we manage harm and offence and safety and cultural relevance; it all forms part of the experience.”

BUSINESS MODELS

Meanwhile, on the ‘other side,’ as viewers of a certain age will remember referring to the BBC/ITV dichotomy, the terrestrial switch off has all kinds of implications. The BBC, whose licence fee

was introduced in 1946 at an annual cost of £2 (£105 in today’s money). Colour television required further licencing and was introduced in 1968 for £10 (£219 in today’s money). A legal requirement for all viewers, enforcement, if it happened at all seems steeped in myth: from people disguising their televisions as microwaves in the kitchen to state-of-the-art detector vans creeping around residential neighbourhoods at night. There are vociferous arguments online even now that detecting a television being switched on like this simply wasn’t possible in the 80s, despite effective public information films frightening people into paying up; there were no Internet forums back then for speculation to fester. Detector vans may be mythical (NB: they aren’t: the technology did exist, rudimentary though it was in the 80s, and there is a detector van on display in the Science Museum) but debt collection isn’t; one industry expert told me his daughter is being chased with threatening red letters about her outstanding licence fee payments, even though she has deliberately opted out of paying (see previous page, Gen Z ambivalence). “And that’s got to stop, because that’s destroying the opinion of the BBC amongst young people,” he pointed out.

In recent years as populism has dominated politics, the licence fee has become an unfortunate political football of its own. Rightwing politicians and social media influencers regularly demand the licence fee be abandoned and the BBC defunded, amid accusations of bias (this comes from both left and right, so the BBC must surely be doing a fairly decent job of remaining impartial). Complaints that the licence fee is unreasonably high amid a cost-of-living crisis are frequent, but restricted to the more toxic quarters of X (formerly Twitter) and occasionally the Telegraph; how serious these calls are for

defunding the BBC remain unclear, since the same critics demand the abolition of other quintessentially British institutions including the NHS, RNLI, ECHR, the Monarchy and the National Trust all in the name of Keeping Britain Great.

It is nothing less than extraordinary, against all of the above, that the cost of today’s licence fee at £174.50 per year is considerably lower in real terms than it was in 1968 (£219), and covers TV, live broadcasts, live TV on any channel and the yawning, award-winning archives of BBC iPlayer, especially as few of these platforms even existed 57 years ago. The BBC would do well to remind viewers, especially the angry ones what a great deal they’re getting.

While the licence fee may be excellent value for money in 2025, it isn’t really fit for purpose anymore. Nobody I spoke to feels it can remain as it is; television as a concept and a business has evolved beyond recognition since 1946 so the funding model requires urgent reform to retain the goodwill of the people paying for it. The Royal Charter, a constitutional framework for the BBC is reviewed every ten years and covers the governance of the BBC. It is up for renewal in 2027 so discussions are underway about how the licence fee will be paid for going forward.

THE BIG QUESTIONS

Richard Welsh raises an important point. “If terrestrial broadcast is going to be switched off in 2034, and the whole consumption of content has changed so radically, it does make the question of a licence fee difficult to justify.” The implications on the wider media industry if the licence fee is actually abolished, on the grounds that £174 is too much to pay and the model is outmoded, are chilling.





QUALITY

The first issue is one of quality. “I’ve seen a country without a TV license. I’ve seen what happens to what’s on television.” Ian Nock is referring to the Netherlands, which abolished its own state licence fee in 2000, and the funding model now includes a raise in income taxes, advertising revenue and government subsidy. “Dutch television took to screening largely American shows combined with very low-cost talk shows and a certain person called John de Mol (Endemol) created Big Brother because they needed something to put on air that was cheap. Big Brother was created because of the removal of the Dutch TV license.” Downton Abbey this is not.

ECONOMICS

Economically, BBC programming, spearheaded by BBC Studios, plays a significant role in the company’s financial health and contributes substantially to the British economy. Last year alone it posted record revenues of £2.2bn in export sales and rentals overseas, up from £2.56bn in 2023/24 and £5.9bn overall (the licence fee accounts for £3.3bn of that).

TRUST

There are darker concerns if the BBC as an institution changes its funding model. In his day job, Richard Welsh is SVP, Head of Deluxe AI Production Technology and raises the depressing but pressing matter

of truth in an era of deep fake technology, biased propaganda masquerading as news, combined with a catastrophic lack of critical thinking amongst large swathes of the viewing public.

Throw in the power of algorithms, AI, an increasing appetite for disorder and misinformation, exploitation by populists, big tech and governments alike, Richard is right to be worried. “In a world where it’s very hard to trust what you see anymore, especially when you’re consuming it on a device like your phone that’s so small, it’s easy to fool people with fake footage; it’s harder to do on a big screen, because you just literally see more. Making things believable on bigger and bigger screens is more difficult.”

He went on, “That said, technology is moving forward very rapidly. The biggest reason to maintain a license fee and/or the government funding public broadcast – we’re seeing in the US where that battle is being lost sadly - is that we don’t have an environment where we can trust what we see and hear anymore. You need authorities that can help you maintain that trust. There’s a lot of work going on in the standards and technology community to try and figure out ways to authenticate content, to say that this is original, real footage from this moment in this place, so that you can trust that what you’re seeing happened.

“That it isn’t either generated by an AI or isn’t other footage that’s been judiciously edited to make it seem like it’s in a particular location at a particular time. We

see a lot of work going on with people like the BBC to fact check and really try and dig into footage to verify that the sources are credible.” Richard concluded, “That’s why the license fee is fully justified, and people should be glad to pay it and maybe even pay more.”

Stephen Nuttall went further. “It’s very important that the ubiquity of public service broadcasting is maintained,” he said. “People’s ongoing access to multiple sources of news and current affairs that come from duly impartial sources is really important for democracy.”

Ian Nock admitted the BBC was facing a huge challenge. “But we need the money paid. There are several options, all of which would be unpopular, where they could tie it to an existing mechanism. My favourite one is adding it to your council tax bill, which is based on the ability to pay per household, and it’s guaranteed.” But do you really want to be the government that says everyone’s council tax is going to go up £174.50? Keir Starmer has faced enough criticism about surprise tax rises in his first year. Rachel Reeves will have a nervous breakdown, never mind Twitter. “Yeah, that’s the issue. But the money’s got to come from somewhere.”

It is worth remembering the BBC is vitally important to the ecosystem of the entire media industry in the UK; viewing the organisation in a vacuum is missing the point. The model needs to be reformed but the essence of the BBC must remain intact.

AND THE FUTURE?

What does the future for television hold? Opportunity, no doubt; for the agile in the industry, there will be plenty. For audiences, even more choice, undoubtedly. But in a fragmented market, with budgets being slashed, emotions running high amid a febrile political landscape, finding consensus is increasingly difficult. Generational issues of the Baby Boomer/Gen X kind are impeding progress; a lack of vision, failure to exploit opportunity, resistance to change, as well as 'the general uselessness of many of the higher echelons of UK broadcasting and the continuance of favours/jobs for mates and creative inertia,' as one jaded industry expert described it.

According to Stephen Arnell, a broadcast consultant, formerly Head of Strategy at ITV, terrestrial television will survive, in an increasingly desiccated form for another decade, but it will have to coalesce into Public Service and Commercial programming. While the licence fee continues to dominate discussion there are other pressing matters, some of which we've covered here, others will have to wait for another Long Read. Digital exclusion, balancing commercial needs with public service broadcasting values, managing the transition without losing television's accessible, familiar nature, technical challenges like latency and service reliability during peak usage, maintaining technical standards, ensuring legacy is protected are all areas that will be looked at in detail over the coming nine years.

But Richard Lindsay-Davies is optimistic. "One of the big advantages of moving everyone to IP eventually, or enabling IP in everyone's home, is that things like digital social care, healthcare, wellbeing, social connectivity, all those things become easier. We don't solve it with television, but if we've at least got a connection in the home and we've got some digital capability there in the TV, it provides access to a doctor online." But he was equally realistic. "Let's not kid ourselves, we're not going to survive as television if we don't embrace similar business models that brands buy into for targeting and data-driven advertising," Richard smiles. "But the trick for us is to make sure that we don't lose our moral compass or our brand essence of television."

A last word from the BBC; Phil Layton is Head of Applied Research for Media at BBC Research & Development and he's clearly looking forward to the future. "We are entering a world defined by cloud based software workflows. Almost anything can be done once we are freed from hardware based, relatively inflexible, workflows. We are entering an exciting period where the distribution system isn't a barrier to new formats. It almost becomes a question of what can't be done. Having said that I think many aspects come 2040 will still be familiar; TV has been a very resilient format.'

As we celebrate 100 years of television, we can look back with great pride on what's been achieved creatively and technically, the output and talent in front of the cameras and behind them. We

are clearly at an inflection point in the story of television, and you can sense the consternation about the direction of travel. As is the case in so many industries, the Technology Revolution, the Internet and the introduction of AI has accelerated progress but has arguably created as many problems as it has solved. We have never had so much choice; the picture on our screens has never been better, and in an era of rolling news we are better informed than ever before, but the impact on programming quality, career opportunity, legacy, community, truth and democracy we are only just beginning to unravel.

Curved TVs and remote controls on a wire are behind us now and we can laugh at the funny turns the evolution has taken over the years; we've been dazzled by the offering on our huge flatscreen TVs, laptops and mobiles without really peering at the consequences of all this tech and all this information. Amara's Law, which we heard about in our interview with Stephen Nuttall of IBC elsewhere in this issue, states that 'We tend to overestimate the effects of a technology in the short term and underestimate the effect in the long term.' We are enough of the way into the Technology Revolution now to say with some confidence, Amara was right.

