ODI

THINK
PINK
OPEN
PROCESS
ENGAGING
OUT
PATTERN
INTERLOCK
SEAMLESS
THINKING OUT LOUD

Amy Twigger Holroyd

David Littler

Alex McLean

Dan Hett

CULTURE

Felicity Ford

Sound

Antonio Roberts

CULTURE

Curated by Alex McLean and Hannah Redler

Felicity Ford, David Griffiths and Julian Rohrhuber, Ellen Harlizius-Klück, Dan Hett, David Littler, Alex McLean, Sam Meech, Antonio Roberts, Amy Twigger Holroyd

at the Open Data Institute
15 July 2016 – 31 March 2017

THINKING OUT LOUD

DATA AS CULTURE 4

The Open Data Institute connects, equips and inspires people around the world to innovate with data.

Data as Culture is the art programme at the ODI. We work with artists who use or respond to data, code, and networked culture, as subjects and materials for art. We commission and exhibit works for exhibitions at ODI headquarters or with international partners at external spaces. Data as Culture is lead by Julie Freeman, ODI Art Associate and Hannah Redler, ODI Associate Curator in Residence with Gavin Starks, ODI CEO.

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Design: Adrian Philpott

THINKING OUT LOUD

is the fifth Data as Culture art exhibition at the Open Data Institute. The exhibition is built around the practice of the 2016 ODI Sound Artist in Residence, Alex McLean, with a group of artists, designers, makers and musicians he has collaborated with. The exhibition draws connections between the ways in which humans have captured, encoded and made it meaningful through pattern throughout history. From Pre-Columbian quipu and the ancient art of weaving to computer software environments, it introduces us to creative notions of code, and the ways in which it can carry both language and thought.

Openness and processes of making – where any end results are left partly undone – are at the heart of many of the projects on display. The exhibition features artists and makers who are driven by radical intentions to expose the inner workings of the systemic structures we live with. We are encouraged to engage with these ourselves through art, software, folk songs, glitch aesthetics, chance encounters and knitted jumpers.

Alex McLean

Alex McLean is an artist, musician and programmer. He is a pioneer of live-coding and Algoraves (algorithmic raves) – sound and visual performances generated by computer code that is created collaboratively in real-time. His own sonic works manifest as a series of improvised looping structures in which simple sequences transform over time into complex patterns, ranging from sparse melodies to polyrhythmic techno. McLean's collaborations also explore connections between the ancient codes of textiles and the contemporary codes of software, recognising the discrete structures of weaving and knitting as precursors of contemporary digital art. Exposing thought processes is an important aspect of McLean's work. He critically challenges notions of the digital as 'seamless' or complete, noting that the long and involved production processes behind many impenetrable digital cultural artefacts, are curiously divorced from the finished work.

McLean's work will be represented in the exhibition through **Looking Screen** (2016). A window into McLean's desktop and artistic works, **Looking Screen** will feature a live stream of scheduled and unscheduled activities and archive material produced during his residency, including a new composition, broadcast into the ODI headquarters. Also on display will be McLean's award-winning early work **forkbomb.pl** (2001) which consists of 10 lines of code, which, when executed, gradually overloads and disables a computer system. A wall-based printed output visualises the state of the system during its descent into disorder.

Dan Hett and Antonio Roberts, like McLean, are key contributors to the Algorave scene, creating unique, improvised live performances via large-scale projections of graphically rich visuals.

```
my $strength = $ARGV[0] + 1;

while (not fork) {
    exit unless --$strength;
    print 0;
    twist: while (fork) {
        exit unless --$strength;
        print 1;
    }
}
goto 'twist' if --$strength;
```
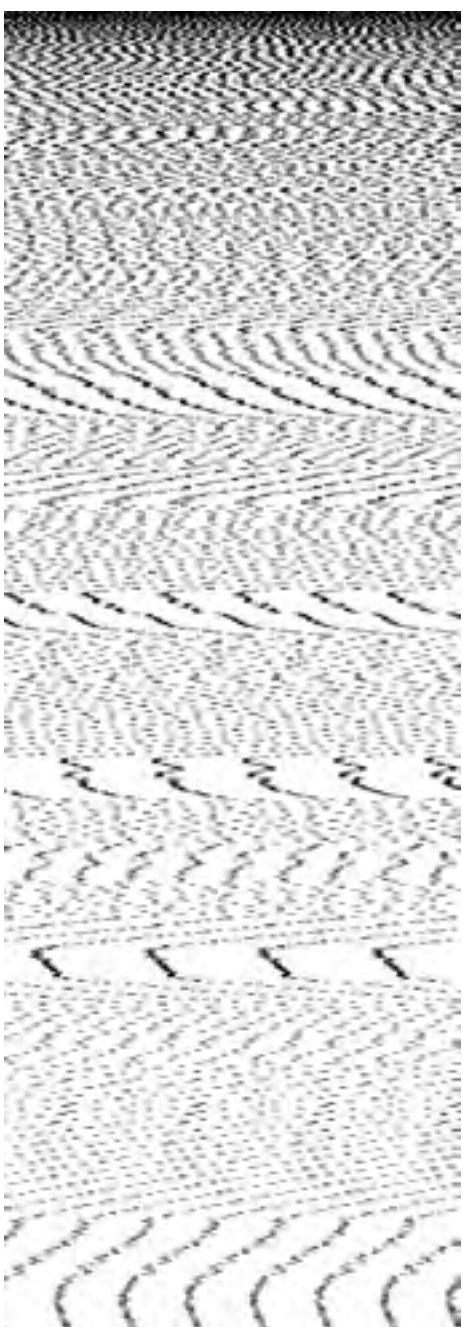
Dan Hett

Dan Hett uses a mixture of live coding, video mixing and glitched software to create his visuals. He extends his practice into static print and animation by working with generated datasets to create chronological representations of his performances in print and video. For Thinking Out Loud he has created two new works: **Three Hundred and Sixty Seconds** (2016) – a series of prints from one of his performances – and **Twenty Thousand Seconds** (2016) – a screen-based animation of live coded visuals recorded from a single performance, and slowed down to last the exact duration of the exhibition. Those visiting and working in the ODI will be offered a unique view of the performance, as one frame of the video merges into the next.
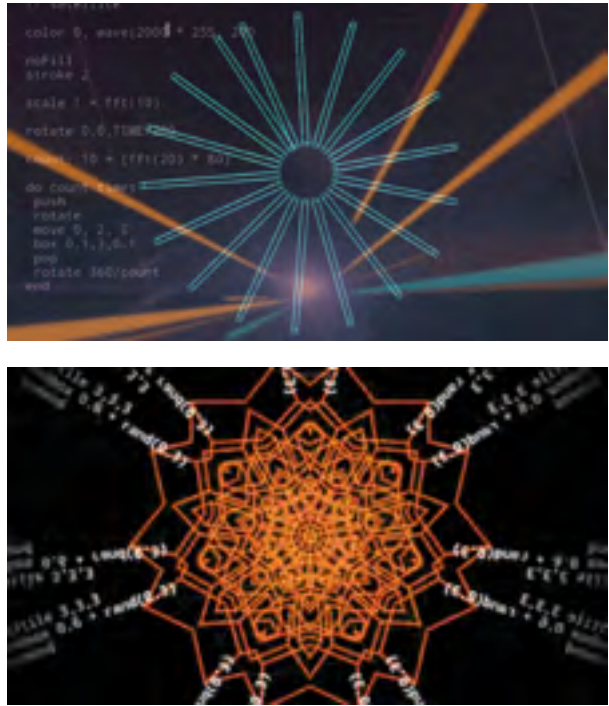
Antonio Roberts

Antonio Roberts' artwork focuses on errors and glitches that are generated by digital technology. An underlying theme of his work – like that of many of the show's artists – is open source software, free culture and collaborative practices. Visitors to the exhibition are exposed to a variety of data, including open archives from the University of Birmingham, a selection of art galleries Roberts has worked with and digital collections of his own art work, through his explosively colourful, jagged sculpture, **Copy Bomb** (2015). The piece is a form of 'PirateBox', presenting an open, unregulated network for people to use exactly as they like. It emphasises the unexpected outcomes that may come of people freely sharing and access data.

Another Roberts' work, **data.set** (2016) – which has been created specifically for Thinking Out Loud – investigates what happens when we choose to represent social data beyond the confines of a traditional spreadsheet dataset. Rather than showing informative data from the UK datasets on digital exclusion and adult internet usage that he has mined, Roberts represents its bytes visually. Blocks of colours replace tabular or text-file formats, offering a different perspective.
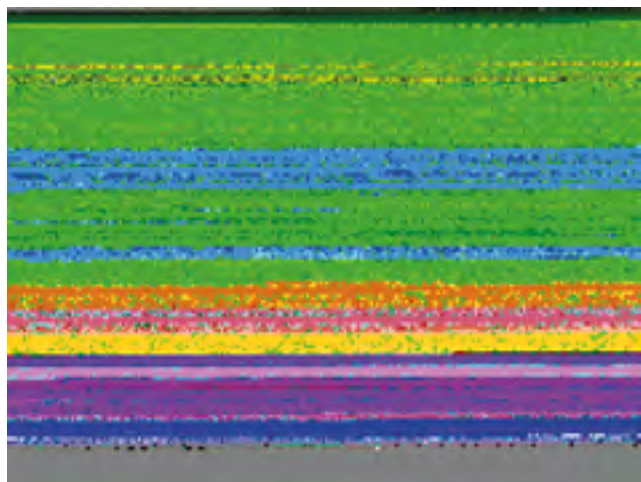
Ellen Harlizius-Klück

Textile artist, philosopher and mathematician Ellen Harlizius-Klück examines weaving as an ancient digital art, in order to understand the tacit knowledge of weavers. Her works **Unborn** (2014) and **Untitled** (2014) are woven fabrics created by feeding music-derived data into computer-controlled looms. The original data was generated by Alex McLean from an electronic music piece by Aaron Funk (Venetian Snares), following a fractal Peano curve to reveal sonic structures as visual patterns. This space-filling curve follows a simple path but on multiple scales, and is therefore able to visualise the structure of both the music, and the sounds that make it. Harlizius-Klück and McLean had coincidentally worked with space-filling curves in their respective work before meeting, which created an opportunity to bring both together in considering how weaves can represent sound.
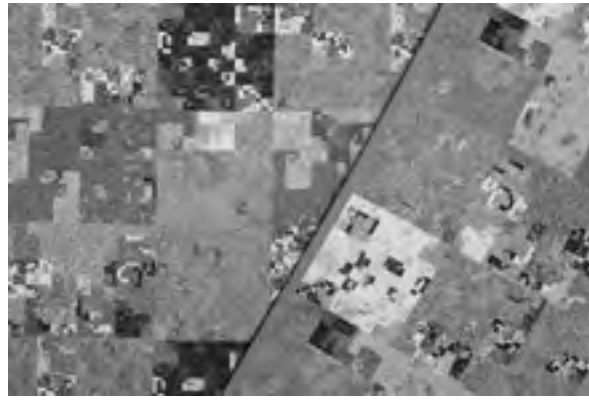
David Littler

David Littler also performs with McLean, bringing analogue forms of chance encounter and collaborative process into the mix. His work investigates the sonic cultures of making, particularly textiles. He explores folk cultures and ideas of sampling, gifting and sharing as creative acts. **The Doffing Mistress Takes A Stroll** (2016) is an installation based on a folk song from the Irish linen industry. In the installation, a collection of looping paper strips sit alongside a tiny mechanical piano player, each holding the tune to the traditional song. We are invited to continue the tune, taking it in a new direction by adding our own marks, such as patterns, words, drawings or musical notes. As different people add their marks, the graphic and sonic score grows, resulting in a new composition which can be played out loud by participants or other visitors.

Felicity Ford

Felicity Ford works with wool and sounds. **Listening to Shetland Wool** (2013) is an interactive online sound map of the Shetland wool industry, experienced via Ford's hand-knitted woollen 'speaker pillow'. Lambs and sheep call out, birds sing and caw, and weavers, 'linkers', wool-sorters and other wool workers talk about their work, alongside sounds of industry, and many different varieties of Shetland wind. The piece calls for a deeper consideration of the labour, communities and environments that produce our everyday materials. Ford argues for knitting to be recognised as a technical skill, as much as the often more highly regarded skill of coding. In her critically-acclaimed crowd-sourced book **KNITSONIK Stranded Colourwork Sourcebook** (2014, also on display), Ford demonstrates – through developing knitting motifs based on Victorian brickwork, A-roads and local weeds – how patterns can carry and transform information – be it via wool or a digital machine. Implicit in her works is an argument for work traditionally associated within the 'feminine' to be afforded equal value to activities commonly perceived as more 'male'.

Amy Twigger Holroyd

Amy Twigger Holroyd is a knitwear designer-maker whose work researches the potential of re-knitting: reworking existing items using knit-based techniques, skills and knowledge. Reworking existing items would have been an integral element of everyday life in the past, but such practices have fallen out of favour. This, Twigger Holroyd points out, restricts the advantages of knitting in terms of sustainability, as it mirrors – rather than challenges – the linear production-consumption model of the mainstream fashion industry. Her chart **The spectrum of re-knitting treatments** (2012) visualises different instructions for repurposing garments, providing seemingly endless variations which we can see employed on her tinkered **Re-knitting 'tester' jumper** (2013). Accompanying the jumper are a series of step-by-step photographs, showing us how we can 'cardiganise' or add afterthought pockets, frills or cuffs to any knitted garment.
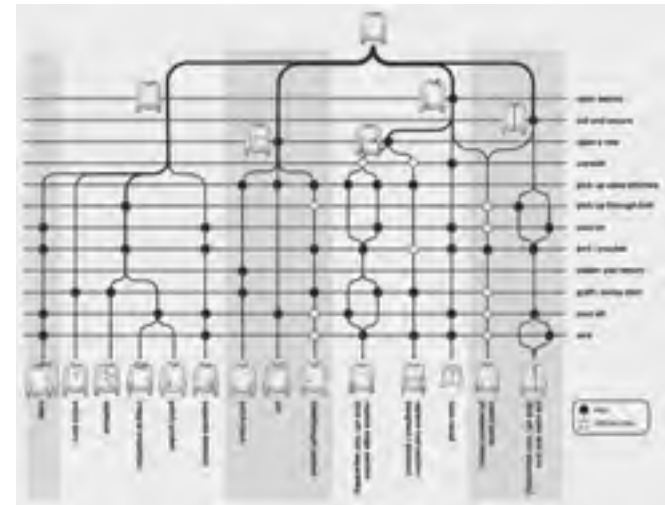
Sam Meech

Sam Meech's **8 Hours Labour** (2014) project uses working hours data collected from people working predominantly in digital, creative and cultural industries. Based on social reformer Robert Owens' eight hour day movement – which called for eight hours labour, eight hours recreation and eight hours rest, in response to the accelerated working hours of the the Industrial Revolution – the piece offers a translation of the '888' movement banner. Meech's knitted banner displays glitches in the fabric for each half hour that present-day workers who contributed their labour data to the piece worked over an eight-hour day. The version on display was created for Data as Culture 2 in 2014.

Julian Rohrhuber and Dave Griffiths

Julian Rohrhuber and Dave Griffiths are based in Düsseldorf and Penryn, respectively. They have both helped define the live-coding field through the software and practice they have developed, and now often work together on diverse projects. For Thinking Out Loud, Rohrhuber and Griffiths contribute their collaborative work **Inca Telefax: Listening to Pre-Columbian administration without understanding a word** (2016). The piece is an occasionally broadcasting three-channel sound installation of algorithmically generated sounds with accompanying images, **pixelquipu** (2015), on permanent display, which derive their structure from Pre-Columbian quipu. Quipu, sometimes known as 'talking knots', took the form of necklace-shaped, coloured, spun and knotted threads which were used for many different, and partly unknown, administrative and scientific tasks. **Inca Telefax** creates an aural insight into quipu, allowing for an abstracted, contemplative encounter with an ancient form of data collection.

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