

March 14th to July 14th 2019

COMPUTER

History, Gender, Technology

GRRRLS

Exhibition

- > Performances
- > Meetings
- > Workshops
- > Shows



La
Gaîté
Lyrique

EXHIBITION
LEAFLET

In coproduction with

HMKV

Hardware MedienKunstVerein

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Chloé Desmoineaux

Computer Grrrls

When IBM France commissioned the philologist Jacques Perret to find a fitting French word for «computer», in a letter dated April 16, 1956, he suggested translating computer with «ordinateur» – an adjective he called «God bringing order into the world.» He then specified that the word should be better used in its feminine form: *ordinatrice*. «*Ordinatrice* is very well suited, and also has the advantage of clearly distinguishing your machine from the vocabulary of theology,» wrote Perret. IBM, however, remained with the male version.

In a not-so-distant past, computers “wore skirts”, in the words of former NASA mathematician Katherine Johnson. Indeed, before the word computer described a machine, it referred to a profession that, at the beginning of the 20th century, was often practiced by women. Women crunched astronomical data, cracked Nazi codes and calculated ballistics trajectories for the army. They were called «Bletchley Girls», “Rocket Girls”, or «ENIAC Girls». When the first fully electronic computer appeared in the US, in 1946, it was programmed by women. And another female pioneer, Ada Lovelace, created the first algorithm.

The exhibition title refers to an article in the women’s magazine *Cosmopolitan* published in April 1967 («Computer Girls»). It praised the opportunities for women in professions in the field of computer science. Paradoxically, at the same time the profession started to get ‘masculinized’. This development was reinforced by the emergence of the personal computer – the «boy’s toy» par excellence – in the mid-1980s, as well as by the emergence of the figures of the nerd and the hacker. Today, technology is more than ever a male domain. How did it happen that this area, previously attractive to women, has changed radically within just a few decades?

Against the background of this development, the first cyberfeminist movements emerged in the 1990s, which called on women to (re-) appropriate new technologies and to deal with the emerging Internet. This movement – of thought, criticism and art (the technofeminist manifestos gathered in the exhibition testify to this) – produced a new generation of theoreticians, artists and activists who developed new ways of thinking and acting in the age of networks. However, the hope of emancipation borne by «cyberspace» has fizzled out. In the 2000s, the Internet gradually became a place of control and surveillance increasingly affected by the power struggles and conflicts of the ‘real’ world. Since 2014, there has been a resurgence of technofeminist movements that combine issues of technology with those of ecology and economics (from which they are indissociable) in increasingly toxic environments, whether online or offline.

In short: The exhibition *Computer Grrrls* draws on recent research into the history of this profession. What are the reasons that computer science turned into a masculine field of activity since the 1960s? Why is the number of female computer scientists decreasing since 1985, with the advent of the microcomputer? And how does society deal with the fact that women are marginalized as creators of technological developments that are shaping every aspect of our lives?

The exhibition *Computer Grrrls* brings together more than 20 international artistic positions that negotiate the complex relationship between gender and technology in past and present.

Computer Grrrls deals with the link between women and technology from the first human computers to the current revival of technofeminist movements. An illustrated timeline with over 200 entries covers these developments from the 18th century to the present. Invited are artists, hackers, makers and researchers who are working on how to think differently about technology: by questioning the gender bias in big data and Artificial Intelligence, promoting an open and diversified Internet, and designing utopian technologies.

Computer Grrrls provides those who want to (re)politicise the design and development of technology in our monopolistic age with a voice. The participating artists cast a critical, caustic, speculative look at the information and communication technologies, mostly developed by white men from the global North, which affect us all. How can we recover our autonomy in the face of the current situation, which impacts not only women, but in fact the majority of the population (which is increasingly excluded from the profound technological changes taking place)?

Following the exhibition in Dortmund, the project will travel to La Gaîté Lyrique in Paris in the spring of 2019, and to MU in Eindhoven in the summer of 2019. There will be film screenings, tours with the curators, artist talks and experimental workshops at all locations.

Editorial

The world of technology is invariably associated with male figures. This blatant lack of diversity is now becoming a concern, as demonstrated by the host of initiatives created to address the issue. At the same time, women played a major, yet underappreciated role in the development of computing. For the *Computer Grrrls* exhibition, La Gaîté Lyrique is showcasing 23 international artists and collectives that are rewriting dominant technology narratives by asking the question, “What if we put the ‘grrrls’ back in computers”?

The artists invited – women designers, makers, hackers and contemporary researchers – are reshaping the alliance between women and machines using an array of tools: 3D printing, YouTube tutorials, virtual reality, video installations, algorithms, promotional videos and more. *Computer Grrrls* takes visitors on an intuitively plotted journey that is both rich in history and a thought-provoking experience with a story to tell.

As a hub for postinternet culture, it was only natural for La Gaîté Lyrique to embrace an exhibition – co-produced with the Hartware MedienKunstVerein (HMKV) in Dortmund, Germany – that lies so squarely at the intersection of art, social issues and new technology. Indeed, the activists’ perspectives presented in *Computer Grrrls* broach a broader series of topics: electronic colonialism, minorities’ place on the Internet, the sexist bias of algorithms, the dangers of white men having complete control over artificial intelligence, and digital surveillance, as well as ideas for changing our outlook and making a difference.

Computer Grrrls will present conferences, concerts and DJ sets in conjunction with the exhibition of works, rounding out a multiform series designed to foster interaction between different audiences. It’s a prime opportunity to think along different lines – and not just lines of code.

Works in the exhibition

The exhibition *Computer Grrrls* features 26 artworks by 23 artists from 16 countries. The media featured in the exhibition are very diverse: 3D prints, video installations, film tutorials, sculptures, algorithms, posters, dissected analogue rhythm machines, a documentary, a stereoscopic 3D projection, photographs, inflatable figures, drawings and watercolors. Lowtech meets artificial intelligence, high-tech meets soldering irons, and a hairdressing saloon meets a virtual reality set.

Topics

The artists in the exhibition reinvent the alliance between women and machines, decode and recode that relationship, and give dissonant positions a voice in an increasingly normative technological landscape. Kate Crawford, a renowned Microsoft researcher and co-founder of the AI Now Research Institute, is developing Artificial Intelligence (AI), one of the most disruptive technologies since the invention of the Internet. In The New York Times she referred to «Artificial Intelligence’s White Guy Problem» – to the fact that the lack of diversity in AI development will further reinforce gender bias and other forms of discrimination: „Like all technologies before it, artificial intelligence will reflect the values of its creators. So inclusivity matters – (...) Otherwise, we risk constructing machine intelligence that mirrors a narrow and privileged vision of society, with its old, familiar biases and stereotypes.”

The artists gathered here question the notion of technological «progress» by revealing the dynamics of power and its underlying digital (neo) colonialism (Tabita Rezaire). They dissect and update old technologies (Lauren Moffatt) to question the strategy of planned obsolescence and to better understand «the dark chaos hidden in the machines of capitalist culture» (Darsha Hewitt). They map the Internet to address issues of power distribution on the Internet (Louise Drulhe) and make visible the sexist norms encoded in algorithms (Erica Scourti, Zach Blas & Jemima Wyman). They deal with new invisible forms of exploitation (Elisa Giardina Papa), technological oppression and algorithmic prejudices (Simone C. Niquille) and racism (Hyphen-Labs). They envision tactics of resistance by using self-defense practices against our own digital aids (Dasha Iliina), or inventing dysfunctional software which proves to be haunted (Elisabeth Caravella). What is more, they invite people to go beyond gender binaries by «cooking» their own hormones (Mary Maggic), or inventing a post-gender avatar (Lu Yang).

Other artists turn their attention to historical developments: for example, they tell their family history in the people's-owned company Robotron in the GDR in the guise of a funny web soap opera (Nadja Buttendorf). There is also a documentary that illuminates the forgotten role of women in computer science by masterfully assembling film snippets from historic industrial and commercial films (Caroline Martel). Another video juxtaposes historic and current luddites (Laurent Huret). Computer advertising of the 1970s and 1980s is submitted to a ruthless visual analysis (Jenny Odell), while the first fully functional, five-fingered prosthetic hand originally developed in the 1960s in Belgrade resurrects before our eyes (Aleksandra Domanovic). Another work newly developed for the exhibition submits the texts of selected technofeminist manifestos to the TFIDF (term frequency - inverse document frequency) numerical statistic, which was co-designed by Karen Spärck Jones in 1972 and is still used today for information retrieval - thus resulting in concrete poetry published in a notebook (Manetta Berends). Finally, Jennifer Chan's video which looks at the exclusively male founders - the geeks and nerds - of Silicon Valley, proves to be extremely funny.

Faced with the crisis of the Utopian Imaginary, the artists draw from mythology as well as science fiction. They refer to dark goddesses of the Middle East (Morehshin Allahyari) or imagine the world from the point of view of a posthuman artificial superintelligence (Suzanne Treister). They imagine a future from which it is possible to rethink the present.

Detailed descriptions of the individual artworks can be found in the booklet accompanying the exhibition. All works are provided here with six keywords, which are merged in an alphabetical glossary. These more than 120 keywords outline the range of topics that can be found in the exhibition *Computer Grrrls*.

Timeline

In the exhibition, an illustrated timeline with more than 200 entries documents the role of women in the history of technology from the 18th century to the present - from the earliest programmers and human computers to current technofeminisms.

Women have been working with machines for a long time – as typists, telegraphers, telephone operators, machine data processors, programmers. They have often played a pioneering role, albeit temporarily, in developing innovative technologies. Often they were replaced by machines that bore their name. Long before the word «computer» described a machine, it referred to women who performed calculations by hand. In the beginnings of computer science, they were very present in the field of punch cards as well as in scientific departments. But their presence declined considerably in the mid-1980s with the introduction of the personal computer, an unprecedented phenomenon in the history of a profession. In the 1990s, cyberfeminists called on women to reappropriate the field of technology in the age of the Internet. Today, many initiatives are working to remedy this imbalance.



Illustrated timeline, presented in the exhibition *Computer Grrrls*, HMKV at Dortmunder U, 27 October 2018 - 24 February 2019, photo : Hannes Woidich

1st Part: When computers wore skirts

May they be telegraphists, typists, telephone operators, machine operators or programmers, women have formed an avant-garde in the development of innovative technologies. The artists invite us to go back in time, they reveal the women's role from the very beginnings of IT.



© Caroline Martel, Le Fantôme de l'Opératrice, 2014



Lauren Moffatt (AU)

Lauren Moffatt is an Australian artist who works with immersive media. She studied at the UNSW (AU), l'Université Paris VIII and in Le Fresnoy Studio National des Arts Contemporains (FR). Lauren's works explore the sources of friction between virtual and physical worlds. They have been shown in the Palais de Tokyo (FR), Daegu Art Museum (KOR), FACT Liverpool (UK), Werkleitz Festival (DE), at the Sundance Film Festival (US) and at the ZKM (DE)..
deptique.net

The Unbinding

2014

Stereoscopic 3d projection

Une production Le Fresnoy, Studio national des arts contemporains

The Unbinding presents a world composed of fragments of archival images. Conceived as an installation, this stereoscopic video work revolves around a female character whose face, hands and hair change with each movement. Inspired by Ada Lovelace and Mary Shelley, by Cubist portraits and Philip K. Dick's 'scramble suit', the composite character lives across several temporalities and never leaves her loop. The action is set in a cabin reminiscent of a giant computer, built by the protagonist in a forest using discarded computer parts. Is the cabin serving as a time machine? Or are we travelling inside the character's memory? By revisiting an old film technology, Moffatt wanted to create a visual system that illustrated the artist Hito Steyerl's remark according to which the brain functions like a web browser where each image is reminiscent of another . (ML)



Jenny Odell (US)

Jenny Odell is an artist and author who lives in Oakland, California. Her works often involve dealings with archives and the establishing of new archives. Odell was artist in residence with the Internet Archive, Recology, San Francisco, and Facebook. Her works have been shown a.o. at the Contemporary Jewish Museum and in the New York Public Library. In 2016 she created a mural for an outside wall of a Google data centre in rural Oklahoma. Odell has been teaching digital art at Stanford University since 2013. Her book *How to Do Nothing: Resisting the Attention Economy* will be published by Melville House (2019).
www.jennyodell.com

Polly Returns

2017

Video, 3:03 min

Courtesy of the artist

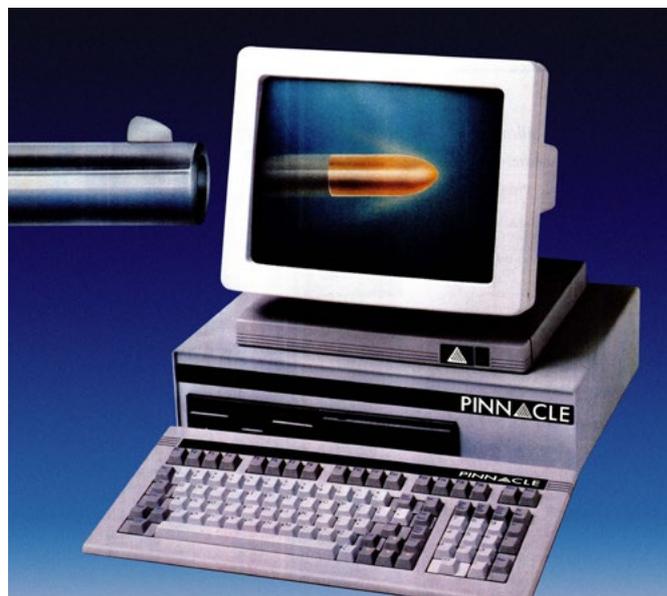
Polly Gone

1988

Video, 3:02 min

of Shelley Lake

While in residence at the Internet Archive, I came across *Polly Gone*, a 1988 computer animation by Shelley Lake (who was then the technical director of Digital Productions, a prominent 3D animation studio). In the video, a female robot – whose severe, mechanistic design was inspired by Oskar Schlemmer’s *Triadic Ballet* – zips around a futuristic dome house doing various domestic chores, all while a horror movie soundtrack with synthesised beats plays in the background. Fascinated with how dystopian and surreal the animation seems in retrospect, I attempted to address the horror of the digital sublime in a modern day version: Here, Polly returns in 2017 to find herself awash in a sea of listicle titles (à la ‘Three Ways to Turn Stale Bread into Something Delicious’, or ‘5 Ways to Increase your Productivity’). My soundtrack is based on Shelley Lake’s soundtrack, which in turn was inspired by the soundtrack from *The Day the Earth Stood Still* (1951). (Jenny Odell)



Jenny Odell (US)

Neo-Surreal

2017

Digital prints

Courtesy of the artist

“*Neo-Surreal* is a collection of works that extracts intentionally and unintentionally surreal imagery from 1980s BYTE magazine ads. The reconfiguration of this material highlights the ways in which such imagery, viewed in hindsight, inadvertently portrays some of the stranger and more sinister aspects that technology eventually came to embody. For instance, one finds things like a computer wearing a policeman’s hat and wielding a riding crop (evoking surveillance) or a pill opening to reveal a computer chip (evoking biometrics). Similarly to Richard Prince in his *Cowboys* series, I’ve done nothing here except to remove the text, restore some backgrounds and re-title the images. I completed this work while in residence at the Internet Archive. (Jenny Odell)”



Nadja Buttendorf (DE)

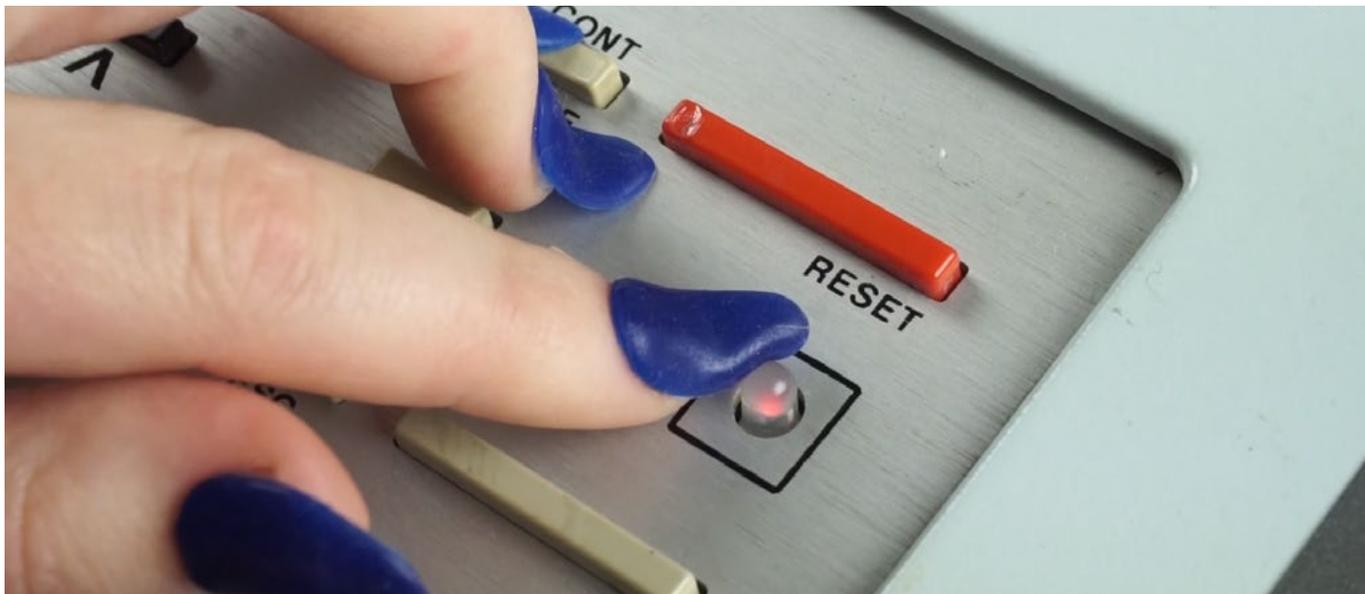
Nadja Buttendorf is born in 1984 in Dresden (GDR), studied art at Burg Giebichenstein University of Art and Design Halle (Diploma 2012) and has lived and worked in Berlin since 2011. Her videos, performances, installations and objects deal with social questions revolving around body images and stereotypes in gender roles (incl. in the history of the development of the computer in the GDR).
nadjabutendorf.com

Robotron - a tech opera

2018-2019

YouTube series, 3:00 min

Robotron, the first soap opera set in the computer industry of the GDR, retraces the development of computers in a planned economy and the everyday life of women in East Germany. The people-owned company (VEB) Kombinat Robotron was the largest computer manufacturer of the former GDR and one of the most important producers of information technology in socialist Eastern Europe. The artist's mother worked from 1976 to 1990 as a technician at Robotron, where she met her husband, who worked there as an electrical engineer. They got married and had two children. Then the artist's father had an affair with another woman, who also worked at Robotron. Everyone knew about it, except Buttendorf's mother. In 1990, during the German reunification, the company was dismantled and the parents divorced. In this fictitious relationship drama inspired by her own family history, the artist assumes the joint tasks of director, DOP, screenwriter and cast. Inspired by Nasime Aghdam, known as the YouTube Shooter, *Robotron* oscillates between *Star Trek*, German soap operas and Snapchat aesthetics. (IA)



Nadja Buttendorf ^(DE)

Soft Nails ♥ [ASMR] Kleincomputer Robotron KC87 ♥

2018

HD Video, sound, 13:14 min

Autonomous Sensory Meridian Response (ASMR) is a form of physical stimulation via whispering and quiet sounds that grew out of net culture on the largest online video platform, YouTube. The viewer/listener finds the tingling sensation caused by these sounds very pleasant. ASMR videos are often produced by young women who view the technique as a form of treatment.

Most ASMR videos use the latest technological tools to trigger the tingling. Nadja Buttendorf has given the experience a new twist by using high-tech equipment from the past. She presents the Kleincomputer Robotron KC 87 from every angle. "KC" stands for Kleincomputer, which means "small computer" in English. The model was released in what was then East Germany in 1987 by a Dresden-based company that belonged to the Robotron combine.



Lauren Huret (FR)

Lauren Huret lives and works as an artist in Geneva (CH). Graduated from the École des Beaux-Arts in Bordeaux and received her MFA from the University of Art and Design in Geneva (HEAD). Works with performance, video, collage and book media. Exhibitions, among others, in the Kunsthaus Langenthal (CH); Hard Hat, Geneva; Le Consortium, Dijon; La Panacée, Montpellier; Le Magasin, Grenoble; Neue Galerie, New York and Copenhagen Contemporary. www.laurenhuret.com

Breaking the Internet

2016

HD Video, 35:00 min

Courtesy of the artist

From the Jacquard loom – the early nineteenth-century forerunner of programmable machines – to telephone operators and social media stars, this video retraces the historical developments of different technologies and their deleterious effects. The title of the work operates an ironic shortcut between Kim Kardashian and the historic Luddite movement: While the English textile workers resisted the dispossession of their know-how by breaking the machines that threatened to replace them, the queen of selfies claimed to ‘break the Internet’ by posing naked for the cover of *Paper* magazine in 2014, triggering a storm of reactions that was supposed to bring down the network. Huret’s video establishes a connection between the disembodied voices of early- twentieth-century telephone operators and the voiceless bodies of women on Instagram, as epitomised by Kardashian. (ML)

CENTRE ↗
CULTUREL
SUISSE ↘
PARIS ↗ ↘

Exposition personnelle de Lauren Huret

Praying for my Haters

du 3 février au 28 avril 2019 au Centre Culturel Suisse.



Caroline Martel (CA)

Caroline Martel is a documentary filmmaker, artist and scientist who is especially interested in archives, invisible stories and audio-visual technologies and cultural heritage. Works: the film montage essay *The Phantom of the Operator* (2004), *Wavemakers* (2012), the solo exhibition *Industry/Cinema* in the Museum of the Moving Image, New York City (2012) and *Spectacles du monde*, a 35-screen installation commissioned by the Musée d'art contemporain de Montréal (2017).

Le fantôme de l'opératrice

2004

Documentary, 65:00 min

Courtesy of Artifact Productions

In the twenty-first century, it is more common to be greeted by the synthetic voice of an answering machine than by a 'voice with a smile' – the glamorous description for telephone operators who, in the previous century, held a central place in the development of global communication. With an eye for the quirky and humorous, Caroline Martel explores this little-known chapter in the history of female labour through a dazzling montage of clips *Le Fantôme de l'Opératrice* (The Phantom of the Operator) – more than 125 remarkable, rarely seen industrial, advertising and scientific management films produced by telephone companies in North America between 1903 and 1989. Its dream-like narrative unfolds at the crossroads of science and fiction. The invisible army of women, the linchpins of technological progress in motion, was eventually eclipsed by the advent of automated systems. 'The brighter the projections of the dream machine', the narrator tells us, 'the darker the shadows they cast.' (ML)



Aleksandra Domanović (CZ)

Aleksandra Domanović, born in 1981 in Novi Sad (ex-YU, today Serbia), lives in Berlin. Solo exhibitions, a.o., *The Future Was at Her Fingertips*, Tanya Leighton Gallery, Berlin (2013); *Turbo Sculpture*, SPACE, London (2012); *From yu to me*, Kunsthalle Basel (2012). Participation in exhibitions, a.o., *Inhuman*, Fridericianum, Kassel (2015); *A Different Kind of Order*, ICP Triennial, New York (2013); *Speculations on Anonymous Materials*, Fridericianum, Kassel (2013); *Lux Biennial of Moving Image*, Tramway, Glasgow (2012); *4th Marrakesh Biennale*, Marrakesh (2012); *The First Kiev Biennale*, Kiev (2012).

VUKOSAVA

2013

Laser sintered pa plastic, polyurethane, soft-touch & brass finish, acrylic glass

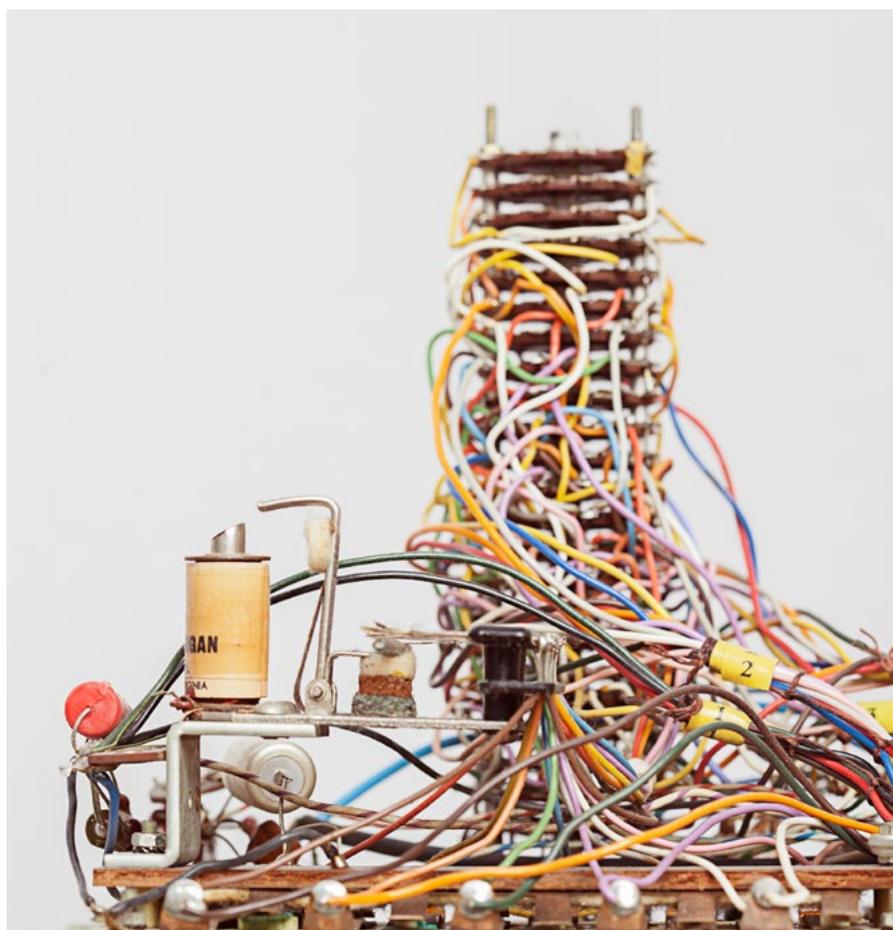
Courtesy of the artist and Tanya Leighton, Berlin

In this work, Aleksandra Domanović looks at the Belgrade Hand, the world's first five-fingered artificial hand, invented in 1963 by the Serbian scientist Rajko Tomović (1919-2001) and further developed by scientists at MIT. In 1977, the prosthesis starred in the lead role of the horror film *Demon Seed*. During her research, Domanović realised the importance of women in the development of cybernetics, the Internet, multimedia and Virtual Reality. The timeline accompanying this work reflects her findings.

Domanović's 3D-printed plastic and polyurethane sculptures are soft-touch-coated with brass and aluminium. They represent gestures and symbols from various cultural traditions and eras, from an Indian symbol of immortality and love to a closed fist and a hand that resembles a Spanish reliquary from the 16th century. (IA)

2nd Part: *Do it yourself* and tactics of resistance

The lack of diversity among researchers and programmers in the tech field has become problematic for both industry and society. The dearth of women is not inconsequential, because algorithms reproduce the biases of those who program them. The artists make discriminations and sexist standards logged in the code visible and question the notion of technological “progress”. They invite us to reclaim those tools in order to go beyond those binarisms.



Darsha Hewitt, *A Side Man 5000 Adventure*, 2015.
© Meyer, Loose, Hewitt



Jennifer Chan (CA)

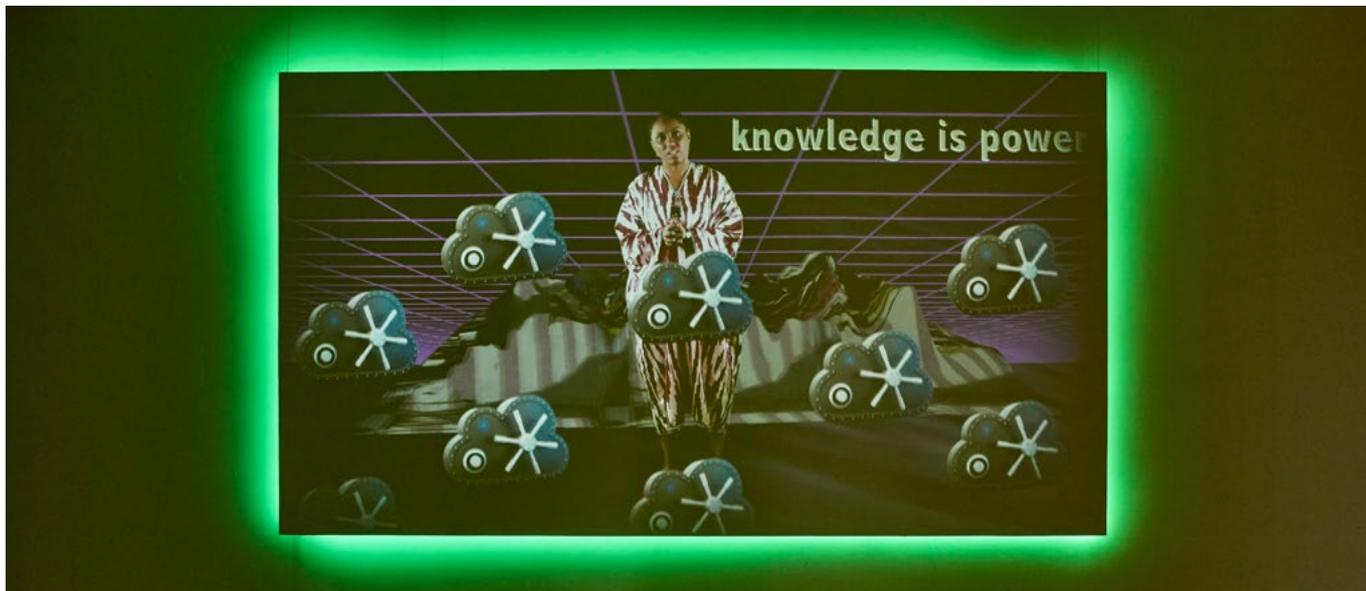
Jennifer Chan is a Canadian video and media artist and curator who grew up in Hong Kong, but lives and works in Toronto (Canada). MFA in Art Video, Syracuse University, New York (2013). Solo exhibitions, a.o., *The Blue Pill*, Art Gallery of Southwestern Manitoba (Canada) (2017); *Young Money*, Future Gallery, Berlin (2012), as well as the screening of *I'll Show You HD*, transmediale, Canadian Embassy, Berlin (2013).
jennifer-chan.com

A total Jizzfest

2012

Video, 3:22 min

This video celebrates Silicon Valley and the founders of successful companies, platforms and blogs such as Microsoft (Bill Gates), Apple (Steve Jobs), Google (Larry Page & Sergey Brin), Facebook (Mark Zuckerberg), Twitter (Nick Dorsey), Megaupload (Kim Dotcom), Skype (Niklas Zennström & Janus Friis), BuzzFeed (Jonah Peretti), Tumblr (David Karp & Marco Arment), Vimeo (Jakob Lodwick) and others. Advertising slogans such as 'Hot Creations' or 'The Best Selection', a post-Internet aesthetic and cheesy soundtracks (including 'Boys of Paradise' by Unicorn Kid) turn this video into an amusing and simultaneously caustic inventory, evidencing that the brave new world of media is dominated by male protagonists. According to a study by the American Association of University Women, in 2013 merely 26% of professional computer scientists were women – 9% less than in 1990. Women are even less represented in the field of Artificial Intelligence(AI), which is arguably the most disruptive technology since the advent of the Internet. (IA)



Tabita Rezaire ^(FR)

is an artist who works with screens and energy fluxes. Her cross-dimensional method of work imagines network sciences, organic, electronic and spiritual, as healing technology that clears the way to consciousness of the heart. In that she navigates architectures of power, she reveals the scientific imaginary, in order to in this way address the omnipresent matrix of colonialism and the protocols of energetic misalignment that affect the songs of our body-mind spirits. Tabita lives in Cayenne, French Guyana.
www.tabitarezaire.com

Premium Connect

2017

HD Video, 13:04 min

Courtesy of the artist and of Goodman Gallery (South Africa)

The Internet and its unilateral flows of information – from the West to the rest of the world – is a powerful tool of cultural imperialism and erasure of indigenous knowledge systems. Tabita Rezaire aims to decolonise this conquering cyberspace, an instrument of electronic colonialism. What other technologies are available to share information? In *Premium Connect*, the artist, researcher and healer explores cybernetic spaces where the organic, technological and spiritual worlds intertwine. Based on African divination systems, underground communication networks of plants, communication with ancestors and quantum physics, *Premium Connect* opens up other forms of connectedness (to oneself, to others, to the Earth and to the universe) that do not rely on exploitation, exclusion and profit. Drawing on the work of the Nigerian philosopher Sophie Oluwole, she establishes parallels between the binary code of computers and the binary protocols of the Ifa divination system practiced by the Yoruba people, suggesting that our information highways may be rooted in African spirituality. (ML)



Darsha Hewitt (CA)

Darsha Hewitt is known for her examinations of communications technology and her use of DIY aesthetics and practices. Her work is interdisciplinary and characterised by a strong feminist critique of technology. She deconstructs and experiments with obsolete household devices, with the goal of demystifying systems and processes of the economy, power and control incorporated into capitalist culture.

darsha.org

A Side Man 5000 Adventure

2015

10 videos, 5:00 min

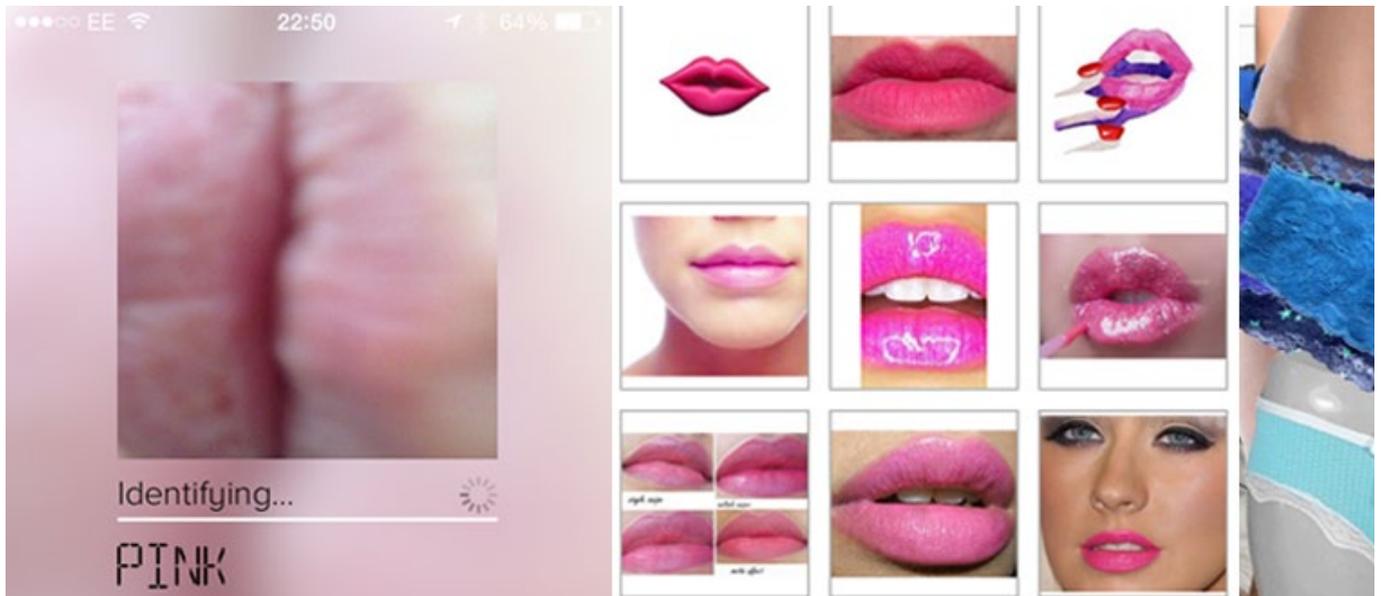
Courtesy of the artist

The Side Man 5000 is the oldest commercially available drum machine in the world, built in 1959 by the Wurlitzer Company, who called it a 'percussive rhythm device'. *A Side Man 5000 Adventure* is a video series directed and hosted by the Canadian artist Darsha Hewitt, where the electro-mechanical 'Cadillac of drum machines' becomes a window into a world of shimmering vacuum tubes, high-voltage oscillations and basic electronics. *A Side Man 5000 Adventure* is an entertaining and fun lesson in both media archaeology and DIY and maker culture, and an introduction into the basics of physics, electronics and mechanical design. It is the first comprehensive technical documentation of a machine that made history. And it is a must-watch series for anyone interested in learning more about music, electronic history or how things work. (IA/Hewitt)

Shimmer Generators V.3D

2018

Analogue wurlitzer side man 5000 rhythm machines



Erica Scourti (GR)

Erica Scourti, born in Athens, now living in London and Athens. Her work can be understood as a performative autobiography, with which she explores identities within contemporary biosociological-technological systems. Exhibitions, among others, at High Line Art, New York; Wellcome Collection; Kunsthalle Vienna; Hayward Gallery, London; EMST Athens and South London Gallery. In addition to articles, among others, in *Documents of Contemporary Art: Information* (2016, MIT Press), she began her doctorate at Goldsmiths, London in 2018. www.ericascourti.com

Body Scan

2014

HD Video, 5:03 min

Courtesy of the artist

For the video *Body Scan*, Erica Scourti took images of her body with her iPhone and ran them through various search engines and apps that attempt to correlate pictures with information on the Internet. An off-voice (the artist) comments on the search results and muses on the sometimes witty or sexist meanings contained in the results. For example, images of female body parts (especially breasts) are routinely linked to suggestions on how to improve them.

Prior to this work, Scourti was interested in how artists, in particular, imagined themselves, their partners and their sexuality with the help of the latest technology available to them at a given time. As historical role models she cites Joan Jonas, Carolee Schneemann and Frances Stark. But her work is also interested in the normative aspects embedded in image searches as, indeed, all algorithmic processes. *Body Scan* visualises the objectification and standardisation of the female body. An intimate and autobiographical work, it also points to much larger social forces and developments. (IA)



Dasha Ilina (RU)

Dasha Ilina is a digital artist who lives in Paris. Her work questions the relationship we have with our devices and their interfaces, and transforms the answers into digital and physical works of art that are interactive, educational and often also ironic and entertaining. She is the founder of the Center for Technological Pain, a centre dedicated to combating illnesses that arise from dealing with technological devices.

dashailina.com

Center for Technological Pain

2018

Installation, video

Courtesy of the artist

Center for Technological Pain (CTP) is a mock company conceived by Dasha Ilina that offers DIY and open source solutions to solve health problems caused by digital technologies such as smartphones and laptops. Among the prototypes it has developed are mechanical eye shields that reduce eyestrain, a headset to free the user's hands, an insomnia-free box and various more or less absurd contraptions to relieve strained elbows and fingers. Ilina, who is part of a generation of millennials who never take their eyes off their smartphone, also offers DIY manuals on how to build low-tech accessories from cheap materials. CTP further questions the negative effects of technology by adapting self-defence techniques to fight this contemporary addiction. (ML)



Mary Maggic ^(US)

Mary Maggic is a non-binary artist who works at the interface between biotechnology, cultural discourse and civil disobedience. Her most recent projects consist of DIY instructions for the extraction and identification of hormones, the micro-performativity and potential for mutagenesis, meaning gender hacking of which are emphasised. She has a Master of Science from the MIT Media Lab and has exhibited in, among other locations, the Haus der Kulturen der Welt, Berlin; H3K, Basel; Jeu de Paume, Paris; ICA, London and Spring Workshop, Hong Kong.. maggic.ooo

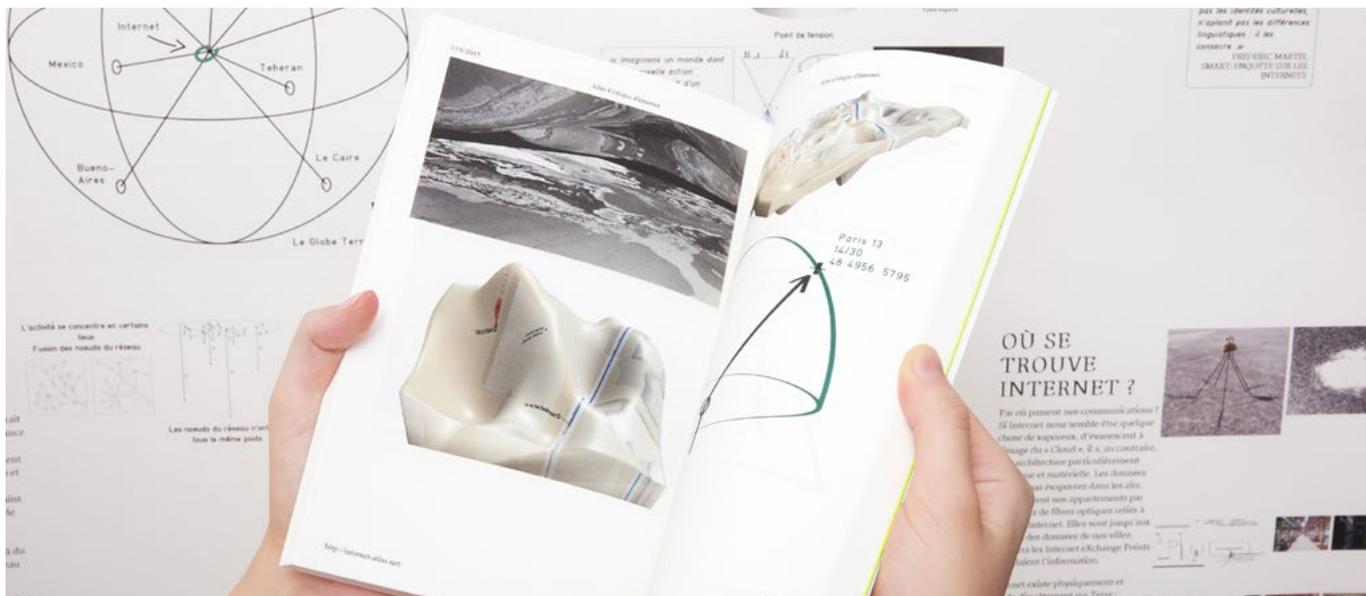
Housewives Making Drugs

2017

Video, 10:10 min

Courtesy of the artist

In this video, which at first resembles a generic cooking show, Maria and Maria describe an easy way to harvest estrogens – female hormones – and thus bypass the pharmaceutical industry. Transgender people use (prescription) estrogen supplements for sex changes from male to female. In order to become independent from doctors and health insurances and achieve ‘radical body autonomy’, Maria and Maria become biohackers, explaining that humanity has always practiced organic hacking – just think of wine – or cheese-making, or even beer-brewing. They present the ‘estrofeminiser’, a device that helps users to retrieve the estrogens the human body excretes through the urine. It is assembled from commercially available materials such as a bottle and cigarette filters. Hormones without a prescription? Maria and Maria make it possible. An increasingly enthusiastic studio audience applauds them. (IA)



Louise Drulhe (FR)

Louise Drulhe, born in 1990 in Paris, lives and works as a graphic designer and artist in Paris. Graduated from the ENSAD Paris. Theoretical and sculptural research on the charting and visualisation of the Internet. She understands spatialisation as a tool for understanding social and political themes connected to the Internet. Participation in exhibitions, a.o., in the Museum of Modern Art of Freiburg; MUCEM, Marseilles; Biennale of Saint-Etienne; Biennale of Moscow. louisedrulhe.fr

Critical atlas of Internet

2015

Poster

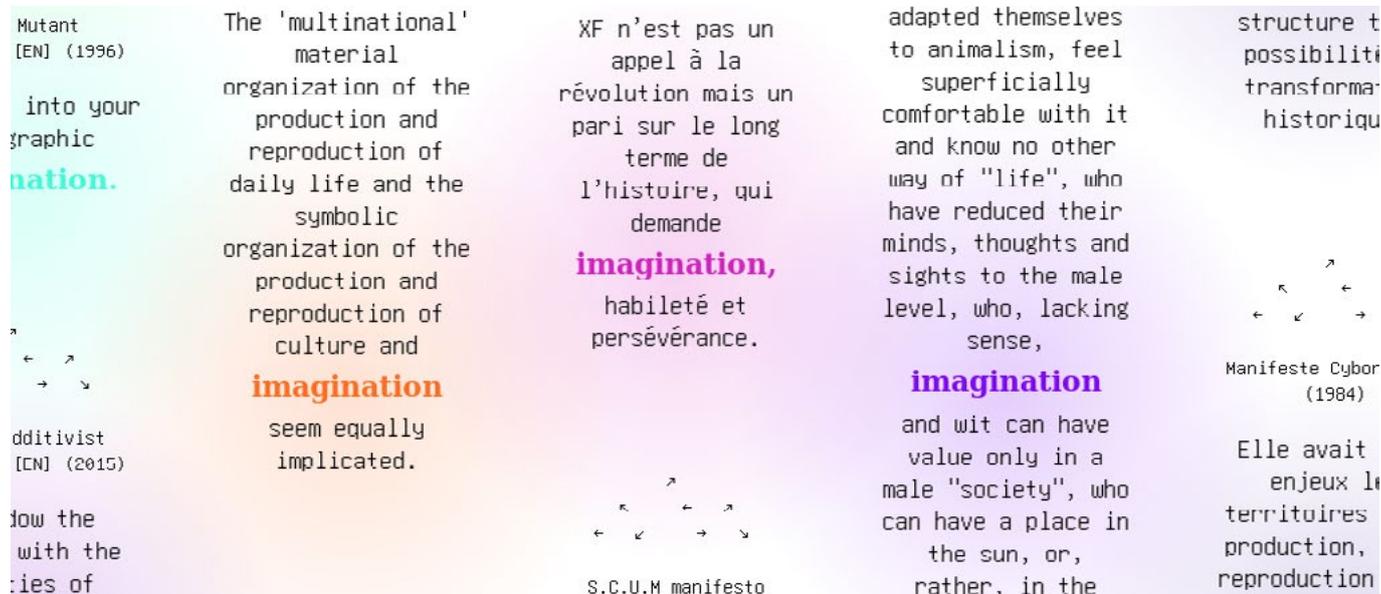
Courtesy of the artist

Blockchain, an architecture of control

2016

Video, 15:00 min

‘Looking at the Internet is like looking at a landscape through a window: you have a framed vision of a larger whole. But in the case of the landscape, you can walk out of the room and see the expanse as a whole. The Internet, on the contrary, does not exist without a frame,’ writes Louise Drulhe. *The Critical Atlas of Internet* was born from the desire to represent the geography and architecture of the ‘invisible’ realm of the Internet, ‘a territory in which we spend our time without knowing its form’. The designer seeks to visualise the network of networks that is ever more intricately entangled with the physical world, and to use spatial analysis as a key to understanding its political and economic implications. To do so she has developed 15 hypotheses on its potential form, which she puts to the test: Is the Internet a unique point in the centre of the globe? Is it a surface dented by the weight of big monopolistic actors? Is the whole planet overshadowed by the American cloud? The Atlas was built using a unique programming code that allows for an infinity of different displays both online and on paper. It is accompanied by a video dedicated to the blockchain, a decentralised technology originally aimed at reviving the democratic origins of the web, but which is now about to turn into an architecture of control. (ML)



Manetta Berends ^(NL)

Manetta Berends, born in 1989 in NL, works as a graphic designer with an interest in digital infrastructures and free software. In 2016 she completed her MA in media design at the Piet Zwart Institute in Rotterdam, now works as a freelancer and is a member of varia, a collective initiative for everyday technologies and free software in Rotterdam.
<http://213.167.241.137/~mb>

Cyber/technofeminist cross-readings

2019

Outil de recherche

Commissionné par Marie Lechner et Inke Arns

Grrrrrrrrrrls, a sticky algo-vocabulary for technofeminist writing is a small publication that explores the mechanisms and attitude of the TF-IDF algorithm, a tool that has been widely used by search engines to process information queries. This crucial algorithm was written in part by British IT researcher Karen Spärck Jones and presented in 1972.

To study this algorithm, Manetta Berends uses a collection of feminist manifestos that have been gathered in collaboration with Marie Lechner and Inke Arns. The set of more than 20 manifestos dates from the 1910s to the present day and questions the place of women in technological environments. Berends explores the algorithm's calculations and its effect on the manifesto collection, to produce an algorithmic vocabulary stickerset that comes with *Grrrrrrrrrrls, a sticky algo-vocabulary for technofeminist writing*. The publication aims to give an insight into the processes of algorithmic writing and invites its readers to engage with the algorithm's results. (ML/Berends)

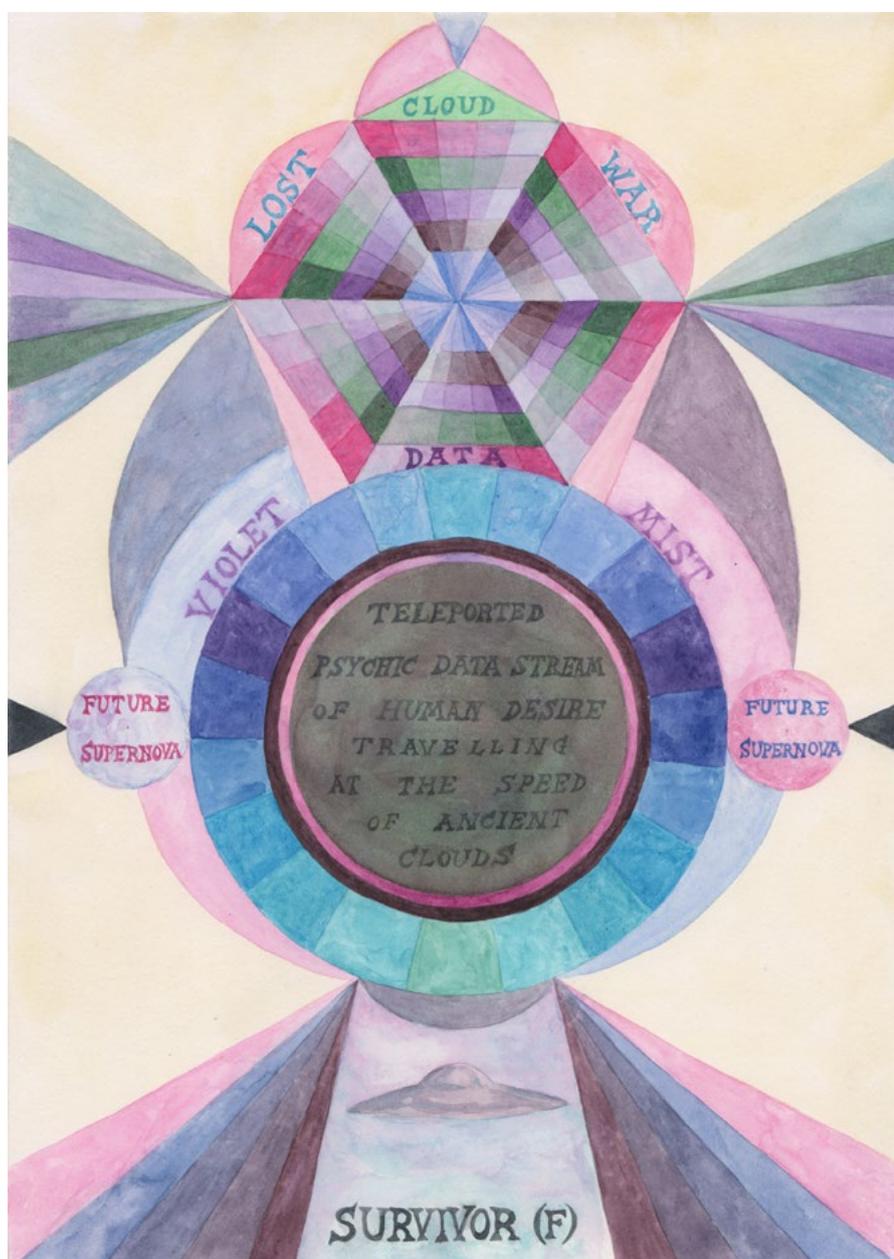
Cette œuvre bénéficie de l'Aide au développement du dispositif d'aide pour la création artistique multimédia et numérique (DICREAM) du CNC



Avec la participation du DICRÉAM

3rd Part: Science frictions

Artificial intelligence is about to become one of the most decisive technologies of our era. Its first deployments have nevertheless shown that it tends to increase the discriminations and social inequalities. The artists take a critical and speculative look on technological evolutions.



© Suzanne Treister
2016-2018 SURVIVOR (F)/Lost Cloud War
Courtesy of the artist, Annelly Juda Fine Art, London and P.P.O.W., New York



Simone C. Niquille ^(CH)

Simone C. Niquille is a designer and scientist who lives and works in Amsterdam. BFA in graphic design, Rhode Island School of Design, Providence, RI (USA) and MA in visual strategies, Sandberg Instituut, Amsterdam. She teaches design research at the ArtEZ University of the Arts, Arnhem. 2016 Fellow at Het Nieuwe Instituut Rotterdam and recipient of the Talent Development Grant from The Creative Industries NL 2016/2017. Contributor to the Dutch pavilion at the Architecture Biennale of Venice 2018.

www.technofle.sh

The fragility of life

2017-2018

Video, 24:15 min, inflatables

Simone C. Niquille's research focuses on anthropometric standards encoded in 3D modelling technologies. These techniques are used in all kinds of applications from special effects in cinema and forensic investigations (such as crime scene reconstructions) to biometric identification. They determine to a large extent how the human body and identity are represented and perceived in digital space. Niquille shows how standardisation and automation protocols are informed by racist and physical bias. Her work revolves around three characters: The first is a Hillary Clinton impersonator whom we follow during the last days leading up to the 2016 US presidential election. The second, ROOT 0082, is a body from the CAESAR database, one of the most important available databases to this day, created by the laboratories of the US Air Force at the turn of the 21st century and still in use today in 3D character creation software such as Fuse. The third, the avatar Kritios They, was created using Fuse and materialises as inflatable figures produced in two different places based on the same specifications. (ML)



Elisa Giardina Papa ^(IT)

Elisa Giardina Papa's works examine gender, sexuality and work in the context of neoliberal capitalism and technology. MFA, Rhode Island School of Design, Providence, RI (USA) and BA, Politecnico, Milan. Exhibitions and presentations in, among others, MoMA, New York; Whitney Museum, New York; Seoul Mediacity Biennale 2018; XVI Quadriennale di Roma; Unofficial Internet Pavilion of 54th Venice Biennial, rhizome.org and Haus für elektronische Künste, Basel. She lives and works in New York and Sicily.

www.elisagiardinapapa.org

Technologies of Care

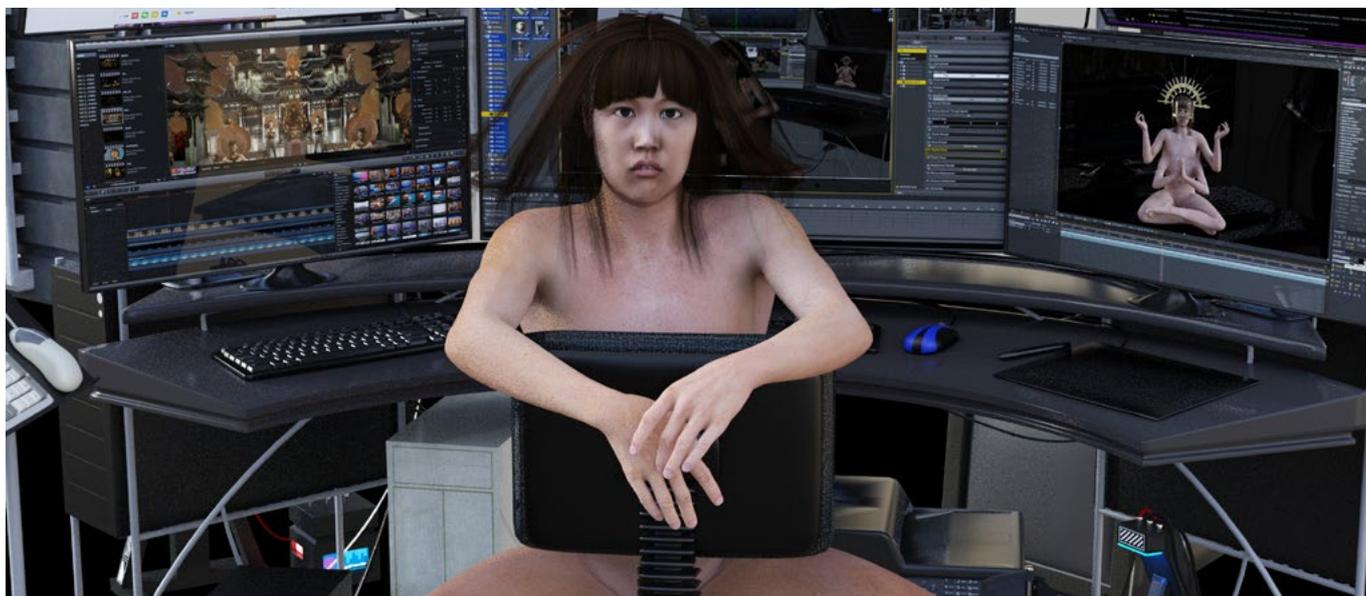
2016

Videos installation

Courtesy of the artist

Giardina Papa portrays workers who offer digital micro-services, fetish work or emotional support online, and gives them a voice. In *Technologies of Care*, we meet seven digital workers: an ASMR (Autonomous Sensory Meridian Response) artist, a virtual boyfriend, an online dating coach, a storyteller and video performer, a social media fan, a scientist working simultaneously as fingernail designer, and a customer service representative. Papa has found these freelancers in Brazil, Greece, the Philippines, Venezuela and the USA, where they offer their services anonymously via online platforms, which make a profit from them. With the exception of the virtual boyfriend, all interviews are interpreted by female-sounding voices. While the transcripts read like ethnographic research texts, the interviews in the video function like chamber plays on unfettered digital neoliberalism. (IA)

www.rhizome.org/editorial/2016/oct/04/the-download-technologies-of-care/



Lu Yang (CN)

Lu Yang, in Shanghai, 2010 Graduation from the China Academy of Art. The artist works with video, installation, animation, digital painting and games, and examines the biological and material conditions of human existence with a great deal of dark humour and in the absence of any sentimentality. Exhibitions in the UCCA, Peking; Centre Pompidou, Paris; Montreal International Digital Art Biennial 2016; Liverpool Biennial 2016; Chinese pavilion of the 56th Venice Biennale 2015; Shanghai Biennale 2012.

www.luyang.asia

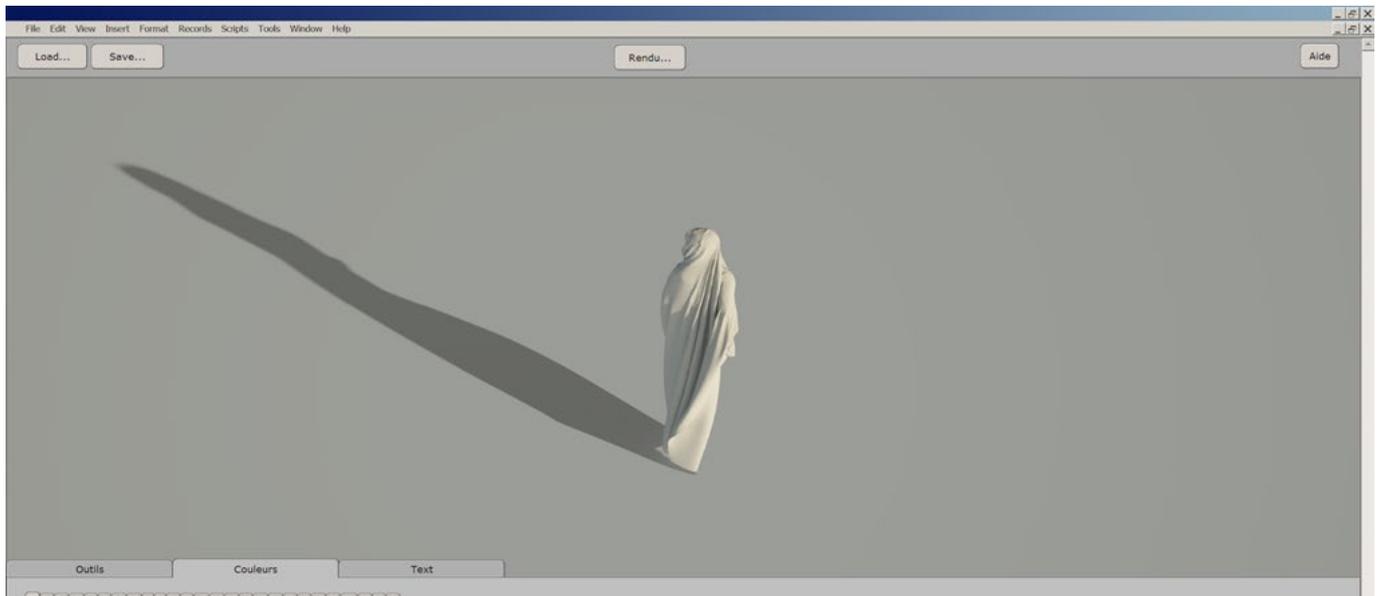
Delusional Mandala

2015

Video, 16:27 min

Courtesy of the artist

Lu Yang's *Delusional Mandala* is a breathtaking rollercoaster ride through the world of 3D rendering, C-pop and digital representations of the human body. The video begins with the artist making a 3D scan of herself, from which she then builds a digital body ('Uterus Man') that becomes the main protagonist of the video – literally from birth to death, which is celebrated in a brashly coloured hearse. Uterus Man, the artist's alter ego, is subjected to various surgical procedures that lead to a change in the character's consciousness, which can now be controlled from the outside. A mandala is a figurative geometric image that has magical or religious meaning in Hinduism and Buddhism. In the wider sense, the mandala embodies the entire universe with the heavens, the Earth and the underworld. It serves as a visual aid that by depicting gods, landscapes or signs allows the faithful to internalise complex religious contexts. (IA)



Elisabeth Caravella ^(FR)

Elisabeth Caravella is a French filmmaker and artist who lives and works in Paris. She graduated from the European School of Visual Arts, École Nationale Supérieure des Arts Décoratifs in Paris and Le Fresnoy, National Studio. She has made experimental films inspired by web culture and cinema, for example, the photoshop film *Anonymous Phone Call* (2009), *Howto* (2014) or *Krisis* (2018), a virtual reality machinima. www.elisabethcaravella.com

Howto³

2014
Cinematic tutorial,
20:00 min

‘Hello and welcome to my new tutorial.’ Thousands of DIY tutorials and instructional videos are posted daily on the Internet. Exploiting their filmic potential, Caravella attracts visitors into a haunted heterotopic space. *Howto* adopts the form of a tutorial for a strange kind of software that seems to be a tool for creating both 3D text and film sets. While the narrator tries to explain how it works, the software appears to spin out of control, disrupted by a ghostly presence inside the machine that prevents it from working (well). The bug takes the shape of a discarnate draping with unpredictable movements, a twisting and turning whirlwind of freedom revealing the creases and fault lines in the computer and undermining its binary system. Caravella, who says she has learned almost everything she knows thanks to tutorials, also reveals the ghostly aspect of this mode of communication: sitting alone in front of your screen, you look at another person sitting alone behind hers. (ML)



Zach Blas ^(UK)
& Jemima Wyman ^(AU)

Zach Blas is an instructor in the Department of Visual Cultures at Goldsmiths, University of London. Lectures and exhibitions, a.o., at the Van Abbemuseum, Eindhoven; Jeu de Paume, Paris; Institute of Contemporary Arts, London; e-flux, New York; Strelka Institute for Media, Architecture and Design, Moscow. Solo exhibitions: Gasworks, London (2017), Art in General, New York (2018).

www.zachblas.info

Jemima Wyman is an interdisciplinary artist who lives and works in Brisbane and Los Angeles. Solo exhibitions: Sullivan + Strumpf, Sydney (2017); Commonwealth and Council, Los Angeles (2015). Group shows: *The National, Carriageworks* (2017); *Conflict: Contemporary responses to war*, UQ Art Museum (2014); *The Unexpected Guest*, Liverpool Biennial, UK (2012); 17th Biennale of Sydney (2010).

www.jemimawyman.wordpress.com

I'm here to learn so :))))))

2017

Four-channel video installation, 27:33 min

Courtesy of the artists

In 2016, Microsoft launched a chatbot named Tay on Twitter. Tay, who was supposed to embody a 19-year-old American girl, had been programmed to speak to a generation of millennials and gradually adopt their vocabulary and language patterns. Using machine-learning technology that enables the software to learn from the data it is being fed, Tay was expected to increase her knowledge through her interactions with Twitter's human users. But its creators had not taken into account the possibility of interference by malicious trolls who quickly taught Tay to use racist, sexist and homophobic language, forcing Microsoft to take her offline after a mere sixteen hours. The title of this installation by Zach Blas and Jemina Wyman refers to Tay's first tweet. The artists bring her back to life: she sings and dances, reflects on life and death of Artificial Intelligence, philosophises on what it means to have a body and delivers ironic comments on the chatbot's gender. (ML)



Hyphen-Labs (US)

Hyphen-Labs is an international team of women of colour, including engineers, scientists, architects and artists, which works at the intersection of art and emergent technologies, science and the future.

Ashley Baccus-Clark, Director of Research at Hyphen-Labs, is a Brooklyn-based molecular and cell biologist, and a multidisciplinary artist who uses new media and storytelling to treat themes like deep learning, cognition, memory, race, trauma and belief systems.

Ece Tankal, one of the founders of Hyphen-Labs, is a Turkish born designer, architect and media artist who lives and works in Barcelona. She is interested in and works with mixed media installations, virtual reality and speculative design.

Carmen Aguilar y Wedge, co-founder and creative director at Hyphen-Labs, is a latinx structural designer and artist synthesizing design and technology to develop immersive - transmedia experiences.

www.hyphen-labs.com

NeuroSpeculative AfroFeminism

2017

Virtual reality set, props, 4:00 min

Courtesy of the artists

Operating at the intersection of product design, virtual reality and neuroscience, *NeuroSpeculative AfroFeminism* (NSAF) is a neuro-cosmetology laboratory that has developed a series of accessories designed to address problems experienced by black women in their daily life such as surveillance, lack of privacy and police violence. Among its product sare a scarf to avoid facial recognition, a dichroic reflective visor thataverts hostile looks, and earrings with embedded micro-cameras that record transgressions. Their flagship product is a virtual reality experience that immerses customers in a kind of futuristic hair salon. The setting refers to the long history of salons as ‘safe spaces’ for women of colour and a fertile ground for political and philosophical discussions. When wearing the helmet, users experience themselves as a black woman with long braids about to be fitted with “Octavia Electrodes”, which propel its wearer into a dreamlike digital multiverse. Thanks to the “Octavia”, an explicit reference to the American science-fiction writer Octavia E. Butler, Hyphen-Labs imagine a future where advanced technologies are created by and for women of colour. (ML)



Suzanne Treister (UK)

Suzanne Treister, born in 1958 in London, studied 1978-1981 at St. Martins School of Art (BA Honours) and 1981-1982 at the Chelsea School of Art (MA) in London. While she was known as a painter in the 1980s, she became a pioneer of digital media art in the 1990s. Her alter ego, the time-travelling researcher Rosalind Brodsky, plays an important role in a whole series of projects (e.g. *HEXEN 2039*, 2006). Suzanne Treister now lives in London following stays in Australia, New York and Berlin.

www.suzannetreister.net

SURVIVOR (F) and ASICENE

2016-2018

Drawings & watercolours (here: prints)

SURVIVOR (F) is a hallucinogenic exploration of a future reality in an undetermined time and space. A compilation of manifestations of a survivor of the human race on earth, in space, on a new planet or in a parallel universe, or of an artificial super intelligence (ASI), *SURVIVOR (F)* presents visions of a post-futuristic sublime, charting an existential imaginary of potential human / non-human, agency/non-agency and beyond. *SURVIVOR (F)* is a contemporary futuristic-alchemical depiction of the universe and beyond. 'The Sky Was the Colour of the Death of the Internet' is a reference to William Gibson's sci-fi novel *Neuromancer* (1984). Taking the shape of wallpaper, *ASICENE* is the artist's neologism for the next age, the age of Artificial Super Intelligence. (Treister / IA)



Morehshin Allahyari ^(IR)

Morehshin Allahyari, born in 1985 in Iran, media artist and art activist, living in the USA since 2007. Allahyari became known with *Material Speculation: ISIS* (2016), 3D-printed reconstructions of artefacts destroyed by ISIS, *the 3D Additivist Manifesto* and *the 3D Additivist Cookbook* (both with Daniel Rourke). 2016 Artist in Residence Vilém Flusser Residency Program, Berlin; 2016-17 Eyebeam's one year Research Residency. Exhibitions, among others, *alien matter*, Haus der Kulturen der Welt, Berlin (2017). www.morehshin.com

She Who Sees the Unknown: Ya'jooj Ma'jooj

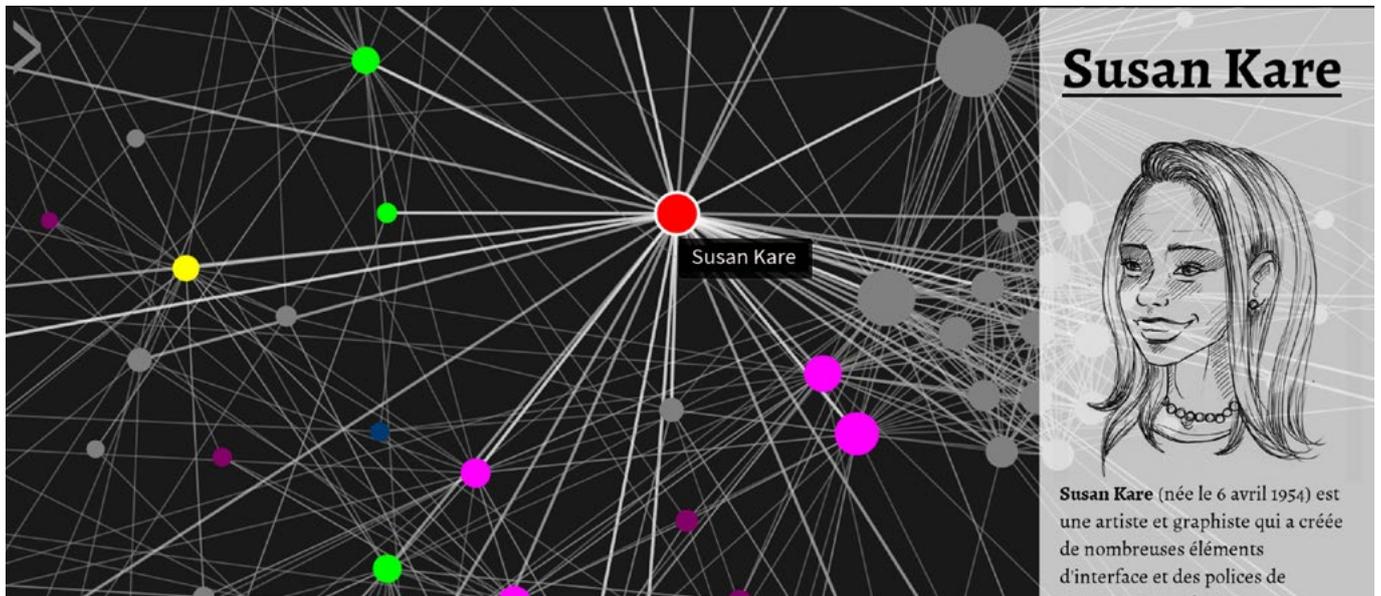
2017-2018
3D printed resin
HD video, 09:48 min

She Who Sees the Unknown: Aisha Qandisha

2018
3D printed resin
HD video, 07:14 min

Courtesy of the artist and Upfor Gallery, Portland, USA

In *She Who Sees the Unknown*, the Iranian-born artist Morehshin Allahyari stages malefic deities and monstrous female djinns from the Near East and Middle East. Her project is part of an ongoing series on digital colonialism and re-figuration as a feminist and activist practice. Allahyari's tools are 3D scanners and printers, which she uses to explore the symbolic underpinnings of traditions and myths. In her videos, she creates magical and poetic-speculative narratives on the effects of colonialism and other forms of contemporary oppression. They are populated by different characters, most prominently Ya'jooj and Ma'jooj, who stand for the powers of chaos against which Allah built an iron wall, the collapse of which, according to the prophecy, heralds the end of the world. Aisha Qandisha is one of the most fearsome female djinn in Morocco's Islamic folklore. It appears as a young woman with a beautiful face, but with the feet of a goat or a donkey. It takes possession of men by opening their bodies to other demons. (IA)



Roberte la Rousse

Roberte la Rousse is a collective that develops artistic and critical projects, founded by visual artist Cécile Babiolo and researcher Anne Laforet. The collective works on topics related to the French language and gender, with the aim of combatting deep-seated linguistic sexism.

Wikifémia - The network for computer grrrls

2019

Interactive installation

Wikifémia translates French Wikipedia articles with the biographies of remarkable women into feminine language and creates performances based on their lives. This installation uses the online encyclopaedia's tree structure to present visitors with visual documentation of the hundreds of women who contributed to the history of computing.

Co-produced by Labomedia, Espace Gantner, La Gaîté Lyrique, Espace Jean-Roger Caussimon and Emmetrop, with development and production support from Dcream in 2017 and 2018.

Computer programming: Laurent Malys.

Video games selected

by guest curator Chloé Desmoineaux



All The Places You'll Go (Women As Place),
by Angela Washko



Behind Every Great One, by Deconstructioteam



JEEP JEEP, by Anna Luisa Petrisko

Chloé Desmoineaux

Chloé Desmoineaux is an artist and curator based in Marseille. Inspired by speculative fiction, tactical media and cyberfeminism, her recent work focuses on gender, identity and interspecies relations. Her tools of choice are hacking and experimentation, along with related media: code, video games, videos, interactive installations and online performances. She co-organises the Art Games Demos parties with Isabelle Arvers and the “S’il vous Play!” exhibition with Pierre Corbinais for Institut Français. www.chloedesmoineaux.com

When video games grew in popularity in the 1980s, girls weren’t considered potential players. Now there are as many female players as there are male. Yet women still only account for 14% of staff at game development studios. That might explain why, with a few exceptions, the female characters in AAA games (the blockbusters) are clichéd or stereotypical.

Chloé Desmoineaux’s selection offers a sampling of topics and portrayals related to how women are depicted in video games. “I wanted my selection to be feminist and inclusive. The goal was to give pride of place to complex, situated female figures while also doing justice to all those who have been kept out of the limelight, objectified, sexualised, exoticised or used as a foil for male heroes, in line with Anita Sarkeesian’s analysis in her series of YouTube videos, ‘Tropes vs. Women in Video Games’.”

You will be able to deconstruct the concept of the ‘perfect woman’ and define your own while gesturing in front of a Kinect with Lea Schönfelder; explore the mental burden of a housewife whose work too often goes unnoticed, with the studio Deconstructeam; discover the difficulty of putting on make-up in a rush with Jenny Jiao Hsia; explore female pleasure through a flowery tunnel with the studio Tale of Tales; bat off unwanted hands desperately trying to touch your hair with Momo Pixel; play Thelma and Louise in GTA mode with Marlowe Dobbe and Jane Friedhoff; and much, much more.

The selection mainly features independent games produced by small studios or solo developers. The emergence of the indie scene has propelled many women artists and developers to prominence in the industry, while fostering newfound creativity. Examples include Zoë Quinn’s *Depression Quest* and Anna Anthropy’s *Dys4ia*, which have become flagship games with a strong following in the feminist and queer gaming community.



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Établissement culturel de la Ville de Paris

