

# 2016 • Press

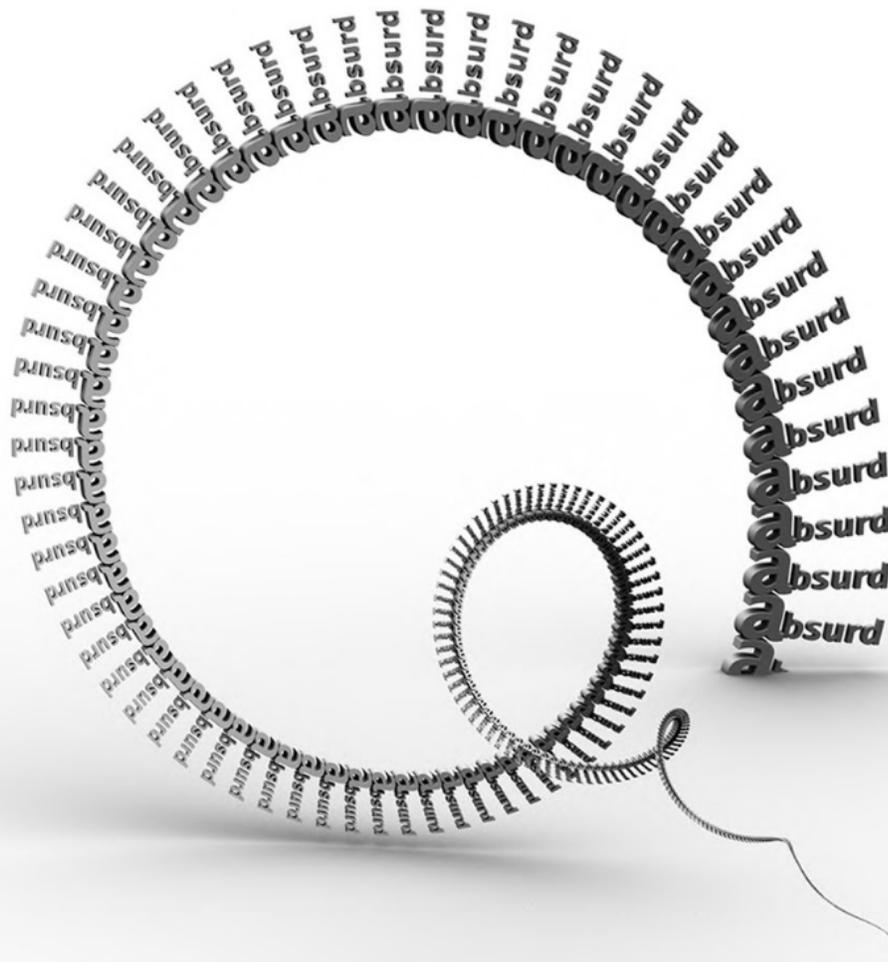
## Golan Levin

Select books, critical reviews, published interviews, and press clippings.

- 002 Johnston, David J. *Aesthetic Animism: Digital Poetry's Ontological Implications*. MIT Press, 2016.
- 005 Scholz, Trebor. *Overworked and Underpaid: How Workers Are Disrupting the Digital Economy*. Polity, 2016. ISBN: 978-0-7456-5357-0.
- 007 Hagler, Juergen. "Animation, Art and Technology: Tracking Developments on the Fringe". In Eckel, Julia et al. (Eds.), *Im Wandel: Metamorphosen der Animation*. Springer, 2016.
- 011 "CAN 2016 – Highlights and Favourites". *CreativeApplications*, 12/24/2016.
- 013 Smith, Greg J. "Facets of 'New Making' – Tektonics at ACT Festival". *CreativeApplications*, 2/5/2016.
- 018 Coleman, Chris. "Making openFrameworks Work – Users and educators gather in Denver, Colorado". *CreativeApplications*, 4/18/2016.
- 022 Hatanaka, Minoru, Shigeki Kimura, Shunichi Shiba and Yasuko Yubisui (Eds.). *OS10: A Perspective of Art and Media Technology, Documents of ICC Open Space 2006-2015*. NTT InterCommunication Center (ICC), Tokyo, 2016.
- 024 Voon, Claire. "Immersive Art Installations Light Up Houston's Day for Night Festival". *Hyperallergic*, 12/2/2016.
- 029 Gaines, Tarra. "Art-Star Lineup: Must-see Guide to Day for Night's top visual artists." *Culture Map Houston*, 12/14/2016.
- 033 Boucher, Brian. "Four Questions for Day for Night Festival's Visual Art Curator, Alex Czetwertynski". *ArtNet*, 12/15/2016.
- 034 Voon, Claire. "At Day for Night Festival, a Surreal World of Light Provides Respite from the Music". *Hyperallergic*, 12/20/2016.
- 040 Carnegie Mellon University. "How to Tame a Robot with High Performance Software" (press release). *ScientificComputing*, 3/2/2016.

# Aesthetic Animism

Digital Poetry's Ontological Implications



David **Jhave** Johnston



When Bruno (2005) in his Cosmolalia project refers to the role of words in “the circulation of information, desire and advertising,” it raises a few hypothetical questions: If (just if) words are bought and sold, and if (just if) they are pseudoautonomous viral entities moving between us as hosts, then isn’t it possible that words can be enslaved?

Cayley’s *Pentameters: Toward the Dissolution of Certain Vectoralist Relations* (which examines the effect of Google on language and poetics, numeration as vectors, and the erosion by stats of the qualitative flux) expresses a parallel concern. In this incantatory poem, Cayley speculates about the impact of search engine technology on our own writing that is given to it *free of charge*. He continues the long tradition of bard as critic, polemically exposing the implicit assumptions that erupt from the infrastructural underbelly of culture. Cayley’s (2012) poem opens as follows:

Language is a commons, and yet by contrast  
 With first nature’s free resources, it is constitutive  
 Of culture while all at once incorporate within  
 Those cultures it enables. As language is a commons,  
 To use it, we need not agree to terms.  
 Now, counter to our expectations and our rights,  
 Agreements as to terms of language use  
 Are daily ratified by the vast majority  
 Of so-called users—you-and-I—by all of us  
 Who make and share our language on the Internet.

*Pentameters* is worth reading in its entirety, since it isolates clearly the intricate paradoxical permissions (in the implicit EULAs) that invoke our agreement in a power dynamic: the ownership of language (analogous to land or livestock) is an ownership of life and lived thought.<sup>34</sup> As *search* increases in its anticipatory power (its intelligence powered by our contributions), the dynamic may shift from one of service to bubbled guidance, linguistic kettling, co-opting modes of forbidden thought before they can occur; corporate computational autosuggestion capable of subconscious programming; poetry metapater.

**Golan Levin** and Jaap Blonk: *Ursonagraphy* (2005), and Levin, Kamal Nigam, and Jonathan Feinberg: *The Dumpster* (2006) Since the physical language workshop at MIT, Levin has been at the forefront of programmatic explorations of typographic space. Interspersed with visual art interventions, he sporadically returns to typographic explorations that usually involve text

generated and manipulated in real time. In *Ursonography*, Levin built an audiovisual interpretation of Schwitters's 1932 classic sound performance rant *Ursonate* with "an elegant new form of expressive, real-time, 'intelligent subtitles'" (Blonk and Levin 2005).

Volume and intonation activate physics emulators. The body becomes the source of an information visualization residue. It interacts with this history—gestures destabilizing avalanches. With "the help of computer-based speech recognition and score-following technologies, projected subtitles are tightly locked to the timing and timbre of Blonk's voice, and brought forth with a variety of dynamic typographic transformations that reveal new dimensions of the poem's structure" (Blonk and Levin 2005). Schwitters screaming at the top of his lungs probably imagined his guttural morphemes spattered against clouds, strewn across buildings, diving through screens. Levin's *Ursonate* approximates chthonic hallucinations within pristine geometry and a physics engine. Cadence maps onto gravity and incoherence coheres.<sup>35</sup>

In Levin, Nigam, and Feinberg's (2006) *The Dumpster*, blog posts are dynamically searched, and the ones that refer to romantic breakups are injected into a visualization. Brokenhearted bloggers become collective authors in a speech mashup. Texts that were once announcements of isolation enter into a massive herd of blobs that fall in a sinuous heaps. *The Dumpster* exemplifies the uncategorizable object that lurks at the edge of poetic discourse: simultaneously infographic and crowdsourced, it is an immense reservoir of phrases orbiting love, and as such constitutes a dynamic, sprawling networked poem whose form echoes geology.

### **Stephanie Boluk and Patrick LeMieux: Dwarf Fortress (2013)**

The history of the twentieth-first century will not be written by human hands alone.

—Stephanie Boluk and Patrick LeMieux, 2013

When Boluk and LeMieux analyze esoteric fan-cult text-game *Dwarf Fortress*, they explore not narrative or conventional poetics or writing but rather lived play, fan-fiction tendrils, and game mods (*modifications*). In spite of J.R.R. Tolkien, dwarfs are not what spring to mind when one thinks literature. And a geeky game that requires arduous devotion to intricate procedural choices, while providing glyphic instead of graphic feedback,

**TREBOR SCHOLZ**

**UBERWORKED AND UNDERPAID**

How  
workers  
are  
disrupting  
the  
digital  
economy

rather than an aberration.<sup>47</sup>

If the German photographer August Sander were alive today, he would have to include digital work in his series *People of the 20th Century*. And the French philosopher of the Enlightenment Denis Diderot would have to add volumes to his *Encyclopédie*.

Free labor itself is not a problem outside of extractive platform capitalism; it can in fact be a site of resistant subjectivities and emerging forms of solidarity. My own proposal of cooperative ownership models on the Internet, formulated in [chapter 7](#), adds to this vision of the Internet as a commons, theorized by Michel Bauwens (*P2P Foundation*), David Bollier (*Viral Spiral*), Yochai Benkler (*Wealth of Networks*), and many others.

Various platforms and projects support citizen or governmental initiatives that aim to orchestrate and channel everything from civic crowd funding to information crowdsourcing, sharing among peers, democratic decision making, and data access. Projects include FixMyStreet, SeeClickFix, [Lendoo.com](#), Kiva, and tools coming out of Civic Hall<sup>48</sup> in NYC and the Center for Civic Media at MIT, to name but a few.<sup>49</sup>

In 2015, artist [Golan Levin](#) and developer David Newbury called on creative volunteers to contribute a drawing to their Moon Arts Project.<sup>50</sup> [Golan Levin](#) prompted prospective participants by stating: “your doodle will be etched on a sapphire disc, sent to the (real!) Moon, and potentially traced by a rover into the Moon’s soil – where it will remain for millennia!” To be sure, such virtual volunteering has a much longer history.

As early as in 2000, Distributed Proofreaders started to provide error markup support for e-text publications by Project Gutenberg (PG), which transfers public domain books into digital format. Distributed Proofreaders, while not directly associated with Project Gutenberg, is assisting PG with the creation of proofread versions of scanned books. Books are scanned, analyzed with Optical Character Recognition, and then converted into text characters. To date, Distributed Proofreaders has helped to publish over 28,000 books.<sup>51</sup>

Volunteer crowd work, however, has also been put to controversial use. An infamous example is the Blueservo/Texas Virtual Border Watch. In 2008, a company called BlueServo introduced real-time crowdsourced surveillance of the Texan border with Mexico supported by a \$2 million grant from Republican Governor Rick Perry. “Virtual deputies” monitored CCTV cameras, installed all along the border region and anonymously reported sightings of undocumented immigrants to the United States Border Patrol. Two years after its inception, participation in the site dwindled and the site was shut down.<sup>52</sup>

### **Crisis Mapping (Ushahidi), Co-Research (FoldIt!, eBird)**

The mapping project Ushahidi (Swahili for “testimony” or “witness”) was designed by a not-for-profit company in Kenya. Ushahidi is a free and open source crisis mapping software tool that uses the organizational logic of crowdsourcing for social activism.

To make aid efforts easier, Ushahidi allows large crowds of participants to contribute eyewitness accounts of conflicts such as the 2014 attack on the Westgate Mall in Nairobi, Kenya, or the 2010 earthquake in Haiti, and then visualize them on a Google map. Local observers can report election fraud or text-in verified reports of violence. Ushahidi analyzes these reports and once it has two verified accounts of the same incident, it adds them to the map.

Crowdmap, another platform built by the Ushahidi team, allows users to set up their own instances of Ushahidi. The global Occupy movement was one of the deployments of Crowdmap.<sup>53</sup>

While not primarily based on crisis management, Open Street Maps<sup>54</sup> is also a collaborative mapping project. The ambitious goal of this “co-researching project” is to create a free map of the world that can be edited.

Open Street Maps makes free geo-data available, which then allow the creation of maps that can be used for navigation. Sometimes local contributors organize mapping parties as part of which data about pubs, schools, or hospitals in a specific area are collected and then collectively entered into the Open Street Map Database.<sup>55</sup>

Other examples of such co-researching/citizen science initiatives include GalaxyZoo, EyeWire, Linux, Wikipedia, Science Commons, NASA’s Clickworkers, [Challenge.org](#), and GuttenPlag. Discussing all of the examples is beyond the scope of this chapter.

FoldIt! is one such crowdsourcing initiative. It started with the work of the biochemist David Baker who also founded Rosetta@home, an adaptation of a distributed computing software created at the

The top section of the cover features a repeating pattern of teapots in a dark red color against a lighter red background. The teapots are arranged in a grid-like fashion, with some overlapping.

Julia Eckel · Erwin Feyersinger  
Meike Uhrig *Hrsg.*

The bottom section of the cover is a solid, bright orange color. A thin vertical line is visible on the left side, separating the orange area from the red patterned area.

Im Wandel ...  
Metamorphosen  
der Animation

- Die Kategorie ist offen für eine große Bandbreite von Kunst bis Kommerz.
- Die Trennlinien zwischen den Kategorien werden brüchiger. Die Arbeiten von Medienkünstlerinnen und Medienkünstlern wie beispielsweise von Quayola<sup>8</sup>, ausgezeichnet in den Kategorien CA und IA, oder Golan Levin<sup>9</sup>, mehrfach ausgezeichnet in den Kategorien CA, IA, HA und NET, lassen sich meist nicht eindeutig einordnen.

Ein Blick auf die letzten Preisträgerinnen und Preisträger zeigt eine breite Palette an Erscheinungsformen: darunter finden sich hybride Stop-Motion-Animationen, Found-Footage-Filme, generative und interaktive Arbeiten, Installationen im Ausstellungskontext, Fassadenprojektionen und Medienfassaden. Es lassen sich mehrere Ausdehnungsrichtungen hinsichtlich Technik/Technologie, Raum, Interaktion und Kontexten feststellen.

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#### 4 Computeranimation: Raum und Interaktion

Die letzten vier Projekte, die in der Kategorie CA eine goldene Nica gewannen, unterscheiden sich im Vergleich zu den davor ausgezeichneten Animationen durch ein entscheidendes Merkmal: Diese Arbeiten sind keine Animationsfilme, die im Kino gezeigt werden, sondern Installationen für den Museumsraum, die im Loop präsentiert werden. REAR WINDOW LOOP (GN 2012) von Jeff Desom ist eine Mehrkanal-Installation, eine auf 20 Minuten komprimierte Dekonstruktion von Alfred Hitchcocks Klassiker REAR WINDOW. FORMS (GN 2013) von den Medienkünstlern Quayola und Memo Akten wurde vom National Media Museum für die Ausstellung *In The Blink of an Eye* in Auftrag gegeben und stellt eine Installation bestehend aus einer Projektion mit einem zusätzlichen Screen dar, der eine Art Making-of der projizierten Bewegungsstudien zeigt (vgl. Abb. 2). WALKING CITY (GN 2014) von Universal Everything, ebenfalls eine Museumsinstallation, besteht

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8 FORMS (Quayola, Memo Akten), GN in der Kategorie CA 2013. CAPTIVES (Quayola), HM in der Kategorie IA 2014.

9 AUGMENTED HAND SERIES (Golan Levin, Kyle McDonald, Chris Sugrue), HM in der Kategorie CA 2015. THE FREE UNIVERSAL CONSTRUCTION KIT (Golan Levin, Shawn Sims), AD in der Kategorie HA 2012. DOUBLE-TAKER (SNOUT) (Steven Benders, Lawrence Hayhurst, Golan Levin, Fannie White), HM in der Kategorie IA 2009. MESSA DI VOCE (Jaap Blonk, Joan La Barbara, Golan Levin, Zachary Lieberman), HM in der Kategorie IA 2004. THE SECRET LIVES OF NUMBERS (Golan Levin), AD in der Kategorie NET 2003. DIALTONES (Golan Levin), HM in der Kategorie IA 2002. AUDIOVISUAL ENVIRONMENT SUITE (Golan Levin), AD in der Kategorie IA 2000.

aus einer sich morphenden Architekturskulptur. Das Gewinnerprojekt von 2015 *TEMPS MORT/IDLE TIMES* (GN 2015) ist eine Installation, die aus mehreren, zum Teil interaktiven Screens zusammengesetzt ist. So kann beispielsweise eine Animation mit dem Mobiltelefon angesteuert werden (vgl. Abb. 3).

Ohnehin gewinnt die Schnittstelle Animation und Interaktion sowie Games und Internet augenscheinlich an Bedeutung. 2015 werden neben dem Golden-Nica-Projekt noch drei weitere Anerkennungen für interaktive Arbeiten vergeben:<sup>10</sup> für David O'Reillys Webanimation 109645790437692847650, das interaktive Musikvideo *DO NOT TOUCH* von Moniker sowie die Installation *AUGMENTED HAND SERIES* von Golan Levin, Kyle McDonald und Chris Sugrue. Die letztgenannte Installation, bestehend aus einer schwarzen Box, einem Touchscreen, einer Projektion und einer eigens entwickelten Software, ermöglicht es, die eigene Hand in Echtzeit zu teils unheimlichen Mutationen umzugestalten (vgl. Abb. 4).

Ein weiterer signifikanter Trend sind Fassadenprojektionen, Medienfassaden und Mappings, die in den letzten Jahren verstärkt in der Kategorie CA zu finden sind, wie beispielsweise *UNDER AN ALIAS* (HM 2013), eine von einem Kollektiv von mehr als 20 Künstlerinnen und Künstlern realisierte Fassadenprojektion, die die Geschichte der Stadt Weimar thematisiert. Mappings sind nicht nur auf Architektur oder statische Objekte beschränkt, wie die Tech-Demos *BOX* (AD 2014) und *OMOTE* (HM 2015) zeigen. *BOX* demonstriert eine neuartige Animationstechnologie, eine Kombination von Tracking, 3D-Animation, Robotik und Projection Mapping. Mittels einer 3D-Animationssoftware können Industrieroboter angesteuert werden, die große Projektionsflächen bewegen, auf die wiederum animierte Bilder projiziert werden. Für *OMOTE* wurde eine Software für ein herkömmliches Motion-Capture-System entwickelt, die ein Projection Mapping auf ein menschliches bewegtes Gesicht in Echtzeit ermöglicht.

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10 Das vermehrte Auftreten von interaktiven Arbeiten im Jahr 2015 ist aber möglicherweise auch dem Umstand geschuldet, dass für die Kategorie IA in diesem Jahr erstmals keine Einreichungen angenommen wurden. Seit 2014 werden die Kategorien IA und HA sowie die Kategorien DM und DC biennial ausgeschrieben.

experimentelle Verhandlung von Animation im Vordergrund: eine Art Verschiebung von einer ‚Illusion of Life‘ zu einer ‚Deconstruction of Animation‘.

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## Medienverzeichnis

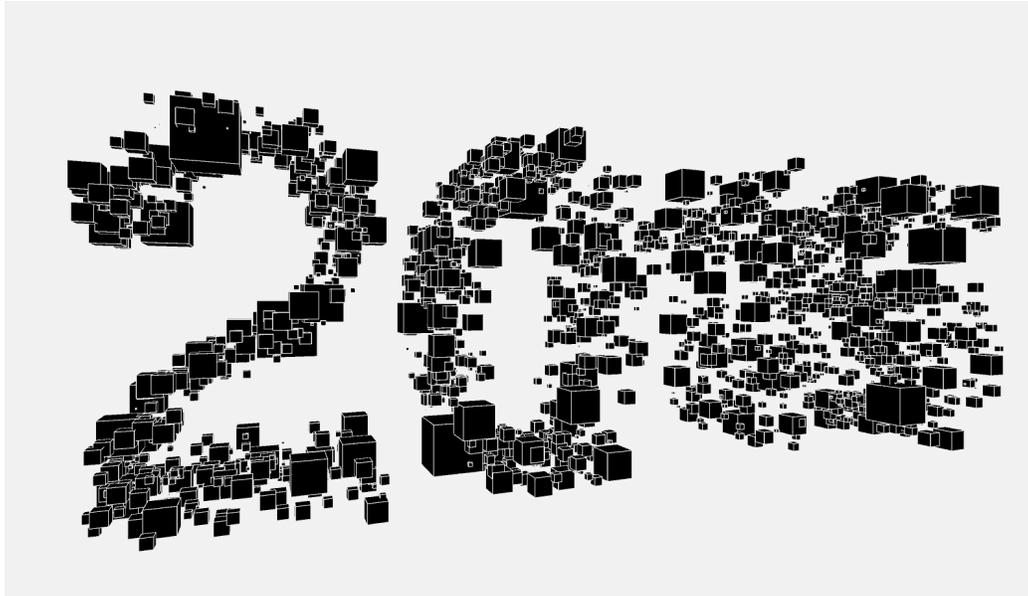
- 109645790437692847650(USA 2015,Regie:David O'Reilly;http://109645790437692847650.com. Letzter Zugriff: 08.12.2015)
- THE ABYSS (USA 1989, Regie: James Cameron, VFX: Industrial Light & Magic)
- AUGMENTED HAND SERIES (USA 2014, Entwicklung/Produktion: Golan Levin et al.)
- BOX (USA 2013, Regie: Bot & Dolly, Produktion: Julia Gottlieb et al., Creative & Technical Director: Tarik Abdel-Gawad, Design Director: Bradley G Munkowitz)
- BROKEN HEART (USA 1988, Regie/Animation: Joan Staveley, Produktion: Ohio State University)
- CATALOG (USA 1961, Regie/Animation: John Whitney Sr.)
- DO NOT TOUCH (NL 2013, Regie: Moniker; http://donottouch.org. Letzter Zugriff: 08.12.2015)
- DON'T TOUCH ME (USA 1989, Regie/Animation: Jeff Kleiser und Diana Walczak)
- FLYING LOGOS (USA 1989, Regie: Peter Conn, Animation: Peter Conn et al., Produktion: Homer & Associates)
- FORMS (UK 2012, Künstler: Quayola und Memo Akten, Produktion: Nexus Interactive Arts)
- LIQUID SELVES (USA 1992, Software/Animation: Karl Sims)
- LUXOR JR. (USA 1986, Regie/Animation/Modellierung: John Lasseter, Technische Leitung: Bill Reeves, Produktion: Pixar)
- MADAME TUTLI-PUTLI (CA 2007, Regie/Animation: Chris Lavis und Maciek Szczerbowski, VFX: Jason Walker)
- MENTAL IMAGES (DE 1987, Künstlerische und technische Konzeption: John A. Berton Jr. und Rolf Herken, Produktion: Mental Images)
- OMOTE/REAL-TIME FACE TRACKING & PROJECTION MAPPING (JP 2014, Software/Animation: Nobumichi Asai et al.)
- PANSPERMIA (USA 1990, Software/Animation: Karl Sims)
- PARTICLE DREAMS (USA 1988, Regie/Animation: Karl Sims)
- REAR WINDOW (USA 1954, Regie: Alfred Hitchcock)
- REAR WINDOW LOOP (LU 2011, Regie/Animation: Jeff Desom)
- SHADOWLAND (JP 2013, Regie/Animation: Kazuhiro Goshima)
- TEMPS MORT/IDLE TIMES (BE 2013, Künstlerin: Alex Verhaest)
- TERMINATOR 2: JUDGMENT DAY (USA 1989, Regie: James Cameron, VFX: Industrial Light & Magic)
- TIME AS CODE: CHRONOKRATIE (AT 1988, Regie/Animation: Peter Weibel)
- UNDER AN ALIAS (TR 2012, Künstlergruppe: NERDWORKING)
- URBANA (IT 1987, Regie/Animation: Mario Canali, Musik: Riccardo Sinigaglia)
- WALKING CITY (UK 2014, Creative Director: Matt Pyke, Animation: Chris Perry, Produktion: Universal Everything)
- ZOOM INTO SEAHORSE VALLEY (DE 1987, Software/Animation: Hartmut Jürgens et al.)



## FEATURES

Published on 24/12/2016 c 1

## CAN 2016 – Highlights and Favourites



At its best, creative inquiry can offer intellectual nourishment, empowerment and solace. At the end of 2016, we need all of those, which is why remembering – and celebrating – the outstanding work done this year is all the more important. From devices that measure microclimates, to super-fine 3D printed particle clouds, to recreating cinematic space in VR: we added so many great projects to the CAN archive. With your help we selected some favourites.

## Editors' Choice

Choosing eleven favourites from one-hundred noteworthy projects unsurprisingly leaves many great works unchecked. In addition to our reader selects, we recommend giving the following six projects – or thorough articles – a(nother) look:



### JlIer by Prokop Bartoniček & Benjamin Maus

Using computer vision and a robot arm, this machine takes an unruly mass of pebbles (collected from a German river of the same name) and methodically sorts them by geological features – rendering the history of the river visible.



**Politics of Power by Automato**

How does power get distributed across various systems? These custom designed triangular, circular, and t-shaped power bars elegantly demonstrate hierarchical, egalitarian, and even humanist models of resource allocation.



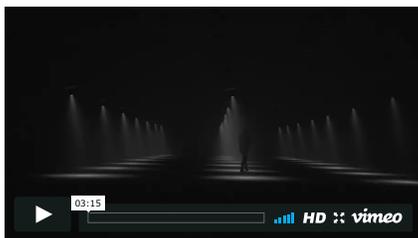
**Data-Driven Material Modeling by Mediated Matter Group (MIT Media Lab)**

Seeing heavy use in the production of Björk's recent Rotface masks, this experimental workflow draws on complex point-clouds, scalar and vector fields, and tetrahedral meshes, to produce elaborate multi-material 3D prints.



**Terrapattern by Golan Levin, David Newbury, Kyle McDonald**

Water towers, tennis courts, rooftop solar panels! Harnessing the power of machine learning, this web application allows for bespoke searches of satellite imagery to find visual (and infrastructural) patterns across several major cities.



**Our Time by United Visual Artists**

Commissioned by MONA as part of Dark Mofo, in Hobart, Tasmania in June, UVA explored the subjectivity of the passage of time with a matrix of mechanical pendulums that hypnotically swung back and forth at varying tempos, drifting back and forth between order and disorder.



**Behavioural Complexity by AADRL**

An overview of recent work within the Architectural Association's Design Research Lab, a post-professional program focused on mobility and self-organisation as explored through weird architectural machines emerging from contemporary software and fabrication workflows.

2017 can't come soon enough! Still: we at CAN would like to thank you – the readers, the voters, the many artists and designers – for another inspiring year of (dis)covering amazing work. We'll be back in early January doing just that.





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## Facets of 'New Making' – Tektonics at ACT Festival

written by Greg J. Smith

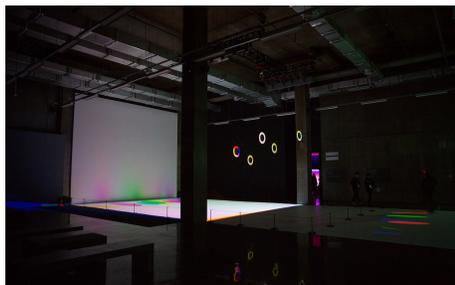


Huge stroboscopic datastreams, hypnotic human-machine choreographies, a cacophony of Korean, Japanese, English, German, and French – ten weeks ago, from November 25th to 28th 2015, an unlikely cross-cultural exchange took over the all new ACT Center in Gwangju, South Korea. More than a hundred artists, designers, curators, and educators – local, regional, international – had answered our invitation to add their work and voice to the inaugural edition of ACT Festival, a four-day opening celebration of the center's monumental facilities and the first of many programming highlights to come. The goal: have the world's best and brightest discuss the state of craft and creation in the digital age.

**“Making begins in the mind’s eye – with the conception of an idea or a possibility. The references our imagination draws on, however, are not only defined by aesthetic preferences, cultural imprints, and historical precedents, but the technologies that underpin them; technologies that are evolving rapidly and exponentially increasing our creative power. We now control light and matter with equal measure, we program space, cultivate life, and have machines perform with a human touch. We hack, we code, we fabricate, and all the while tools and methodologies hum in a state of constant flux. Machine learning, mass-customization, synthetic biology – as we embrace a wave of new and unfamiliar paradigms, the lack of guiding principles looms large. Where are the fault lines between the digital and the physical? How does experimentation atop these unstable ‘tektonics’ alter how ideas are born and realized? “You can’t have art without resistance in the material,” nineteenth century craftsman William Morris observed. Now, what does that statement mean in the twenty-first century?”**

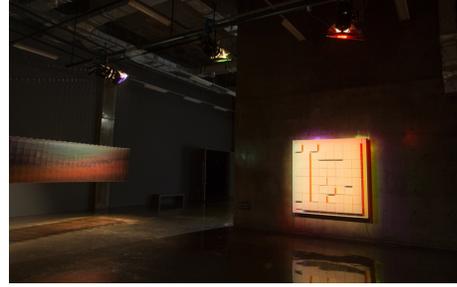
ACT Festival, curatorial summary

Loosely organized around the theme of ‘tektonics’ (from *tektón*, the Ancient Greek noun for artisan/craftsman), ACT Festival was rife with opportunities to experience ‘new making’ first hand: an extensive exhibition landscape featured installations by Royoji Ikeda, ART+COM, Carsten Nicolai, Kimchi and Chips, LAB[au], Jürg Lehni and Alex Rich, Nobuhiro Nakashimi, exonemo, and Ralf Baecker across multiple spaces and rooms. A series of nighttime performances had Diamond Version, Ryoichi Kurokawa, Rhizomatiks x ELEVENPLAY, Joanie Lemercier and others fuse image and sound live on stage. A total of seventeen workshops led by participating speakers and exhibiting artists such as Yuri Suzuki and Sam Conran, Taeyoon Choi, Ilona Gaynor, Manuel Abendroth and Elis Vermang, and Chris Coleman had dozens of attendees build interactive sculptures, musical instruments, or experimental narratives. The heart and soul of the festival, however, was the symposium: over the course of 18 carefully curated sessions 75 luminaries such as Golan Levin, Matthew Clark (United Visual Artists), Régine Debatty, Karsten Schmidt, and Daito Manabe shared views on everything from ‘spatial arithmetic’ to ‘code, craft, methodology’ to ‘instruments of change’.





↑ TL → BR: ART-COM studios, RGB[CMYK Kinetic, 2015 / Alex Rich & Jürg Lehni, The universe is made of stories, not of atoms, 2015 / exonemo, Body Paint (series), 2014 / Carsten Nicolai, unicolor, 2014 / Nobuhiro Nakanishi, Layer Drawing – the Tactual Sky, 2013 / LAB[au], mosaïque 4x4x4 rgb, 2013.



Undoubtedly, ACT Festival has been our biggest programming effort yet (see more of our initiatives at [CAN events](#)). And in the end, the hard work paid off: seeing this 'living laboratory' ignite idea exchanges and collaborations across cultural lines and disciplines within a new landmark institution is inspiration for months to come. And while the conversation around 'Tektonics' is far from over, we and about a thousand visitors emerged with a more tangible sense of what it means to 'make' today. Here are a few leads:

**Varying perspectives yield productive friction:** To kick off our conversation, we turned to a trio of practitioners who have spent their careers at the frontline of interdisciplinary practice. Artist and educator Zach Lieberman, We Make Money Not Art's Régine Debatty, and the purveyor of the digital sublime Ryoji Ikeda all summarized their work and interests. The challenges and rewards of subverting postsecondary education profiteering, the cold hard truths about the geological and sociopolitical underpinnings of our tech-infused lifestyle, and war stories from a life spent perfecting a singular aesthetic – their divergent perspectives and priorities captured the breadth of the broad 'spectrum' of ACT Festival's participants.



Régine Debatty discusses Agbogbloshie, the massive e-waste dumping ground in Ghana where many of the world's electronics end up.

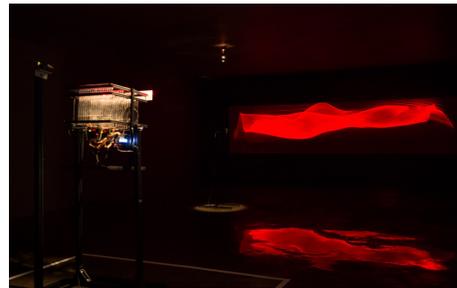


Zach Lieberman outlines some of the thinking that underpins the School for Poetic Computation's radical rethinking of postsecondary education.

**Installation artists don't just work spatially, they engineer perception:** Within the forum, a session on 'spatial arithmetic' brought together projection artist Joanie Lemerrier, Mimi Son and Elliot Woods of Kimchi and Chips, and ART-COM's Joachim Sauter to discuss methodologies for manipulating light, sound, space, and material within installations. This conversation was a treat to listen to and it revealed many details about how multisensory experiences are engineered, adding considerable nuance to attendees' appreciation of the seemingly seamless works in ACT Festival's flagship exhibition. ART-COM's *RGB[CMYK Kinetic* and Carsten Nicolai's *unicolor* both offered contemplative spaces for soaking up the colour spectrum but were distinct in tone and effect. The former utilized an array of suspended metal discs that whirred around in a machine choreography casting hue-reflections onto the floor, while the latter presented a panoramic reflected view of colour modules that – thanks to a pair of mirrors bookending its projection surface – expanded into infinity. Other 'linear' views were on display: Kimchi and Chips *483 Lines Second Edition* precision mapped two dense sixteen-metre spans of nylon threads in a delicate flickering homage to the NTSC broadcast standard while Ralf Baecker's *Mirage* deployed an elaborate optical apparatus that manipulated a mirror sheet based on fluctuations in the Earth's magnetic field, off which an illusory landscape-like form was reflected onto a far wall.



Kimchi and Chips, 483 Lines Second Edition, 2015



Ralf Baecker, Mirage, 2014

**Creators are setting up shop in labs:** Residency programs are all the rage right now so those that distinguish themselves in context, scope, or ambition are the ones that deserve the most attention. We excitedly announced the ACT Center's call for submissions for its 'Creators in Lab' initiative last July, as we felt its impressive facilities and generous financial support was sure to foster strong work. The first 'Creators in Lab' residents were present at ACT festival and they provided some glimpses at their promising work-in-progress. Amongst those sharing projects and insight were the electroacoustic musician and installation artist Yunchul Kim, self-described historical "re-enactor" and installation artist Sascha Pohle, and the media artist Ye Seung Lee.



† 1-Day workshops at ACT Festival 2015 / TL -- BR: Drawing++ / Zach Lieberman; Controlling Lights with TouchDesigner / Markus Heckmann; Phone in hand we can / Diana Band and Input Output : sensuous transforming of 0 | 1 signal / PROTOROOM

With residence programs there are two sides to the coin: occupants and hosts. Speaking quite expertly on the latter role, we were thrilled to hear Golan Levin dedicate a portion of his talk to discussing his work directing the Frank-Ratchye STUDIO for Creative Inquiry at Carnegie Mellon, where he helps cultivate "atypical, anti-disciplinary, and inter-institutional research projects." Channeling a range of perspectives from Leah Buechley to John Maeda, Levin outlined how his lab works between disciplines, courts courageous explorations of emerging technology, and strives to catalyze a few "shots from the outside" – like only artists can deliver.



Golan Levin discusses the Swiss theatre troupe Mummenschanz, who inspired his playful *Double-Taker* (Snout) robotics project.



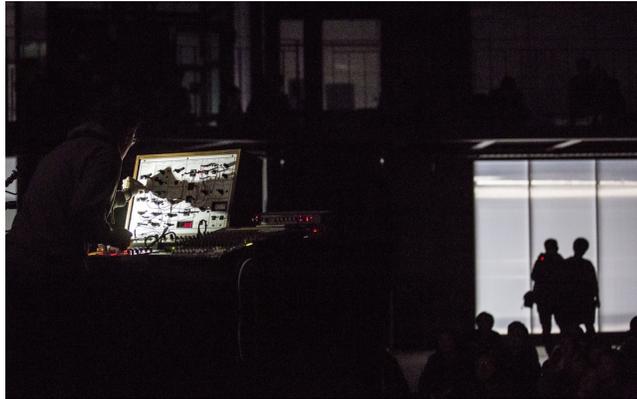
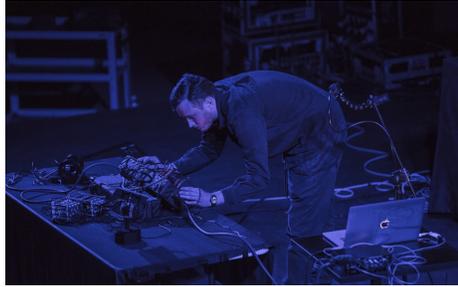
Laleh Mehran on Eastern and Western philosophies and aesthetic sensibilities that are a source of inspiration in her artwork.

**The notion of 'craft' in the twenty-first century is only beginning to come into focus:** William Morris' adage about there being no art "without resistance in the material" was on our mind heading into ACT, and we dedicated a portion of the programming to help figure out how that nineteenth-century thinking about the design of furniture and decorative objects translates into a milieu where software and hardware intersect, and digital fabrication is evolving rapidly. The Code, Craft, Methodology session brought SeungBum Kim and Hoonida Kim of Protoroom, and computational artists Karsten Schmidt and Marius Watz together to discuss how computation has become a medium unto itself. Notably, Watz speculated that "code is a material to be manipulated, with its own artifacts and idiosyncrasies" and – taking advantage of ACT Center's facilities – he led an intensive workshop that had participants go from learning the basics of 3D printing to coding and outputting generative data sculptures, all within three days.



† 3-Day workshops at ACT Festival 2015 / 3D Printing, Generative Objects and Data Sculpture with Processing / Marius Watz, SMART / LAB[au], Build your own Synthesizer – Getting started with bare metal ARM programming / Karsten Schmidt

**Contemporary practice is equally invested in recontextualizing existing tools as it is as making them from scratch:** If the craftsman finds resistance in materials, many artists' practices are forged in reflections on toolmaking. The Instruments of Change session brought together sound-centric practitioners to discuss the creation of musical hardware and devices for both the concert hall and the gallery. Yuri Suzuki shared a quasi-autobiographical tale of lessons learned from designing bespoke instruments for clients and collaborators ranging from the Japanese inventor/performer troupe Maywa Denki to the Detroit techno legend Jeff Mills, and Myriam Bleau offered a technical and conceptual breakdown her gyroscope-laden tops (aka the *Soft Revolvers*, which she spun in the performance programme) that function as a multi-channel media player. Wildly, Sam Conran channeled everything from Lee Scratch Perry's use of reverb to iOS system sounds when framing the research around his macrocosmic phenomena-harnessing *Kabbalistic Synthesizer*.

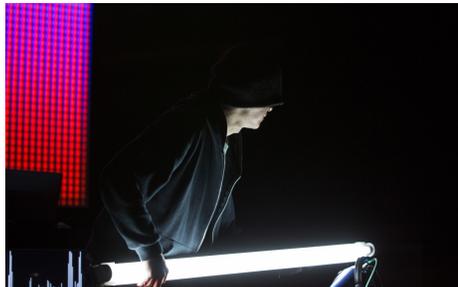


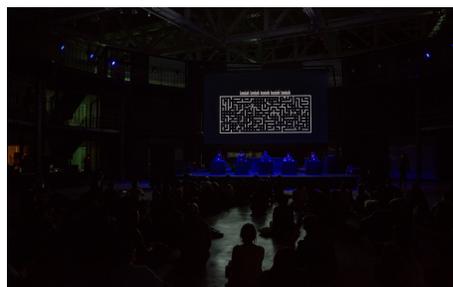
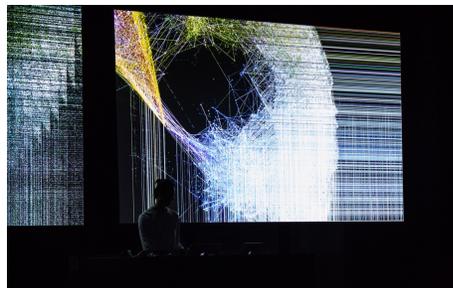
† TL → BR: The Kabbalistic Synthesizer / Sam Conran, Soft Revolvers / Myriam Beau, Hearing Science Laboratory / Yuri Suzuki

Some related highlights from the workshop offerings: Dooho Yi and Wonjung Shi of Diana Band had a cadre of students rejigger their sensor laden smartphones into 'sound guns' with some clever conical prosthetics, Zach Lieberman used code to put an age old medium – drawing – under the microscope, while Elliot Woods and Joanie Lemerrier rolled up their sleeves and gutted a few projectors while demonstrating the 'black and bright' hack.

**Regardless of its ephemerality or immateriality 'the digital' envelops the body:** The human body is the most enduring subject in art, but novel mediated experiences can help us see or experience it anew – many of the works showcased at ACT Festival are a testament to that. Ryoji Ikeda's ongoing series *test\_pattern* has filled massive spaces around the world; for ACT, and the eighth iteration of the projection-based work, he took over the 1,300 square metre space The Ground and turned its floor into a stroboscopic datastream. Stream is not hyperbole, visitors who ventured 'into' this sprawling and sublime work were required to take their shoes off, and in moving through the piece they resembled loafers strolling along the edge of the sea during low tide.

Ikeda's striated waves were complemented by other considerations of the interplay between the human form and technology. Rhizomatiks dazzled a rapt audience with their most recent collaboration with ELEVENPLAY, which saw five dancers and twenty-four drones weave around one another in a fluid dance routine. Three pieces from Exonemo's *Body Paint* (series) were on display in the exhibition, and on each of its LCD displays video played of a near (but not quite) still painted near-naked person posing with the screen 'painted' over around their silhouette yielding nostalgic, twitchy, and unnerving portraits of the mediated body.





↑ TL → BR: supercodex / Ryoji Ikeda, CI / Diamond Version, 24 Drones / ELEVENPLAY x Rhizomatiks Research, Blueprint / Joanie Lemerrier, syn\_/ Ryoichi Kurokawa, syn\_, and TACIT Group.

**Cultural producers should lead, not follow:** ACT Forum brought together a number of international organizations to compare notes, strategy, and tactics. From MIGZ festival, Alexey Shcherbina summarized his last several years developing programming for various museums and events within Russia, including the educational and symposium components of the urban media art-focused "Circle of Light" festival that beams onto Moscow's facades and public squares each fall. Cédric Huchet of the Stereolux digital art and music hub in Nantes, France discussed his organization's philosophy (that revealing the process that yields work is as important as its aesthetic) as a driving force within their prolific schedule – which sees them host about 200 events and the Scopitone festival each year. Emiko Ogawa presented on the 'ecosystem' of venues, events, and programmes branching out of the Ars Electronica Centre in Linz, which notably included her organization's partnership in the COLLIDE@CERN program, which puts artists in residence alongside physicists and the Large Hadron Collider in Geneva.

Scaling down from the 'big picture' of festivals and museums, artists have a place at the table when it comes to directing cultural conversations – and many of them organize their practices around reconstituting the rules and rituals we live by. In a related session, Régine Debatty came together with exonemo's Kensuke Sembo (of Internet Yam-Ichi fame) and Thomas Thwaites (who donned prosthetics to try to 'pass' as a goat and fit in with a herd) to discuss how art functions as social commentary and its ability to interface with the political realm.

**The future leaks into the present:** Fittingly, ACT Festival's final forum session was dedicated to interpreting the future. Daito Manabe and Motoi Ishibashi (both ACT Media Art Lab Fellows) of Rhizomatiks revealed some of the process behind their recent motion capture and drone work, masterfully demonstrating how artist/engineer hybrids are uniquely qualified to unlock the expressive potential of emerging technology. Ivan Poupyrev of Google's Advanced Technology and Product (ATAP) group made the case for technology 'disappearing' and presented a number of ATAP projects focused on "taking touch interaction off-screen and into the world," including the interactive textiles initiative Project Jacquard and the radar-powered gestural control chip Project Soli. Finally, given the considerable impact the design duo Dunne & Raby (of RCA Design Interactions fame) have had in recent years it was an absolute treat to have Anthony Dunne close out the ACT Festival forum. Organized around the rubric "not here, now now" he walked through a number of projects that illustrated design scenarios conceived in relation to utopias, dystopias, counterfactuals, and 'what ifs,' including the hyper-libertarian 'Digitalarians' from *United Micro Kingdoms* and the *The School of Constructed Realities* (a fictitious design school), which was presented at The MAK Design Salon in 2014. Seeing the Forum wrap-up with two radical visions of the present and a catalogue of erudite possible futures was a perfect finale to the proceedings.

ACT Festival's future is already coming into view. The Center's 2016 programming will ramp up its focus on its labs and outputs and bolster collaboration with international researchers and the commercial sector. We will share news about residency opportunities in the coming months – and we heartily encourage artists and designers interested in the festival and our activities to apply and get involved. Additionally, ACT Center will be working to develop relationships with like-minded organizations throughout Asia and the rest of the world, ensuring the second edition of the festival will be even more of an international meeting of the minds.

Website | Twitter | Facebook

Organised by the ACT Center with support from ACC (Asia Culture Center), Asia Culture Institute, and MCST (Korean Ministry of Culture, Sports and Tourism).

Associate Curator Team: [HOLO](#) / [CreativeApplications.Net](#)

Identity design: [Moniker](#)

Website: [BiscuitPress](#)

Participating artists: Ryoji Ikeda, Matthew Clark / United Visual Artists, Thomas Thwaites, Joachim Sauter / ART+COM, MIKIKO, Daito Manabe and Motoi Ishibashi / Rhizomatiks, exonemo, Ji Yoon Yang, Klega, Yuri Suzuki, Hearyun Shim, Ryo Ikeshiro, Eunji Cho, Byungjun Kwon, Hoonida Kim and SeungBum Kim / PROTOROOM, Earl Park, Sascha Pohle, Seung Joon Choi, Olaf Bender, Kyong Park, Guenchaek Kim, Karsten Schmidt, Wonkon Yi, Jürg Lehni, Emiko Ogawa / Ars Electronica, Hyojung Seo, Christopher Coleman, Cédric Huchet, Marius Watz, Jong Woo Park, Ye Seung Lee, Ivan Poupyrev / Google ATAP, Markus Heckmann / Derivative, Zach Lieberman, Hyunkyung Lee, Yoojin Lee, Alex Rich, Yeunho Kim Jang, Sam Conran, Els Vermang and Manuel Abendroth / LAB[au], Laleh Mehran, Keunbyung Yook, Cathrine Lo, Régine Debatty / We Make Money Not Art, Jihyun Yoon and Sookyun Yang, Myriam Bleau, Seongjae Kim, Youjin Jeon, Jaeho Chang / TACIT Group, Namhee Park, Roel Wouters / Moniker, Joanie Lemerrier, Carsten Nicolai, Nobuhiro Nakanishi, Heahyun Cheon, Juliette Bibasse, Golan Levin, Lucia Jiyong Kang, Ilona Gaynor, Ryoichi Kurokawa, Ralf Baecker, Gooun Kwak, Taiyun Kim, Youngho Lee, Wan Lee, Atsuhiko Ito, Ellen Pau, Alain Bellet / ECAL, Yunchul Kim, Elliot Woods and Mimi Son / Kimchi and Chips, Jinwon Lee / TACIT Group, Ana Ascencio / Mapping Festival, Anthony Dunne / Dunne & Raby, Alexandra Berkovich and Alexey Shcherbina / MIGZ, Dooho Yi and Wonjung Shin / Diana Band, Taeyoon Choi, Wonjoon Yoo.

by **Greg J. Smith**



A writer and editor based in Toronto, Greg is interested in media art and its broader cultural implications. Beyond contributing to CAN, he is the Editor-in-Chief of [HOLO](#) and serves on the Board of Directors at [InterAccess](#).



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## Making openFrameworks Work – Users and educators gather in Denver, Colorado

written by Chris Coleman

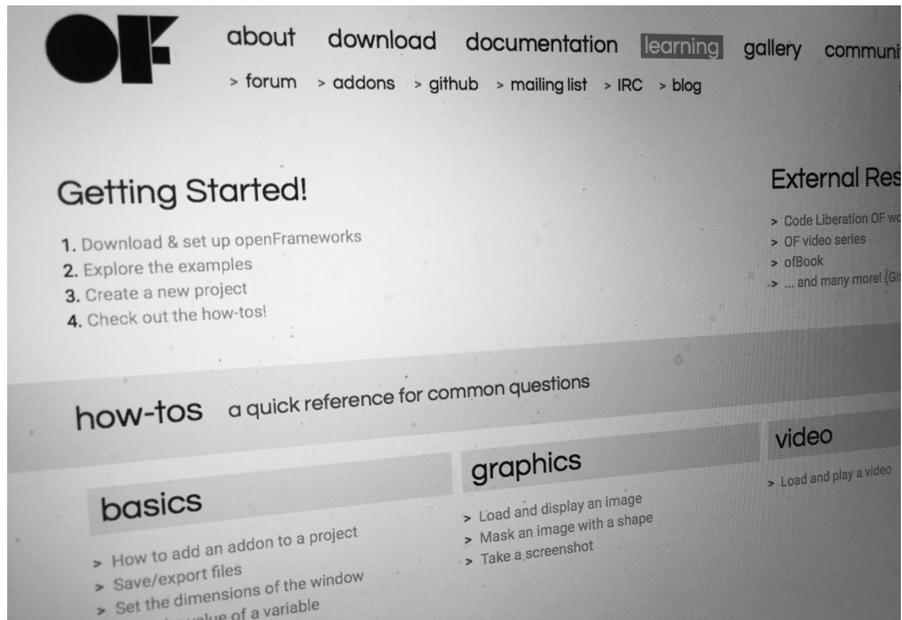


In late February 2016, a group of openFrameworks users and educators gathered in Denver Colorado to work on improving the ways people learn and use openFrameworks (OF). They worked intensely for 3.5 days, 12 hours per day, collectively committing more than 800 people-hours to creating and improving openFrameworks learning resources. This openFrameworks Education Summit aka a "doc sprint" (the largest event of its kind) was hosted by the Emergent Digital Practices Program at the University of Denver. It brought together artists & educators from the University of Denver, Carnegie Mellon University, The School of the Art Institute of Chicago, The School for Poetic Computation, Parsons School of Design, Penn State, The School for the Visual Arts, Microsoft, Carnegie Museum of Art, and internationally from Vienna Austria, and Dresden Germany. The participants worked together to improve the approachability of OF, thus helping students around the world learn how to create with this powerful digital arts and design tool.



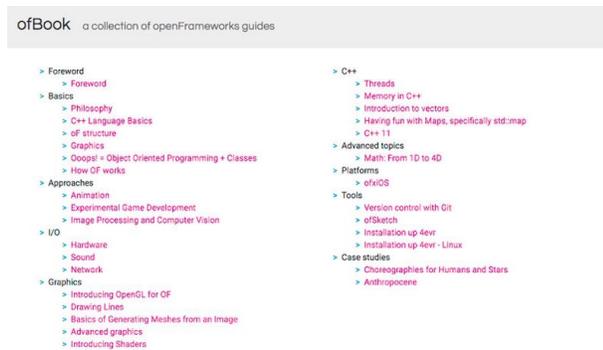
### The Whys of Documentation

As with most open-source projects, there is a core of amazing people working in close connection to make OF happen and evolve. Known as the "TAZ" in the community, Theo Watson, Arturo Castro, and Zach Lieberman spend endless hours shaping and steering the direction of OF in consultation with the broader community. During this process they and many many others leave commented clues as to how things work in their code, there to be found if you know how to look. This has meant that experienced programmers can track down most answers they might have about how things work in OF. On the other hand, it has meant that the documentation pages of OF were left fairly barren, with just 30% of the functions of OF having any description of what they do. This is not uncommon in open-source projects as it takes massive amounts of time to upkeep the software, much less the documentation. It also requires a set of standards that contributors will follow over the long term. None of this would be very surprising except for the example set by Processing; it is not uncommon for creative coders to move to OF as they move outside the boundaries of Processing, but the stark difference in the usefulness of the documentation has made that transition difficult (that and the use of a much more complex IDE). Understanding that in some ways, much OF is too complicated to be documented with the same format as Processing, the challenge for the summit was to figure out what could be successfully accomplished with 18 people over 4 days. The larger group split into three subgroups focusing on: the basic OF learning materials, the documentation of the classes and functions, and the final editing and sharing of ofBook.



#### Documenting the Documentation

The most obvious changes to the basic learning materials can be seen with the ["learning" page on the openFrameworks website](#). There you will see a major re-organization of previous links as well as many new sections. The "Getting Started!" section now leads brand new users to the right resources, and in the order they will need them. The "External Resources" section links out to other tutorials, videos, and a wiki where OF users can add links as more resources are posted elsewhere on the web. The new "How-tos" section offers short instructions and code samples for common tasks. This section was the result of feedback from many OF educators who needed to be able to point students to quick and concise examples, answering some of the most frequently asked questions for OF.



The "learning" page now also hosts the newly completed ofBook table of contents, which links to a collection of carefully written topical tutorials spanning more than 375 pages. ofBook has been a massive multiyear undertaking by many influential OF artists and users, explaining everything from drawing lines, using shaders, to memory structures in C++. Taken as a whole, the "learning" page is now the most robust and accessible resource for all levels of OF users.

README.md

## About 3DModelLoaderExample



### Learning Objectives

Lloads in the same 3D penguin model in various file types. Demonstrates how to load in a model using both ofMesh and ofxAssimpModelLoader.

The various models were produced by exporting various formats of the same model from blender.

In the code, pay attention to:

- the usage of the addon ofxAssimpModelLoader, which is used to load in 3D file types including 3ds, .obj, .dae etc. and provide access to their vertices, textures, materials, and animation.
- how the various models render differently and change axis when loaded.
- altering the rotation, position, and scale of the model with `model.setRotation()`, `model.setScale()`, and `model.setRotation()`.
- loading directly into ofMesh, with `mesh.load(file.ply)` when key 5 is pressed.

### Expected Behavior

When launching this app, you should see:

- A spinning penguin.
- a text overlay with instructions.

Instructions for use:

- press the number keys to load various models in different formats.
- when in mode 6 use easyCam mouse and keyboard navigation to look around the model.

A significant amount of time was also spent looking deeply at the examples that ship with openFrameworks and how they function as a major learning tool. Many of the examples were refined and new standards were set on how these examples and those that are part of ofxAddons might look and feel to better communicate what is happening in them. This new standard (already implemented in the OF Core examples for the next release) includes adding a readme file for each example with images and text describing the ideas behind the example, adding more inline code comments to the examples to help explain the pieces of the code and what they are doing, and adding more overlay text in the examples explaining what you are looking at when running the program.

LANGUAGE REFERENCE

### CORE

<p><b>3D</b></p> <ul style="list-style-type: none"> <li>of3dPrimitives</li> <li>of3dUtils</li> <li>ofCamera</li> <li>ofEasyCam</li> <li>ofMesh</li> <li>ofNode</li> </ul> <p><b>APP</b></p> <ul style="list-style-type: none"> <li>ofMainLoop</li> <li>ofWindowSettings</li> </ul> <p><b>COMMUNICATION</b></p> <ul style="list-style-type: none"> <li>ofAudioIn</li> <li>ofSerial</li> </ul> <p><b>EVENTS</b></p> <ul style="list-style-type: none"> <li>ofEvent</li> <li>ofEventUtils</li> <li>ofEvents</li> </ul>	<p><b>GL</b></p> <ul style="list-style-type: none"> <li>ofBufferObject</li> <li>ofFbo</li> <li>ofGLUtils</li> <li>ofLight</li> <li>ofMaterial</li> <li>ofShader</li> <li>ofTexture</li> <li>ofVbo</li> <li>ofVboMesh</li> </ul>	<p><b>GRAPHICS</b></p> <ul style="list-style-type: none"> <li>of3dGraphics</li> <li>ofBitmapFont</li> <li>ofGraphics</li> <li>ofImage</li> <li>ofPath</li> <li>ofPixels</li> <li>ofPolyline</li> <li>ofTessellator</li> <li>ofTrueTypeFont</li> </ul> <p><b>MATH</b></p> <ul style="list-style-type: none"> <li>ofMath</li> <li>ofMatrix3x3</li> <li>ofMatrix4x4</li> <li>ofQuaternion</li> <li>ofVec2f</li> <li>ofVec3f</li> <li>ofVec4f</li> </ul>	<p><b>SOUND</b></p> <ul style="list-style-type: none"> <li>ofSoundBuffer</li> <li>ofSoundLayer</li> <li>ofSoundStream</li> <li>ofSoundUtils</li> </ul> <p><b>TYPES</b></p> <ul style="list-style-type: none"> <li>ofColor</li> <li>ofParameter</li> <li>ofPoint</li> <li>ofRectangle</li> <li>ofTypes</li> </ul> <p><b>UTILS</b></p> <ul style="list-style-type: none"> <li>ofConstants</li> <li>ofFileUtils</li> <li>ofFpsCounter</li> <li>ofLog</li> <li>ofMainStack</li> <li>ofRandomUtils</li> </ul>
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The last effort is still underway – that of writing useful information for every class and function in the OF Core Documentation. First, a set of processes were put into place and adjusted to clarify the guidelines and workflows for writing documentation. Part of this is the division of the documentation behind the scenes to separate the longer class explanations with images and links from the function definitions and parameter descriptions that are part of the tooltips in your IDE. This process was then applied to many of the major openFrameworks classes to begin to make sure that all methods in openFrameworks include documentation. The process is ongoing but many parts of the documentation are now carefully and more fully explained. These will roll out with the next OF release and it should help the documentation pages become much more useful.



#### Bringing people to the Table

In planning this event, careful thought and funding was applied towards the goal of inviting new voices and ideas deeper into the OF community. Some of the participants were in positions at institutions that could support their travel and lodging for the event while others did not have the resources to make the trip on their own. More than half needed assistance to fly to and stay in Denver, and these are many of the same people that are likely to be part of the next generation of contributors and educators of openFrameworks. This is why these events require an inverse of the typical model where the more established you are, the more financial support you receive from the hosting institution. It also points to why a different kind of funding is required, as it is hard to raise money for emerging artists and teachers. Additionally, because this was held at an educational institution, it was a foreign notion to have major researchers in the field come and not spend significant time interacting with students. It requires longer term thinking to see how the work done at the event will have benefits to students at the institution for years to come.



The participants ranged in age and backgrounds, some having extensive experience coding openFrameworks and ofxAddons, while others had barely used the tool. This created a broad range of perspectives in the room to discuss the approaches and process being instituted. This meant that many voices were heard and change could happen quickly, pointing to why such events should happen every year for open-source projects like OF.

#### Support and Research

The Emergent Digital Practices program hosted the OF Educational Summit just one year after hosting the Processing Development Team for the development of Processing version 3. These efforts were spearheaded by the EDP Director, Chris Coleman, in an effort to give back to the open-source community that his program and artistic work relies on. These hosted open-source events are modeled after similar events at Carnegie Mellon University's Frank Ritchie Studio for Creative Inquiry, The Art and Technology Department at the School of the Art Institute of Chicago, the Interactive Telecommunications Program at NYU, and The School for Poetic Computation. Free creative coding packages like Processing, P5 and OF have not only opened up worlds of possibilities, but they also free up money that was previously spent on paid software packages. We would encourage every research institution in the US (and beyond) who uses these software tools in their classrooms to find ways to support their continued development. This support might include donations, making open-source software contributions a viable research path towards tenure, or hosting events like these where massive leaps forward are made.



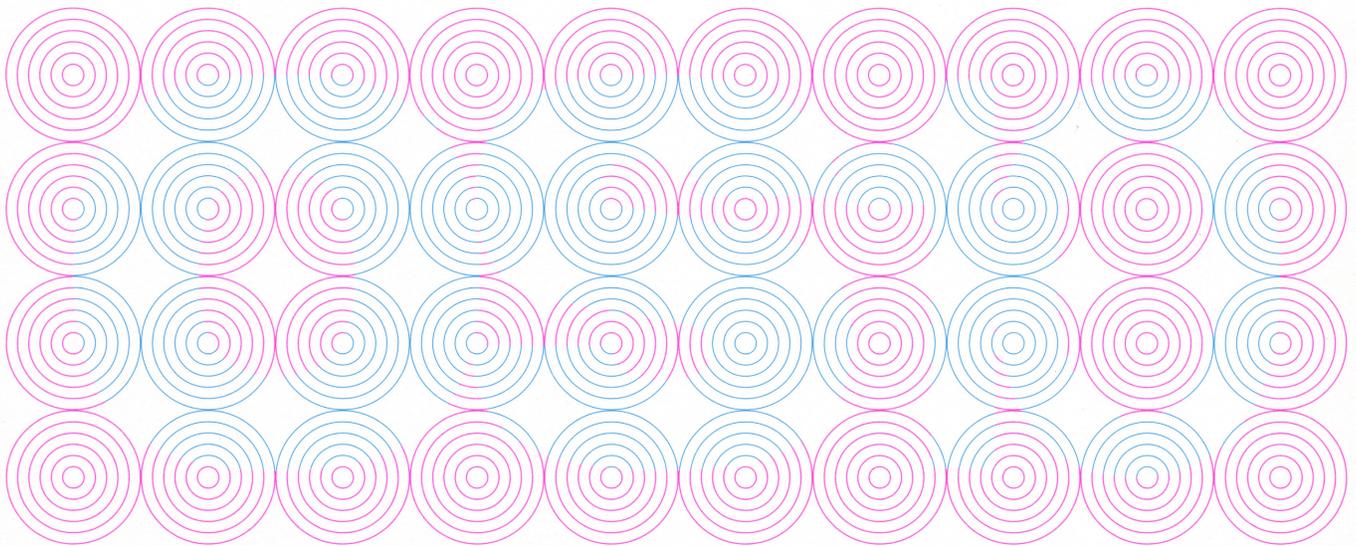
Many thanks to the participants: Christopher Baker, Chris Coleman, Christine de Carteret, Brannon Dorsey, Sarah Groff-Palermo, Andrew Hieronymi, Anika Hirt, Sarah Howorka, Golan Levin, Zach Lieberman, Nicole Messier, Caitlin Morris, Stacey Mulcahy, David Newbury, Caroline Record, Deborah Schmidt, Charlotte Stiles and Dan Wilcox.

And for the support provided by: The Arts, Humanities and Social Sciences Division @ DU, Emergent Digital Practices @ DU, The Marsico Visiting Scholars Fund, The Frank-Ratchye STUDIO for Creative Inquiry at Carnegie Mellon University, The School of the Art Institute of Chicago, Art and Technology Studies Department, Penn State School of Visual Arts and The School for Poetic Computation.

# OS10

A Perspective of Art and Media Technology  
Documents of ICC OPEN SPACE  
2006-2015

アートとメディア・テクノロジーの展望  
ICC オープン・スペース10年の記録  
2006-2015

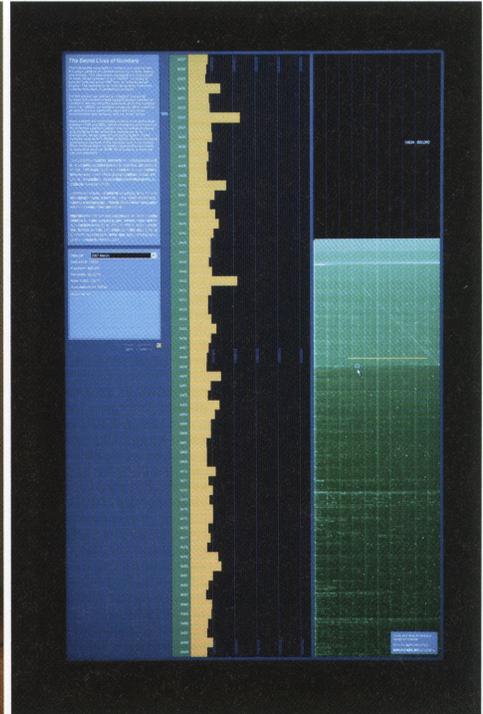
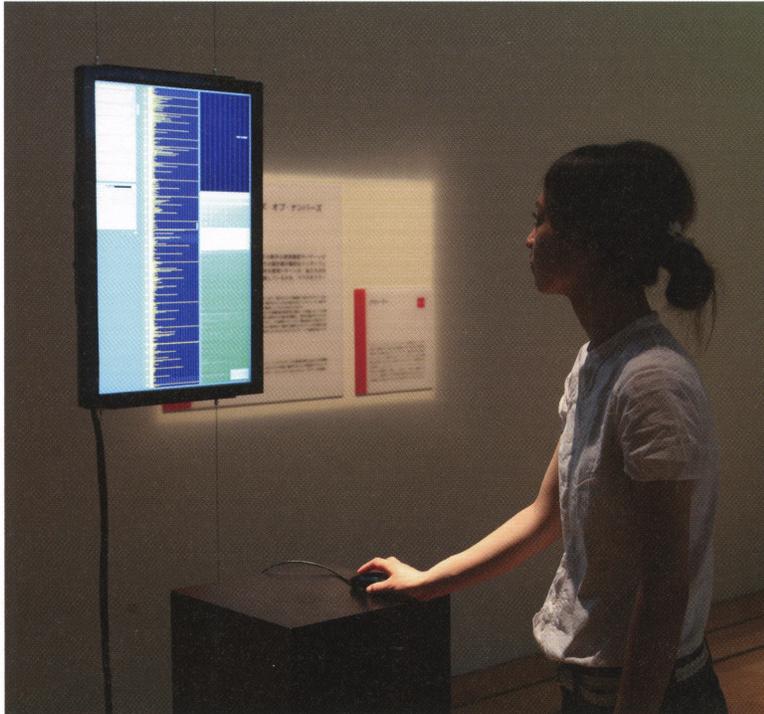


# シークレット・ライヴズ・オブ・ナンバーズ 2002

The Secret Lives of Numbers 2002

ゴラン・レヴィン  
Golan LEVIN

2007



撮影: 木奥恵三  
photo: KIOKU Keizo

この作品では、1から100000までの数字の使用頻度やパターンがウェブ上のデータから収集され、その統計値が動的なインターフェイスとして提示されています。数字の使用パターンが、私たちの社会や文化、そして歴史をいかに反映しているかを、マウスをドラッグすることで知ることができます。

私たちの世界は、さまざまな数字によって構成されています。数字はふだん無機的に扱われがちで、あまり気にとめられない存在ですが、各数字がどのように使用されているかを膨大なデータをベースに統計学的に分析し可視化してみると、世界がふだんと異なる様相として現われ始めます。1997年以降、ウェブ上に現われる1から100000までの整数値を統計的に集め、人気度によって分類しそれを表示することで、この作品は、人間の指の数に由来する十進法を基盤に、数字が歴史やさまざまな社会的事象や人間の行動を自動的に反映するだけでなく、その使用パターンが一種必然的に決定されていることを教えてくれます。この作品ではまた、それらの数字が一般的に連想させるフレーズや既存の固有名詞も、検索し表示しています。さてあなたは、数字にまつわるどのようなパターンや秘密を見いだすのでしょうか？ [SY]

This work collects the use frequency and the patterns of the numbers from 1 through 100,000 over the web, and presents the statistics as a dynamic interface. By dragging a mouse, we can see how the use patterns of numbers reflect our society, culture and history.

Our world is composed of numbers. We tend to handle numbers as inorganic objects without paying them much attention. However, when we statistically analyze and visualize the use of numbers based on huge amounts of data, the world looks different. Based on the decadal system, deriving from our ten fingers, this work statistically collects integers from 1 through 100,000 that have appeared on the web after 1997, classifies them according to popularity, and displays the results, in order to show that the numbers reflect history, social phenomena and human behaviors, and that a usage pattern is determined somewhat inevitably. This work also searches and displays phrases and existing proper nouns that are associated with these numbers. Please try and see the patterns and secrets hidden in the numbers. [SY]

048

この作品のオンライン・バージョンは以下で体験可能です。  
<http://archive.turbulence.org/Works/nums/>

You can experience the online version of the work.  
<http://archive.turbulence.org/Works/nums/>



# HYPERALLERGIC

ARTICLES

## Immersive Art Installations Light Up Houston's Day for Night Festival

Day for Night in Houston has invited 14 artists to create interactive art installations at the festival which celebrates sound and light.

Claire Voon | December 2, 2016



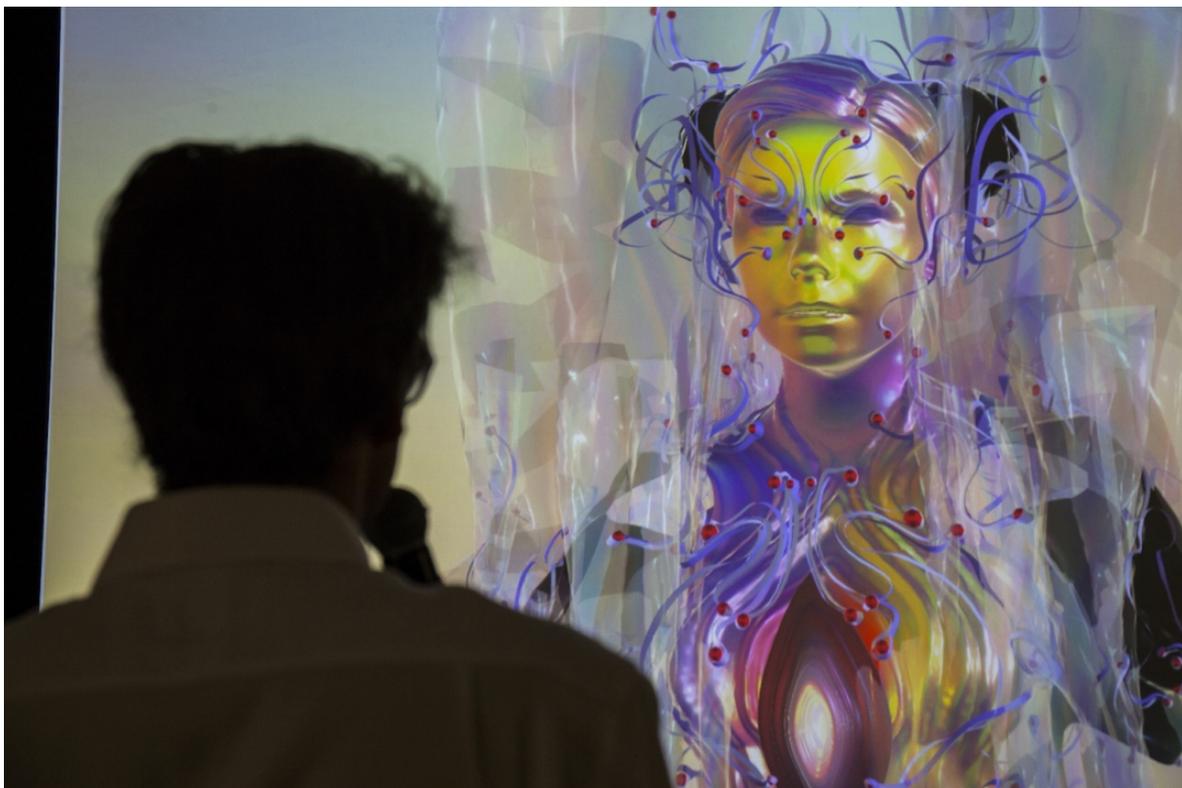
Reflector Suits by Children of the Light (all images courtesy Day For Night)

Approaching in less than two weeks is [Day for Night](#), the weekend-long music and art festival in Houston. Musicians from Blood Orange to Butthole Surfers fill its lineup for the event's second coming, but while the concerts may be the main draw for many, there's also a number of immersive and interactive art installations for those looking for a little respite from the packed crowds or perilous mosh pits.

Curator Alex Czetwertynski has selected 15 international artists to contribute new media works that all involve light manipulations (did you really expect oil paintings to feature at a music festival headlined by Aphex Twin?) — a nod to the festival’s name, which refers to the cinematic techniques used to present the illusion of night even while shooting during the day. Day for Night is held this year at the former Barbara Jordan Post Office, which was designed in the ’60s and boasts a beautiful concrete facade. We’re looking forward to seeing how these technology-based installations will look in its now empty, mid-century spaces; here are six that have already caught our attention. And don’t sleep on entering Hyperallergic’s [giveaway](#) to win two tickets, airfare, and hotel accommodations for the festival. Hyperallergic is a media sponsor for Day for Night.

## Children of the Light, “Reflector Suits”

It’ll be hard not to spot the Amsterdam-based visual artists Christopher Gabriel and Arnout Hulskamp, together known as [Children of the Light](#): just look out for a pair of dudes in near-blinding, illuminated attire. Shining bright white, these “Reflector Suits” make their performers appear as mysterious, invisible men clothed in dynamic suits, caps, and perfectly round sunglasses. Gabriel and Hulskamp’s will be staging improvisational performances at the festival, moving through spaces like living sculptures; specters with offbeat sartorial sensibilities.



## Björk, “Björk Digital”

Björk, in one sense, stunned the art world with her retrospective at the Museum of Modern Art last year. That was, simply, *Björk*. But now we also have *Björk Digital*, which premiered in Sydney in June. The exhibition itself manifests in physical space, IRL, but its five rooms are filled with digital and video works all experienced in virtual reality — which has proven to be pretty much the hottest artistic medium of 2016. They all accompany songs on *Vulnicura*, the Icelandic musician’s album that was released last year. I’ll let Björk herself take it away:

i feel the chronological narrative of the album is ideal for the private circus virtual reality is . a theatre able to capture the emotional landscape of it ive put importance in the exhibition on the interactive element , that folks can watch vulnicura on vr and try biophilia w ipads and a cinema room with all my videos in 5.1

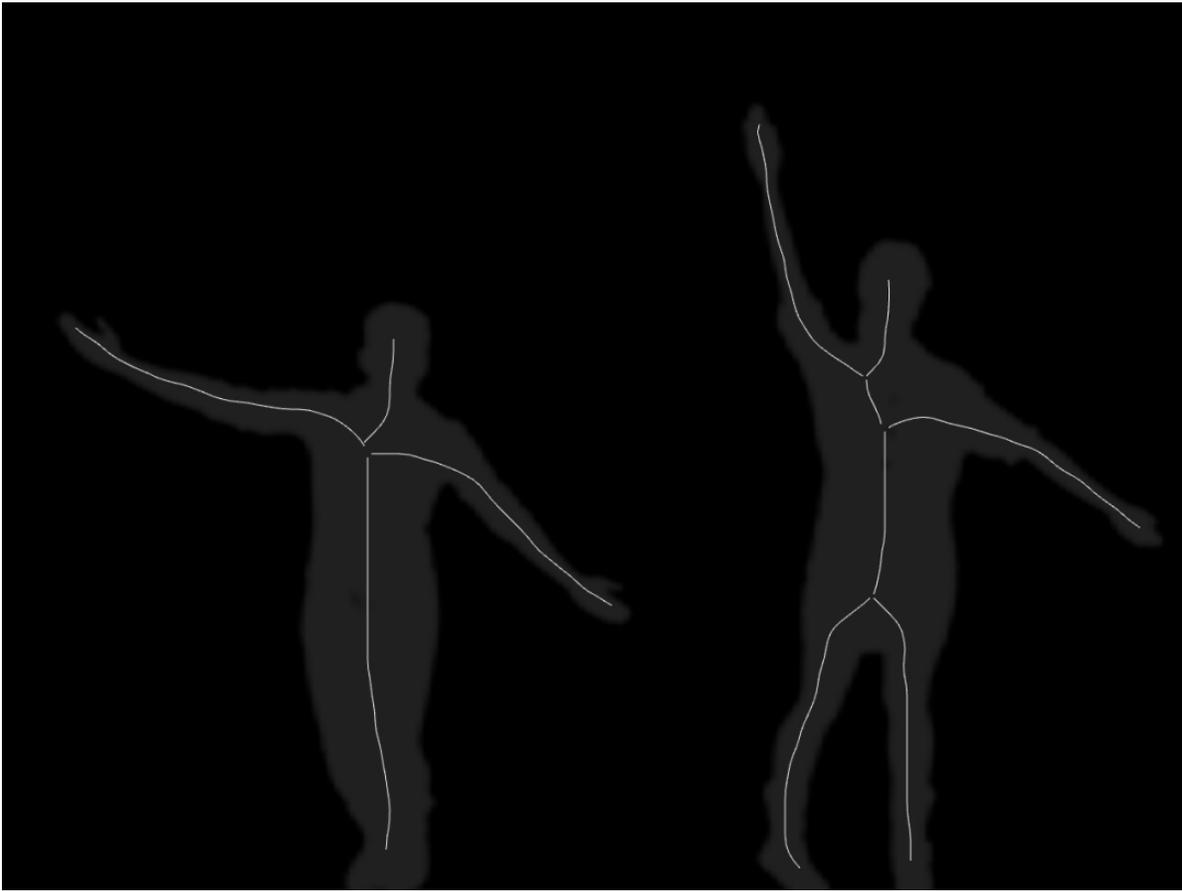


Shoplifter, “Nervescape” (2016) at the Queensland Art Gallery & Gallery of Modern Art in Australia

## Shoplifter, “Nervescape”

Hair is the medium of choice of the Icelandic artist Hrafnhildur Arnardótti, who goes by Shoplifter. The 2011 recipient of the Nordic Award in Textiles, she makes work of all scales, from small, delicate objects she calls “nonsicles” to pieces that consume entire

spaces. For Day for Night, she's created a work that will literally consume and get bigger — according to a release, “Nervescape” is a “living, breathing interactive sculpture that feeds on sounds, growing inside a large cage.”



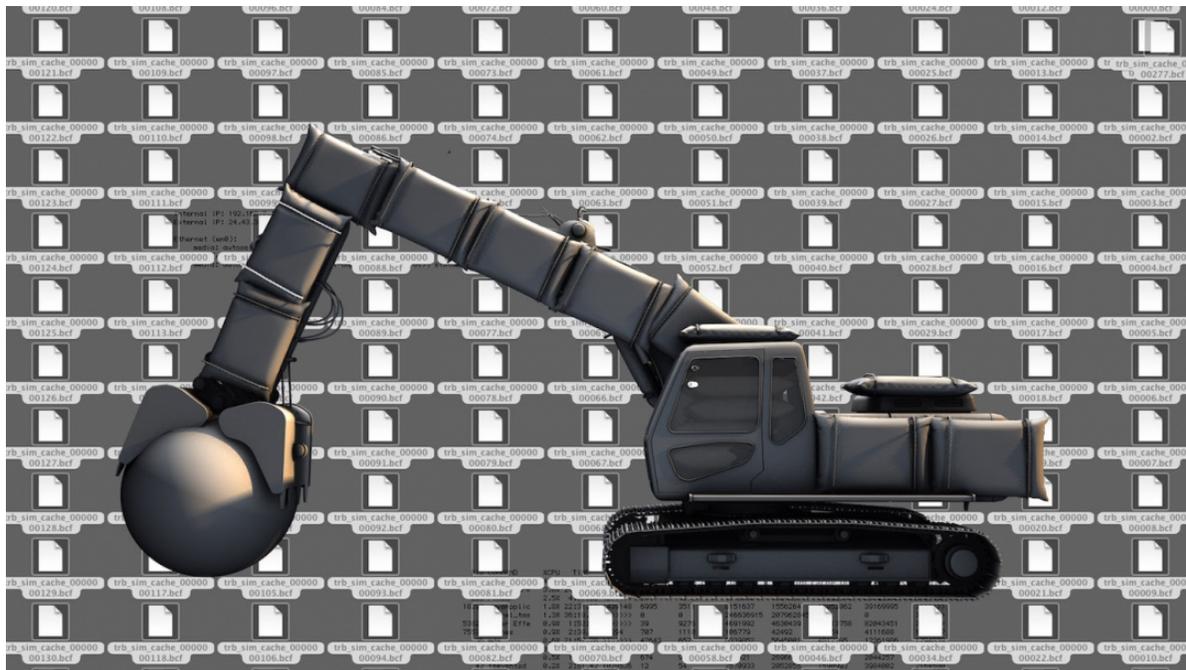
Golan Levin, “Ghost Pole Propagator”

## **Golan Levin, “Ghost Pole Propagator”**

Last time we checked in on new media artist [Golan Levin](#), he was busy developing [Terrapattern](#), an absorbing visual search engine for urban aerial patterns. At Day for Night, he presents a project that focuses on the expressive potential of the most minimal of human forms: the stick figure. “Ghost Pole Propagator,” which Levin first developed in 2007 for an exhibition in Newcastle, England, responds to its observers movements, with a setup capturing and translating gestures into simple but evocative lines. At Newcastle, Levin had projected these resulting figures on the walls of an old, 13th century castle, where they resembled cryptic petroglyphs; we’ll see what the effect is in Houston, where the mood will undoubtedly be quite different.

## **Damien Echols, “Sigil Room”**

You may recognize Damien Echols as one of the [West Memphis Three](#), but since his release from prison five years ago, he's focused on writing and making art. Glyphs and sigils feature strongly in his visual work; at the festival, he will immerse viewers in a room illuminated with these magical signs, where he will also stage a performance



Alex Czetwertynski Blurware

## Alex Czetwertynski, “Blurware”

Czetwertynski has described his contribution as “an excavator wrapped in white pillows” — and I’m really hoping it involved a real life, true-to-scale piece of heavy construction because that would just be absurd, especially if it actually moves. Whatever the size of this swaddled work, the artist and curator will use the blank surfaces as screens, projecting videos on them to explore “the blurry line between soft(ware) and hard(ware), body and mind, solid state, and immaterial aspiration.” But remember: while under the influence, do not operate heavy machinery.

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culturemap(/)  
HOUSTON

DAY FOR NIGHT ART SCENE

## Art-Star Lineup: Must-see Guide to Day for Night's top visual artists

By Tarra 12.14.16 |  
Gaines(/author/200\_gaines/articles/)



Björk Digital will be the highlight of both the music and visual art lineup at Day for Night. *Day for Night Courtesy Photo*

A live music festival that makes digital, multimedia and light art a vital component of the event is something of a rarity in the United States, but a music and visual art festival produced in the dead of winter, well that's uniquely Houston. After a successful debut last year, Day for Night(<http://www.dayfornight.io>). the three-day music and art event presented by Free Press Houston and New York-based creative firm Work-Order, makes a venue move to the Post HTX(<http://houston.culturemap.com/news/city-life/09-16-16-post-office/#slide=1>) space to light up downtown Houston this weekend.

With four stages and every hour from afternoon until dead of night filled with music, you might be tempted to spend the weekend running from one favorite musician or band to to the next. But on your way from stage to stage, don't forget to feed your eyes. Day for Night offers some of the top national and international artists working and creating at that blurry, but often beautiful

edge, where technology and traditional visual art meet. Curated by Day For Night co-founder Alex Czetwertynski, this impressive offering, which they're calling the Light lineup, should not be bypassed on your way to that favorite band. Take time out to wander upstairs where many of the installations and immersive art experience are located.

Don't know where to begin your art journey? Here's a quick don't-miss list to [map\(http://www.dayfornight.io/wp-content/uploads/2016/12/DFN\\_2016\\_map.pdf\)](http://www.dayfornight.io/wp-content/uploads/2016/12/DFN_2016_map.pdf) your way through some of the art highlights.

### **Björk Digital**

Just one installation from the international renowned musician, visual artist and occasional fashion icon would never be enough; instead, as both a sound and light headliner at Day for Night, Björk brings with her an entire exhibition. This five gallery exhibition will feature immersive digital and video work that fest-goers can experience in virtuality. Yes, you'll strap on the sci-fi, VR headset to go into Björk's weird and wonderful worlds. The rooms will include the MOMA commissioned *Black Lake* and its views of the highlands of Björk's native Iceland and *Mouthmantra VR* which takes you inside Björk's mouth as she sings. Björk will also perform live DJ sets at the Friday night preview party as well as on Sunday.

### ***Musica Universalis* by United Visual Artists (UVA)**

For your pre-fest homework brush up on Pythagoras's theories on harmonics because, appropriately enough for an art and music festival, United Visual Arts invites viewers and listeners to explore the music of the spheres. The internationally influential London-based art practice combines kinetic sculpture, music, light and color in their latest work as UVA delves into resonance and harmony in the universe.

**SHIRO by NONOTAK**

Last year, NONOTAK's massive light, sound and scaffolding installation *Volume* was the art hit of Day for Night and garnered the duo many local fans. So, of course, fest programmers brought the Paris-based team of illustrator Noemi Schipfer and architect and musician Takami Nakamoto back to wow crowds again with a site specific version of their work SHIRO, which becomes both an installation and a stage for live audiovisual performances. They'll also debut the brand new work created for Day for Night, *Highline*.

**Crimson Lotus by Damien Echols**

Painter and sculptor Echols is also the best-selling author of the memoir *Life After Death* which chronicled his early life and then 18 years on death row after being wrongly convicted for murder as one of the West Memphis Three. Echols's spiritual Magick practices sustained this innocent man awaiting his execution, and now Magick has become a focus of his art. Early word on *Crimson Lotus* is that the installation will be a collaboration with art curator Alex Czertwertynski who will create a sigil light room based on Echols images that will also become an immersive space for live performances from Echols.

**Ghostbeast by Shoplifter**

Björk won't be the only Icelandic artist bringing quirky installations to the festival. Take a break from light, video and digital art to visit Shoplifter's caged sculptural beast. The artist, who works in human hair as well as other natural fibers, creates playful and humorous sculptures. Step up and give her *Ghostbeast* a sonic treat. The interactive hair creature growing in a large cage feeds on sounds.

**Art Unbound**

Head outside into the winter air – which will probably be warm and humid, knowing Houston – for some outdoor art and sample the work of one pioneer of digital and computational art, Golan Levin, and one very young and rising artist in the field, Ezra Miller. Viewers

of Levin's *Ghost Pole Propagator* become the artwork as their images are transformed into stick figures and then projected onto an 180-foot wall opposite the Day for Night food court. Meanwhile around the corner, near the Red Stage area, 20-year-old Ezra Miller's *Warp Transmission* interacts with the music artists and bands on the main stage by combining a live video feed of the performance with his own visuals.

### **The Venue Formally Known as the Barbara Jordan Post Office**

Once upon a time, people used to send these objects of communication called letters at an office of posting. In downtown Houston that letter relay station was the massive Barbara Jordan Post Office. Built in the early '60s, the five-story building sitting on 16 acres of land holds lots of raw, industrial and perhaps even eerie space most Houstonians probably never really thought about during those begone days when they stopped to mail a package or buy a stamp. Day for Night 2016 gives us a back (postal) stage look at the facility and allows us to see it transformed by light and sound.

How much will this venue add to the Day for Night experience? Well, during a recent conversation I had with one of the Day for Night music artists, Houston's own Fat

Tony(<http://houston.culturemap.com/news/innovation/12-07-16-houston-public-media-joins-vuhaus-music-platform-fat-tony-live-performance/#slide=0>), we discussed his preparation for the festival and his own excited reaction to getting an early look and feel for the venue.

"We did a run through to check it out, and it was really scary," Fat Tony described. "It looks like a great place to film a horror movie. It's dark, squeaking and creaking. It's definitely haunted, I'm sure."

*Day for Night*(<https://www.eventbrite.com/e/day-for-night-aphex-twin-odesza-travis-scott-kaskade-bjork-tickets-27587614297>) runs Friday, December 16 until 2:00 a.m. Monday, December 19. Read this

**Events and Parties** (<https://news.artnet.com/art-world/events>)

## Four Questions for Day for Night Festival's Visual Art Curator, Alex Czetwertynski

Björk Digital, Golan Levin, and Shoplifter are on the roster.

Brian Boucher (<https://news.artnet.com/about/brian-boucher-244>), December 15, 2016



Houston is revving up for the second edition of the [Day For Night](http://www.dayfornight.io/) (<http://www.dayfornight.io/>) music festival, which this year will include some 15 site-specific commissions and new media installations. Co-founded by Alex Czetwertynski, who is curating the visual art presentation, the festival takes place December 17–18 and touts musical acts such as Aphex Twin, Jesus and Mary Chain, Butthole Surfers, Blood Orange, and Mykki Blanco.

On the roster as part of the visual arts show are creatives including AV&C + Houze, Björk Digital, Damien Echols, Golan Levin, NONOTAK, Shoplifter, United Visual Artists (UVA), and Various Projects.





# HYPERALLERGIC

NEWS

## At Day for Night Festival, a Surreal World of Light Provides Respite from the Music

In a modernist complex in downtown Houston, artists transform the dark corners and rooms into a light-filled cluster of art.

Claire Voon | December 20, 2016



Michael Fullman, “Bardo” at Houston’s Day for Night Festival 2016 (all photos and GIF by the author for Hyperallergic)

HOUSTON — For over 50 years, postal workers scuttled through the concrete building once known as Houston's Barbara Jordan Post Office; but with last year's closure of those mail operations arrived an opportunity to breathe new life into the hulking, modernist edifice. Now a multipurpose space saved from demolition, the structure last weekend blinked with colorful lights for its first function: Day for Night, an annual music and arts festival anchored right in the city. Although it just turned two, it is already establishing itself within the crowded sphere of its kind as a small but highly considered event, contained to not overwhelm but still offering plenty to impress.

Part of why Day for Night stands out stems from its organizers' strong efforts to give visual artists both equal and distinct footing to the musical lineup — the main draw for most attendees (Aphex Twin, Run the Jewels, and Blood Orange were among this year's roster). Aside from one stage, all musical performances occurred outdoors while two floors of the former post office became the vast, open setting for curator Alex Czetwertynski's selection of projects to overtake. The space is an empty warehouse, and organizers kept it dark and fog-filled, with pretty much only the art serving as light sources; the resulting mood edged on dystopian, introducing an unexpected, almost sinister thrill to what could have simply been a big warehouse rave.

The artworks fill main hallways but also side rooms, inviting exploration of the historic building. Day for Night, is, of course, fundamentally a party, so all the art was light-based and highly sensory. But while a number did follow the obvious route and cater to a drug-addled crowd (a frenzied mirror-and-light show begged for selfies; colorful projections floating above cushions was a space to chill or trip), many were impressive technical feats that contributed to the ominous setting, together creating a wholly different experience from the typical concert experience outdoors.

Whether intended or not, Michael Fullman (of VT Pro Design), for instance, presented a lightshow that evoked many current conversations about surveillance. "Bardo" consisted of dozens of stage lights that tracked attendees on a dance floor-like stage; at its weakest moments, the lights bounced around to loud music so the space simply resembled an enclosed party, but when they moved slowly in careful,

deliberate paths to focus on individuals, the beams recalled eerie search lights, inescapable in that space. Standing in them, you feel vulnerable and exposed as everyone around you holds up a phone to snap photos.

I encountered a similar sense of entrapment at “Outlines,” another beam-heavy installation by St. Petersburg collective TUNDRA. About 400 lasers shot to the ceiling from the ground, turning on and off to sync with a thunderous soundscape and form a shocking, endlessly shifting grid of red light. A viewing platform sandwiched viewers between the menacing lines so from afar, people appeared as part of the installation, trapped in a futuristic, self-controlling prison. This was a darker echo of the cage-like setting near the building’s main entrance by Icelandic artist Shoplifter, which overtook a small space bordered by chainlink fence. “Ghost Beast” arose from her signature medium of hair, here technicolored and appearing alive from abstract projections covering the textured strands. Intermingled with ripped up fence, the cottony masses seemed like a monster slowly consuming the building, reminding in playful form of the structural demolition that was once its near-certain fate. Nearby, an excavator parked in the darkness, still crusted with dirt, seemed to quietly celebrate this escape. It was installed by Czetwertynski, who had masked its cold metal with the inviting cushion of white pillows. In this surrealist form, the vehicle served as an absurd canvas for another series of colorful projections, like a relic of a not-so-distant past in need now of new purpose in our world of digital constructions.



Shoplifter, “Ghost Beast” at Houston’s Day for Night Festival 2016

Where truly breathtaking beauty shone amid all this looming darkness was in a long room transformed into the universe. A row of spheres each surrounded by small, swirling orbs of light extended its length in a neat row, recalling planets dancing together, in precise synchronization, to a deep, ambient soundscape. The series of endless eclipses, designed by [United Visual Artists \(UVA\)](#), was hypnotic, drawing you deeper into meditation the longer you remained. But this otherworldly ballet was slightly eerie, too, suggesting human ability to restage nature’s most wondrous mysteries.

People were so curious to experience UVA’s “Musica Universalis” that it constantly witnessed a long, static line outside its entrance even though musical performances outside offered other entertainment. This was not the only [Rain Room-like queue](#) at Day for Night: the festival also hosted [Björk Digital](#), a five-room installation offering a series of virtual reality music videos featuring the Icelandic artist. The entire experience amounts to roughly 80 minutes, if you linger in the final rooms where you have the option to play with an app or watch videos for as long as you desired.

This, to me, seemed incredibly demanding for a two-day festival — I personally asked to leave after two rooms, feeling antsy — yet hundreds of attendees waited patiently to enter. One man I spoke with said he had spent the entire day in line — missing all of the day’s musical acts. There was a clear appetite for this particular technology, one that is especially uncanny when you consider that some people are actually waiting in line to see — or are seeing — Björk Digital while Björk IRL is DJing on stage in the next room. These lines exemplified Day for Night’s success in bringing art to the general public, in drawing out the curiosity of people who may not necessarily seek out art experiences. Every installation also arrived with wall text (some very extensive) to provide context for those wanting to learn more.

Such order in the foggy, dimly lit darkness introduced yet another strange layer to an event where you expect chaos to reign — particularly when you invite thousands upon thousands of young adults to run around an old building with drinks and joints in hand. Yet, even when you went outdoors, the dreamlike atmosphere of the interior never quite faded; the entire complex felt very much like its own contained world, the only place alive in downtown Houston, where many businesses were shut down for the weekend. The building itself breathed with energy: aside from lights pulsating across its gridded walls, one of its sides became the canvas for Chicago artist [Ezra Miller](#), who projected colorful, ever-shifting animations on it that corresponded to the live music from the nearby stage.

When I observed them at one point, they resembled a blanket of clouds, painterly due to the building’s subtle texture. The swirling lights stood out against the darkening sky next to the city’s own rows of electric squares, but they were far more arresting. The pastel forms recalled an Impressionist’s handiwork; and in that moment, I nearly forgot the colors had come from code. Miller’s mural showcased the potential range of Day for Night’s future exhibitions, asserting that even traditional aesthetics may shine bright here.



Golan Levin, “Ghost Pole Propagator” at Houston’s Day for Night Festival 2016

*Day for Night took place on December 17 and 18 at the former Barbara Jordan Post Office (701 Franklin Street) in Houston, Texas.*

*Editor’s note: The author’s travel expenses and accommodations in Houston were paid for by Day for Night.*

**Correction:** *This post originally misstated the name of the post office where for Day for Night took place. It has been fixed.*

## How to Tame a Robot with High Performance Software

Wed, 03/02/2016 - 10:16am by Carnegie Mellon University



*Madeline Gannon, a Ph.D. candidate in Carnegie Mellon University's School of Architecture, has put the power of interacting with robots into our hands — literally.*

Now, programming robots is not just for those with years of coding knowledge, it's for anyone who wants to experience what it's like to simply wave at a robot and have it wave back.

Gannon designed [Quipt](#), open-source software that turns a human's motions into instructions a robot can understand. She designed it while in residence at Autodesk Pier 9 in San Francisco.

When she left for her residency, she had been working with industrial robots at Carnegie Mellon University for a few years. She was close to making a big change.

"I wanted to invent better ways to talk with machines who can make things. Industrial robots are some of the most adaptable and useful to do that," she said.

But they are also some of the most dangerous. The U.S. Department of Labor has a special Web site devoted to "[Industrial Robots and Robot System Safety](#)." These robots are big, and they have to be programmed by people with years of training.

That programming takes place "basically with a joystick," according to Gannon. Programmers move the robot to a place, record a point and iteratively build up a motion path for the robots to remember.

"Then the robot will repeat that task 24/7. That is their world," Gannon said.

But not anymore. Quipt replaces the joystick technique. Its software stitches together the robot with a motion capture system, which are cameras that look into a space and let the robot see where it is.

"I gave this robot — this big, powerful dumb robot — eyes into the environment," Gannon said.

When the robot looks with its motion-capture eyes, it sees tracking markers on a person's hand or clothes. Now, it can track a person while remaining a certain distance away, it can mirror a movement, or it can be told to avoid markers.

Which means that potentially these robots are a lot safer — and a lot smarter. Gannon imagines a world where they aren't just welding parts on an assembly line.

"I think what's really exciting is taking these machines off of control settings and taking them into live environments, like classrooms or construction sites," Gannon said.

Gannon collaborated with visiting artist Addie Wagenknecht and the [Frank-Ratchye STUDIO for Creative Inquiry](#) to develop a robot that could rock a baby's cradle according to the sound of the baby's cry.

This software is a cousin to another of Gannon's projects that makes technology more hands-on — last year Gannon released [Tactum](#), which takes the software guesswork out of 3-D printing. In fact, Tactum projects an image directly on your body, and with your own hands you can manipulate the image to make it fit or look exactly how you like. Together with a projector, which produces the image on your skin, and a sensor, which can detect your skin and how you're touching it, the software updates the 3-D model that you're creating. When you're ready to print, you just simply close your hand and your design goes to the 3-D printer.

Gannon was drawn to CMU's College of Fine Arts when the School of Architecture added new fabrication equipment.

"I felt like I had the keys to the candy shop," she said.

"My research is really playing in the field of computer science and robotics, but the questions I'm able to ask those specific domains is conditioned by my architectural background. It's really a spatial answer, how to control or interact with a robot. That, in my mind, is an architectural answer to this problem," she said.

Golan Levin, director of the Frank-Ratchye STUDIO for Creative Inquiry at CMU, is one of Gannon's doctoral thesis advisors. He thinks her work could change how people design architecture, clothing and furniture, as well as influence industrial design and the arts.

"Madeline is remarkable for the way in which she brings together an acutely sensitive design intuition with a muscular ability to develop high-performance software," Levin said. "The kind of work she is doing could not be achieved by a collaboration between a designer and engineer; it takes a single person with a unified understanding of both."

Stephen Lee, head of CMU's School of Architecture, has a philosophy that students learn best when they learn by making. He has attended Gannon's presentations and hired her to teach undergraduate architecture courses.

"I think project-based learning and the maker culture are revolutionizing both the academy [K-12 & university] and practice [more slowly]. She is front and center in these new ways of learning and doing," Lee said.