

REACT

a playground
for new ideas

p6. *Disrupting space*



p10. *Inclusive design*



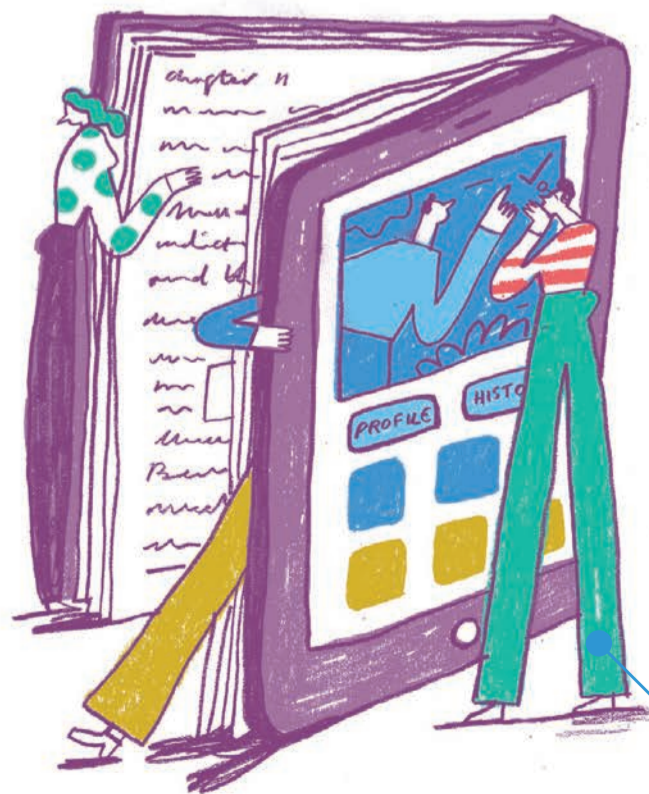
p14. *Messy Futures*



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Foreword

Inside this newspaper, you'll find a collection of stories, thoughts, and ideas from people who have been part of a project called REACT.

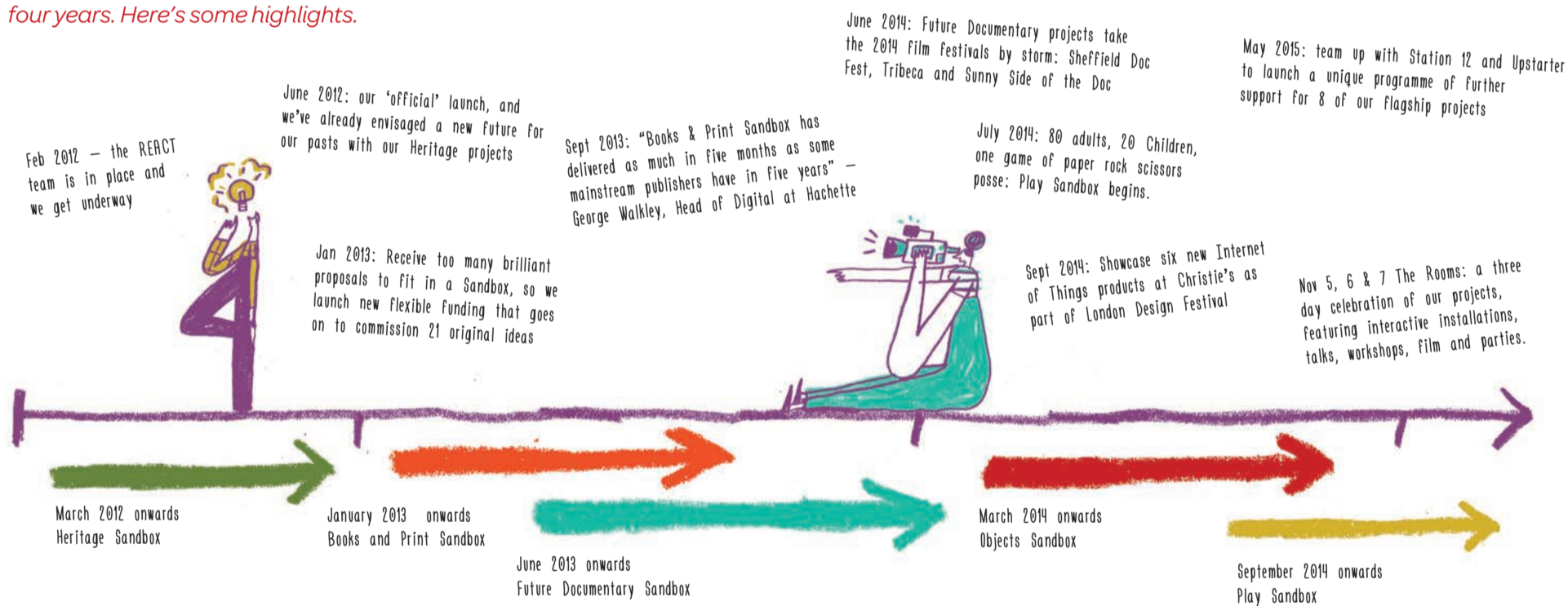
REACT funds businesses in the creative sector to work with University researchers from the arts and humanities to make new things – so that could be filmmakers, designers, coders, artists, working with theorists of technology, language scholars, historians, archaeologists, and more.

Since 2012, we've funded 53 of these collaborations between 55 companies and 73 university researchers across 20,000 hours of work. Some made prototype products, some new services for business, and others new insights for the commercial or education sector – we made a space for ideas to play and grow.

This all happened in a challenging climate.

We're often told that there's lots of value in the creative sector. But we still have to account for that value – why is this play worth public subsidy? How does this piece of art help the local community? How much money has my creative company contributed to the economy?

We've funded fifty-three projects exploring five themes over the last four years. Here's some highlights.



Once Upon a Time in The West

Four years is a delightfully and tortuously long time to do anything. This is one of my biggest learning points from REACT.

The purpose of REACT was always to get people collaborating. But as one of four hubs established to get academics and creative businesses working together, we also wanted to play with temporality. We wanted to address the differing timescales of academic research and commercial imperative, to find gearing mechanisms that smoothed out different ways of working and give ourselves time to learn, reflect and iterate. To invent something new.

Things are tough for the arts in universities, too. In 2010, the government announced a phased plan to cut 100% of its teaching funding for the arts, humanities, and social sciences. Student fees went up, in part, to cover this loss. The Arts and Humanities Research Council provide support to nearly one third of all university researchers but are given only 2.8% of the total university research budget to do it.

But the arts and humanities are everywhere. If you've read a book, played a computer game, downloaded an app, watched a film, seen a play, picked up a newspaper, or visited a museum, chances are someone with a background in the arts and humanities contributed to what you encountered. Whether it's artists or product designers, games makers or historians, journalists or novelists, lots of people come from a background in the arts. These same people are also in our digital and technology sectors,

designing and making the cutting edge experiences we encounter online and out in the streets.

So we know that human experience, our culture, our creative drive and curiosity – fundamental to research and the arts – are of value to the world at large.

At REACT, we champion the people exploring these things and team them up to work with people they wouldn't have met otherwise. And we champion the incredible opportunities for innovation and new experiences offered by digital technology.

The world these projects inhabit is exciting, curious, and precarious, but vital.

Different kinds of businesses are springing up (*New ways of working, p. 3*): people are striving to make new, meaningful products (*Building something new pp. 4 & 5*); everyday technology is allowing new ways to bring our history to life, tell the stories of our pasts (*Disrupting space pp. 6 & 7*), and change our daily lives (*Digital selves?, pp 8 & 9*); we're thinking more carefully about making things better, that last longer, with the people who will use them (*Inclusive design, pp. 10 & 11*).

There are also new opportunities for social activism through interactivity (*Transforming participation, pp 12 & 13*) and provocations for the future (*Messy futures, pp 14 & 15*).

At the heart of all of these stories, though, is collaboration.

As you read, you may realise – as we did over the last four years – that the need to collaborate goes far beyond our particular research interests and into the world at large, to make better things together.

Making this playground for new ideas is just the first step.

Simon Moreton is Research Fellow at REACT

REACT is a collaboration between UWE Bristol and Watershed, with the Universities of Bath, Bristol, Exeter and Cardiff. We are one four hubs funded by the Arts and Humanities Research Council to explore knowledge exchange in the creative sector.

And we have: REACT was designed largely around Watershed's Sandbox™ methodology, which gives unusual ideas time to thrive and grow. Building trust and securing buy-in around the pace and process of Heritage Sandbox (our first with REACT) took time and faith, despite our proven track record.

How far then we have come, that by Play Sandbox (our fifth and final), hardly any convincing was needed to appoint a group of 8 – 12 years olds as co-commissioners and mentors. Which turned out to be the very best of plans. The luxury of time allowed room for trust and instinct, and resulted in a greater focus on the end user – something we will take forward into future work.

We rather typically began the REACT programme early – almost as soon as we had the funding confirmed – so when it came to the official announcements we had already advertised a funding call, run workshops, selected projects and were ready to begin production. "You will never be able to keep up

this pace" a sister Hub colleague commented to me at the London launch event six months later. They had a point.

The slow processes of large institutions have been a source of great anguish for the REACT team. University contracts can take longer to gestate than a Black Rhino, and seasons pass quicker than many purchase orders. We had thought this was something we might influence – but culture change is a slow process and I suspect we have achieved more in that area too than we know.

Maintaining energy levels over four years has also been a challenge. But at the same time as our peers worried for our ability to keep up the pace, they also called us cowboys – the gun-slingers of the knowledge exchange Wild West – doing things quickly and bending the rules. Perhaps the resilience and stubbornness of being cowboys has kept us going. More likely it has been the joy and energy we draw from being part of a network of brilliant people with unusual ideas. A network these days looks

less like separate groups of academics and creatives, and feels more like a community.

Four years ago, I certainly wouldn't have predicted the breadth, strength and quality of the projects we have supported. Or that our last hurrah would be a Festival – of the scale and ambition of The Rooms (see back page). Of course four years necessarily defies imagination when you set out and we have all got braver over time.

I suspect it will take us a few months yet to reflect, understand and celebrate what has been achieved.

Clare Reddington, Executive Producer of REACT, Creative Director of Watershed, Outlaw.

Working for common good

There's a wind of change a'blowin' through business. The last few weeks have seen the launch of B Corps in the UK and Kickstarter's announcement of its reincorporation to become a benefits corporation. In real terms B Corps offers a fairly new way to structure and condition a business to be a meaningful social enterprise. In the five years that Kickstarter has been around it has always been profit making. By re-incorporating they are making a clear statement that they will never sell the company, and that their ethical ambitions are open and crystal clear to their investors and supporters.

Amidst the enterprise scramble to re-imagine new ways of operating in a new world, there are plenty of startup and existing businesses who have jumped onto the social bandwagon and who are enthusiastically social-washing themselves to appear more ethically and socially responsible than they actually are.

A different kind of startup

In Silicon Valley it seems that the values that drive typical startups and their investors are for the kinds of convenience products that single white guys might want in their busy lives, like a restaurant queue-jumping app. The scope of action in the world is restricted to the preferences of a small group, and the potential for addressing useful human needs is limited by their lack of worldliness. Imagine a different kind of startup ecosystem.

This one has a million businesses – some that have grown large because they have tapped into a human need that has found a source and has made them grow and flourish, while many other new kinds of microbusinesses surround them, focusing on different kinds of products and services from health and care to personal experiences. Others are focused on just making people smile.

These businesses are supported by investors who have grown tired of making only cash returns on their investment and instead now invest in human impact and creative startups: new kinds of products and services with cultural or civic service purposes. Financiers can connect with a kind of change that traditional investment would not touch, or corporations would not be inventive enough to create. They get to say, "we did that".

The companies we work with are a part of

But social enterprise is much more than placing stock photos of meadows filled with laughing children on the 'about' page of your website or stating boldly that you don't dump nuclear waste, or deal in weapons of mass destruction.

It's actually much harder than it should be to set up a business structured to operate in a different way. There are plenty of people who might for instance consider setting up a cooperative, but the non-exhaustive list of options presents a bewildering array of at least sixteen legal forms and around ten different organisational types. Faced with these choices many new businesses opt for a straightforward limited company, which may not have socially or ethically ambitious articles of association at heart and which may not be the best option for them or for society in general.

Rather than the culture of suspicion that can be so evident in the world of venture capitalists and flinty-eyed investors, we need instead a culture of permission. Triumphs should be celebrated and failures learned from. Ideas held in a knowledge commons, and enthusiasm and insights shared with an applied and practical generosity, underpinned with the belief that we all benefit from ideas and projects that fly.

this vision, although they might not know it yet. One of our challenges with working with them is all about getting from "me and my projects", to "me and the business vehicle I have for making change". Most of them say that they are not in it for the money – but what they mean is they are not *only* in it for the money.

These companies operate at the other end of the spectrum to the highly confident, perhaps arrogant world of Silicon Valley. In contrast to the hubris of people starting up in mainstream accelerators, these companies have a modesty in business that we do our best to encourage to take a more confident form. Their modesty is not misplaced, but it does mean they don't grab attention, and have to work harder for it. Their ideas also don't fit conventional incubators here in the UK - its not fast scalable high tech and it isn't going to be a massive business.

We know that if we only look at the high-tech high-growth companies we miss other highly valuable future assets like creating new ideas, writing, or healing, teaching. This is why our Upstarter methods are tuned to work for non-tech, non-profits and for-profits, for the rest of us, normal people. Our role is about helping them to see that they can be sustainable businesses in their chosen space, that their creative skills have a role in business and they can grow around this.

The beauty about creatives becoming entrepreneurs is that they can do it again and again.

Gill Wildman is a director of Upstarter, an incubator for micro-business design @upstarter

This approach extends beyond the ideas, individuals and projects involved in this newspaper, to offer new ways of operating to potential new business. These re-imagined models of working are becoming a requirement in the mutable and sometimes unsettling world that we live in where a job for life no longer exists, and where instead we nurture a framework of skills and relationships for life.

Projects like REACT demonstrate that it's ok to be innovative in theory and practice, and that there are creative, social and business opportunities to be exploited for the common good. The longer term benefits for all of us in generating new approaches to solving both old and new problems might in fact be REACT's most important legacy.

James Richards is director of Chromatope, a digital innovation consultancy

Creative camp-out

Encouraging collaboration between people who work in universities and those who don't has become increasingly important for the UK's burgeoning creative economy.

The creative economy includes anyone who does creative work, whether within the creative industries - publishing, music, games - or elsewhere, from offices to factories, broadcasting to financial services.

The creative economy has been growing strongly since the 2008 financial crash, driven by a surge of technological innovation. Roughly speaking, 8% of UK employment is accounted for by creative jobs and the sector now accounts for about 9% of the 'gross value' added to the UK economy.

To maintain this momentum in innovation, universities need to achieve more effective and creative collaboration across disciplinary lines. As Steve Jobs, the founder of Apple, famously said, his company's products owed as much to art as to engineering: engineers need to understand art and artists need to understand data.

For universities, this is both exciting and a challenge. In a recent study, **Beyond the Creative Campus**, Roberta Comunian and Abigail Gilmore stress the importance for universities of the 'third space,' positioned so that it connects smoothly to the world beyond the university. Not so much a creative campus as a creative camp-out.

In the **Manifesto for the Creative Economy** I co-authored for Nesta a couple of years ago, we urged universities to invest in people as well as buildings. A more recent research project on creative citizenship shows that

"Triumphs should be celebrated and failures learned from, insights shared with generosity and underpinned with the belief that we all benefit from ideas that fly"

micro-scale infrastructures are as important as big ones to enable the creative economy to work well at the level of community.

Today, there are many good examples of 'third spaces.' The Brighton Fuse is a collaboration between Brighton University and Wired Sussex. The Pervasive Media Studio at the Watershed in Bristol, involves the two Bristol universities, the Watershed, and scores of smaller business partners.

The Centre for Digital Entertainment, a venture led by Bournemouth and Bath universities, supports young academics who find themselves working as interns inside businesses where they may be devising new approaches to the care of stroke victims, advancing video game animation techniques or inventing digital wallpaper.

A better connected creative economy will allow ideas, jobs, people and skills to flow more smoothly. At Cardiff University, we're aiming to map the creative economy in greater detail than has been attempted elsewhere and use this information to understand how to build better connections between big organisations like Welsh National Opera, the BBC and the insurance company Admiral, to the hundreds of small creative firms and freelancers also active in the city.

Today's boundaries are more porous and a healthy system of exchange changes the university and benefits students as much as it changes and benefits commercial partners.

That's what we're hoping for in Cardiff.

Ian Hargreaves is Professor of Digital Economy at Cardiff University

Building something new // being renewed

I've always maintained that "Humans are not ants": we can be and do many things. So long as we're open to it, we'll do incredible things.

Yet had you told me three years ago that I'd win four awards, be paid to travel to New York, produce one of the National Trust's most innovative projects, curate an exhibition for a festival about death, help create participatory soundtracks for cities, work with cutting edge technologies, and build a strong community of friends and collaborators before I was 30...I'd probably have been understandably bemused. Then sceptical.

But that's what happened.

In late 2012, I was at a low. I'd broken up with my girlfriend, I'd had to part with my savings, and I was sleeping in the cold, damp basement of a friend in Bristol in order to find some work – any work – that might sustain me. I was cynical about the future.

However, one collaboration soon led to another...and another.

I went from a small project for National Theatre Wales to being a producer for Book Kernel in the REACT Books & Print Sandbox in no time. I was introduced to a whole new network of people and ideas – on my first day, I felt like a child plunged into the deep end. Reader, I swam. Quickly.

The punctuation "//" is used by coders to leave a message for others reading the code – a footnote, of sorts. I didn't know that three years ago, yet it has formed my thinking ever since.

I use it to indicate a knock-on effect or juxtaposition; in the world of collaboration, they're everywhere: my first REACT drinks,

met James Wheale // formed a project called **Fabler, Fabler** won an award // met Anthony Mandal // we're Gothic Literature fans so Anthony asked me to curate an exhibition from the archive he's working on // Sandbox workshop, met Duncan Speakman and Tom Abba // now help create soundtracks for cities with Circumstance // through James, met Rosie Poebright // played, imagined, worked on **A Knights Tale** for The National Trust // learned game design, design thinking // used innovative tech // new tech, new thinking // met David Drake // became Dylan Thomas in **Bedazzled: A Welshman in New York** for the Dylan Thomas 100 Celebrations // went to New York through that.

These are the mechanisms by which we grow.

Networks expanded, contracted – it was all, every bit of it, exhilarating. Sometimes tiring, always fascinating. That's what it feels like to build something new in a new network of collaborators. It feels like being renewed.

Since working in the Wild Wild [South] West, I've embraced my portfolio career. Yet I was, am, and will always be: a writer. All writing is an encoding; all language, a magic.

If, as Heraclitus had it, "**You cannot step twice into the same river**", "//" ensures you cannot read the same sentence twice. Nor the same person. I was once a web designer. Soon I'll begin lecturing on a Creative Media Design BA. I am now, definitely but not definitively, a maker // worker // writer.

I've worked with many teams, learned many things. It's wise to know we'll change. After all, "**They that love wisdom must be acquainted with very many things indeed.**" – Heraclitus. [Yes, him again.]

Ben Gwalchmai is Managing Editor of Book Kernel. His novel, Purefinder, is available at all good book stores. @BenGwalchmai

From Bristol to California

Silas Adekunle is the CEO of Reach Robotics, a Bristol startup looking to bring robotics into the home. Their flagship product, **MechaMonsters**, is billed as the world's first intelligent gaming robot that users control via an app on their smartphone.

As you'd expect of the CEO of a young and rapidly developing start-up, it's hard to pin Silas down. One minute he's in San Diego, the next he is en route to San Francisco when Skype goes down, and the next time we're due to chat he's off to LA. We eventually caught up when he got back to the UK.

I began by asking him how his interest in robotics came about.

"Just natural curiosity" he says "I was born in Nigeria and liked taking radios apart, which my Dad encouraged. He was a biochemistry teacher. So I got a chance to play about and break things and not get told off for it. After that I came to the UK and took part in LEGO afterschool clubs which really sparked my interest."

Silas went on to study Robotics at UWE Bristol, and founded Reach Robotics while still a student, with help from UWE, Hewlett Packard, and the Prince's Trust.

"Reach started as an outreach programme, teaching kids in schools about robotics."

The company grew, with Silas recruiting a team of co-founders that he credits with the continuing development of the company. They received support along the way from Watershed's Pervasive Media Studio, the Bristol Robotics Lab, and REACT.

As they've grown, their success has taken the team around the world. Taking part in overseas trade missions in China, Japan and the US with UK Trade and Industry; pitching to the Duke of York at his Pitch@Palace event for young entrepreneurs; attending engineering, robotics, and gaming conferences across Europe. They were even at San Diego Comic Con.

A UKTI trip to Japan was particularly memorable "I always wanted to go to Japan as a kid, and it was the epitome of robotics research. It was a dream to achieve that."

His recent move to California came when the company was selected to take part in the first ever Techstars Qualcomm Robotics Accelerator programme, a process that invests in small robotics start-ups and helps them take their products to market.

"They encourage you to dream big" says Silas. "No two days are ever the same."

It's not always glamorous either. "We got a three bed house for five guys. I started off in the wardrobe, and we rotated so the other guys slept there or on the sofa. We don't really spend that much time in the house anyway."

The hours are long, and the work hard, but it's worth it: "it's intensive but it's inspiring to be in the same room as all these companies doing the same thing."

Uniquely, Reach isn't only interested in products; it's about encouraging people to get excited about technology, engineering, and robotics

"MechaMonsters battle each other and that's their primary aim. But we're creating a product that's a platform, you can upgrade them, change them. The robot you buy today is different to what it becomes tomorrow."

This ambition, of mixing education and gaming, with dedication and passion has been core to how they work.

So, I ask him, any tips for people looking to follow in his footsteps?

"There is no perfect time to start. If you wait around you get demotivated, opportunity might slip by. So once you think you're on to something just start and figure everything else along the way." **SM**

Find out more at <http://reachrobotics.com>

Artist Arthur Buxton and UWE Bristol researchers Paul Laidler and Phil O'Shaughnessy teamed up through REACT to develop **Colourstory**: a free web platform and app which allows people to reveal secret colour codes hidden in their photos, and bring them to life as personalised prints and products.



Image: Arthur Buxton

Only a game?

This year my brother Will and I founded an accessible games design studio called Enabling Play. Our first creation, **The Amazing Adventures of Millie Moreorless**, is an accessible iPad game designed to help children with Down's Syndrome work on fundamental maths skills. In the research and development phase, we spent many months trying out different game ideas (read: playing!) with young volunteers in Bristol, and it was some of the most rewarding and enjoyable work we've ever done. Will and I were totally new to game design – we started out as filmmakers. How and why did we go from documentary filmmaking to accessible game design? I think we're both drawn to the magic in telling stories that can be entertaining and empowering at the same time. The impulse to design our first game came from a similar place.

Will made a film called **Growing Up Down's** because he saw something extraordinary happening – the astonishing transformation of our brother Tommy into a complicated, soul-searching Prince Hamlet. Tommy has Down's Syndrome and was, we think, the first actor

with Down's Syndrome ever to play Hamlet. The depth and breadth of his emotional register was startling and enchanting to many audiences, not least to his own family. Making a film about this, and the similarly complex personal growth experienced by each of the main actors (all with learning difficulties), was a way to share the magic of their achievements and bring courage to others struggling against low expectations.

Making bespoke games for children with learning difficulties is an extension of that same desire to set change in motion. We want to create supportive mechanisms that could play a role in helping children grow up to live independent, fulfilled lives. We want to raise a wider conversation in mainstream gaming circles about designing to include individuals with learning difficulties. Tommy's wholehearted transformation on stage showed us the importance of creating a space where people can out-perform all expectations. He and his friends showed us what happens when people are given a chance to challenge themselves and a framework to climb towards a goal they truly desire.

Lots of good intentions. But the creative questions in designing an educational game were exciting to us too: how do you make something that's difficult or boring into something fun and moreish? Our collaborator Dr. Jill Porter, first pointed us to the pioneering research around magnitude which inspired the gameplay, and she has been invaluable in helping us make sure the learning element is at its best. Together, we started by gathering a group of young volunteers with Down's Syndrome and playing game after game with them, working carefully to discover which activities and goals made sense to them, what held their attention, what made them giggle, which incentives were most successful.

In my family, we often discuss the need for more lead characters with learning difficulties in films and on television. What if we switched up that dynamic in mainstream games too – if there were more experiences where the hero has a disability? What would this game be like? In my mind, designing

these games would be an amazing and exciting collaborative project to embark on; a wonderful opportunity for participants with a learning difficulty to voice their experiences, desires, frustrations and fantasies through co-design.

Popular media has a huge responsibility to represent people with learning difficulties. Let's go one better: let's celebrate the many varied perspectives on life they have to offer.

This might sound like a lot of ambition for something that is only a game, right? But games are everywhere: in living rooms, in the hands of adults and children, altering world views, bonding and dividing clans, and here as in every other community we need to watch carefully for inclusivity. Will and I are lucky, we have grown up with Tommy and share a lifetime of joyous memories with him and his friends. We feel hugely fortunate to be part of his community and I believe we began co-designing games with and for people with learning difficulties because, as much as anything, we want to share the fun.

Cara Jessop is a Director of Enabling Play

“Popular media has a huge responsibility to represent people with learning difficulties. Let's go one better: let's celebrate the many varied perspectives on life they have to offer.”

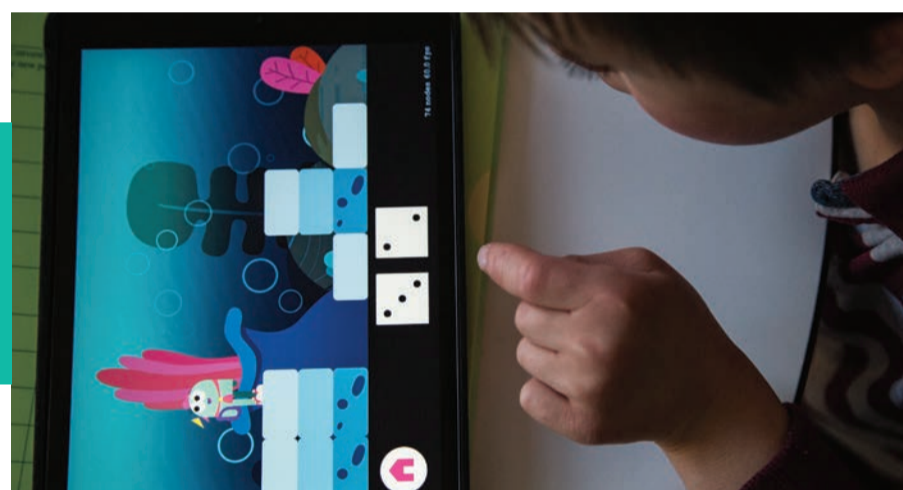


Image: Enabling Play

Building the fire

It's hard to know what you should do after you close a company. I ran a game design studio called Hide&Seek which we closed in late 2013. It was such a big part of me that it took a while to figure out what came next. I considered a few random offers: university lecturer, running an incubator, *redacted absurd thing*. They were all cool ideas but none stuck.

Then the best possible thing happened – I went away with my family to California. We did lots of camping in state parks and I took a lot of pleasure in building fires. It's a nice thing to do – you get to do it once a day, it's not that hard but there's still a moment of jeopardy when you light it, and the reward is a nice toasty crackling fire to warm yourself by and brew tea on.

I really recommend fallow periods.

We tend to focus on and celebrate action, outcomes, the 'doers' and the 'makers', but it's actually really valuable (if you have the privilege to do so) to stop for a while, let things settle. That trip really helped me crystallise some ideas about what I wanted to do next.

In **Fabulous Beasts**, you build a world by building a tower. It's your choice whether to co-operate, to build something grand, or to play more competitively and build something that advantages you but leaves fewer options

for growth. The choices you make as you build the tower affect the digital ecosystem, which grows independently of you. Something of those fires – carefully assembled from kindling and firewood – made it into the game.

I came back from that trip and thanks to the support of REACT was able to start putting a team together and building a prototype. Since then, we've raised investment, been accepted into some prestigious game festivals, and started to get some traction as a business. It's been a very exciting year... And I think the fire-building analogy extends beyond the game and into the way one puts a creative company together.

My experience of Hide&Seek taught me that what goes into your business at the start has a really big effect on what you're able to do thereafter. That's because there's a relatively slow and leisurely bit – where you can plan and discuss and think about the future – and then there is the bit where EVERYTHING IS ON FIRE. When you're in the midst of cash-flow and opportunities and pitches and the printer breaking, there just isn't the same luxury to plan far ahead.

The ability to take some time to really think about your first product and how to build a business around it is very rare, especially when combined with such insightful and dedicated support. Now excuse me, I know I oughtn't but, I'm just going to chuck a bit of paraffin on this – stand back everyone!

Alex Fleetwood is Director of Sensible Object, makers of Fabulous Beasts, a physical/digital hybrid game for 2 players

The art of positive compromise

The collaborative projects talked about in this newspaper bring together teams with very different views, skills, and measures of success (academics, artists, technologists, designers, filmmakers, and more). Initiatives like REACT support them to develop innovative ideas whilst all the time encouraging the diversions and provocations of experimentation, community, and peer review – and then demand a tangible result quickly, really quickly.

Project development under these conditions becomes an intensive exercise in the art of compromise.

And this compromise is not just the human affordances of trying to blend disparate individuals and ideas into a team – although that is important. It's also the very real process of having to balance aspiration, idealism, and ambition against the possible, the practical, the valuable, and the commercially viable.

One of the Pervasive Media Studio stock phrases is that “artists are inherently unreasonable” (that's a positive by the way), pursuing a vision and demanding its delivery. However, if the intention is to create innovative projects which will develop into commercial products, an unavoidable push/pull is implied

between vision and viable – how to balance the passionate pursuit of an experimental idea with the reality that someone somewhere is going to have to pay for it, if it's going to exist in the real world.

And this clash / compromise mechanic is hard but healthy; it very quickly surfaces the answer to the question of “Where is the real value in my idea? What is fundamental versus what is adaptable? What is ambition versus what is realistic?”

But value is disputed – an example was a project where the delivery was focused on a compelling interactive installation but the actual commercial value lay in linkage of data to customer relationship management tools (less compelling); or the project with a specific cultural slant which was far more effective when described as a white label training platform.

Creativity lies in problem solving, and generation of a tangible end product is born out of the difficult balance between financial realities, market opportunity, core values, and ambitious idealism.

Success within a REACT project is often actually a requirement for further support; a reflection that the process has delivered an innovative working prototype with a well-defined understanding of audience, business model, and future path to market – a clear opportunity to pursue, a result of the art of positive compromise.

Mark Leaver is Development Director of Playable City and an advisor for REACT projects

Disrupting space

A recent report from Ofcom found that two thirds of people in the UK now use smartphones. We use them for a huge portion of our internet browsing needs, for phone calls, messages, and more. Many of us carry them with us wherever we go.

They are also full of technology that is all about where the phone is and what it's doing. From GPS positioning for maps, to using wi-fi networks to pinpoint people's positions indoors; from pedometers to measure how quickly you're moving, to gyroscopes which sense which way up your phone is.

These all have many uses – if you're lost, you'll check the maps on your phone; you'll tilt your handset to watch a video. But these same technologies can also be used to generate different and unexpected encounters with the world around us.

Apps which harness these tools can be used to trigger content on your phone, or in devices you're connected to. Suddenly, the space of the city becomes a playground for location-specific content and experiences. It could bring audio content to life as you walk past a historic building, trigger film projections in a museum, or give you different pieces of a story depending on how fast you're moving.

City Strata, a collaboration between Charlotte Crofts from UWE Bristol, locative app developers Calvium and Bristol City Council, tapped into the lost spaces of Bristol's cinema going past. Geographically triggered content enabled layers of history to come alive with information and media about where historic cinemas once lived. It also allowed users to upload their memories of those spaces via the app. This means they contribute to the collective memory of the city, and change how its sights and sounds could be mapped.

A project at Bristol's Old Vic, called **Memory of Theatre**, experimented with indoor positioning technology to share stories of the venue's history. The team took audio recordings of people's theatre experiences and played them back to visitors in the space they happened. So walk on to the stage and an actress will tell you of her past treading the boards; take a seat in the back row and hear tales of a spectator's view of Hamlet.

There are technological challenges to designing things like this. What happens if your wi-fi breaks? Or if you're asking users to look at a phone screen on a sunny day?

Some projects have met these challenges by removing the use of a screen entirely, making the interaction somewhat magical. Some projects have pushed us to use our phones half of the time and an accompaniment – a book, a setting, or our imagination – for the other half.

What's key to locative media is an enrichment of the places we think we know, and a reimagining of where we'd like them to take us.

SM & BG

Adventure Heritage

In a headlong rush to modernise and attract greater numbers of visitors, the UK heritage industry has embraced digital and mobile technologies with enthusiasm. Typically, ways have been found of converting interpretative content previously held in guidebooks, on wall displays and in orientation-videos, into augmented audio-visual tours for smartphone or tablet.

Yet, while the delivery system has changed, the essential passivity of the visitor experience has not. Users play little or no part in shaping their visit and have no control over the creation of 'knowledge'. With **Ghosts in the Garden**, a collaboration between Splash & Ripple creative director, Rosie Poebright, and UWE historian, Steve Poole, this paradigm was directly challenged and a radical manifesto for change produced.

The team built an interactive locative audio game and delivered it through a live and ticking steam-punk 'Time Radio'. Part researched historical soundscape, part platform for the publication of new historical research, part affective real-world game and part interpretation device for heritage tourism, **Ghosts in the Garden** took visitor conventions by the scruff of the neck and gave them a hearty shake.

"Digital technologies open the door to infinite possibilities", says Poole, "but sometimes

the urge to throw bangs and whistles at heritage sites in the hope of attracting new or bigger audiences has taken precedence over creative thought. One of the things technology can do is disrupt the distinction between lived and imaginative experience; it can change the way we learn and interact with objects and places. We wanted to exploit the technology without drawing attention to it, immerse people in past worlds and approach understanding through decision-making rather than an accumulation of 'facts'. These are new ways of thinking about and modelling knowledge."

So let's learn the Splash & Ripple Adventure Heritage manifesto and change the way we think about visiting historic places:

- **Say NO** to smartphone and tablet uniformity! They're clever bits of kit, but incongruous to heritage and distracting. Let's hide them inside something extraordinary, so that people feel viscerally connected to the story.
- **Say NO** to being told where to go, what to look at next and what to think about it. Let's put the guidebook down and have a research adventure instead. Let's travel in time, eavesdrop on history, converse with the dead and engage with their anxieties and aspirations. Let's weigh up the evidence and craft a response... What we want is agency!
- **Say YES** to lots of return visits – because each time we go, we'll be in control so we can make the experience different and learn different things.
- **Say YES** group adventures with family or friends rather than isolating audio guides.

Platforms for haunting

Bringing medieval monks, guests at a 16th Century hunting lodge and the young man who was part of the Lost Generation, back to life isn't completely alien territory for a historian. The day-to-day stuff of my writing and teaching is, in a sense, making the past – and its voices – live.

Innovations in digital technologies now enable that to be done in ways other than text alone. I collaborated with a company called Interactive Places on a project to use technologies to conjure up site-specific 'ghosts'. We wanted to know what kind of stories the walls of a historic building might tell if they could speak and how might technologies enable those walls to become storytellers by stripping back the layers of time. We temporarily installed an augmented reality mirror on the walls of the National Trust's Newark Park property. This mirror gave the stones voice, and also enabled the co-existence of past inhabitants and present visitors within one space between wall and room, then and now.

The mirror was not only a space for co-existence of past inhabitants within these stones and present-day visitors, but also an invitation to look at these stones – and listen to them – more carefully. Immersing ourselves into historic landscapes can feel like an experience of time shrinking as the pasts and present of that space come a little closer by dint of us actually being there.

There are often anxieties around digital technologies reducing life to a screen and shrinking experience to the virtual. But there is a chance here to mash-up the digital and physical, and to seek to use technologies to enable richer experiences of the material worlds we inhabit and an invitation to look, listen, smell, taste and feel just a little bit more.

I began working with artist collective Stand + Stare to think about how digital technologies might enrich our experience in the present. We started from a shared interest in the kinds of scribbles that you sometimes find on the margins of a book. Through a chance discovery of a battered copy of *The Rough Guide to Morocco* in an Oxfam book shop, we began to imagine the travels of the former owner of this book through the ephemera – mainly tickets – and scribbles they left behind in and on the book. We went on to develop **Mayfly**, a means of recording your audio memories into journals.

What struck me doing these projects is how technologies enable not simply a richer memory of place, but also encourage a different way of experiencing that place or event. Rather than using digital technologies to reduce life to the screen or close off the material world, my sense is that digital technologies have the potential to open up life and the world and to enable richer, more embodied experiences of people and places, and to do this in the present and not just with the past.

Tim Cole is Professor of History at the University of Bristol

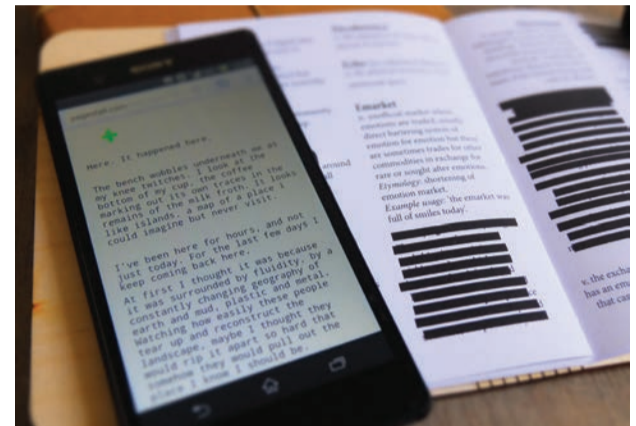


- **Say YES** to learning through gameplay – games are for everyone and they make our brains work faster.
- **Say NO** to endless historical tales of the rich and powerful. It's time to meet real historical characters who lived, loved and died in the same social world as we do. We want to empathise, but it's hard to feel empathy with the aristocracy...

Steve Poole is Professor of History at UWE Bristol. Rosie Poebright is Creative Director of Splash & Ripple.

Find out more at splaslandripple.com





Images: Circumstance

Moving stories

Artists and writers are exploring how new location-aware technologies – from mobile telephones and GPS to portable wi-fi devices – can be used to create a different kind of story.

Whether a solitary or group activity, experiencing these stories is all about where you are: with pieces of a story being delivered to your mobile device when you reach a particular place, or having an audio track playing through headphones change depending on where you go next, or a narrative that alters depending on who you interact with out in the street.

One writer experimenting with this form is James Attlee, author and Great Western Railway's 'Writer on the Train'. Working with software company Agant he developed **Writer on the Train**, a prototype app that delivered fragments of stories to commuters depending on their location on the Bristol to London line.

"By discovering stories linked to locations along the line and delivering them to readers as they arrived at the exact spot where something had happened in the past, or the point from which a particular landmark could be viewed, I hoped to reanimate their journey and invest it with interest and meaning" says Attlee. "The readership I wanted to reach was made up primarily of repeat travellers, those able to enter a serial relationship with a text that could unfold over a period of weeks. At the same time I wanted to explore the phenomenon of train travel itself."

Playing with how technology can be used to challenge our experience of time and location is also of interest to Alex Butterworth, an artist, author and theorist of new media narrative. "For me, the most exciting affordances with which to work are the temporal: whether it's the time of a held

breath, the attention patterns of the daily and weekly routine, for a commuter or leisure walker, or the few seconds of difference from Greenwich Mean Time between two sides of a city."

It's also the ability to create a sense of connection with the world at large for the audience that excites Butterworth, "You're aiming to generate something like the sense of a whispered or intuited conversation, in which the user feels they are both known and elusive. Whatever the subject or theme of a piece, it should generate a heightened perception, a more fully realised sense of being in the world."

Artist collective Circumstance agree. Their work frequently operates through 'subtle mobs': groups of people connected through shared audio experiences, listening to stories, carrying out instructions and participating in a jointly authored story, while passers-by move obliviously around them.

In a recent work, **these pages fall like ash**, Circumstance and Tom Abba from UWE Bristol created a story where half the tale was bound in a book and the other half hidden in hard drives in the city. The written text acted, in part, as a treasure map. The rest of the story was read from the hard drives via wi-fi on mobile phones or tablets.

The story changed as the project continued and crucially, when connected to the hard drives, phones weren't connected to the internet – isolating the reader in the moment of reading and their location.

Circumstance's Duncan Speakman says, "The devices you use to connect to other parts of the world separate you from your immediate surroundings, and I wanted to use them to force you to connect with where you are."

these pages fall like ash created a reading experience where those taking part could be directed to look at a landmark, reflect on the city, or their own feelings at that moment, and build those elements into the story being told.

"What was previously a telescope becomes a magnifying glass, and for a moment you could ask the audience to ignore the sky and focus on the dust around their feet. Exactly what will happen inside this frame is unknown, but I can still talk about it, because I know its parameters" wrote Speakman recently.

But as Speakman alludes, it can be challenging writing real life locations into story because even if an author knows where the reader might be, you can't account for the ever-changing environment of the city or even what the reader will do.

"You have to take risks and write around contingencies", reflects Butterworth, describing his experience with Box of Delights, a mobile digital platform that engaged Oxford audiences with the city's museum collections out in the streets. "Participants responded powerfully to a scene that invoked the shadow cast on a sundial. Only some people were there on a clear-skied day but the writing allowed the others to find equal potency in the shadow's absence."

The aim is to write and design experiences that are subtle and meaningful, not brash or overtly disruptive. The result is an experience greater than the sum of its parts, where digital, textual, and the very moment in which it all happens combine.

As Duncan Speakman says, if these kinds of stories and experiences can be done right, "what happens will be more surprising and more beautiful than anything we could have created alone." **SM**

"I wanted to tell you something, maybe a story. I want it to be about you. I want it to be about where you are."

You can find out more about Circumstance at <http://wearecircumstance.com/> and Alex Butterworth at <http://www.amblr.net/>. James Attlee's new book **Station to Station: Searching for Stories on the Great Western Line** is out now from Guardian Books. Visit <http://jamesattlee.com/> for further information.

Does Technology Make Us Better People?

In September 2014, Apple announced its first new piece of technology in the four years since the launch of the iPad: the Apple Watch. The launch event sought to convince viewers that this piece of wearable technology will transform our lives. One of the key features showcased was Digital Touch, which allows wearers of the Apple Watch to exchange 'sketches, taps, even [...] heartbeat[s]'—promising an intimacy that can span the globe and potentially create new modes of communication between humans. But Apple is promoting its wearable tech not merely as a communications device: the company has emphasised the watch as a means of enabling better control over our daily health. The company has tapped into the emergent "Quantified Self" movement, which breaks down our daily habits into data variables that we can track and respond to in order to improve our health. As much as it is a tool that opens our world outwards to enable communications with others, wearable technology like the Apple Watch also focuses us inwards, suggesting that we can gain a better sense of our humanity and, by some measures, improve our lives.

The advent of wearable gear extends our increasingly complex relationship to the digital culture embedded in our daily lives. Smartphones now seem to function as prosthetic extensions of ourselves, leading many to experience feelings of anxiety when these devices are forgotten or inaccessible. But this process of digital prosthesis extends beyond devices in the physical world: consider ubiquitous social media platforms such as Facebook and Twitter, which comprise metadata describing who we 'are' (gender, age, relationship status, interests), photographs and maps that chronicle our life experiences, and regular status updates with comments by our 'friends'. How much of our humanity is invested in these platforms, as we repeatedly check our feeds, post our opinions, snap our travels?

Our project **Jekyll 2.0: Embodying the Gothic Text** took as its inspiration the similarities between today's digital ambivalence and later nineteenth-century anxieties regarding the march of science. Robert Louis Stevenson's gothic classic, *Strange Case of Dr Jekyll and Mr Hyde* (1886), is driven by a preoccupation with the impact of science and technology on

our sense of humanity. Stevenson was writing at the dawn of the electric age, an era that ushered in a new, and rapidly accelerating, period of technological transformation. The age of steam, which had powered the spread of empire and the diffusion of knowledge through the Victorian era, gave way to a new form of power that pushed science and technology in new and fascinating directions. But this seemingly breakneck pace of change made our understanding of our place within the world increasingly harder to fathom. The more scientific theories revealed about the human condition, the greater the opportunities to transform it. But to make it better? The half-century that followed Stevenson's novella saw science put to obscenely destructive use: genocide, chemical warfare, nuclear weapons. Scientific discovery seemed to threaten, rather than better, human well-being.

We sit on the precipice of a similar moment of transformation: from the analogue age to the digital, the pace of which will make the electric age seem like a crawl. In everyday life, smartphones and new wearable technologies mean we are permanently connected to the physical world through a digital medium: phone calls, text messages, social media. The digital is the everyday: the everyday has become digital.

But this is also the age of covert government surveillance, drone strikes and cyber-terrorism; of genetically modified foods and nano-engineered viruses; of the mass harassment and bullying of individuals through social media. In *The Shallows* (2010), Nicholas Carr argues printed texts encouraged 'deep' or 'close' reading, improving our ability to reflect, analyse and respond patiently to a wide array of information. By contrast, the Internet encourages us to hop from one small block of text to the next, from one hyperlink to another, transforming us into easily distracted 'surface' readers. Virtual pioneer, polymath, and cultural critic, Jaron Lanier, seems to view such digital transformations as a form of digital tyranny he terms 'cybernetic totalism' in *You Are Not a Gadget* (2011): "The central mistake of recent digital culture is to chop up a network of individuals so finely that you end up with a mush. You then start to care about ... the network more than the real people who are networked."

Scientific and technological developments drive civilization forward, allowing us to enjoy longer and better lives. At the same time, these developments can transform us, reshaping what we understand our humanity to represent.

Advancements in science and technology don't necessarily make us better people, even if they can extend what it means to be human.

Anthony Mandal is Reader in Print and Digital Cultures at Cardiff University

Narrating the self?

Helping children tell their stories and understand where they've come from.

The United Nations Convention on the Rights of the Child challenges us all to view children as competent, rights bearing citizens with important things to say. Many academics and practitioners have sought to access children's views on the world. But 'listening' is multi-faceted and complex and just one of the challenges of understanding children's perspectives and experiences of the world. Children also need to be supported to tell their stories over time: as part of their ability to narrate the self and understand who they are – what their role in society is.

The link between narration and the construction of identity for individuals is described as narrative identity, which is the evolving story of ourselves that we construct over time. This emphasises the importance of narrating stories of the self in order to consider important questions of 'Who am I?' and 'How did I come to be me?' and this is particularly important for young people as they seek to make sense of who they are and how they fit in with family, friends, and wider society.

Narrating the self through the stories we tell and share with others, however, is something that children need to learn to do and have opportunities to practice. Talking with our children as they grow and experience the world is important in their learning to tell stories and craft their version of their life – asking those 'Do you remember when?' and 'Can you remember this person?' style questions enables children to not only recall events and people but to confirm their memories as they develop. As parents we do this all the time, but so do grandparents, siblings, teachers, early years professionals, and other key adults in children's lives. Ideally, attentive listening is facilitated by someone



who shares the memories with the child as the listener has a role in the co-creation of the stories. But this sharing of personal stories with children by adults who share experiences becomes a challenge for children who, for whatever reason, are unable to grow up in birth families who share biographical histories. This is something I have been exploring in my work with children who have been adopted, who may have fragmented or little memory of their past. The memories we have and share are also often enabled through concrete memories like photographs and treasured objects, as these can act as reminders and anchorage points for certain times and people in our lives.

Stories are not straightforward. This is something children learn over time as they come to appreciate that stories have multiple perspectives – depending on who is narrating and that meanings of stories change over time as they are told, re-told, and become embedded in the fabric of their self-presentation to the world. All this suggests that the adults in children's lives have a hugely important role in supporting them to be able to tell and re-tell, examine, and consider their stories as they move through childhood; this begins with the playful telling of stories in early childhood, the acquisition of rhyme and repetition as toddlers and the ability to fictionalise and role play in early play experiences. These processes develop as children get older, but have important roots in the playful exchanges that start with the youngest of children and continue through life to old age, when reminiscing and storytelling continues to have a hugely important role in our relationships and in our wellbeing.

Dr Debbie Watson is Reader in Childhood Studies, School for Policy Studies, University of Bristol

*“Who am I?
How did I
come to
be me?”*

What's The Risk?

Risk Taker's Survival Guide is a short interactive documentary that challenges the viewer to confront their own perception of risk. Here we borrow some questions to ask you: what's the risk? (answers at the bottom of the page)

Questions taken from Risk Takers Survival Guide made by Matt Golding of Rubber Republic, and James Lyons, Senior Lecturer in Film Studies at the University of Exeter



Image: Rubber Republic

1

Which kills more people every year? Falling, asthma, or war?

2

In general, which is a more risky investment? Gold, art, or shares?

3

Which kills more people per year in the USA? Sharks, cows, or flu?

4

Are you more likely to be killed by: suicide or murder?

5

Are you more likely to die: running a marathon or flying 15 miles in a light aircraft?

6

Is it more dangerous to: ride a motorbike 350 miles or serve in the UK army in Afghanistan for 1 day?

Breathing in the Network

The Apple Watch, the FitBit, the Jawbone Up: three wearable, fitness trackers – all a part of understanding biodata and putting it to use. Simply, “The Quantified Self”.

Amid the multitude of stats – how many steps you’ve taken, how much sleep you got, what your urine tastes like – it’s easy to focus on those stats alone and find ourselves thinking of the mind and body as disconnected.

But the mind and body are connected. In 2015, Christopher Walsh from Boston Children’s Hospital has shown that in one region of the brain, the prefrontal cortex, any given neuron is more closely related to cells from the heart than it is to three-quarters of its immediate neighbours.

Mindfulness has long been a tenet of non-Western philosophies. Now science has reinforced its necessity. Yogic tradition connects mindfulness to breathing. Breathing and touch are two things we do so naturally that they’re easy to forget. For large technology companies, they’re hard to quantify. Breathing is a forgotten quantity in the quantified self.

Can biodata and big data give us room to breathe? Or must we drown in the streams of information?

The Breathing Stone is being developed by health start-up Adaptive Media, electronic engineers from the University of Bath, and a musical composer. It hopes to “...go from quantified self to essential self...and remove the screen from what we do” by using

biodata to ease anxiety and stress. When you pick up the Breathing Stone, it finds your pulse, makes an ambient soundscape in response to your pulse, and then makes a different kind of music as a guide to breathing. This guide calms the user and returns their heart to a healthy state through breathing. This could be a part of our everyday practice to increase wellbeing and mindfulness.

The God Article takes breath one step further. This REACT collaboration fuses one of the world’s oldest instruments with cutting-edge technology to break new musical ground. By developing 3D printed, sensor-enabled Turkish Ney instruments they’re looking to increase breath control so we can be better players. In **The God Article**, your playing is visualised so you and your teacher can see what could be improved and where you have room to breathe.

Some projects focusing on biodata want to take your breath away. **Black Maze** is a prototype bio-activated maze game that will do everything in its power to scare you – you must control your fear and in so doing, control your heart rate. Taking a far more playful approach, **Black Maze** gives us a very human, scary, and ultimately very fun perspective on the many opportunities biodata brings.

It is this human-centred approach which so differs from the quantified self of fitness-tracking. With projects like these using biodata to get closer to an “...essential self” and to wellbeing, creative development, and playfulness, we can breathe easy in the knowledge that there’s still plenty of opportunity for new developments that focus on the human rather than only on the data. **BG**

Top 10 Ways to be Remembered in a Digital Age



1. Do something really infamous that causes people to freak out and start hashtagging your name because unless you’re a hashtag and/or a meme today, you’re dead to the digital age.

2. Try stalking Mark Zuckerberg and his ropey dog. But not for real. Only for fake. Don’t ‘Like’ this idea.

3. Go back in time (which does also require inventing time-travel) and buy all the bitcoins while no one is looking, then cash them in and go further back in time and acquire Google from what’s-his-name and what’s-his-name in their college dorm room.

4. And, actually, inventing time-travel is another way to be remembered. That seems pretty sure-fire since you could also then invent the Digital Age.

5. Answer the ultimate question to life, the universe, and everything.

6. Invest heavily in granite gravestones. Then you’ll become known as the person who had the foresight to realise that igneous rocks last way longer than the internet’s tubes after a person dies. You’d probably get your own Wikipedia page. And maybe even your own emoji.

7. Inspire the digital masses with cut and paste platitudes and avoid making too many online inside jokes that only a few people get.

8. 42.

9. If you’re old enough, be thankful no one had digital cameras or camera phones when you went to University. #DavidCameron #piggate

10. Accept that no digital memories are actually forever on the internet. Just ask Mosaic, Netscape, Friendster, MySpace, Bebo, Geocities, Gopher, and the Well.

John Troyer is the Director of the Centre for Death and Society at the University of Bath

Building diversity in gaming

We're a big audience, us gamers. We like different things and we play in different ways. There's room for everyone, and the growing diversity of games showcases their growing importance as cultural artefacts. We'd be horrified if we went to the cinema and there was only one type of film on, so why should we want our games to be the same? Recognising that games and technology are growing up to be inclusive, enjoyable places where we can share our experiences is an essential part of the development process.

We've been changing for a long time. Partly this is simply because of the gaming demographic. If you want to appeal to your audience – in an age when of the 130 000 people attending San Diego Comic Con, the gender split is 49% female, 49% male and 2% non binary – it makes financial sense to represent this diverse audience. When 4 out of 5 American households have a games console and 155 million of them play

regularly, it's a good idea to include people of colour as playable characters, or think about changing physical appearances to reflect players more accurately. Take the amazing Monica Valentinelli: she's been writing diverse people into her roleplaying games for years. And, rather like most developers, writers and critics, she simply sees this as part of making a good game. It's an element of design and development that should happen automatically.

Monica's point is an important one. For many gaming creatives, inclusivity is a fundamental part of the design experience. For myself, running conventions and working on two REACT projects (**Mighty Minis** and **Mecha Monsters**) building inclusivity has been an integral part of our practice. At conventions this is about working towards parity on panels (and thinking about what that means), and inviting speakers with a wider breadth of experiences. Last summer I went to the

"...inclusivity is a fundamental part of the design experience."

fantastic LudoLunch, run by Nia Wearn and Simon Roth. Nia talked about making games on the grass of Christ Church Meadows with her baby in her arms, and kids made theme tunes for the games during a jam session.

Recently, this type of attitude has been misinterpreted by a group of online agitators called #gamergate, who have been hugely disruptive within the gaming community. But despite what #gamergate might argue, we're not extremists. We're the players of games, and we're their makers. We're the people running the events that thousands of people attend to make new friends and share new experiences. We're the jammers trying to

make everyone feel comfortable as they make and play games. It's our responsibility to make sure that everyone gets a swing at the bat. If we do this, we can make gaming a better place for everyone.

Dr. Esther MaCallum-Stewart is a Research Fellow at the Digital Cultures Research Centre.



Designing with children

It seems like a fair principle to live by that if you are making something for someone, you should probably involve them in the process. It's a reasonable assumption that this will make that something better and more desirable, that the journey will be more satisfying, and that the outcome might perhaps even contribute to a better world.

Only 5% of organisations incorporate children's views into design.

Last year we set out to commission six new products for children. We wanted to explore the potential of technology to offer more meaningful, creative, playful experiences for a generation bludgeoned by ruthless advertising and societal scaremongering. We worked with researchers in cultural studies, childhood development and design, with artists, games designers and robotics engineers. Most importantly, we worked with fourteen children as our partners in the process.

We found that it's really hard: conversations take longer, space is messier, stakes are higher and they never bloody eat the food you give them.

So although they have frequent moments of beautiful authenticity...

"It's a great idea and everything but, how would that actually work?"

"No way do we want tracking technology. We hate micro-transactions."

Sometimes they are just frighteningly honest:

"Why do you have this job when you don't even know about Minecraft?"

And so the principles that you believe in and the assumptions that you reassure yourself with are challenged by the practicalities of how to support a trusting, useful relationship in the complex world of rapid research and development.

But we learnt that investment in those long, messy, scary conversations is worth it. Because sometimes they are listening more than it seems...

"I think I got out of it the sense that if you put your mind to it, you can achieve anything. I might find it easier just to put my ideas across because ... now I know that people might listen to me more."

"It was sort of using the expertise of adults but then also the ideas of children to create like the best games possible."

... and you realise that you did something very right.

Jo Lansdowne is Managing Producer at REACT

Warmth follows function

Everyone loves Henry. His beautiful doe-eyes, enigmatic smile, and long windy nose cheers up the dreariest of household tasks. Henry is, of course, the little red vacuum with the smiley face. It's been Numatic International's most successful product, and it seems easy to understand why. First, it's very good at what it does but, more importantly, it stands out across a sea of boring, impersonal lumps of plastic. Why? Personification of product.

The addition of emotion - through tone and visualisation, personification and story - is an essential design consideration of any product these days. If establishing visibility amongst a handful of vacuums thirty years ago was hard, finding visibility within emerging digital marketplaces is a magnitude more complex. Today there are hundreds of platforms, thousands of channels, all with millions of options. Being useful is rarely enough to cut through this seething mass of potentials. People using a product need to fall in love.

Love, happiness, joy, and all the other really fun things in life are complex; each a big sticky mess of imperfections, our natural interactions analogue and noisy, our connections warm and personal. And so by adding some of this murky essence, whether instinctively or scientifically, we can drastically change the way people experience a product.

Personifying an inanimate object instantaneously interfaces with a number of higher brain functions; people experience empathy where this is technically irrelevant. The simple act of projecting the sense of eyebrows and a mouth onto anything will fire off the instinct to lock onto this visual structure - known as Pareidolia, finding faces in stimuli - increasing focus and attention as our hardwired brain kicks in. Adjust a

product's text to rile its audience with cheeky replies and they will tend towards trusting the information delivered, human-flaws seemingly more believable than something computationally perfect. Then there's the art of storytelling. The theories around the formulation of story are numerous, but one in particular is relevant to this discussion; the use of story as a method to transfer complex information from one human to another - in particular, emotional content.

As humans, bound by the linearity of time, we are forced to discuss things one comment at a time. We can also comprehend the most abstract of concepts: love, honour, even Nyan Cat. These ideas involve a complex interplay between facts, subtleties that would be extremely difficult, or at least boring, to deliver as an ordered queue of facts. But offer up a little of each of these facts, slowly revealing their interconnections, more and more, until a glorious and exciting crescendo and we have a tool for humanity to successfully pass down complex, emotional ideas. We also have the structure of a story.

The process of product design sits not as pure expression of function but as a series of choices around what to humanise, where to corrupt digital perfection, and how to package content into emotional stories. This is still a design choice, the absence of this is as important as the blank space within a visual or the silence within music - a choice and process to be considered.

It's also an inevitability that the greater an industry matures the better we get at mimicking the beauty and complexity of our natural world, the more emotionally complex our products become, but responsibility grows also. No-one wants a digital future devoid of emotional connection but similarly we don't want deleting an app to feel like dumping your loved one.

Dan Efergan is Creative Director of Digital at Aardman Animations



All design should be sustainable

As a social designer, I'm always thinking about how I can make products that people treasure. I want to make objects that are sustainable – sourced ethically, made carefully, that mean something to. But the term sustainable design gets used a lot. It's hard to define, and often gets applied to things that aren't at all sustainable.

So how do I make something that has a long life? How can I make something that lasts?

Design with people rather than for people.

People know what their problems are, what they find difficult, and what they worry about. It's a designer's job to listen and work with our audiences, in order to create something of value, together.

Design for needs rather than desires.

My sustainable design hero Victor Papanek said in 1972 that, "the economic, psychological, spiritual, technological, and intellectual needs of a human being are usually more difficult and less profitable to satisfy than the carefully engineered and manipulated 'wants' inculcated by fad and fashion."

And he's right. But even if it isn't always as profitable or easy, designing and addressing for people's needs, rather than desires, is vital. Products will be more meaningful that way.

Design products to get better as they get older.

Just like humans, whisky, and cheese, products can naturally age and get better over time. Leather looks better the more distressed it gets, a copper roof oxidises into beautiful patinas.

Choose the right materials.

Materials need to correlate with product longevity, too. If you're creating a temporary exhibition, why not use temporary materials?

Know where things come from.

Mass consumption has changed the way we value materials and objects, and we often forget where components come from. For example, many of our consumer electronics are made up of complex material elements that have precious materials inside. Tantalum, – which makes up microprocessors found in every smart phone – is excavated from handmade shafts in the Congo, and proceeds from its sale are implicated in funding armed conflict in the region. At e-waste sites across Asia, children burn wires to extract copper and inhale hazardous fumes.

Prepare for their death

I believe if you buy a product you should be responsible for it right up until its death. But what is the end of a product's life? Can it become part of a circular system? In **The Chicken Project**, Keiron Jones created a miniature factory to transform all the unused parts of a chicken into objects. Skin became a leather flying jacket, bones became an egg cup and spoon. In another work with Swine Studio called the **Sea Chair Project**, Jones collected plastic waste from the sea then the design team created plastic pellets from this waste to melt into furniture.

That way, a cycle can be created and objects will have lives beyond our own.

Chloe Meineck is a social designer
@ChloeMeineck



The Internet of Things grows up?

It's over two years since REACT announced the call for Objects Sandbox – an exploration into the user experiences possible within the Internet of (screen-less) Things – and it's over a year since we presented the six funded projects to the world at Christie's during London Design Festival. A year is a long time in innovation and for emerging technology, let alone two.

During that time the Internet of Things (IoT) has become a household term, regularly written about in mainstream media. Its definition has changed too, and has come to mean any 'thing' that is connected to the Internet. Funders and policy makers are much more supportive and excited about IoT, possibly due to recent reports from companies such as McKinsey and Company predicting IoT to have a value of around 11 percent of the world economy by 2025.

The biggest shift we've seen, however, is in the approach to developing IoT.

One of the reasons we emphasised 'user experiences' (UX) in the Objects Sandbox call was that at that moment in early 2013, we felt the majority of innovation in IoT was done by technologists and engineers and often in isolation. So we focused on the relationship between people and the connected objects, and services they might use.

Now in late 2015, IoT development is seeing the eventual users of products being considered much more and earlier in the design process. This can clearly be seen in the programming of international IoT conferences. Last year I presented a keynote in San Francisco on 'UX in IoT' for REACT. This was one of the few talks that didn't just focus on the technology opportunities afforded by IoT; this year and with other similar IoT conferences, we can see a shift in emphasis within the community where the technology itself is no longer the focus.

This shift is apparent also in the rise of the IoT 'ecosystem'. The IoT potentially includes every aspect of design, mechanical and electronic engineering, and computing and it is therefore impossible to be expert across all of IoT. It is now considered best that we are expert in one area and collaborate with others in other specialities.

With this, some of the much spoken about concerns of IoT can be addressed, as experts in online security and fraud are now involved with projects from the beginning. Equally we can work with companies that have developed technology platforms that are continually secure as that is a focus of their product.

We should remember too that IoT isn't just product development. We still need to involve experts in sustainability, materials, industrial design, interaction design, business and beyond. Embracing the idea of an IoT ecosystem, where people work together to produce a better future, allows us to achieve this.

With the growth of IoT and its evolving definition, we are seeing it merge with other fields too. Three of the most discussed are IoT's involvement in the hardware evolution, its technical opportunities for robotics, and what seem like ideas of science fiction in internet-connected synthetic biology. With this definition of IoT being so encompassing and its future inevitably being a future of computing and products, I'm skeptical of the valuations assigned to IoT.

However what is evident is that connected-products are a part of our future and that any product development requires an approach that involves working in diverse collaborations to focus on the way people use and enjoy the products we create.

For that, collaboration is key.

Tom Metcalfe is an industrial designer and was Producer for REACT's Objects Sandbox

Documentary's Digital Transformation

In the last decade something remarkable has happened to documentary film-making: participation and interactivity. A growing body of work has emerged which reinvents documentary filmmaking – transforming it from something you watch to an experience you take part in. For the documentary project of reflecting and critiquing our shared world, these are significant developments.

Accessed on laptop, tablet, or mobile phone, a generation of interactive documentaries (i-docs) bring the audience up close with the worlds they depict, and give tangible form to the curiosity, thoughts and feelings that those worlds provoke.

An i-doc can invite the user to choose between options or to navigate a path through content. They can get involved in debate by adding or adapting media, and changing the shape of the work with their participation. In recent projects, the user can even find that the very experience they are having has been personalised to powerful effect.

One of the first works to signal these transformations was **We Feel Fine**, a web project created in 2006 by Jonathan Harris and Sep Kamvar that's still live and evolving today. Harris had become interested in the traces of self-expression that people were leaving behind them on social media. For **We Feel Fine**, he and Kamvar sampled blogs across the Internet at five minute intervals for words and phrases related to feelings, and visualised their findings as a series of thematic chapters in what they called an "almanac of human emotion".

We Feel Fine didn't look like any documentary we had seen before. The work had no beginning, middle, or end. There was no film or video footage, no essayistic argument, no spoken commentary. Yet Harris and Kamvar's work provided a fitting 21st Century response to everyday life, captured not on film but in fragmentary statements and photos on blogs.

While **We Feel Fine** suggested how non-human factors would become players in documentary storytelling, the other major theme in i-docs is their encouragement of public participation and face-to-face interaction. Landmark projects of this kind include **18 Days in Egypt** (2011) - a re-contextualisation of social media produced within the Egyptian revolution by those who were there, and **Question Bridge** (2013), a dialogue between African American men about class, racism, and social responsibility, which takes place online and in community meetings.

"Now documentary is not just a genre which informs citizens but gets people involved as citizens"

But perhaps the defining work in the i-docs field to date is the multi-faceted, multi-award winning exploration of vertical living, **Highrise** (2010). Directed by Kat Cizek, the project is a collaboration with town planners, academics, online participants, and highrise residents.

Now documentary is not just a genre which informs citizens but gets people involved as citizens

In the last couple of years developments in the i-docs field have been intense. Boundaries are blurring between documentary and games and between documentary and journalism, with The NY Times, the Guardian, and Al-Jazeera investing in interactive work.

Perhaps the most startling recent development has been the rapid take-up of emerging Virtual Reality (VR) platforms for non-fiction. The vivid, 360° sense of presence offered by VR has drawn considerable creative and commissioning interest. The UN, for example, have commissioned two VR pieces - **Clouds over Sidra** (2014) about life in the Za'atari refugee camp in Jordan, and **Waves of Grace** (2015) about the recent Ebola outbreak in West Africa. These invest in the platform's power to cut through the media noise in a bid to make an impact with donors and decision makers.

While the VR maker asks the user to cut themselves off by wearing a screen within a headset, other documentarists are exploring the storytelling potential of unobtrusive creative technologies. In **Door into the Dark** - by May Abdalla and Amy Rose of Anagram - you enter a pitch black room and find your way guided only by a rope. The story unfolds via an audio track, triggered by sensors which detect your location. Rose and Abdalla describe this work as an experiential documentary. Winner of this year's prestigious Tribeca Storyscapes prize, the work anticipates a growing trend for documentary storytelling to escape the screen altogether and turn up in unexpected places.

Documentary's digital transformation isn't over yet. It may have only just begun.

Mandy Rose is Director of the Digital Cultures Research Centre at UWE Bristol



Game The News

There is a new form of gaming that is going from strength to strength: the newsgame. This is generally a short game that focuses on a real world topic. It can be akin to a playable political cartoon and make you smile, but can also be a serious interaction on a topic to engage you. The aim of both approaches is to make you think.

Turning news and documentary into games has its challenges but can deliver amazing results. The first challenge you face is a perceptual one; some people equate 'games' with 'fun' and so assume turning a subject into a game is, by definition, making it trivial. The second challenge is how to make the game version of the story or issue do something that traditional, linear forms don't.

Addressing the first challenge, we have to realise that new mediums always shock some people; in the late 1940s some thought that TV images trivialised news, a view we no longer take. In the early 1990s some thought 'the Internet' denigrated news content and could not be a serious medium, yet here we are.

With one in three of the UK population playing games, the form has advanced much in the last decade, both as a creation form and as a form of entertainment. It can and does tackle serious subjects in serious ways. Titles like **September 12th** explored the military response to the 9/11 terror attacks. The gameplay illustrated how violence can become locked into a cycle by trapping the player in that mode. Games like the BBC's

Syrian Journey examined the plight of refugees fleeing Syria by putting you in the shoes of those escaping the war zone into new dangers on the run. Our newsgames, **Endgame: Syria** and **NarcoGuerra** won accolades for their take on the ongoing Syrian conflict, putting the player in the midst of the military and political conflict and letting them see how the decisions impacted the outcomes.

The second challenge is answered by developers: games have a few tricks that linear media doesn't. For example, they can put the player into the position of another; you can become the bomber pilot, the refugee, the police officer or the rebel commander, so rather than being told what is happening, you get to form your own experiences of how events play out. Games allow you to replay them and take different choices, encouraging you to explore the cause and effect of your choices. They also allow the simulation of events that might be long gone. **Jack the Ripper: Shadow Over Whitechapel** a project we made with REACT, takes this approach. Using contemporary newspapers as source material, capturing their look, the words of the witnesses and also the feel of that time, the player returns to London in 1888. By casting the player into that time we can give them both experiences from the past, and empathy with our future.

Tomas Rawlings is Design & Production Director at Auroch Digital



Making silenced voices heard

In the mid-1990s, President Alberto Fujimori unveiled details of Peru's voluntary surgical contraception (VSC) programme. The policy lifted strict contraception laws, allowing, amongst other things, women to undergo sterilization procedures without their husband's permission in an attempt to lower birthrates and help women return to the workforce in a bid to modernise the nation's economy.

An independent report estimated that between the years 1995 and 2000, up to 346,219 women and 24,535 men were sterilised as part of the programme.

But in the late 1990s accounts began to emerge via women's rights groups that many of the sterilisations were being carried out without proper consent. Since then, over 2,000 women have come forward to state they were victims of an aggressive programme of enforced sterilisations that has left them with life long mental and physical scars.

For the last two years, the **Quipu Project** – a collaboration between documentary production company Chaka Studios, creative technologist Ewan Cass-Kavanagh, and Matthew Brown and Karen Tucker from the University of Bristol – has been working to raise awareness of these events.

The team have been creating an interactive audio archive, which records and shares the growing number of testimonies of those affected by enforced sterilisation.

The accounts are harrowing, ranging from misinformation and blackmail through to kidnap, violence, and procedures administered under duress.

"Women were checking in to hospitals with conditions such as appendicitis and came out having been sterilised" says Brown.

Many of those targeted were from poor indigenous communities in remote, rural areas with low levels of literacy and whose first language was either Quechua or Aymara.

The language of the state, Spanish, was used to communicate information about the operations. "Medical personnel didn't always bother translating", explains

Rosemarie Lerner of Chaka Studio, meaning even those who did consent often did so without fully understanding what was happening.

Brown notes that state sanctioned quotas, although denied by officials, almost certainly drove the numbers of risky or unconsented procedures. "Officials went looking for the easiest targets" he adds.

Compounded by their geographic marginalisation within Peru and linguistic and cultural differences, those most heavily targeted by the programme weren't able to raise the alarm.

"It was almost a punishment just for being indigenous."

Now **Quipu** have established an automated hotline for those affected by the policy to call and record their stories. Mobile telephones, pre-programmed with the hotline number are distributed in local communities and landlines established in community centres.

"We want to help them make their voices heard in their own language and be acknowledged" says Lerner.

"We chose mobile phones because they are accessible technologies in many areas of Peru, but also because the people there already use these and are very comfortable with them" she adds. "If we had tried to impose an alien tool on them, like a smartphone, the participation wouldn't be the same."

The very act of recording their stories has helped a groundswell of people come forward to share their experiences.

"For many women who have participated this has been the first time they have shared their stories. Listening to others sharing similar experiences has encouraged some of them to speak out."

The archive is now growing with stories from across the country. Brown suggests that its value will be as a resource that is archived digitally and securely.

It's also hoped that the storytelling power of **Quipu** will now help a larger movement of victims, activists, NGOs, lawyers, and campaigners seeking justice for the victims.



Alberto Fujimori is currently serving a prison sentence for corruption and human rights abuses, but the forced sterilisations were not part of his prosecution, and attempts to bring legal action against those responsible have led nowhere. Official investigations have been started and subsequently archived by the state, reflecting years of political corruption and institutionalised racism against Peru's indigenous communities.

The timing of the project is also crucial: Keiko Fujimori, the daughter of Alberto, is running for government in April 2016 and there is a very real concern that if she comes to power, she will pardon her father.

But one final feature of the **Quipu Project** hopes to influence, not just the national but also, the global consciousness of this story and the outcome of that election.

The stories provided by the victims have also become part of a website where users across the world can browse the archive and listen to the audio testimonies, in the language in which they were recorded.

They are as moving and powerful as they are shocking. Never dubbed, only subtitled, the women's voices come through clear and defiant.

"These are women whose voices have not been heard" says Brown "and that's why we wanted to put their voices at the centre."

Listeners can even record messages of support that are translated and passed back to the women via the phone lines.

It's a moment where we're reminded that technology is only part of this story; instead it is a combination of tools, determination, and courage that is working to support a whole generation of women and men fighting back against their persecution.

The true power is in their voice, being heard in Peru and around the world. **SM**

The Quipu Project website launches on 10th December 2015

"These are women whose voices have not been heard and that's why we wanted to put their voices at the centre"



Images: Alejandra Velez / The Quipu Project

Toward a knowledge commons

The articles you've read in this paper all share a common set of themes. Collaboration. Technology. New types of business. New kinds of research. Where does the university fit in to this new world? What is the university for in the 21st Century? Any academic should be able to answer this question with a quick response; it's "the production and dissemination of knowledge" of course.

Except ... every term in that statement – production, knowledge, dissemination – means something entirely different today than it did twenty years ago. The tools of knowledge production now lie in the hands of the many, not the labs and libraries of the few. If we want to find something out we ask Twitter, Facebook, Google, or go to YouTube for an instructional video. Though these are commercial services, the information they serve and the knowledge they produce is largely provided for free, by people who want to share, or by media outlets giving away their content. Even scientific knowledge is subject to open peer-review and made available in open access journals. Ambitious students from Calcutta to Caracas can audit US university programmes via free-to-use Massive Open Online Courses.

In the 21st Century knowledge is increasingly produced by different kinds of people working together to address our big challenges and design sustainable futures. The university should always make room for the lone scholar burrowing into a deep hole of original and highly specialised knowledge; but the value of the University will be increasingly found in its ability to contribute to these new processes of collaborative production.

Innovation and originality can emerge from anywhere. The bedroom roboticists, maker-movement pioneers, and new experience

designers find their way to places where like-minds can meet free from institutional pressures. They form teams where designers, social scientists, engineers, and artists work together to produce new products, services, and critical approaches for the world we all share. What's more, these next generation innovators won't have the same kinds of constrained way of thinking about not-for-profit or commercial operations – a service is truly smart when it's socially useful and can find a market, that could be public or private.

The collaborative teams of the new knowledge economies extend to our audiences. Media businesses, public services, and universities are all beginning to understand that their value is created with people formerly known as audiences, clients or students. We are all called into increasingly intimate relationships with the end users of our enterprises.

This can feel like a Wild West, a chaotic and often wasteful process, where start ups come and go. Great ideas get trashed in the competitive rush to succeed. Microbusinesses collide and shatter in the churn of the competitive landscape. In the meantime, massive monopolies – Amazon, Google, eBay – emerge from the chaos to appropriate the value produced through shared information and turn it into massively speculative stock market valuations.

We want to build a different future, a kind of knowledge commons for the region, where universities and creative business can collaborate and support one another to make a real contribution, not to a Californian global corporate, but to the lives of the people here in the West. A regional knowledge commons is about community and collaboration. It can start new businesses, create jobs, generate new research and lead to new ideas for universities, businesses and citizens. Together.

Jon Dovey is Professor of Screen Media at UWE Bristol and Director of REACT

So: let's get down to a few cold hard facts about the future, discovered while navigating and preparing for its unpredictable messiness.

1. Change is inevitable. It's how we cope with it that's important. It's all about the attitude.
2. Partnerships are key - we cannot know everything, so get comfortable in saying "I don't know what I don't know - but I know someone who does". We need to encourage true collaboration with diverse groups of talent and mindsets.
3. We need to get out of our comfort zones - read articles you would never usually read, go to events you would never ordinarily attend, try to understand the value of the new things around you.

6 ways to move forward

A great piece of advice is to get out of your comfort zone, because that is where the magic happens. But what if your comfort zone is being happy with an unknown future, with turning up to an event where you know nobody and absolutely nothing?

If that is you, then you will absolutely enjoy the huge disruptions that technology has thrown upon us all. Not one industry has been spared this continuous moving forward; not one human being, young or old, has been able to ignore it.

How to unsettle the future

Challenges and disruption to publishing.

Here's the thing. You can't unsettle the future. Our view of the future is projected from our present. Trying to predict it is a fool's game.

This, though, is the problem that publishing finds itself facing. Pundits, academics, interested parties with little or no clue how to operate an industry with annual sales of £3.3BN will try to tell you how the future of publishing is going to be different.

They have no idea. None at all.

Instead of unsettling the future, I'd suggest (as an academic, a pundit, and an interested party) that we need to continually unsettle the present.

Reinvent what you have. Work in small steps. Change what's possible; what's within your power to change. Look at what you do every day and see what you can do differently. Imagine something that's now and here, but looks and behaves differently. Behaves more effectively and looks more interesting. Read essays and think pieces. Definitely read Craig Mod's 'Post-Artifact Publishing' (Google it, this is a newspaper) and figure out how you reach an audience who'll support something new. You're going to need readers you don't have and, while they and your present audience might be part of the same Venn diagram, it's likely that the future is not actually going to look like the present. The readers you have now are not the readers you had ten years ago. They consume differently, and while the book isn't going away (it really isn't) there are different channels, different platforms, and different ways to communicate ideas and stories.

A word of caution though. Working this out does not consist of 'locking a group of employees in a room and asking them to lose money for six months'. The problem with that scenario is that it anticipates failure, establishes disaster as an expectation. Instead, ask yourself what your present might look like if you could reinvent it and live there.

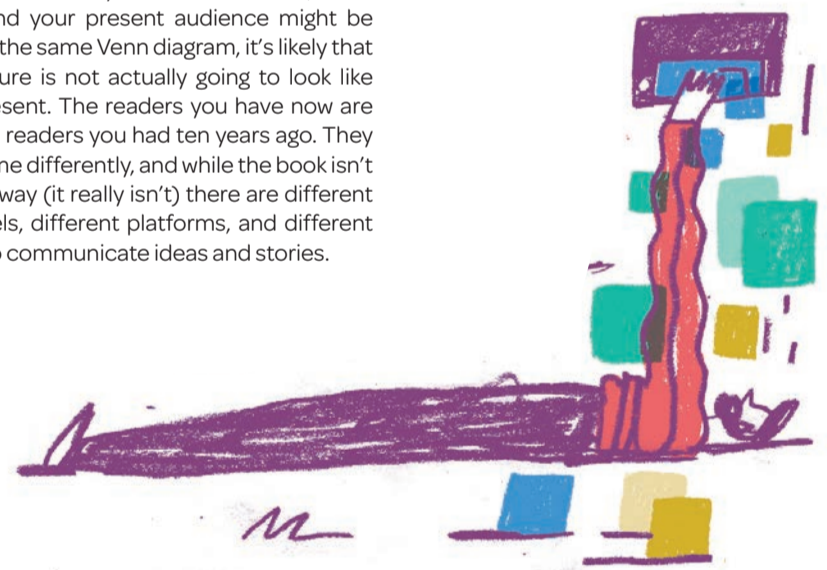
What would you write, or publish, or edit, or design? What would the things you make look like? How would your readers find them? What would they do with them?

Remember: publishing takes risks daily. Every advance paid to a writer is a risk against a return.

The present is actually an opportunity to make something completely new, to really address form and content as they change from a perfect thing (the book) into something we haven't seen yet. Something dangerous and interesting.

The present is where we ought to start if we want to unsettle the future of publishing. Whatever it might be.

Tom Abba is Associate Professor of Art and Design at UWE Bristol and part of artist collective Circumstance



4. Continuously test your ideas and learn from mistakes. Don't wait for perfection - it doesn't work like that with technology or ideas. Launch it into the world and just see what happens. Don't be precious, just ask the public to help you test it and iron out any creases or issues - then fix them - and do that again and again and watch your product go through many iterations. Pay attention to what works and what doesn't work...
5. Remember, you don't always have to 'own' something - look at the rise of Uber and Airbnb who purely facilitate. They actually don't own any inventory but are able to use data to be useful and relevant and encourage decent kind behaviour. If you're not behaving well, it shows up on your digital profile - watch out - we are in a world now, where everyone can be their own unique brand.

6. When you first start planning your ideas, try and define what success will look like and understand how you're able to measure it.

Most importantly, enjoy the journey and document it along the way - your experiences are someone else's future learnings...

Be kind and open enough to share .

Nicole Yershon is Director of Innovative Solutions at Ogilvy

Preparing to finish

Good endings are the making of projects. If you're creating something for people – a film, a play – thinking about that point of closure is a necessary part of your creative process. The cathartic moment at the end of that story is the thing your audience will carry with them out into the world. How you feel at the close of an experience will disproportionately colour your memory of the entire thing. Good endings are hard to forget – but they're also hard to create.

If you're making something more like a product, service or website, the end of it isn't quite as clear-cut. You launch your thing, and people use it. But sometimes they stop using it – give up, grow bored, go and do something else – and make their own ends. Perhaps your thing is a success, and you sell it to a big company – do they shut you down? Or perhaps you run out of money, and close with heavy hearts. How do you tell people?

What happens to the people who used and loved your service?

A cynical friend collects closure announcements on a blog. The breathless excitement of their successful endings sounds hollow because they privilege the stories of the makers, forgetting that real people loved and relied on the things they made. Yet the music sharing site This is My Jam recently closed and decided to "archive the site in the best possible way we could imagine". They planned their ending and their community praised them as they brought down the shutters. Something that could have felt like failure turned into a celebration.

This is why endings are hard. We think of the end as when the thing you created is finished. It's both the point where you're most clearly faced with the possibility of failure and the point at which making things better is no longer possible.

In reality, ends are arbitrary. No project I've worked on – no matter how successful – has ever been fully finished. To-do lists remain at 80%, the last fettle and finesse lost in the push towards launch. It's possible to carry

those un-done things around like guilt. The trick, I am coming to understand, is letting go of that 20%. For all your striving as a creator to shape a thing that's liked, change happens; the world moves on and suddenly your precious thing is forgotten, irrelevant or superseded. Messy futures don't allow us perfection.

There's such an abundance of stuff coming down the pipeline – so much change, so much technology and magic, so much to understand and make and tell, that holding on to those un-done things will weigh you down.

In a connected future, knowing when to declare an end, and how to end elegantly is the key to letting go and starting the new. End mindfully. Start again, better.

Kim Plowright is a producer and Sandbox advisor. Follow her at @mildlydiverting if you want to learn some creative new swearwords.

Afterword

You've been reading a collection of stories and reflections from a group of people who were all part of a thing called REACT.

REACT was made possible by the insight and boldness of a small group of people, and the generosity, trust, and willingness to take risks of a much larger group of people - including funders, universities and creative and cultural organisations.

It was then over to a dedicated, cross-institutional team to bring REACT to life. This team has worked side-by-side, day-in and day-out for the last four years to deliver an exciting and surprising programme of work. We've worked well together, and had a blast. There were a few key elements that were essential to getting us off the ground.

REACT created a safe space for people to get together and make new things. The REACT team of academics, creative producers, managers and coordinators were also given this space and freedom to work out how to collaborate.

The Pervasive Media Studio at Watershed, Bristol, became more than just our physical home. It gave us some clear principles that we've taken with us.

We learned to work quickly. To work with people who are not like us. We learned as a team that to get the most out of ourselves, we needed to listen to those around us. We learned to reflect and improve. We learned to challenge our own and each other's institutional cultures, and to sometimes forget to ask for permission.

We've discovered a few other things along the way, too.



It's crucial to trust your staff and your colleagues. Give them the space to work differently and to learn from each other.

Be confident in your own opinion, but also open to the views and input of others. Be willing to have your mind changed.

When working in a different way it's important to understand your motivations, and be confident in your purpose and principles.

So while we put a lot of thought up front to plan out how something is going to be done – a funding call, a workshop, a research programme, a newspaper – it's these principles that have guided us as a team.

This kind of clarity of purpose gives you the energy and the confidence to keep

on track. We are currently in a stage of reconfiguring ourselves so we can respond to new challenges, and build on what we've learned. We will strive to approach all of this with the same such principles, which I hope will be detectable in all of the work we produce.

**SO: TAKE RISKS.
CHALLENGE
AUTHORITY. BE
PERSISTENT. CARE.**

Alison Davis is REACT Hub Manager

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REACT fund academic researchers and creative businesses to collaborate and make brilliant things.



We are one four hubs funded by the Arts and Humanities Research Council to explore how to connect academia and businesses together.



Sandbox Business Development is supported by



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FOR THREE DAYS IN NOVEMBER REACT WILL BE CREATING A PLAYGROUND FOR NEW IDEAS IN THE OLD BRIDEWELL FIRESTATION, MAGISTRATES' COURTS AND POLICE STATION IN BRISTOL CITY CENTRE. ALONGSIDE A SERIES OF INTERACTIVE INSTALLATIONS, WE WILL BE HOSTING A PROGRAMME OF FREE TALKS, WORKSHOPS, FILM SCREENINGS AND HOUSE PARTIES.

CURATORS COMMENTARY:

I joined the REACT team in the autumn of 2014, to think about how we might celebrate all of the amazing work that REACT has supported over the last four years, and the extraordinary community that was behind it.

The range of work was breathtaking; 53 new kinds of digital products and experiences - everything from a swing that sings along and lights up as you play with it, to a transmedia documentary project that tells the stories of the 350,000 women and 25,000 men who were sterilised in Peru in the mid-1990s. It felt important that we opened up this work and the processes that went into making it to a public audience, and frame the projects in a playful way that was in the spirit of REACT.

The Rooms concept grew from a process of imagining a home for all of these projects; we dreamt of a **Library** which could uncover the future of the book, where technology means more than e-books and self-publishing. We'd use this space to question how the way that we read, write and experience literature is changing, and you'd be able to meet those at the forefront of this including *Circumstance*, and *Writer on the Train*, James Atlee. In the **Bedroom** you could examine your own desires and imagine how experiencing them might be different if we were able to craft our own intimate objects. The **Playground** and **Garden** would have a collection of our play

projects on display in a series of teepees, Wendy houses and den systems. Children, big and small, could play games, tell stories and watch films in ways that they never have before. *Fabulous Beasts*, *Lightbug* and *Trove* would be among the groundbreaking projects featured.

We're making The Rooms across a collection of buildings that used to be the old Bridewell Police Station, Firestation and Magistrates Courts in Bristol's City Centre. This is the first time that the whole site is being used together for one event in this way, and we're thrilled to be able to invite audiences into this extraordinary space. The festival team all come from a background of creating large-scale immersive environments for audiences to explore and play within, from *Shangri-la* at Glastonbury, *National Theatre Wales*, *Wildworks*, to *Invisible Circus*. Together, we've created 17 rooms for you to explore, and a full programme of workshops, talks and screenings to sit within them.

We hope very much that you enjoy your visit.

Katherine Jewkes
Creative Producer, *The Rooms*

SCHEDULE

THURSDAY

6PM – OPEN HOUSE, DRINKS & HOUSE TOURS

As the November sun sets, take a journey into The Rooms, a series of interactive installations that will play host to 53 inventions designed to change and brighten your world.

From a playground filled with battling robots and fabulous beasts, to an interactive light garden, haunted study and enchanted library. Get lost in a bio-activated maze, contemplate the future of death and reimagine our digital future.

9PM – SITTING ROOM SESSIONS

Hear from some of the most thoughtful makers and creative visionaries from the South West and beyond in our Sitting Room Sessions, an informal opportunity to hear from members of the REACT community about their work.

FRIDAY

11AM – TALKS & PANEL SESSIONS

REACT & AHRC present a series of talks and panel sessions discussing the method behind the work presented at the Rooms, and the other UK Creative Economy Hubs. This is an opportunity to learn more about collaboration between companies and universities, and to contribute to a dialogue about the future of this type of work.

4PM – OPEN HOUSE

We open our doors again for people to experience our incredible interactive installations, showcasing work.

8PM – ORION SCREENING AND ELVIS IS ALIVE! PARTY

Orion: the Man Who Would be King, a film by Jeanie Finlay, tells the story of Jimmy Ellis – an unknown singer plucked from obscurity and thrust into the spotlight as part of a crazy scheme that had him masquerade as Elvis back from the Grave.

SATURDAY

10AM – 6PM: OPEN HOUSE AND WORKSHOPS

Come and explore The Rooms installations and take part in our free programme of workshops from some of the thinkers, makers and creative visionaries behind our incredible projects. There will be workshops on toys, memory and health; opportunities to make your own films, apps and books; and discussion sessions on the small matters of sex, ethics and death.

**TO FIND OUT MORE VISIT
THEROOMSFESTIVAL.COM**



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