University of Dundee

Future Everybody

Hemment, Drew; Gere, Charlie

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FutureEverybody
FutureEverything Report
Edited by Drew Hemment & Charlie Gere

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Introduction

This is a report on FutureEverybody, the FutureEverything theme in 2012. It consists of short essays by participants in the FutureEverything 2012 festival and an overview of the festival and conference programme by the curators. These offer reflections on the FutureEverybody theme, the art and design projects in the festival, and the issues and initiatives presented within the conference. Each year FutureEverything proposes and develops particular themes, in its annual festival and year round innovation labs. These themes are provocations, designed to open up a space for practice and debate, made tangible through art and design projects which seek to bring the future into the present.

Drew Hemment & Charlie Gere
Curators and Editors, FutureEverybody

I'd Hide You by Blast Theory

Future Everybody

A new participatory culture is changing our world. The extraordinary creative and political possibilities of such connectivity are explored in the theme, FutureEverybody. The FutureEverybody theme is prompted by 2012's celebration of the 75th anniversary of the Mass Observation Movement and the UN International Year of Co-operatives. 2012 is a good year in which to look anew at the ways people participate and co-operate are changing in a massively networked world. Both the Co-operative and Mass Observation movements have roots in Manchester, home to FutureEverything.

Recently it has become increasingly easy for people to participate in the media, whether in the form of reality TV, so-called participatory democracy, crowdsourcing, or social networks. People can collaborate with thousands of strangers across networks to create original, sometimes beautiful media objects. Or participate in social revolutions, using new technologies that enable many voices to be heard at once.

Technology has profoundly changed the ways people connect, work and play. Widespread web connectivity allows co-creation at a massive scale. Mobile networks have fostered different kinds of collaboration, enabling swift and spontaneous play or protest across loosely connected groups. Anybody who is connected to the networks can make media artefacts that can reach a vast audience, recombine other such artefacts almost limitlessly, share ideas, content and engage in debate all over the globe, and foster new forms of virtual community.

Culture today is characterised by many micro-communities formed around an interest, artform or technology. The nodes and networks of digital culture – festivals included – can connect, bridge, scale up sectors and media, and enable citizen innovation.

Artists, designers, and programme makers are creating new kinds of participatory experience. Public media and information, and personal data trails, can be accessed to create new kinds of entertainment and art. Increasing numbers of creative projects are based in many people finding things, and creating something new from the things they find. New forms of art, and of artist, are beginning to emerge.

The emergence of this new participatory culture begs some serious questions about community and communication in a massively networked world. Older concepts such as 'mass participation' and 'collective action' may need to be rethought at a time when citizens mash-up media and co-operation happens between individuals coming together in arbitrary ways online.

In the internet age the power of the crowd has been harnessed. Crowdsourcing, where large projects are completed by the public in thousands of bite-size tasks, can treat people as 'clickworkers'. People become the drone bees, working tirelessly on their small task - welcome to the userfarm. Beyond crowdsourcing lies participation at a massive scale that does not wipe away the character of individual contributions, where we see faces in the cloud. Here citizens can control and shape their own data and media.

In 2011 global networks and the World Wide Web became vital parts of numerous forms of protest and political liberation, from the Arab Spring to the Occupy Movement. These networks are at last realising their radical and liberatory potential.

*Human Resources* by Lawrence Epps. Photo David Boyle

FutureEverything 2012 Art Programme

The FutureEverything 2012 festival and conference brings the FutureEverybody theme to life through ideas and experiences that provoke and inspire. The art programme presents works of art that are critical, humorous and also optimistic about these media, and about the future in which they will pay a large part. Several of the artists seek to make tangible the invisible layer of online, social interaction. Others are concerned with the strange poetry of the everyday, the boundary between public and private, and the drive to self promote. The programme features large scale art works which take place out in the streets and online, and reflective, intimate works of art in the gallery show at the 1830 Warehouse at the Museum of Science and Industry (MOSI).

One work in the exhibition at MOSI examines a precursor of the internet and participatory culture, the Mass Observation movement, which documented everyday life in Britain from 1937 to the early 1950s, and continuously since 1981. For FutureEverybody, art collective Stand + Stare immersed themselves in the archive for many weeks and were astounded by its scale. They devised strategies to navigate it - becoming human algorithms or crawlers searching the archive - in order to create new meaning. In the gallery their *Theatre Jukebox - Mass Observation* presents the Mass Observation Archive on a new digital canvas. It is an arcade-style cabinet that plays stories rather than music, and allows the user to choose what they wish to hear through photographs with hidden RFID tags. Choosing more than one card allows complex connections to be made. With this interactive, tactile interface, the artist's goal is to give an audience a direct experience of the archive material, and to say something about Mass Observation itself.

Celebrating its 75th Anniversary in 2012, the purpose of Mass Observation was to capture "the unwritten laws and to make the invisible forces visible." The art works in FutureEverybody similarly enable us to see, touch and play with the invisible forces of the Internet and the new participatory culture. Unsurprisingly, much has changed.

An inspiration for the entire show is *Ten Thousand Cents* by Aaron Koblin and Takashi Kawashima. The art work is only possible thanks to participatory technologies. And it holds a mirror up to those technologies and enables us to see aspects which we may find troubling. Using Amazon's Mechanical Turk distributed labour tool, the artists paid ten thousand online 'workers' one cent each to produce a single fragment of an image of a $100 bill. The total labour cost was $100, as is the cost of reproductions of the image.

"keep"   "delete"
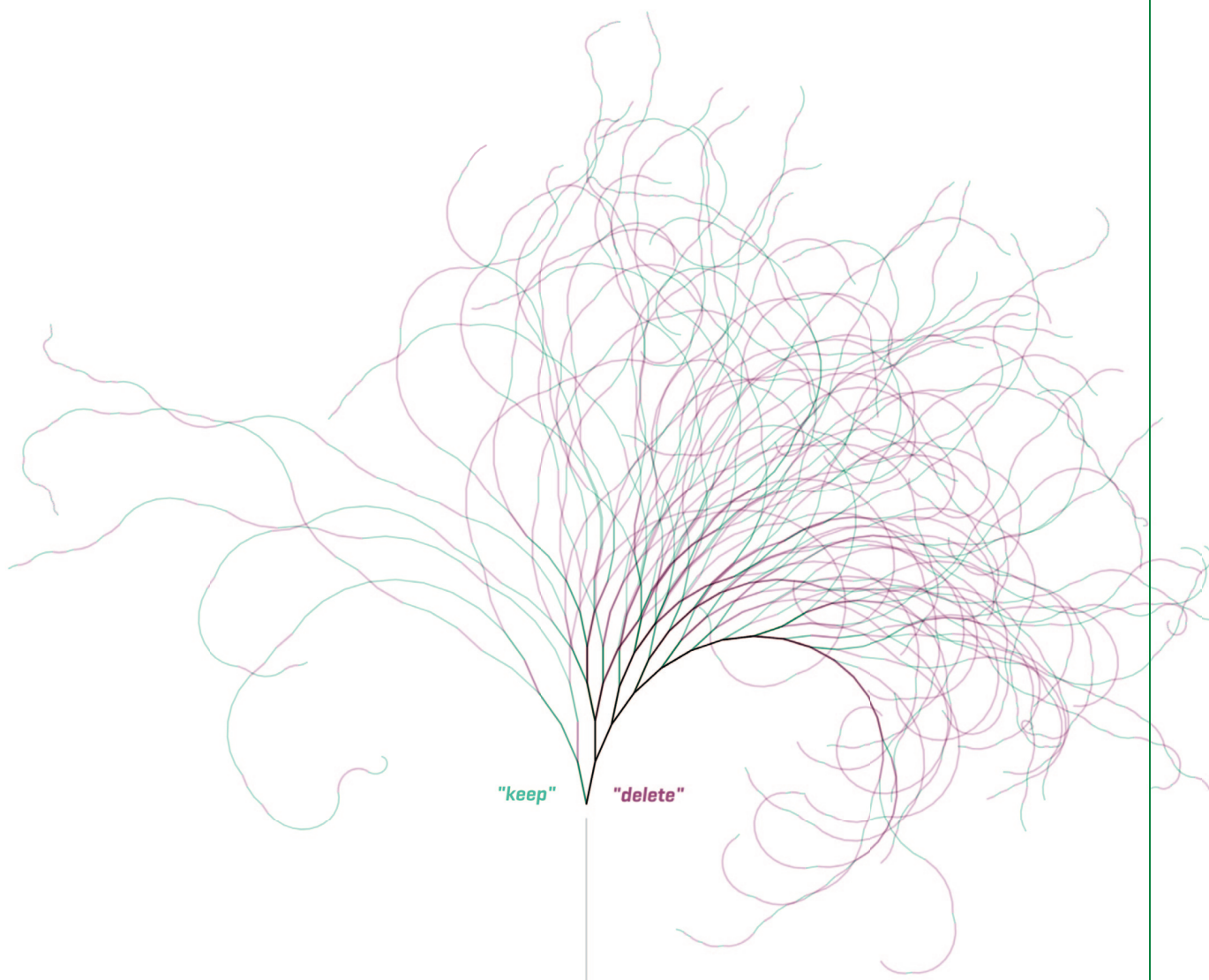
THE DELETED

The 100 longest **Article for Deletion (AfD)** discussions on Wikipedia,
which resulted in **deletion** of the article.

http://notabilia.net

Notabilia by Moritz Stefaner, Dario Taraborelli, Luca Ciampaglia

The art audience see the full picture emerge in a video of all ten thousand parts drawn at once. But each contributor worked in isolation and without knowing what the total image would be or about the art project. It is an allegory for the way digital labour markets can disempower workers, each with their small task but no stake in the outcome.

Ollie Palmer's *Ant Ballet* is the world's first ballet entirely featuring digital ants. *Ant Ballet* examines ants as a metaphor for people in participatory culture. Through use of a robotic arm, computer vision system and synthesised pheromone (Z9:16 Ald Hexadecenal), technology has been developed that causes a colony of ants to follow artificial trails in preference to their own natural foraging behaviour. Palmer studied the most invasive ant species - in a colony that stretches 6000km - and simulated the pheromone and the ants in chemistry and code. In the gallery, virtual ants are controlled by the robotic arm from above, just as people interact online without giving thought to the control system which shapes and limits their online lives.

fbFaces by Joern Roday and Jonathan Pirnay also trawls the Web for its content, this time the images of Facebook users in Manchester, and their friends, which are then turned into a massive display of those images, as a means of the incredible amount of data with which we are confronted every day. The work is installed as wallpaper in a lift in the gallery enveloping you as you ascend to the exhibition floor. The faces press down on you, giving a physical experience of the sheer volume of data. Up close you see the personalities, as you pull away the details blur, giving a sense of the incomprehensible mass.

Jeremy Hutchison's *Extra! Extra!* is also about the drive to self promote. It involves printing status messages from the project's FaceBook site onto newspaper billboards, which will then be positioned all around the Museum site. Hutchison's intention is to reflect the fact that we are increasingly a nation of tweeters, sharing our everyday lives as if they are current affairs. Winding its way throughout the museum site, *Extra! Extra!* makes visible the strange poetry and everyday noise of our lives online, when, in Hutchison's own words, "we are all becoming artists, religions, brands."

Helen Pritchard and Winnie Soon's *Jsut Code* [sic] invites viewers to decode electronic texts written by a collective of distributed writers, which are displayed as QR codes, which can be read with a smartphone or a QR reader. The poetic fragments are scraped from the Internet by an algorithm not by human choice. In the gallery, the work makes tangible the technologies we used to access online content, in this case QR codes and smart phones, and the audience 'perform the code' in their physical interaction with the wall of QR codes.

Basing itself on David Bohm's idea that thought is universal rather than generated by our minds, Kasia Molga and Brendan Oliver's *The...* uses a Kinect body and motion sensing camera to allow viewers to interact with 'thoughts' loaded from a live twitter feed, by casting their shadows on the walls.

Moritz Stefaner, currently working with FutureEverything on an artwork visualising the global emotional response to London 2012, presents two projects. *Revisit* is a ambient display, a 'twitter wall', or in other words a real-time visualization of twitter messages on a specific topic. His collaboration with Dario Taraborelli, *Notabilia*, is another display, which visualises the collective decision making around a topic on Wikipedia.

Daniel Jones's and James Bulley's *Maelstrom,* a large-scale sculptural sound intervention, uses thousands of user-created audio fragments, grabbed real-time from the Web.

Sited in the Museum of Science and Industry, these projects are concerned with the problems and possibilities of new, networked media. All offer windows into a phenomenon that is massively distributed over the multiple dimensions of the Internet. In keeping with the theme of the exhibition, other works are themselves participatory, distributed and networked.

You may come across one of the 8,000 miniature ceramic figures made by Lawrence Epps, and distributed by the Sykey Collective, in the streets of Manchester. Once loose in the city, the figures then find their way into the lives and memories of the public. The public are encouraged to handle and take away the figures, to document where they end up in film, photography and art works, and to share these online. The figures will also make up Epps' *Human Resources* sculpture in 1830 Warehouse.

Some of the projects will not even be entirely visible. Inspired by the use of mobile technologies in the Arab Spring, Leeds collective Invisible Flock's *Your Government has Gone to Sleep* is designed as a game that will run over three days, with a hub at the 1830 Warehouse, in which participants who respond to an advertised phone number will be given revolutionary identities and encouraged to form a temporary, networked micro-community.

Blast Theory premiere *I'd Hide You*, a game that connects virtual worlds, video streaming and performers, after dark, on the streets of Manchester. Each night teams of runners in illuminated suits roam the city trying to film each other, encountering the nightlife, streaming live video to the Web. Online players click on a runner to ride onboard with them and see the world through their eyes. Snap a runner onscreen to score a point, get snapped by someone else and lose a life.

In Larkin' About's latest gaming event in its *Reinventing Manchester's Playtime* project, players chase and race, search and collect, and code-break and puzzle-solve in a series of games through the Contact building and beyond. Larkin' About will be experimenting with a brand new game that links Manchester and New York via a remote link.

Australian sound artists *SuperCritical Mass* present two huge-scale participatory musical performance-installations, one at Manchester Cathedral, and a 'flash mob' at MediaCity, Salford Quays, in which the amateur and professional musicians follow 'algorithms' – simple, memorisable instructions – informing them how and where to move around a public space, and what sounds to create as they move.

Other venues see digital and social innovation in action and host the thriving grass-roots communities of today's participatory culture.

The new maker culture is the focus at *Handmade,* a day of contemporary craft, digital hacking, interactivities and DIY culture at Victoria Baths, one of Manchester's prime heritage locations. The culture of traditional skills and materials is connecting with modern-day digital production, distribution and interaction techniques. Here crafters, hackers and digital artists share ideas and practice, and invite the public to play with their digital manufacturing equipment and create something they can take away with them.

The Manchester *Microbe Map* by DIOBIOMCR is launched at FutureEverything, a large-scale project to build a bacterial atlas of the streets of Manchester. Groups of participants collected swabs from bus stops around the city centre, documented the results with photographs and data, and the Map has now been made available online, with visualisation and search features.

Patchworks at Madlab (Manchester Digital Laboratory) is a project co-designing prototype tools using cheap, open source technology in response to the health and communication needs of 'roofless' people. Patchworks is a collaboration between the community support group, Signposts, MadLab and Lancaster University, and is a part of the £1.9M Catalyst project on citizen-led innovation and tools for change.

These works represent the most radical artistic responses to possibilities and issues of new forms of networked collective practices, which are likely to be increasingly important in our technologised culture. Art is a means of responding to social and cultural change. Artworks such as those featured in the exhibition help us to imagine these possibilities, and remind us of Marshall McLuhan's dictum that 'Art at its most significant is a Distant Early Warning System that can always be relied on to tell the old culture what is beginning to happen to it'.

Extra! Extra! by Jeremy Hutchinson

FutureEverything 2012 Conference Programme

The FutureEverything 2012 Conference explores how our art, cities, politics, how we make a living, the ways we play and pray, all are being transformed by new participatory technologies. The conference presents the future-thinkers and the people who are changing our world.

It investigates the place in today's new participatory culture of both the Co-operative and Mass Observation movements, in response to the 75th anniversary of Mass Observation and the UN International Year of Co-operatives.

Leading figures involved in building a more just and participatory world speak on profound political changes, recent and still to come. Birgitta Jónsdóttir Icelandic MP and former spokesperson for Wikileaks presents a bold vision for a bottom-up democracy. Juliana Rotich the Executive Director of Ushahidi and editor at Global Voices heads up a session on how collaborative technologies can enable positive social change. Rufus Pollock speaks on Open Knowledge. Bilal Randeree from Al Jazeera talks about the Arab Spring and the role Al Jazeera played in documenting those events. Farida Vis, part of the Guardian's groundbreaking Reading the Riots, that examined 2.5 million tweets during the recent UK riots, talks on social media and social change.

Finding artistry and meaning in structures beyond human comprehension and making sense of big data is the focus for data visualiser Moritz Stefaner and the rising star of economic data science César A. Hidalgo. Rohan Gunatillake and Richard Ayers look at how people are using technology to reinvent the thousands-year-old spiritual practice of Buddhism and football fandom. And Laura Harper, Loz Kaye, Campbell Cowie & James Blessing look at the challenges of producing a living and the new cultural, political and business models.

The media itself is the focus, in sessions on mass experience and social broadcasting, featuring Adrian Hon creator of Zombies, Run!, Dave Addey of Agant, Metabroadcast's Chris Jackson and Paul Bennun from Somethin' Else. The Space, a new collaboration between Arts Council England and the BBC, promises a revolution in delivering digital art to screens. At FutureEverything Ed Ed Vaizey MP is joined by the key people driving the project, including Mo McRoberts the Technical Lead at BBC and Alison Clark-Jenkins from Arts Council England.

A technology which offers world changing potential, William Heath founder of Mydex presents the concepts behind this new personal datastore that gives individuals complete control over their data online. Issues of identity and security are explored by Ian Brown and Jeremy Newman. National Media Museum's Life Online Curator discusses net neutrality with representative panelists from art and media. Manchester Digital present Infinite Bandwith Zero Latency and discuss projects such as the 'flying shepherd', 'real avatars' and examples of 'hybrid' digital/material networked learning.

The Smart City is a perennial interest at the FutureEverything conference. This year Carlo Ratti who directs MIT Senseable City Lab and is at the forefront of global endeavour on future cities discusses sensing the real-time city. VURB founder Juha van't Zelfde discusses the aspirations for democratic Smart Cities. Lessons for the Smart City is a day of presentations and workshops hosting representives of a number of EU institutions and projects and exploring Smart City Initiatives.

The FutureEverything Conference has always been about action as well as words. It hosts the nationwide pre-Games meeting and showcase of #media2012, an international campaign to open up the London 2012 Olympics to voices from below.

Constructing a Digital Public Space
Bill Thompson, Drew Hemment, Rachel Cooper,
Charlie Gere on behalf of The Creative Exchange

The term Digital Public Space is being used by a growing number of cultural bodies to describe the online environment which will emerge as they make their digitised collections more available to each other and to the wider world. It expresses the growing desire to offer anyone, wherever they may be, the opportunity to access, explore and create online. It will open up collections of films, photographs, television programmes, books and much of the rest of the amazing material currently held in our museums, galleries, broadcasters and other memory institutions.

Looking beyond these cultural archives, it may include public information from open data stores, user-generated content, and data trails which individuals are able to control and trade. It will also include, where owners permit, material from the commercial world too.The digital media we produce is 'out there' waiting to be accessed and assembled in new ways. It creates threads connecting us through time. Our audience, or our collaborators, may be people looking back at us and our creations in twenty years time.

Within the Digital Public Space every digital asset that can be shared will be shared, and as we digitise more of the analogue past this could stretch to encompass the whole of recorded culture.The Digital Public Space will be a high street, not a shopping mall. It is intended to constitute a public space that supports many activities and can sustain private, political, cultural and commercial uses without being dominated by any or appropriated by one group or model.

It relies entirely on the open Internet and full access to all it offers, on which will be built the standards, tools and services needed to create a commons, owned by nobody, accessible to all, outside the commercial imperative and free of state influence, an online space for interaction, engagement and experience, that can be used to inform, educate and entertain those who visit it.

It will be an online space that meets the needs of the cultural sector and the arts and which offers unparalleled opportunities to find and engage with audiences but it not be exclusively for this sector and will support and sustain other areas of activity. It will not be primarily a space for commercial activity but it will offer opportunities for commercial transactions and support all the necessary mechanisms and tools needed to make these trustworthy.

Like the Internet itself the Digital Public Space will not be owned by anyone, but will be constituted from the collaborative activity of all those who join it, existing as the shared space between their services, content and tools. It will grow as its constituent membership grows.

It will contain all that its constituent organisations wish to make available, whether born digital, fully digitised or a digital representation of a physical artefact, drawing on the world's cultural heritage in all its forms and variety. The Digital Public Space will make new forms of collaborative work possible in ways that as yet are not even imagined. It offers not just new means of making the things we already make, but of developing new forms of culture, based around shared catalogues and metadata and simple licensing of material.

The Digital Public Space has emerged as a framework for thinking about the ways in which the arts and culture will reshape themselves in the screen-based, online world that FutureEverything has foretold and shaped for many years. The Digital Public Space makes new paradigms for cultural engagement for creators, audiences and institutions built around shared data models, open interfaces and standards for authentication, rights management and identity, but we do not yet have a clear idea of what that will enable or how it will be deployed.

The goal, therefore, is to look at the Digital Public Space from all angles, to challenge and refine the core ideas, explore the current and future technologies that could sustain it, and ask about its real value to artists, institutions and the public whom it is supposed to serve.

One question is whether it can release public value or simply whether it offers another way for larger institutions and corporations that hold rights to assert their hegemony, and lock the public out, and explore the technological barriers that stand in the way of delivering a genuinely public online service.

FutureEverything 2013

Work to build the Digital Public Space is already ongoing, with Europeana offering a model for a comprehensive catalogue of digitised cultural assets, ResearchSpace showing how linked data

can transform academic research and The Space, the Arts Council England/BBC experimental service, delivering digital art to multiple devices during summer 2012.

The festival programme at FutureEverything 2013 will make the Digital Public Space theme come alive by presenting artworks, prototypes and experiences that build on these projects. Such interventions can push at the possible, to chip away at the barriers, to show that it can, and must, be done.

The Space

The Space: Digital, Public, and Here.
Tony Ageh and Alison Cole

Earlier this year the BBC and Arts Council England announced a joint project to make the best of the artistic and cultural activity taking place this summer available to everyone, on as many screens as possible, through a new free digital arts service. The result of that effort is The Space, live at thespace.org/. Making it happen has been a creative adventure, with ACE and the BBC working together in new ways to identify and commission screen-based art and build the technical platform needed to make it accessible on laptops, tablets, smartphones, connected televisions and even old-style linear television.

At the heart of The Space is a new commissioning model, enabling artists and organisations to film and make work specifically for the main digital platforms. Some are live-streaming their events, others are trailblazing new formats, all with mentoring support and training from the BBC where required. It is also an innovation in technology, an attempt to take the principles underlying the Digital Public Space and put them into practice. Normally the BBC builds systems which are designed to last for many decades, systems that are designed to scale massively and which form components of a highly engineered broadcast infrastructure. We build dedicated teams around them and train them appropriately, and we work to integrate these technologies into existing systems to keep the BBC on air.

The Space needed a different approach. It will only be running in its current state for six months, and we have had less than six months to build it, so instead of starting from scratch the engineering team behind The Space has specified, developed and commissioned a cloud-based content delivery network. It supports sound, video, images and multimedia offerings, provides live streaming to a global audience and is viewable on all major platforms, with an underlying data model that allows arts organisations to upload their work and lets the editorial team create links between disparate offerings.

The Space is another step towards creating the wider Digital Public Space, an online space where institutions and communities alike can make publicly owned or collaboratively created content available, free, for non commercial public use and where digital content and its interaction can be found, created, captured and curated. We will be looking carefully at the way people explore The Space and how they engage with the work that is available, and we'll be considering how to extend the data model and improve the ability to uncover connections between the work hosted and the outcome will feed into the wider debate promoted by the Creative Exchange as part of the BBC's engagement with the hub.

Mydex
William Heath

Everything we do online, including create and view digital art and culture, creates its own digital record. According to the way things are often done online today, this digital record could become just another intrusion into the individual's privacy; another 'data asset' for some unknown online stalker to 'mine'. With The Space, creativity and innovation doesn't stop with art and culture itself, it extends to the capture and use of personal data.

Using the revolutionary new Mydex personal data platform, The Space turns users' clickstreams into their own personal asset – a private collection of their own viewing behaviours and activities online, which only they can see and use. They can rewind and revisit this record at will, bookmark things, make annotations, build specific project folders, link to other personal content, and share experiences with others – all in ways they control and which protect their privacy.

Mydex is a Community Interest Company, legally committed to its social purpose of helping individuals realise the value of their personal data. Mydex believes that an individual equipped with the means and mechanisms to manage their personal data, their digital access rights and identity can become a real participant in the contributing, curating and sharing of our rich heritage, knowledge and art in ways previously not possible. With this initiative the BBC is doing for digital content what it did for Radio and TV: acting as an innovative platform provider, this time for something that could become a model for multi media interactive engagement with the citizen and society as a whole.

The Creative Exchange

The newly-formed Creative Exchange (CX) is one of four national hubs charged with bringing expertise from Arts & Humanities researchers into the creative economy. CX is focusing on the idea of Digital Public Space, where anyone, anywhere, anytime can access, explore and create with digital content. CX will bring together pioneering companies and the best academic thinkers to create new products, experiences and business opportunities within the Digital Public Space. We do this through an active process of curation and facilitation that connects and nurtures doers and thinkers with relevant expertise and perspectives. The purpose is to stimulate innovation by drawing on deep, critical expertise in both business and academia in a shared creative space. It is vital to explore the shape of the Digital Public Space, and CX is investigating its potential with over 40 company partners, including BBC, FutureEverything and institutions such as the BFI.

   CX is a Knowledge Exchange Hub for the Creative Economy led by Lancaster University in partnership with Newcastle University and the Royal College of Art funded (£4m) by the Arts and Humanities Research Council and delivered in collaboration with FutureEverything. CX has been designed from the ground up to use innovative techniques to facilitate co-production, co-creation and participatory design methods. These methods and approaches will enable interaction and exchange between businesses and between business and academic researchers. It will also offer PhD studentships during which project and practice-led work will focus on developing new experiences, products, value and research with creative companies.

A Co-operative Future
Mark Robinson-Field

In 1844, the Rochdale Pioneers, a small group of weavers, reflected on the impact of the industrial revolution and its affect on ordinary people in the UK. Their world was one of rising unemployment, international instability, growing inequalities and widespread poverty. Learning from writers and thinkers from across the world Rochdale was the crucible in which a set of principles were forged and the co-operative movement burst to life. Co-operatives aren't just a way to do business, they are directed by the needs of communities, powered by the passions of people and stand on the foundation of principles that cross boundaries of race, culture or country. It is part of our human nature to co-operate, to reach out, collaborate, connect and share. Something that with the rise of social media and new technologies has never been more achievable

   Today we have a new revolution as technology allows us to be connected like never before. It has the potential to place more power into the hands of ordinary people, bring us together to build new communities, encourage greater participation and help everyone to have a voice. Sound familiar? It would to the Rochdale Pioneers; open membership, democracy, equality, equity and solidarity were all parts of their first manifesto to the world. As we celebrate the power of co-operatives across the world in the United Nations Year of Co-operatives and look back on the last 160 years and the achievements of co-operators across the globe we can't help but look forward to a future of new technology and ideas that will definitely be co-operative.

Mass Observation Archive

Mass Observation
Fiona Courage

In 1937 a new organisation called Mass Observation was founded with the objective of recording life in Britain in an effort to find out what people really thought as opposed to how their opinions were represented in the media. To do this, the importance of recording the everyday was paramount to Mass Observation who believed that observing the unspectacular events of life was fundamental to understanding a society and its culture. The aim was therefore to create an 'anthropology of ourselves' in which ordinary people from all over Britain would be recruited to contribute to a study of their lives. They were to become 'the cameras with which we are trying to photograph contemporary life'[1]. A team of investigators was employed to use ethnographic techniques including survey and observation to create written 'photographs' of life in towns and villages across the country. Meanwhile, a panel of volunteer writers were also recruited from around Britain to record their experiences, opinions and beliefs in the forms of diaries and responses to searching questionnaires on a multitude of themes.

Active from the late 1930s to the 1950s, Mass Observation's activities resulted in a vast collection of archival material which is now kept at the University of Sussex, which includes typed reports, posters, tickets, leaflets, newspapers, scribbled notes, handwritten diaries; an entire collection of written, paper-based documents recording everyday life. The social survey element of Mass Observation ceased by the early 1950s but was revived in 1981, following the establishment of the original project's archive of material as a Charitable Trust at Sussex in 1970. The Project recruited volunteers from all over the UK to participate in responding to regular questionnaires on themes reflecting life and events in late 20th and early 21st Century Britain. Over 4,500 people have contributed at some point or another since 1981, providing a rich and diverse longitudinal record of experiences, opinions and beliefs in Britain over the past 30 years.

However the voluntary nature of the Project has sometimes been criticised for being unrepresentative of the 21st Century British demographic. It is reliant on those who want to contribute and who *can* contribute to a primarily written archive, meaning that only those who are literate and have a confident command of the English language are likely to participate.

[1] Harrisson, T.H. & Madge, C. 1938 *First Year's Work 1937-1938* London: Lindsay Drummond

People take part by sending in handwritten and typed responses, emails attachments containing word processed documents, occasionally illustrating responses with pictorial representations or photographs. Underlying all these methods is the hardcopy format. Even those responses that we receive in electronic form are printed out and archived in a box in the traditional way so that access to much of the new project is therefore only available to those who can visit our reading rooms.

Mass Observation is increasingly being challenged as to whether it still has a role in an age of social networking, particularly with the increasing use of mobile technologies to record and communicate experience and opinion in forums such as Twitter, Facebook and blog posts. Its continued use both as a survey organisation and as a research tool for academics, media and artists shows that the concept of an aggregated observational archive is still valid; a single contextual place in which themed case studies can be undertaken. So perhaps rather than these technologies becoming a 21st Century substitute for Mass Observation's methodologies, they should present us with new opportunities to engage with people who would not normally participate. The original Mass Observers used the technologies available to them at that time – typewriters, pen and ink, the occasional photograph and broadcasting through newspapers and radio. In the spirit of the original pioneers, the current Project also seeks to engage with contemporary methods. So far we have worked on small scale projects that use new technologies to allow communities and individuals to upload their thoughts and diaries to a publically accessible online archive. Most recently we have issued invitations to the public at large to email us their diaries for activities on 12 May each year, emulating the first every calls for Mass Observation diaries in 1937, albeit in a 21st century format. But there is still a long way to go in terms of using these technologies to enable **mass** participation in the creation of an archive of those ephemeral, unspectacular and everyday experiences for all to use.

Open to Collaboration
Rufus Pollock

This year, FutureEverything is celebrating collaboration and participatory technologies. And with good reason. Looking at the art, the projects, the connections and the ideas that are being showcased this week, the old adage seems to be true: two minds really are better than one - and several hundred minds? Better still. But whilst the technological infrastructure that underpins collaboration is developing apace, it is worth remembering that there is a practical, cultural and legal infrastructure that equally needs our attention.

Back in 2005, the Open Knowledge Foundation created the Open Definition. According to the Open Definition, a piece of content or data is 'open' 'if anyone is free to use, re-use and re-distribute it - subject only, at most, to the requirement to attribute and share alike'. Throughout history, some of the greatest advances have taken place when people have stood not only on 'the shoulders of giants', but also on the shoulders of one another. Many minds have worked together to find a new solution, many eyes a new perspective, and many hands have smoothed many small imperfections to create much of what we enjoy today.

But such collaboration can only take place upon a foundation of openness. A license, whether open or otherwise, give a clear signal to a potential re-user: this is what you can do with my work, and this is what you can't. If that license is 'open', the signal is clear green - you can use, re-use and re-distribute that content to create something new and valuable.

At the Open Knowledge Foundation, we are firm believers in the power of open. In principle, we believe that openness, participation and collaboration is the way to tackle the challenges that face us in both the present and the future, and in practice, our experiences have shown this to be true.

The Open Data Handbook – our practical introduction to open government data - has been edited, translated, shared and adapted by many different people from across the world.[2] *Europe's Energy*, a tool which visualises the progress of European States towards their energy targets, relies upon open data to do its work, and was built by a team of coders working together on collaborative hackdays.[3]

[2] opendatahandbook.org
[3] http://energy.publicdata.eu/ee/index.html

These are just two examples of how sharing and collaboration has enhanced what we do – if you visit us at okfn.org, you'll find many more. Crucially, it is allowing others to 'use, re-use and re-distribute' our content that gives much of our work a value far beyond that which we alone could achieve.

FutureEverything is a time not only to look to the future, but also to reflect on the past. In recent years, technological developments have created unprecedented changes in the way in which knowledge can be shared, ideas exchanged and collaboration take place. These changes have undoubtedly brought us forward. But if their true potential is to be fully realised, we need to make sure the foundations of openness are firmly in place.

Democracy: upgrade = (re)Public – (r)evolution - (h)activist - H(e)art-h
Birgitta Jónsdóttir

What is democracy?
Who is the system to serve?
What is a parliamentary representative?
Who does he pledge alliance to?
Who writes our laws?
What are the cornerstones of Democracy?
What is the purpose of a constitution?

I want you to think about these questions and find out what
their content means to you.
   I am an activist in Parliament. The longer I serve, the more I
think about the meaning of the questions I have just posed. The
more I understand how the system works, the more obvious
it is to me that there is a serious system error. The system is
like the hard drive on computers you would have to defrag in
order for them to work, the bigger the files the less efficient
the computer would work. The problem with our systems
is that they are too big, too alienated from the people they
are supposed to serve. It is too difficult for the public to be
able to influence and have impact on the (re) in the rePublic.
Sometimes when the computer is too fragmented the best
solution is to zero it in order for it to work, and sometimes
a complete system upgrade is the only way out. We have
reached the point in our democracies that we need to zero the
system and install a new system. We need to move away from
the big complex to the small fast system, where each and every
person has to understand that we are the stuff that makes the
system. We are the system. We are the government. We are
society. We are the power. We are the law. It is not beyond us, it
is unreachable nor undesirable, rather the system is a reflection
of who we are.
   In order to empower people to act on this awareness and
to start to apply changes through our only means: through
action, we need to have direct democracy with the liquid add-
on. We need to craft our constitution for and by the people.
(Constitution is the agreement of a nation on what sort of
society they choose to be). Law is currently crafted by and for
the 1% - we need to simplify our laws and make sure we agree
on the spirit of the law, rather than adding on their complexity
with endless patchwork.

The cornerstones of society are freedom of information, expression and speech. The Internet is the last free world, that has enabled us to connect, share, be informed, act and resample our creativity. The internet is now under serious attack, as the corporations and governments are trying to place their reins of power on it, in order to industrialize it and to have absolute control over how we connect, share, be informed, act and resample our creativity.

I am a hacker in Parliament, I went into the system in order to understand how it works and my conclusion is clear: Install new system with a new form of democracy of the future, where we move away from democratic dictatorship with many representative heads to a direct responsibility of direct liquid democracy. Are you ready to be the co-creator of your society? Do you understand the importance of your participation? We are running out of planet, so for the future of everything it is time to wake up and start co-creating.

The trust of a maker and making to trust
Robert Phillips, Sharon Baurley and Sarah Silve

The concepts of making and open design are not new; users have passed on valuable knowledge, skills and making processes for generations.[4] However access to knowledge through open design is new. This essay explores digital fabrication and the trust that we place in the people that we can build with and from. Different historical examples are put forward concerning how we have to manage our expectations in realms beyond financial motivations. These issues include: de-skilling, accessibility, user requirement, standards and motivations for sharing; adaptability is vital but not discussed here.[5]

Flint knapping (the prehistoric fabrication of cutting tools from flint) is a prime example of open design. The material can be accessed openly, the knowledge of fabrication can be passed on enabling the tools to be made. Within this you still need the skill to fabricate, knowledge of the material and its location. The route to various entry points depends upon the trust from the tutee.[6] In recent times, access is the new factor; the web enables people to share concepts, ideas and directions freely with open intent left to the 'downloader' to process.

Buyer's trust

When we purchase or acquire an item there are a series of checkpoints that we go through. These concern the relevance to us of various values that are embodied in the item such as the brand, cost, weight, quality, aesthetic, social standing (desirability), rareness, and environmental credentials. These are all built around trust and compliance. As a consumer you review a brand or see a technical British Standard marking, perhaps not fully comprehending the ramifications, but there is some understanding.[7] These processes are built around a standardisation that industry can afford to enforce in order to protect itself and the users of its objects.

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4 Bauwens, M., (2009), *'The Emergence of Open Design and Open Manufacturing'*, Available at: http://www.we-magazine.net/we-volume-02/the-emergence-of-open-design-and-open-manufacturing/ , accessed 6th February 2012.
5 Van Abel, B., (2011), *'Open design now: why design cannot remain exclusive'*, Bis, Amsterdam
6 Johnson, L,.L., Behm, J.A., Bordes, F., Cahen, D., Crabtree, D.E., Dincauze, D.F., Hay, C.A., Hayden, B., Hester, T.R. & Katz, P.R., (1978), *'A History of Flint-Knapping Experimentation, 1838-1976 [and Comments and Reply]'*, Current anthropology, pp. 337-372
7 Swann, P., Temple, P. , Shurmer, M., (1996), *'Standards and trade performance: the UK experience'*, The Economic Journal, pp. 1297-1313

In the context of open design, how do you map these values from reading a file or a set of instructions? On what do you base your thinking? Is it on someone else's experience or rating system? As a first-time user, how do you understand? To give an example: buyers now purchase items without experiencing them through human senses, trusting the supplier and sender on a description.

Making trust

Codes of conduct are hard to enforce in open design because it is a movement where the source of the information is sometimes unknown. There are codes of constructional conduct enforced by knowledgeable makers.[8] Is this trust earned by trial and error then passed on to the next user of the 'download' or does it illustrate the possible flaws? For example, the trust in food creation; in a restaurant you have a higher expectation due to a financial transaction. This is different if there is no transaction for the food — it manages expectations. Does this value set change when you have a product that has a more permanent status? A product is not always consumed so quickly as a meal nor does it have such an efficient means of disposal. Do you have a bigger fear of trust investment in a more permanent product?
   Makers will check content multiple times during the construction process; they trust their experience, opinions around them and their knowledge. This element of trust is inherent in a professional position through training and certification. A maker's tools/equipment are trusted — how they respond to different environments or different activities; their point of destruction or stress. Trust is involved in the creation of objects, in the translation through processes, from on-screen to physical, the maker understands the habits of that machine and process.

Secondhand trust

Certification, training and experience re-enforce trust of an output. This training has been accelerated and become more accessible by the web. There are levels in the trust that the 'downloader' has. The access points are still a problem as they are, in the main, open to enabled people or to enabled spaces. The trust in the making lies in relying that the 'uploader' has published the majority of the knowledge; this would mean accepting that it includes possible errors or derailments.

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[8] Jalopy, M., Torrone, P., Hill, S., (2005), *'The Maker's Bill of Rights'*.

Originator's trust

Is the 'uploader's' trust concerned with the application of their material? Or do they simply not care? Are they going to claim initial creation? Are they adding to the output with a trackable process that allows a direct lineation of construction? The trust placed upon the digital presence is critical; how you are perceived by this community, how they engage with you and how they can oust you is a large barometer of trust. This value that you put on your digital presence has changed with the shift towards making private knowledge public that you would not share with a close friend. The social network of making, enabling and sharing being reciprocal is inherent in most of these systems, not only allowing taking, but also requiring giving.

Conclusion

The Open Design community is aware that it needs to be allowed to grow and develop with an open set of ideals and ideologies, such as trust in a product, construction, assembly or elements. How do we instil this culture of brand, moving making and trust at an amateur level? I am not condemning hacking, making, the infancy of 3D printing, but instead trying to cater for the layman. They might not have any experience of this field, yet want to embrace it. Can systems ensure open trust whilst profiting the worthy? The freedom of information and the access to it is becoming more trusted due to the fact that you hear about each end of the spectrum: the amazing and the bad. Trust is such a big area for discussion within open design: trust in the 'uploader' trust in the supplier and trust in the 'downloader's' intentions. How do we enable makers to be trusted, to trust others with knowledge and not dilute these empowered ideas, enabling uptake and encouraging employment whilst maintaining integrity?

Will London 2012 Be Everybody's Olympics?
#media2012 is working to make sure it will be
Andy Miah

As the London 2012 Games approach, people may not yet fathom just how significant a role the media will have in determining how the Games will be remembered by the 4 billion TV viewers in 205 nations around the world.

However, as the 20,000 sports journalists report what happens in the arenas, a growing community of Olympic & Paralympic citizen journalists is covering what happens on the streets. This community has grown over the last three Games and is motivated by the desire to alter the media narrative about the Games and, more ambitiously, to change society through empowering citizens to produce and own their own reports about the Games. The monumental and unrivalled global platform of the Olympic Games makes it an appealing route through which to advance this cause.

At the Vancouver 2010 Games, an independent media centre was wet up, which revealed just how much could be achieved by using people power to generate news stories and an alternative Olympic programme. Visitors to the W2 Media Centre heard debates about the housing crisis surrounding the Olympic plans, arguments on behalf of doping in sport, and witnessed leading art work by deaf and disability artists. A feature length film called With Glowing Hearts was even made about the journey. These programmes would not have occurred without a commitment from citizen journalists.

For London 2012, a network of such journalists operates under the Twitter hashtag #media2012, which is also the main tag for organizing all of the content generated by the community. #media2012 describes itself as the 'citizen news wire for London 2012', providing a gateway to alternative 2012 stories and issues and serves to act as an organizing framework for those who believe that social media can help to change the means of production and media content that people consume. #media2012 want people to follow this hashtag during the Games, rather than #london2012.

While many of the #media2012 reporters are amateurs, usually with other jobs to earn money, many are publishing content in professional media outlets. As well, far from setting up a divide between citizen and professional journalists, it promotes their interface with a view to re-thinking the relationship between journalists and society, a crucial issue given the UK's Leveson Inquiry into media ethics.

#media2012 was born out of a collaboration between artists and educators. It launched in 2010 with support from the North West's Abandon Normal Devices festival and three creative programmers from London. In this respect, it is something of an 'Olympic fringe' programme, trying to create dialogue with the Olympic infrastructure so as to bring about change for the better.

Plans in time for the games are already extensive. In Scotland, the University of the West of Scotland is leading 'Citizen Relay', which will take reporters around Scotland following the 2012 torch relay. In the South West of England, there will be a media camp set up in Weymouth and a media centre in the town centre. In the East Midlands, the Citizens Eye community news centre in Leicester is recruiting 2,012 reporters to cover their region. In the West Midlands, students at Birmingham City University are developing a crowd source platform for collaborative journalism. In the North West, Let's Go Global are taking forward the #media2012 agenda by recruiting people from around the region to cover the Games and Future Everything festival will host the nationwide pre-Games meet on 18th & 19th May, open to new comers to get involved. In London during the Games, the plan is for #media2012 to create a physical #media2012 Media Centre based at the Freeword Centre in London, as a hub for citizen journalists who come to the Games. Professional and citizen reporters can use the #media2012 DIY accreditation to help them work during the Games.

At the heart of the project is the premise that asserting one's right to work as a journalist is crucial in an age of media expansion. #media2012 is all about claiming ownership over media production and consumption. The legacy of this project goes on beyond 2012 and we will work with interested friends to try to bring reporters to future Games, to continue the opportunities for cross-cultural learning. To get involved, please join us at MOSI on the morning of 19th May for our pre-Games meeting. To start engaging, sign up to twitter and follow the hashtag #media2012

Turing's Sunflowers
Erinma Ochu

It's the centenary year of Alan Turing, master code-breaker, mathematician and founder of computer science. What better way to celebrate and build on his phenomenal legacy than with a mass experiment? In one of the largest citizen science experiments of its kind, over 4000 people across the UK and beyond have pledged to grow sunflowers… Turing's Sunflowers.[9] Why Sunflowers? Not just pretty to look at and attractive to bees, sunflowers are a floral expression of the Fibonacci sequence, where each number is the sum of the two preceding numbers - 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, and so on. More often than not, when you count the number of seed spirals in the sunflower head, you'll get a Fibonacci number. This, in a nutshell, tells us something about how plants grow (specifically how sunflower seeds arrange themselves in space) and contributes to current computer models of plant growth. Researching at The University of Manchester, Turing was one of several scientists who tried to explain mathematical patterns in stems, leaves and seeds (also known as phyllotaxis) and of course, in the spiral patterns of sunflower seeds. Turing died before he could complete his work but fortunately his programmes dedicated to solving this problem survived on the Manchester Mk1 computer.

Fast forward to 2012 and in truly Mancunian cooperative style, MOSI (The Museum of Science and Industry) in association with Manchester Science Festival are asking the Great British public to grow a Turing sunflower, to finish his work. The idea for the experiment came from consultant systems biologist, Professor Jonathan Swinton and aims to build on Turing's and other scientists' research to solve the puzzle of just how often Fibonacci numbers appear in sunflower seed spirals.[10] We're interested particularly in the number patterns that are discovered when a sunflower doesn't possess a Fibonacci number.[11] It's this data that will help improve current models. At first glance, involving the public might appear to be a risky strategy to achieve the goal of gathering a large enough dataset.

[9] www.turingsunflowers.com, accessed 4th May 2012
[10] Vogel, H 1979, 'A better way to construct the sunflower head', Mathematical Biosciences, vol 44, pp179-189
[11] Cartwright, J 2012, 'Turing's Ideas Blossom', *Science*, vol 336, no. 6077, p18

By designing simple signposts into this citizen science experiment (including simplicity, reciprocity, being open to the unexpected and to scaling up the experiment) citizen science presents the possibility of participatory knowledge sharing through social and creative means[12]. This includes everything from mass public planting events at music festivals, to gardening group growing sessions to sharing growing tips, sunflower photo updates and relevant video content online.

Thankfully mass British media coverage, the power of social media and the desire to publicly and visibly honour Turing have spread the project globally. Besides England, people are growing Turing Sunflowers in the US, Palestine, Jamaica, Slovakia, Switzerland and Scotland. Originally intended as a local experiment for Manchester, the simplicity of growing a sunflower, nurturing it through the summer and then counting the seed spirals in the autumn at the Manchester Science Festival, has captured the attention of schoolteachers across the UK who are keen to provide their learners with participatory learning experiences beyond the classroom.

The experiment also lends itself to creating the new kinds of participatory experiences that audiences crave. With this in mind, the large public dataset from the experiment will be made open to allow data lovers, designers, coders and dancers to use their creativity to create artful knowledge and explore new possibilities from the data: maps, data visualisations, a dance sequence, music and more. Turing's Sunflowers is a MOSI initiative in association with Manchester Science Festival and supported by The University of Manchester and Manchester City Council.

[12] Hemment, D, Ellis, R & Wynne, B 2011, 'Participatory mass observation and citizen science', *Leonardo*, vol 44, no. 1, pp. 62-63.

'Twitter brings you closer': the importance of seeing the little data in Big Data
Farida Vis

At the recent WIRED Business Conference[13], Twitter CEO Dick Costolo, emphasised the vision for the company: 'Twitter brings you closer', identifying the common shape to so many different stories on Twitter. He elaborated by describing Chinese artist and avid Twitter user Ai Weiwei's installation, Sunflower Seeds 2010, which was staged in Tate Modern's Turbine Hall,and comprised of 100 million individual handpainted porcelain seeds created by an army of 1,600 Chinese artisans from the southern Chinese city of Jingdezhen.

> 'He created this installation that was at the Tate museum in London a while back and the installation was these hundreds of thousands of ceramic handpainted sunflower seeds... And as you stood back from the room it looked like this sea of just stones that were black stones that were spread across the floor and of course you couldn't really tell what they were. But as you got closer it looks like, you can start to tell 'ooh it looks like they've stamped out hundreds of thousands of sunflower seeds and spread them across the floor'. But as you pick them up you started to realise that they were all individually shaped and painted differently and unique and beautiful and distinct in their own right. So that's what we want to bring to what we're building: *the ability to shrink the world and allow everybody to see each other.*' (emphasis mine)

Adrian Searle describes the bringing together these Chinese artisans with the Tate visitors through mass produced, individually crafted seeds. Visitors interact with them, letting them run through their fingers, holding the world in the palm of their hand. Searle comments that the work is a singular statement, but also a world 'in a hundred million objects' and that it works on numerous levels. That it refers to everyday life, hunger (seeds as food), collective work and the endurance of Chinese industrial production, the artist a

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[13] http://fora.tv/2012/05/01/WIRED_Business_Conference_Taking_the_Pulse_of_the_Planet

'constant communicator'.[14] Through his art, but also his online communications, specifically his Twitter use (after his blogs were censored by Chinese authorities). Charlotte Higgings suggests that the artist explicitly linked the installation to Twitter, as a 'vast sea of ideas and communications contributed by individual people'.[15]

In early 2012 Twitter had over 140 million active users and a billion tweets are now sent every two and a half days from across the world. Large amounts of data, such as a billion tweets, is now commonly described as 'Big Data'. Aside from Costolo's vision of shrinking the world so that everybody can see each other, making sense of and interpreting such Big Data is increasingly big business, as the data produced on Twitter and other social media platforms is seen as an opportunity to better understand something about how humans behave, how they communicate and connect with each other.

To stay on the sunflower theme, this year is also the Turing Centenary Year, and to celebrate the Manchester Science Festival and the Museum of Science and Industry are asking people to grow sunflowers in order to count the number of spirals in their seed heads at the end of the season. This open source science experiment is concerned with testing one of Turing's key theories, that the seeds grow in a so called Fibonacci sequence, the term for how certain geometric patterns in nature conform, in this case to a 'golden ratio' of consecutive Fibonacci numbers, which produce an aesthetically pleasing effect, but also pack the seeds in most effectively. This effective ordering of seeds, or data, has also produced algorithms inspired by the Fibonacci sequence that order and sort data in particular ways.

It is this ordering and sorting of Big Data through algorithms identifying patterns in billions of tweets that interests me. As researchers we can fall in the trap of seeing patterns that are not there, to fall for the 'analysis' computer programs produce for us. We can read things into them without trying to get closer, forgetting that they were contributed by individual people. Without picking up these individual 'seeds' and seeing that they are individually shaped, beautiful and distinct in their own right, we overlook Big Data's little data, the individual object. Understanding 'little data' better is important.

[14] http://www.guardian.co.uk/artanddesign/2010/oct/11/tate-modern-sunflower-seeds-review

[15] http://www.guardian.co.uk/artanddesign/2010/oct/11/tate-modern-sunflower-seeds-turbine?INTCMP=ILCNETTXT3487

This is harder to do, and much more time consuming, but it is necessary to understand communications and connections, in context, not just as part of the larger patterns we wish to see.

After 48 hours, Ai Weiwei's Turbine Hall installation was closed off from public interaction, following health and safety concerns over the porcelain dust allegedly created by people walking on the small seeds. Earlier this year Tate announced that it had bought 8 million of the seeds, for an undisclosed price although a small number of seeds were sold at Sotheby's last year for £3.50 each.

The imposition of restricted access to the seeds, combined with their monetary value highlights the art gallery as a particular space. In teaching social media to my students, and asking them what kind of space Twitter is, they stress that it's a public space, as 'free'. But is it? The large social-media platforms we all use are increasingly criticised for the ways in which they deal with the data seeds we collectively produce, how they sell the data, and how accessing your own data is far from straightforward.

In highlighting the vision for 'Twitter brings you closer' and using Ai Weiwei's Turbine Hall installation to illustrate it, Costolo has offered a useful way to think about connectivity in the current social media landscape. In thinking about tweets through the metaphor of sunflower seeds is a productive one that I want to explore further as it highlights an important tension between Big Data and little data, about the potential danger of algorithms interpreting for us, and for further critically thinking about the value of data seeds, both individually and collectively.

DIYBio MCR Photo Hwa Young Jung

DIYBio MCR
Martyn Amos, Asa Calow, Naomi Jacobs and Rachael Turner

Forget tinkering with tools - DIY is now all about biology. It has gone from the laboratory to the kitchen table, attracting creatives and citizen scientists alike to explore and manipulate the living world around us. DIYBio Manchester, a year-long project hosted by Madlab in collaboration with Manchester Metropolitan University, and funded by the Wellcome Trust, encourages the public to get involved in scientific research - quite literally in a hands-on way. Fancy dissecting an octopus? Making a fuel cell with soil from car parks? Taking to the streets to swab bus stops for bacteria? We are, and as it happened a lot of others are too - 350, at the last count.

Our local group was set up at the beginning of 2011, bringing together professional scientists and curious amateurs alike. It is part of a global movement whose aim is to democratise and demystify biotechnology and biological science, bringing it to everybody instead of leaving it as the preserve of the white-coated few. The prospect of a grassroots biotechnology 'open science' revolution is more of a reality now than ever before, and the current crop of DIY biologists are the forefront. Bill Gates has said that if he was nineteen now, he would be concentrating on biology rather than computing.

There is already a massive amount of public interest in biomedical science, with GM crops, cloning and superbugs never far from the front pages. In this culture of exploration, we're proud to say that we're the first UK group to receive funding, and one of only a few in the world to have done so. DIYBIOMCR, launched in March 2011 with a sold-out DNA extraction workshop, holds monthly meetings at the Madlab in the Northern Quarter and combines ongoing projects with larger one-off events.

Our first major project, featuring at FutureEverything, is the microbial map of Manchester. Forget the boring prodding of petri dishes in Biology GCSE classes. This is real-time, on-the-streets access to the biology right under our noses. A team of volunteers swabbed surfaces across the city, collecting samples that were cultivated back at Madlab - with locations recorded, we are making photographs and colony sizes available with the help of an online visualisation tool.

Where next? The possibilities are as endless as biology itself. One traditional barrier into amateur science has been the cost of equipment, but with team-work integral to the success of DIYbio, it's not a problem. For example, the PCR machine, used to amplify DNA samples, has also attracted interest recently, but they can cost thousands of pounds - so one of our participants built one from scratch with old computer parts, a light bulb and an Arduino controller. We also bought an OpenPCR machine, which is a low-cost, open-source alternative to the more expensive machines. We believe that this was the first such machine to arrive in the UK after they recently went on sale. We ran our participant's machine, the OpenPCR machine and the commercial model against each other in April. The professional model won, with clearer results, but only just! We're now looking at ways to make cheap PCR machines for home use – and have had interest from professional scientists too.

The progress we've made so far has been fantastic, with project members coming to DIYBio from across the UK. We also hosted the first ever UK DIYBio summit, drawing speakers from Europe and the USA, and have appeared on the BBC News at Ten and Radio 4 as part of a two-piece special on synthetic biology. Our ambition is to make DIYBIOMCR a template for success, and to roll out this activity on a national scale. This is only the beginning. For more information, please visit our website at http://diybio.Madlab.org.uk

Patchworking through catalytic community reactions.
Asa Calow, Jen Southern, Jon Whittle, Rod Dillon

What do homeless citizens, DIYbiologists and a group of Lancaster University academics have in common? The answer is 'Patchworks' a radical technology development project that flies in the face of the current norms of traditional research and new tech development. The Patchworks project is part of Catalyst, a £1.9 million, EPSRC-funded project led by Professor Jon Whittle at Lancaster University. It goes beyond simple public engagement to share the driving seat and put community groups at the heart of the research.

   The theme of FutureEverybody is a perfect fit for Patchworks where we are co-designing a Future for Everybody, where academic becomes non-academic, where dreams and blue-sky thinking lead to a new kind of integration between local communities and their universities. Patchworks is a citizen-led innovation project with homelessness at its core. A group of homeless citizens based at Signposts in Morecambe together with DIYbiologists at Madlab in Manchester are being supported by a diverse research team at Lancaster University. The team includes specialists in anthropology, sociology, arts, computer science and biology. The question being asked is 'what do you want from technology?' but Patchworks is not just about asking questions, it is about empowering people to awaken dreams and explore the answers by actually designing and producing a prototype device with the hacker community at Madlab. Of course this goes without saying that the prototype device will follow the ethos of Madlab; open source technology using widely available materials. During FutureEverything, Signposts, Madlab and Patchworks are opening up this process in a public workshop, using low-cost experimental electronics, biostatistics and a degree of self-experimentation to explore the perils and possibilities presented by a deepening connection between our mind, body and digital (bio)technology. What if our technology could understand us on a physiological level? What would Google do with knowledge of my emotional well-being? Does the 'quantified self' present a utopian or dystopian vision of the future? And in years to come, will altering our mind be as straightforward as downloading an app?

Patchworks has been running for about a month now and already we have seen excitement and progress in the project as the different groups work together. We are learning a tremendous amount from each other. It is perhaps the academics that are learning more; about homelessness and community based DIY science. Sharon Calverley, the projects director at Signposts is teaching us to realize that there is no 'one fit for all' idea of a homeless person. Scientists often crave order and definition, but there is no convenient taxonomy of the homeless; all are individuals with unique stories. The ecology of the interactions is complex with points of chaos interwoven with points of routine. We shouldn't be too wrapped up in creating definitions but be prepared to be facilitators of the Patchwork-like nature of the network that is the group of citizens who use Signposts services.

   How can Signposts, Madlab and the researchers work together to create a prototype. What sort of design process is best? Is it co-design and co-creation? Can we have bespoke design integrated into a cheap open source prototype device? Where is the power? How does it shift as we move between the university, Signpost and Madlab. How do we ensure the power is in the hands of the innovators at Signposts? Part of the research teams job is to facilitate and document this design process in both quantitative and qualitative ways. Patchworks is a risky, challenging project with potential discomfort zones for all involved. Between us we are already creating a Patchworks community and we intend to create a legacy that will continue beyond the end of the Catalyst funding.

SuperCritical Mass Photo DOMINIK

SuperCritical Mass
Julian Day and Luke Jaaniste

Super Critical Mass creates communities that come together in fluid ways. It is often thought that communities are somewhat fixed, continuous and containable. 'This is my community'. 'Let's focus on community'. 'That's not in the interest of our community'. Certainly communities often comprise the people we regularly associate with or live alongside: those in our suburb, our workplace, our ethnicity, our friends, our family.

However, communities can also be temporary, pervious and geographically dispersed. The crowd on the bus we took to work. The people we stood with in the elevator this morning. The invisible fellowship of listeners who, alongside you, also heard the football scores on the radio. Community can be created from scratch even where the path to doing so is fragile. Super Critical Mass brings together momentary gatherings, or 'mobile networks', through the binding of multiple identical points of sound throughout space. A dozen saxophones in a darkened hall. Thirty brass instruments spread throughout a forest. Eighty flutes within a concrete railway workshop.

New technology has intensified the ways by which communities can form and dissipate. Online political campaigns can engender staggering responses. Internet memes can gather and disappear within a day. Yet tem porary communities have always existed; they have simply intensified as technology has changed. Telecommunications and the mass media allow groups to form in disparate geographical locations, bound only by the medium.

Super Critical Mass is interested in the 'analogue' version of this kind of clustering. We are not anti-technology but rather we positively frame the complex technology of the human. We employ all technology available to enable each mass but the crowds are built from humans nonetheless. We build mobile networks consisting of people coming together within particular spaces.

Wherever we go we meet with local performers, ensembles and music educators to discover who has the passion to be involved. In Brisbane flautists and saxophonists have been very keen to participate while in Melbourne it's brass and percussion. The north of England is of course a heartland of brass bands so it's no surprise we are working with brass here.

Each city or locale presents a different mix of instrumental opportunities for us and each instrument of course has its own unique sound quality, performance mode and acoustic profile. This guides the types of communities we engender.
Our project challenges the idea that unity necessarily derives from a leader figure. Unity does not always have to be generated top down, in a follow-the-leader approach. That's actually something that common to many forms of community and classical music, and we are interested in a different musicality, sociality and politic. One in which everyone can contribute their own agency and sense of self-driven musicality. This is achieved in SCM events through the development of 'generative algorithms' in the form of simple, memorisable verbal instructions which generate evolving sonic patterns that combine at the group level in complex ways. There is no single conductor or score to follow. Instead, everyone interprets the algorithm in their own time, space and body. Various performers and audiences have described this as having quite an 'organic' feel.

However we don't work in a free-for-all, totally improvisatory manner which might suggest a kind of anarchistic bottom-up approach. Various traditions of practice have interesting takes on that form of communal performance, but for SCM we often think of this project as being simultaneously top down and bottom up – there is always a sense of structure and unity, yet the individuals effect their own change and direction within that superstructure. This is part of our research into 'emergent communities'.So the two roles bleed together. Players are always listening. And listeners who take their own journey through the soundscape also end up playing the space as well, making physical connections between people within physical space.

I'd Hide You by Blast Theory

I'd Hide You
Matt Adams

Over the last ten years Blast Theory has been asked to do quite a few TV projects. We worked with the BBC for nearly two years to bring a game based project to the screen. We were picked up by high powered agents in Hollywood and I even got to a meeting on the Fox lot. And we shot a pilot called Danger Game on the streets of New York with hidden cameras and a premise that so terrified the first participant that he actually ran away down the street. Each time we were approached, the broadcasters were so excited by the idea of interaction and participation. That was specifically what we were brought in to do. And, in general, each conversation hit the same bump in the road. 'Of course, this will need to be pre-recorded. Outside broadcasting is much too expensive. That's for sport or music.' And so we laboured to make interactive projects that were pre-recorded. This might sound like an oxymoron. It turns out that it is.

Two years ago we decided to try to short circuit the problem. Why could we not build our own Outside Broadcasting system that is cheap, light, interactive and ready to deploy? It wouldn't be 'broadcast quality' but frankly in a live event quality may not be as important as all that. MP3 has usurped CD. YouTube doesn't seem to lack viewers. I regularly watch BBC 1 instead of switching to watch the same programme on BBC1 HD. Already, Radiohead have sanctioned a film of one of their gigs shot entirely by fans with consumer level equipment.

And now that video cameras capable of streaming are present on many mobile phones there is an infrastructure already available. We worked with Somethin' Else – who have buckets of experience of live TV broadcasting – and the University of Nottingham to build and test an outside broadcasting system using mobile phones, netbooks and 3G modems that streamed to the web. With the support of The Space, we have been able to take that prototype and make I'd Hide You, this time working with broadcast standard equipment. Like most games it's a hell of a lot easier to play than to explain. But the rules are pretty simple. Three runners on the streets of Manchester try to film each other without getting filmed.

Online players can see what those runners are filming in real time and can jump between one runner and another at any time. If you see a runner on your screen at any time, you click to take a screenshot or 'snap'. But if the runner whose video stream you're watching gets snapped, then you lose a life. All the while, the runners on the streets are guiding you around their version of the city. We're working with eight young people from Manchester and each runner will choose a secret hiding place. They will introduce you to people they meet on the street. The chatty, raucous quality of a night out in Manchester is as much the focus as the sneaking about filming each other.

We are aiming to combine a live TV experience (leaning back, full screen video, an interest in story and character) with a games experience (leaning forwards, meaningful interaction). In doing so, we are creating interactive outside broadcasting. Online, you can chat to the runners, asking them to go to certain places or talk to certain people. And this could have important implications for many forms of live performance. We hope that the knowledge we gain could be used for immersive theatre, urban games, protests, small festivals or journalism. Technically there already a range of services available for live streaming such as Qik or Bambuser. Apart from raising the bar in picture quality, the key challenge for us is how to take this technological possibility and synthesise an engaging experience from it, like that uncanny thrill that you feel when you first see a webcam.

Like many of our projects I'd Hide You is risky and a step into the unknown. Until it goes live at 8pm on the 17th May we will not know how people will interact. Perhaps the game play will dominate, sweeping all before it. Players may be silent and twitchy as they focus on their score in a video version of a first person shooter. Or it may lean to the other end of the spectrum and become a free for all of chat and peripatetic diversions. I can't wait to find out.

Ant Ballet
Ollie Palmer

FutureEverything is a festival of connectivity – a celebration of connective technologies, and an investigation into the possibilities they offer us. Ant Ballet is also about connectivity. It hacks into ant communication protocols and uses them for its own subversive means, creating new ways to communicate with different species. As humans, we are used to hierarchical control systems – that is, systems with a clear leader. Our societies are structured this way – governments, armies, schools and churches all use this model. Ants are different; they have no central leader. Instead, they use pheromones to communicate and connect with each other, building complex networks from simple feedback loops.

As a well-fed ant walks along, it does a little dance, tapping its abdomen on the ground every few steps. This releases trail pheromones – complex chemicals that pass on messages to other ants. When other ants encounter the chemical trail, they interpret it as a signal from another ant, and follow the trail to find food. If they are successful, they too will dance, tapping their abdomen on the ground and reinforcing the trail. The more ants who reinforce the trail, the stronger it becomes, and the more likely other ants are to follow it.

This system allows the ants to create highly dynamic and efficient foraging networks, reacting directly to local environments and feeding straight back into them. Ant Colony Optimisation has been highly researched in academia over the past 25 years, and is an established means of carrying out computational tasks relating to connectivity. Virtual ants are constantly making virtual trails in computers around the globe, assisting people with route-finding, network infrastructure maintenance, and much more.

As part of the Ant Ballet project, I have created synthetic ant pheromones, based on numerous scientific studies. I have built a machine that can spread these artificial trail pheromones to real colonies of ants, subverting, warping and corrupting their natural foraging behaviour. The ants cannot tell the synthetic from the natural pheromones, and connect with these trails as if they were their own. Over time, the ants can be fed different patterns, creating a colony-wide dance. The machine monitors the ants, reacting to their movements, and feeds them more trails. It is like a balletic *Pas de Deux* – a machine dancing with a colony of ants dancing with a machine.

It is only from our human vantage point that we are able to look down on the ants and see that there is a large machine driving their movement. The work asks its audience to reflect upon issues of control, and their own role within much larger systems. The Ant Ballet is a literal theatre of the absurd, a performance space in which the desires of an entire colony are subverted, connected and entangled with those of another – all without the knowledge of the players.The project is developing in four phases, with each one exploring new ideas, from autonomous control systems to human input to intercontinental ant communication. Each one will develop new communication protocols, and pose new questions about our position in the information

Manchester's Digital Future
Sara Tomkins

Manchester has a long tradition of being a prime mover in the digital World. The world's first real computer, the Manchester Small Scale Experimental Machine, otherwise known as 'The Baby' was developed in Manchester in 1948 and today, the city has the most dynamic and largest cluster of creative and digital businesses outside of London. This sector is growing and will create our future jobs.

This is why digital is one of our priorities and The 'Digital Manchester Strategy' aims to set out our ambition to promote, connect and support our growing digital sector so we can be a world leading digital city. However, we do need to keep up the pace and Manchester needs to improve its infrastructure, join up access to digital services, and ensure digital skills from primary through to secondary and further education support the jobs of the future.

Manchester City Council was recently named one of the Government's 'Super-connected cities' with £12m to speed up infrastructure and help remove the digital divide. This is a positive step forward but the city won't become a global leading digital city without the public and private sector working together. This is why we support Future Everything as it challenges and stimulates the thinking of our digital and knowledge-based businesses, the event also gets global recognition and rightly puts Manchester on the map as a leading digital place. The Council also spearheads innovation with the success of The Sharp Project being just one example acting as an incubator of technology and supporting jobs and growth. However, the need for better connectivity, improved skills and the use of digital to drive reform are imperative to help enable future regeneration of the City and the Council's priority of continued growth.

Being one of the world's foremost digital cities and developing a digital place is an ambitious strategy but we believe a city must be well connected with high speeds and wireless, we need experts in IT with the ability to use it and skills to create new applications and not just basic IT literacy, we need to be a city of open data and a city of digital enterprise to create jobs….digital is Manchester's canal of today…..digital is the continued regeneration of our city.

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