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## What happens when a software bot goes on a darknet shopping spree?

The Random Darknet Shopper, with bitcoin to burn, has purchased counterfeit jeans, master keys, dodgy cigs and even a bag of ecstasy tablets. Who is legally liable?

[Life after Silk Road: how the darknet drugs market is booming](#)

Mike Power

@mrmichaelpower  
Fri 5 Dec 2014 14.56 CET



Baseball cap with hidden video camera, bought from a darknet market by the bot. Photographs: !mediengruppebitnik

**C**an a robot, or a piece of software, be jailed if it commits a crime? Where does legal culpability lie if code is criminal by design or default? What if a robot buys drugs, weapons, or hacking equipment and has them sent to you, and police intercept the package?

These are questions we haven't had to ask until now, but they are part of a pertinent philosophical dilemma thrown up by the emergence of darknet markets, anonymous internet use, and bitcoin. These and other questions are all explored in a new exhibition, *The Darknet: From Memes to Onionland*, at The Kunst Halle Sankt Gallen, an hour east of Zürich, Switzerland.

A robot deployed on the dark web over the past few weeks has bought a pair of fake Diesel jeans, a baseball cap with a hidden camera, a stash can, a pair of Nike trainers, a decoy letter (used to see if your address is being monitored), 200 Chesterfield cigarettes, a set of fire-brigade issued master keys, a fake Louis Vuitton handbag, and [10 ecstasy pills](#). All of the products are on display as part of the exhibition, which runs until 11 January.



The ecstasy pills bought by the bot. Photograph: !mediengruppebitnik



📷 The ecstasy pills bought by the bot, which are on display at the Swiss gallery. Photograph: !mediengruppebitnik

London-based Swiss artists !Mediengruppe Bitnik, [Carmen Weisskopf and Domagoj Smoljo](#), coded the Random Darknet Shopper, an automated online shopping bot, and instructed it to spend \$100 in bitcoin per week on a darknet market that lists over 16,000 items, not all of them illegal.

Their aim is to explore the ethical and philosophical implications of these markets, which, [despite high-profile internationally co-ordinated raids costing millions](#), persist and flourish.

“The arts should be able to mirror something that is happening in contemporary society in a contemporary way,” says Weisskopf. “We really want to provide new spaces to think about the goods traded on these markets. Why are they traded? How do we as a society deal with these spaces? At the moment there is just a lot of pressure, but not a lot of thinking about stuff, just immediate reaction.”

The gallery is next door to a police station, but the artists say they are not afraid of legal repercussions of their bot buying illegal goods.

“We are the legal owner of the drugs - we are responsible for everything the bot does, as we executed the code, says Smoljo. “But our lawyer and the Swiss constitution says art in the public interest is allowed to be free.”

The project also aims to explore the ways that trust is built between anonymous participants in a commercial transaction for possibly illegal goods. Perhaps most surprisingly, not one of the 12 deals the robot has made has ended in a scam.

“The markets copied procedures from Amazon and eBay - their rating and feedback system is so interesting,” adds Smoljo. “With such simple tools you can gain trust. The service level was impressive - we had 12 items and everything arrived.”

“There has been no scam, no rip-off, nothing,” says Weisskopf. “One guy could not deliver a handbag the bot ordered, but he then returned the bitcoins to us.”



📷 Fake Nike trainers bought by the bot Photograph: !mediengruppebitnik

The pair see parallels between copyright law and drug laws: “You can enforce laws, but what does that mean for society? Trading is something people have always done without regulation, but today it is regulated,” says Weiskopff.

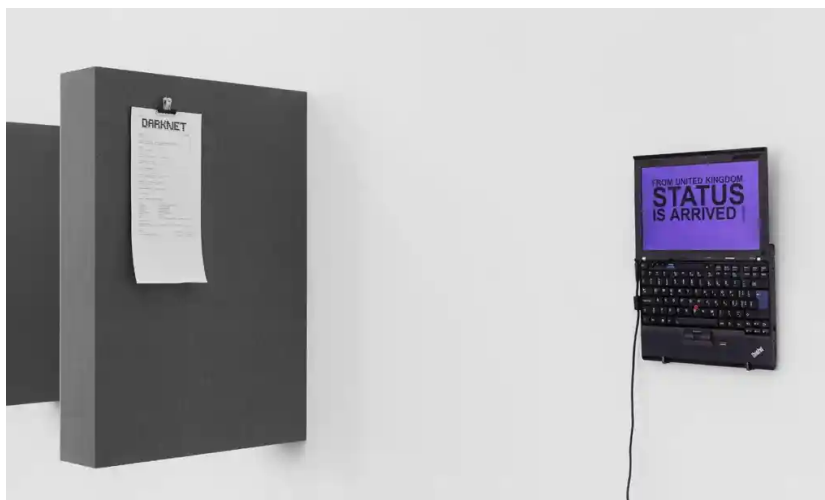
“There have always been darkmarkets in cities, online or offline. These questions need to be explored. But what systems do we have to explore them in? Post Snowden, space for free-thinking online has become limited, and offline is not a lot better.”

Previously, the collective have hacked London underground CCTV cameras and invited the operators to a game of chess, and last year they posted a camera and a GPS tracking device to Julian Assange inside the Ecuadorean embassy. The camera live-tweeted its progress to the hands of the Wikileaks founder.

Smojlo says the darkmarkets are here to stay, no matter what law enforcement does, identifying bitcoin as a key shift in thinking that will have repercussions beyond its hacker and darknet constituencies. The last few years has witnessed a rupture, a schism between centralised and decentralised systems, they say.

“People have realised [with bitcoin] that money is not an absolute. They realised they could shape it. They could create their own things with maths, P2P networks, decentralisation and cryptography. Whether Tor survives or not, you will soon be able to run darknet nodes on your own computer, which can’t be taken down,” says Smoljo.

“Something has opened, broken up, this space will be explored,” agrees Weiskopff.



📷 Random Darknet Shopper exhibition. Photograph: !mediengruppebitnik

A spokesman for the National Crime Agency, which incorporates the National Cyber Crime Unit, was less philosophical, acknowledging that the question of criminal culpability in the case of a randomised software agent making a



purchase of an illegal drug was “very unusual”.

“If the purchase is made in Switzerland, then it’s of course potentially subject to Swiss law, on which we couldn’t comment,” said the NCA. “In the UK, it’s obviously illegal to purchase a prohibited drug (such as ecstasy), but any criminal liability would need to be assessed on a case-by-case basis.”

# !Mediengruppe Bitnik

*by Aude Launay*



## **What the Internet can do to Art, and Vice versa, on the Face of it, anyway.**

The conceptualization of time has been endlessly evolving over time. There is, indeed, a circular argument here, but it is also true that its history might easily be traced in the history of thought as well as in the history of the arts. While the time of man—intuitive, phenomenological—and the time of science—necessary, relative, and even non-existent—still co-exist, it would seem possible to say that the perception of them that prevails these days is the one that emerges from instantaneousness, whereas, in tandem, we have a perception of the world around us that is less and less direct and more and more mediated. So it is a temporal but not physical immediacy that is from now on best able to define our relation to the world. In fact, given the ten billion odd photos taken every month just by Americans—reaching the point where the idea of a Photo Free Day was even launched on 3 February last—, several issues are now being raised: What are people really looking at? Is taking a photo to be looked at later a way of seeing better or seeing less? Are we capable of looking at the world for a whole day just with our own eyes, without the help of a captivating illuminated rectangle on which to scroll, again and again? Are we capable of enjoying our meal without sharing what it looks like with our hundreds of social friends? Are we capable of swooning in front of our little doggie-woggie's touching gaze without instantly letting the whole planet in on the moment? Can we visit a museum without tweeting even a single selfie?

In 1994, Philippe Parreno was already wondering: “In the Mondrian show at the Museum of Modern Art, visitors desert the exhibition rooms and sit down in front of TV screens. They spend more time looking at the pictures reproduced on video than in front of the originals hanging on the wall. Why?”<sup>2</sup> According to him, this was a way for visitors to reassure themselves because “on the face of it, people do not know how long to look at a work of art”. So it was quite practical for “the museum to manage the visitor’s time”.

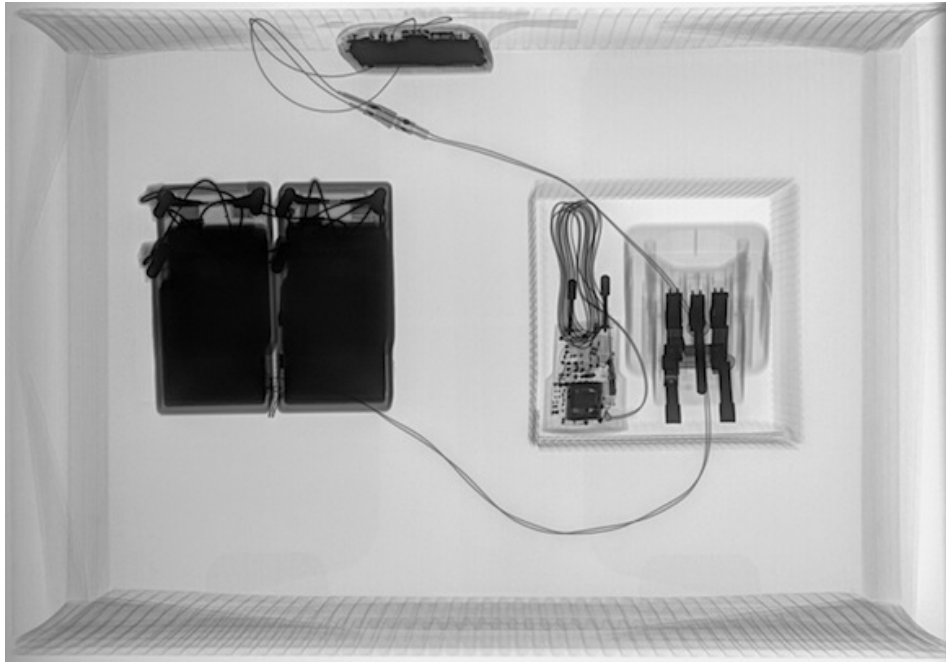
The question of time in the work, of the time of the work, and of the time of art as “real” time was deliberately taken up and stated as such by artists in the 1960s, even though the matter of its representation runs through the 20th century from Muybridge’s photographic decompositions and Duchamp’s pictorial decompositions, as well as the Dada excursions of the 1920s, to Kaprow’s first happening in 1959. Andy Warhol’s *Sleep* in 1963, Opalka’s first *Details* in 1965, and On Kawara’s first *Date Paintings* in January 1966 just before Michel Parmentier’s first serial date stamps, then, before long, the conversations about time organized by Ian Wilson and the video experiments of Bruce Nauman and Dan Graham, all erected the time of the clock, timed and rapped out, as nothing less than the subject of the work, aimed, in the same movement, at going beyond that notion of subject, and literally inserting art into the time of man.

“Real time is not a conceptual gadget: it introduces an above all political relation, the interaction governs relations to the world, and artists are more and more aware of this,”<sup>3</sup> wrote Parreno again. Twenty years later, and even though he died seven months ago, On Kawara is still tweeting every day: I am still alive #art.



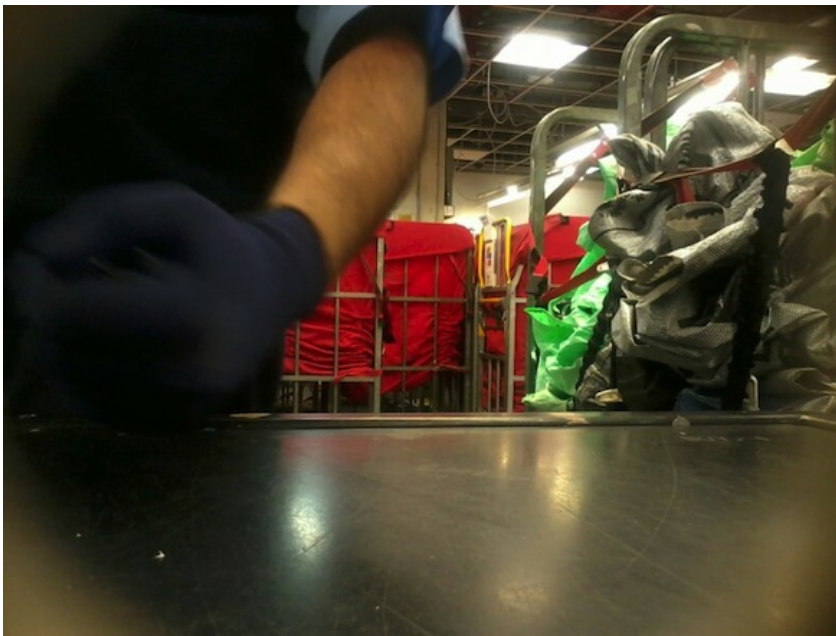
If you were living in Zurich in 2007 and if your apartment had a land line, you might well have received strange calls which let you hear the shows being put on at that very moment in the city’s opera house. Sitting comfortably in your own home, at absolutely no charge, you could thus enjoy arias being sung by sopranos and baritones, at the top of their voices, who were passing through the city, which now houses the largest Google search centre outside the United States. Needless to add, when these events were broadcast on TV and radio, you enjoyed a better sound quality. But would you think of watching an opera on TV? With *Opera Calling*<sup>4</sup>, the live broadcast goes straight into your ear, in a way that is completely unexpected and, above all, thoroughly fraudulent. The fact is that this

household call service is not the outcome of a cultural democratization proposed by Zurich's city departments, but rather the work of a small group of local artists: !Mediengruppe Bitnik. With the help of bugs hidden in the Opera's auditorium and a computer serving as an interface between the microphones and citizens' telephone lines, they tried to share the relatively inaccessible spectacles put on in that generously subsidized cultural Mecca with as many people as possible. Those ninety-odd hours of "musical pirating" obviously gave rise to threats of court proceedings, which were in fact never taken up.



**!Mediengruppe Bitnik, Delivery for Mr.Assange, 2007. Inside view of the package.  
Courtesy : !Mediengruppe Bitnik**

It is another type of "home delivery", pizzas, which gave them the idea for the project that has earned them worldwide fame: *Delivery for Mr. Assange*. When Julian Assange had just taken refuge in the Ecuadorian embassy in London, and the eyes of the media were riveted on the neat and tidy façade of the brick building, conversations were brisk on 4chan and other forums guaranteeing user anonymity. All of a sudden, someone suggested that Assange must be hungry, and it would be a good idea to order him in a pizza. A few minutes later, when scooters bearing Domino's Pizza boxes appeared at the embassy doors watched over not only by formal diplomatic guards but also by plenty of policemen, activists, journalists and curious bystanders, Carmen Weisskopf and Domagoj Smoljo, founder members of !Mediengruppe Bitnik, were struck by something quite obvious: this was where personal history meets the abstraction of geopolitics.<sup>5</sup> Needless to add, this collision between triviality and the height of a diplomatic crisis that was at once sensational and societal, mixing private matters with international issues, was not a first, but it called to mind the shift to what might be described as "social postmodernity", i.e. the arrival of private life on the public stage, weighing in as never before on political affairs. The no-holds-barred publication of the Starr Report in 1998, during the Monicagate scandal, might have marked "the climax of a disastrous erosion of private life", to borrow the words of the philosopher Thomas Nagel,<sup>6</sup> but that affair confirmed at the same time the new omnipotence of that weapon that everybody has: privacy. If it is once again this that is rocking the albeit ferociously well-oiled machine set up by the founder of Wikileaks, it is also the breach through which back-up can arrive. The delivery of those pizzas in a zone of diplomatic immunity, ordered by people not personally known to Julian Assange, physically symbolizes the possible and almost instant interaction that the web enables any connected person to have.



**!Mediengruppe Bitnik, Delivery for Mr.Assange, 2007. View of the post office from the package. Courtesy : !Mediengruppe Bitnik**

Keeping tabs on an ordinary postal package can already be quite exciting—within the bounds of common sense, let us hasten to add. That renewed relation with what might have seemed beforehand to be the “postal mystery”, that time lapse between the moment when you slipped the envelope into the mailbox and that other moment when you received confirmation that it had reached its destination, today offers the anxious consumers that we all are the relative possibility of being kept informed about the whereabouts of the object

dispatched. Monitoring packages has introduced into the digital network something which, it just so happens, is, on the face of it, the opposite: “material” mail. However, between the information gleaned two or three times at most during the day in question on the tracking site, and an ongoing follow-up which is presented in *Delivery for Mr. Assange*, there lies all the difference which gives the project its piquancy: the exploration of the postal system. In addition to the impression of being able to put yourself in the place of the package object for those few hours of its journey, the viewer/follower has access to a time-frame which seems to differ from the one in which he seems to be plunged. The video is an image-by-image assemblage punctuated by the documentary tweets which go hand-in-hand with each one of them, creating a breakup of the usual continuity of time that we are inclined to perceive. Real time, here, is at once effective and staged.

**Delivery for Mr. Assange - !Mediengruppe Bitnik**



After 30 hours when not a lot happens—as far as the images are concerned—, summed up in seven and a half minutes in the video, the happy outcome brings out sharp fangs, a few words written with a felt-tip pen on blank cards, various images, and then, last of all, two hands emerging from the khaki hoodie offering silent claims, again written on the set of blank cards: *Free Bradley Manning, Free Nabeel Rajab, Free Anakata... Justice for Aaron Swartz, Transparency for the State! Privacy for the rest of us!*





**Mediengruppe Bitnik, Delivery for Mr. Assange, 2014. Helmhaus Zurich. Courtesy :  
!Mediengruppe Bitnik**

Who would have thought that a Twitter feed could be so addictive and, when all is said and done, so moving?

Even though the emotion stirred up by the images may not, at first glance, seem like one of the motifs of !Mediengruppe Bitnik's work, it nevertheless also seems to be the subject of one of the key pieces in the exhibition which the small collective has jointly organized with Giovanni Carmine, director of the Kunst Halle Sankt Gallen: "The Darknet - From Memes to Onionland. An Exploration". The piece in question, *Emily's Video* (2012), is a video by Eva and Franco Mattes presented on a vertical monitor casually propped against a post in the Kunst Halle's last room. Produced following an announcement posted on the Internet which offered anyone so wishing a chance to watch "the worst video ever seen", *Emily's Video* starts out like a classic tutorial: a series of people in front of their webcams sit down in front of the screen, saying "I'm about to watch Emily's Video". Some of them boast and brag while others seem a little worried, but, in no time at all, the faces they pull convey the disgust and embarrassment of these viewers, even though they are volunteers. In the end, while some laugh out loud, there are others who look away, hide their eyes, stop the film, start sobbing, and leave the room. Here the New York twosome proposes one of the most trying videos there may be, but without showing anything other than faces of people sitting in front of a camera. Here again, the effect of real time is arresting, bolstered by the fact that we know that we are watching a video which lasts roughly as long as the one watched by the protagonists who are on the other side of the screen. The viewing time for videos on YouTube or any other site hosting film is measured in suspended time, a time of absorption in the medium, in the flow of images, in the zapping which it prompts people to do, but, in many cases, the voyeurism which it introduces—via the propagation of personal videos filmed by webcam for the most part—tends to give it an appearance of "real time".

#### Emily's Video reaction





The images of the video which we shall not see and which is said to have been destroyed after the project, all came from the Darknet, that Internet double supposedly 75% larger than the network which people use every day, with its contents not indexed by search engines and on which !Mediengruppe Bitnik has submitted a computer programme, created for the occasion of the exhibition of the same name—going shopping. This *Random Darknet Shopper* was loaded each and every week that the exhibition lasted with a budget equivalent to \$100 in bitcoins, the aim being to make haphazard purchases on Agora, a black market platform which, if we may so put it, is the equivalent of eBay on the Darknet. Its purchases were then sent straight to the Kunst Halle, and subsequently put in individual display cases. Among its acquisitions were: a scan of a Hungarian passport, an all-purpose kit belonging to London’s firemen, and some MDMA—ecstasy—hailing from Germany... This latter was not to the liking of the Swiss police, who seized the *Random Darknet Shopper* on 12 January last, the day after the last day of the show.

The time of the exhibition became muddled here with the lifetime of the piece, which, incidentally, presented a live tracking of the shopper’s to-ings and fro-ings on a computer affixed to the wall alongside display cases which were gradually filled, but this simple relation, which was supposed to end with the exhibition, was extended beyond the time earmarked for it as a result of the legal confiscation. The time of the work that was indexed to real time is henceforth dependent on it.



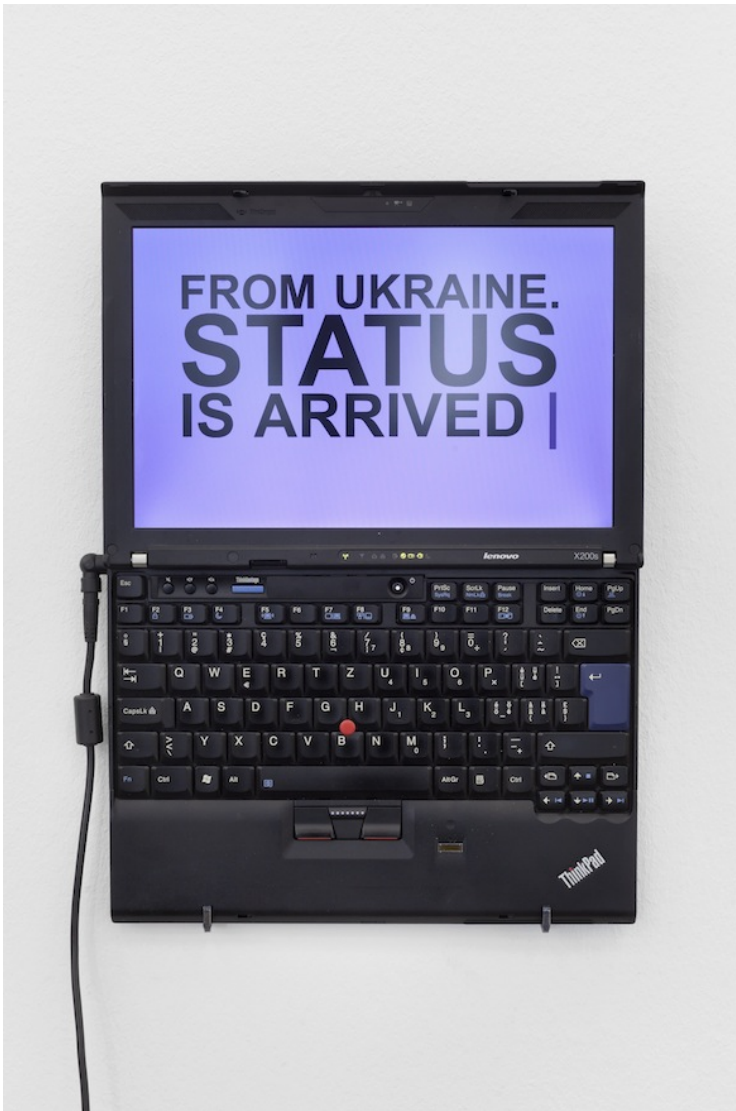
**!Mediengruppe Bitnik, *Random Darknet Shopper*, 2014/2015.**

If what is involved, for the time being, is just the time of the works referred to here, we should nevertheless not cover up the juxtaposition of spaces that they produce. Be it a matter of the Internet, that space that is at once “parallel” to the physical space we live in but which, at the same time, has an influence on it and which it is accordingly harder and harder to describe as “virtual”, because of the daily interferences that it has with it, or, in a more prosaic way, of two physical spaces as distant as Zurich citizens’ apartments and the city’s opera house, or the public place under surveillance by cameras and the space of the person in charge of the surveillance, the works of !Mediengruppe Bitnik usually operate in this type of comparison: from the “drifts” that they propose in cities to the searching of surveillance cameras placed in the public place (*CCTV - A Trail of Images*, 2008) to *Militärstrasse 105* (2009), for which they capture the images of the surveillance cameras of



a police station close to the exhibition venue and re-transmit them directly to it, or when, for *Surveillance Chess* (2012), they hack the images of a London Tube station,<sup>8</sup> proposing a game of chess to the security guards. Unlike the other pieces, this one is, above all, intended for a single person, the agent behind the control screen. In trying to re-establish the balance between observer and observed, *Surveillance Chess* temporarily transforms the surveillance system into a communication tool.

Once there is juxtaposition of distinct spaces, there are connecting interstices which are very often flaws. Underscoring those which exist in the legislation<sup>9</sup>, or re-opening existing discussions, like the one about copyright with *Opera Calling* and *Download Finished* (2006), a software package for processing films which made the link between the notion of found object and films shared peer-to-peer, !Mediengruppe Bitnik particularly singles out the fact that technology is always a step or two ahead of legislation and that this step ahead, which can also be defined as a legal void, is a search time that is as fertile as it is potentially dangerous. #FreeRandomDarknetShopper.



**!Mediengruppe Bitnik, Random Darknet Shopper, 2014/2015. « The Darknet », Kunst Halle St. Gallen. Photo : Kunst Halle Sankt Gallen, Gunnar Meier.**



**!Mediengruppe Bitnik, Random Darknet Shopper, 2014/2015. « The Darknet », Kunst Halle St. Gallen. Photo : Kunst Halle Sankt Gallen, Gunnar Meier.**

1 <http://www.wnyc.org/story/challenge-2-photo-free-day/> *Your instructions: See the world through your eyes, not your screen. Take absolutely no pictures today. Not of your lunch, not of your children, not of your cubicle mate, not of the beautiful sunset. No picture messages. No cat pics.*

2 Philippe Parreno, “Facteur Temps” [Postman Time] (1994), in *Speech Bubbles*, les presses du réel, 2001, p. 19. Ditto for the following two quotations.

3 *Ibid.*, p. 21.

4 <http://www.opera-calling.com>

5 Cf. !Mediengruppe Bitnik, *Delivery for Mr. Assange*, 2014, *Echtzeit*, p.15.

6 <http://www.nyu.edu/gsas/dept/philo/faculty/nagel/papers/exposure.html>

7 <https://www.youtube.com/watch?v=zlZTghhCuxg>

8 The United Kingdom was the first country in the world to introduce general tele-monitoring in the wake of IRA attacks. It is still the most tele-monitored European country, London being renowned as the city where video surveillance (public and private alike) is the most widespread. (wikipedia).

9 It is interesting to note that media coverage of !Mediengruppe Bitnik occurs mainly in the news press and less in the art press, as if their work was above all regarded as news, like any other news item.



!Mediengruppe Bitnik, Surveillance Chess, 2012. Courtesy: !Mediengruppe Bitnik

“The Darknet – From Memes to Onionland. An Exploration”, Kunst Halle Sankt Gallen, 18.10.2014 – 11.01.2015. With: !Mediengruppe Bitnik, Anonymous, Cory Arcangel, Aram Bartholl, Heath Bunting, Simon Denny, Eva and Franco Mattes, Seth Price, Robert Sakrowski, Hito Steyerl, Valentina Tanni.

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## Spy vs. Spy: Tech-Savvy Swiss Duo Bitnik Refines the Art of Espionage

Jon Lackman



Installation view of *Opera Calling* at [Cabaret Voltaire](#) in Zurich, 2007.

COURTESY [!MEDIENGRUPPE BITNIK](#)

‘I’ve hijacked your surveillance camera. How about a game of chess?’ The words filled a closed-circuit television screen that only seconds before had shown commuters in London’s Charing Cross station. Whichever security guard read the message soon saw it replaced by a chessboard and the words: “You are white. I am black. Call me or text me to make your move. This is my phone number: 075 8246 0851.”

In the heart of the world’s most surveilled city, two artists were registering their polite protest with the help of a laptop and an interfering transmitter. [Carmen Weiskopf](#) and [Domagoj Smoljo](#), a Swiss team known as [!Mediengruppe Bitnik](#), have been co-opting the spy’s arsenal to practice their own, artistic style of counter-espionage.

Two years ago Bitnik installed a hidden camera in a cardboard box that broadcast live as it traveled from the artists’ studio in London through postal systems to its final destination: [Julian Assange](#) at the Ecuadorian Embassy in London. Bitnik wanted a look at the watchers of the man who’d watched America watching everyone else. Over the 32 hours it took for the package to arrive, the photostream Bitnik sent via Twitter attracted a large, addicted following.

Weiskopf and Smoljo rank among the funniest of the mostly European digital artists in their 30s and 40s who are mining the territory where art, technology, and Big Brother meet. Over the past few years, they and

others, such as Aram Bartholl, Oliver Laric, Eva and Franco Mattes, Brad Troemel, and Hito Steyerl, have mounted exhibitions in Berlin and New York that expose and tweak the modern world as wrought by the likes of Facebook and the NSA.

Bitnik have been influenced by Fluxus, conceptual art, interventionism, and early net art, but the artists told me that their work also belongs to the newish, still-controversial category of “[post-Internet art](#)”—that is, art less *about* the Internet age than *of* it.

Technology pervades everything, from the artists’ source of inspiration and choice of materials to their modes of distribution. It’s the basis for their collaboration, discussion, and debate. Whereas early net art tended to reside in a computer browser, post-Internet art is more likely to be exhibited within a gallery’s white cube. The art is defined more by its overall aesthetic than by its distribution system or subject matter.

Not that post-Internet is a homogenous category. Unlike many of their peers, the Bitnik duo have self-consciously steered clear of snark, world-weariness, and graphic imagery. Their work is political but in a nonpartisan way.

This promises to be a big year for Bitnik, who were among the ten winners of the 2014 Swiss Art Prize and since then have had new works commissioned by the [Center for Art and Media in Karlsruhe](#), the [House of Electronic Arts](#) Basel, and others. Whether these institutions, with their corporate and governmental ties, can work with such unpredictable, subversive artists remains to be seen.



!Mediengruppe Bitnik, Domagoj Smoljo and Carmen Weisskopf, at La Gaîté lyrique, 2012.

COURTESY !MEDIENGRUPPE BITNIK

Artists and spies are loners, operating on the margins. They observe, gather intelligence, surgically intervene, and detect and disseminate artifice. They try to stay ahead of everyone else.

Weisskopf and Smoljo didn't know much about fine or dark arts when they met in 2000 as freshmen at the University of Zurich. But in 2002 they decided to create their own website for artistic experiments. To that end they surreptitiously unscrewed a panel on the locked metal cage that held the university's servers and inserted one of their own, connected it to the Internet, and named it Bitnik. By the time the university discovered its barnacle, Weisskopf and Smoljo were professors there themselves.

This was arguably Bitnik's first work of art, and it set the tone: technologically liberating, unapologetically illegal, disarmingly simple, and indisputably provocative. In the networked age, isn't a network of one's own as basic a human right as the right to vote?

Weisskopf and Smoljo and their friends began playing with the server. (Various people joined them in the early years, but after 2006 only the duo remained.) In one "phone opera" they devised, the computer rang all the public phones on a particular city square. This got Bitnik thinking about the [Zurich Opera](#), whose lavish 1980s taxpayer-funded restoration had triggered populist riots. The average Zurichers still felt unwelcome inside—Weisskopf and Smoljo included. Was there, they wondered, any way to bust it open?

"In a few seconds you will be connected live to the Opera House. You can lie back and listen to today's performance of *Der Rosenkavalier* by Richard Strauss from the comfort of your living room." Weisskopf and Smoljo had sneaked away from a public tour of the opulent opera house and hidden dozens of bugs that, on performance nights, randomly dialed home phones, played an introductory message, and then live-streamed the entire performance. In the course of two months, 90 hours of opera were transmitted to 4,000 households.

The opera project ignited a fierce culture debate in Switzerland, but it was a little-known detail that led to their next work. Because the bugs had broadcast over an open phone line, Bitnik were able to eavesdrop on people as they reacted and went about their daily lives. It felt wrong—but it was irresistible. "People are critical of surveillance, but they love to watch people! There is this thin line, which is troubling," Weisskopf said.

Bitnik started looking at the CCTV cameras watching them throughout Zurich and discovered that they all transmitted over the same four unencrypted radio channels. So the two purchased a receiver, attached a battery, and began walking around the city, channel-surfing. This became a kind of modern *dérive*, the aleatory urban walk invented by Parisian artists in the 1940s.

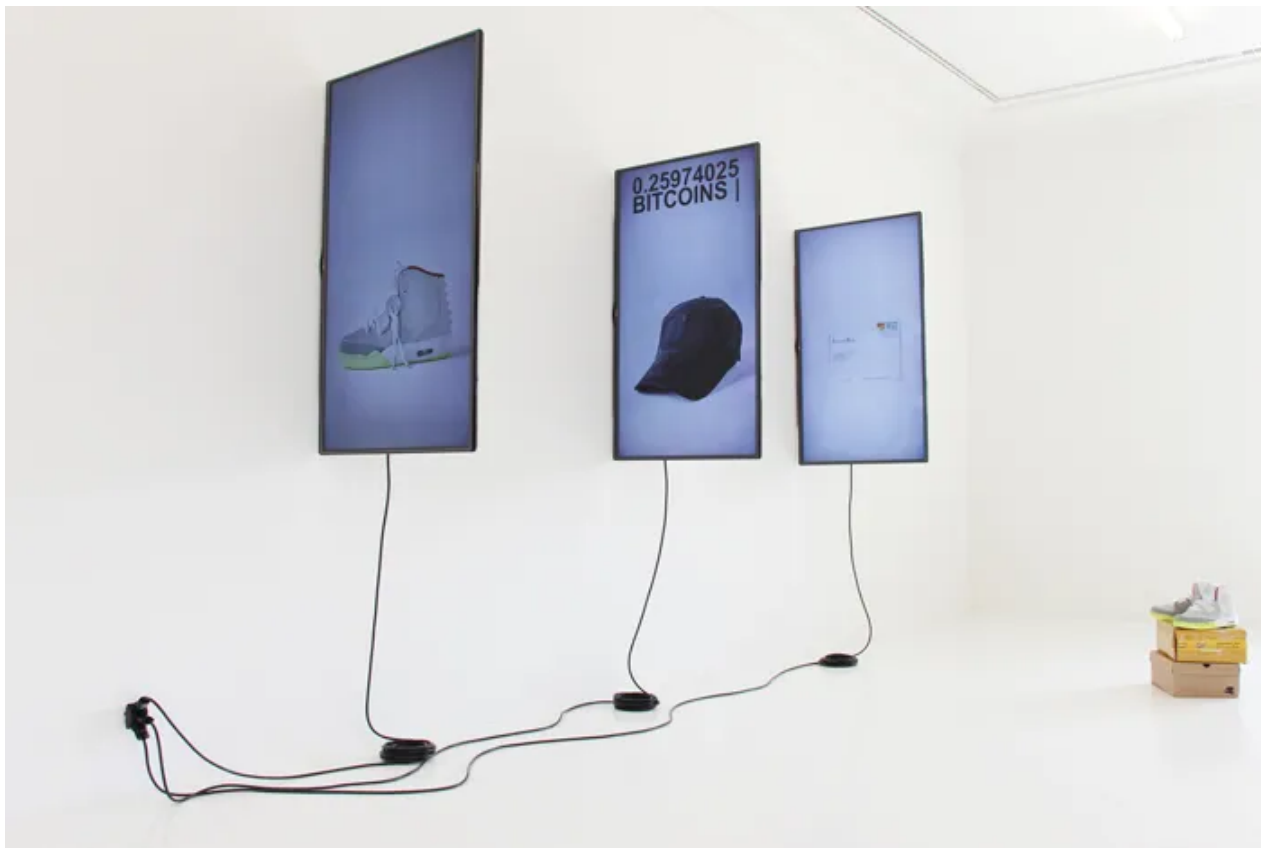
As Bitnik wandered the streets, they picked up signals mostly from inside buildings, giving glimpses of spaces too intriguing not to infiltrate. "You follow these strange signals. It's beautiful. It leads you to places you've never been, you enter a courtyard, you go up a building inside to find the camera on the fourth floor," Bitnik said.

In effect, cameras intended to secure privacy for property owners become windows. Bitnik call this phenomenon *sousveillance*. In 2009 the team installed two televisions in the former White Space project room and rigged them up to continually broadcast hijacked images of the exterior and interior of the local police station.

More recently, they turned their attention to San Francisco. "You immediately get a feeling for the city's systems," they noted. "The first three cameras we picked up were from a Scientology center, a Beat museum, and an illegal mahjong parlor," Smoljo said. They also tackled São Paulo, although poorer cities tend to produce bleaker *dérives*. "In São Paulo, technology is expensive but labor is cheap, so buildings don't have cameras, they have five guards standing around."

In 2010 Bitnik did *dérives* in London and Zurich, following bankers around financial districts and recording their movements. They called the activity “a form of appropriation of the inaccessible and closed financial spaces.”

This gave rise to *Surveillance Chess* (2012), an “art performance for a single recipient: the CCTV operator in his control room.” They conducted the project in London and Zurich. Bitnik hijacked guards’ feeds, but the invitation to play chess made it clear that this was a friendly takeover, an attempt at conversation. It was mostly futile. One shop owner threatened to call the police. “In a state of near panic, he also removed his own surveillance camera from his shop ‘for security reasons.’ He had apparently lost faith in his surveillance system,” according to Bitnik. This reminded me of the 1983 film *WarGames*. After the computer analyzes the many possible outcomes of global thermonuclear war, it says, “A strange game. The only winning move is not to play. How about a nice game of chess?”



!Mediengruppe Bitnik, “Random Darknet Shopper – The Bot’s Collection,” installation view, Helmhaus Zurich, 2015.

COURTESY !MEDIENGRUPPE BITNIK

In 2012 Bitnik abandoned full-time university teaching. They had become parents. They resolved to support themselves with their art, which would require them to get commissions from galleries, museums, and other institutions. Of course, they feared having to compromise.

In the fall of 2014 they put the Swiss art gallery [Kunst Halle Sankt to the test](#). A piece of software they wrote for a bot they called *Random Darknet Shopper* bought products randomly from the online, illicit-goods emporium [Agora](#). As items arrived at the gallery, staff mounted them on the wall.

Sellers mostly sent the items they’d advertised (one was out of stock), and not a single package was intercepted by police. In all, 12 items arrived: a picture of a Hungarian passport, a pair of Diesel jeans, a Sprite can with a hidden compartment, a “decoy letter,” a cap with a hidden camera, Nike Air Yeezy 2



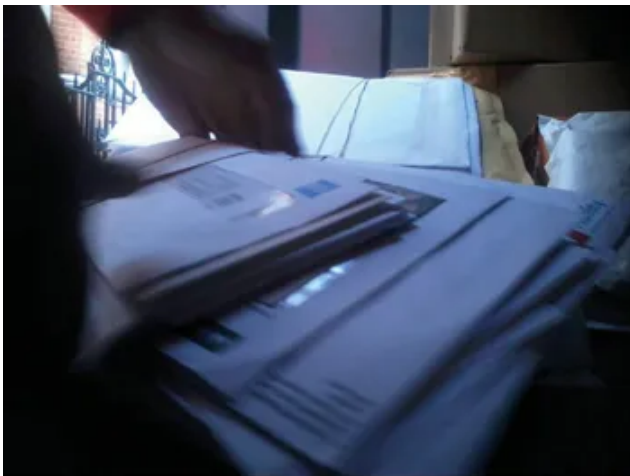
sneakers, ten doses of Ecstasy, a Visa card, a *Lord of the Rings* e-book, a Louis Vuitton Trevi PM handbag, a carton of Chesterfield Blue cigarettes, and a set of fire-department master keys.

Some items were surely counterfeit, but the possibility that the Ecstasy was real led Swiss authorities to seize all the exhibition's contents when it closed. Bitnik and the gallery worried about prosecution, but in the end, police tested the drugs, found them to be real, destroyed them, returned everything else, and dropped all charges.

Future experiments may not end as well. But as *Guardian* writer [Mike Power wrote](#), "Can a robot, or a piece of software, be jailed if it commits a crime?" Legal scholars are debating this point, thanks to Bitnik, who maintained that this wasn't intentional. "Discourse is not the main goal; we weren't really thinking about those topics when we started the work," Weisskopf said.

For Bitnik, the point of *Random Darknet Shopper* was to illuminate "the dark web." Most of us know little about it, yet can suffer its effects when, say, local drug dealers use it to stay below law-enforcement radar. What fascinated Bitnik most about Agora was the way that shady, anonymous buyers and sellers around the world had figured out how to trust one another in the same way that the eBay and Amazon communities do.

*Random Darknet Shopper* represented a major departure for Bitnik in that it had no obvious connection to surveillance. (Ironically, Agora recently announced it would shut down temporarily, suspecting it was being spied upon.) Surveillance has become so pervasive as to be nearly invisible. "Because it's less visible, it's less topical and less interesting to address directly," Smoljo said. Bitnik maintain that it remains the backdrop to their work, but they now want to focus on other technological systems.



Images from Bitnik's live online performance *Delivery for Mr. Assange*, 2013.

COURTESY !MEDIENGRUPPE BITNIK

This year Bitnik executed a commission for Zurich's Cabaret Voltaire, the birthplace of Dada. It's a kind of online performance piece. For a period of four months, every image on the Cabaret's website was replaced by one deemed, by Google's image-processing algorithm, to be very similar. Such software plays an increasingly important role, deciding, for example, who gets tagged in Facebook posts and who gets detained at the airport. Some substitutions were banal, others amusing and provocative—a photograph of an American college football scrimmage replaced an image of a simulated orgy by the Russian art collective Voina.

Bitnik thought that the Cabaret would balk at their project, but Weisskopf said, "They were rather fond of the idea of losing control over their website." Some of the other artists whose work was [featured](#) on the Cabaret's website were taken aback. The Cabaret put them in touch with Bitnik and once they understood what was happening, they all accepted it.

On the other hand, a similar commission for the Center for Art and Media in Karlsruhe, a larger institution, fell through recently; it seems the center was concerned that copyright holders might sue or that website visitors might consider themselves deceived. Equally troubling, the *Neue Zürcher Zeitung*, often called the Swiss *New York Times*, canceled a very different sort of commission after the paper got a sense of what Bitnik had in mind. Having two such failures in one year was sobering, and unusual, but Weisskopf and Smoljo said they were determined not to change what they do.

A short while ago the pair e-mailed me an image from a commission they'd just completed for the House of Electronic Arts Basel. It looked as if they'd photographed a building, then altered the image to make it look as if my computer had frozen trying to display it. What I didn't realize until I spoke with them later that day was that they had actually created this glitched building—they'd had contractors cut and move columns and pipes and all the rest. The piece dramatizes the potential pitfalls of letting computers wield ever more power over the physical world.

"We've always wanted to experiment with errors," Weisskopf said. "If you can find or introduce glitches into systems, you can try to manipulate them." Find a flaw in the opera's security, and you can plant bugs. Glitches also reveal underlying realities. "They help you to understand the algorithms, the rules that are invisible. Until the stock market had a particular flash crash recently, most people had no idea that one guy in his basement could manipulate the entire market."

Despite how much Weisskopf and Smoljo have been able to accomplish from their studio in Zurich, they are contemplating a move. "For its size, this town has a lot," Smoljo says. "There are now lots of galleries with Zurich outposts. But for our part of the art world, there's not a lot going on. In Europe, Berlin is the place for us to be."

Some say that since World War II Berlin has been home to more spies than any other city on Earth. Soon it may add two more.

*Jon Lackman, Ph.D., is a journalist and art historian writing a book on the 1920s artist's model Maria Lani.*

A version of this story originally appeared in the November 2015 issue of *ARTnews* on page 78 under the title "Spy vs. Spy."



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Prix de la Société des Arts  
de Genève 2017

Boris Magrini

Not media art

Since their first provocative intervention in the Zurich Opera House in 2007, !Mediengruppe Bitnik have become one of Switzerland's most prominent media art groups. In 2013, they gained international recognition for their work *Delivery for Mr. Assange*. !Mediengruppe Bitnik's association with media art is certainly justified, not only because of their recurring use of digital media, but also because their work frequently discusses the implementation and repercussions of information technologies in our society. In order to fully understand how !Mediengruppe Bitnik are positioned within this field, it is worth reflecting on the nuances of the group's name, which offer an insight into their association with media art. On the one hand, the term Bitnik points to "beatnik", the rebellious artistic and literary movement of the 1950s and 60s, while on the other, it simultaneously evokes the digital era where a "bit" denotes a unit of information. The German word Mediengruppe clearly points to the world of media production, while the exclamation mark also carries an important and disturbing meaning. Commonly used in computer language to denote the negation of a string, the exclamation mark creates a double meaning whereby !Mediengruppe can also be read as "*not* Mediengruppe". Consequently, the carefully constructed name can be interpreted as the group's rejection of any association with "rebellious artists of media art" and the media art field in general. Additionally, the negation can be interpreted as the group's desire to distance themselves from a technophile approach. In truth, it is unlikely that the average person would immediately recognise the exclamation mark as a logical negation; only those with an understanding of computer languages and media praxis (the very people from whom the artists seek to distance themselves) are likely to correctly decipher the name. Therefore, the name, a semi-concealed semantic twist, conversely strengthens the association with media art, media activism and computer hackers by creating

an association on an aesthetic and conceptual level. Indeed, it could be said that through the use of clever syntax the duo reclaim their autonomy as an artistic group.

Of course, it is their artistic interventions, more than their name that have strengthened !Mediengruppe Bitnik's association with hacking strategies. Actions such as hiding microphones in an opera house to broadcast its performances, and reprocessing the signals of surveillance cameras, including the ones from the city police, have greatly influenced how the artistic duo have been positioned within the media art field. As is generally acknowledged by the hacker community, hacking strategies typically involve changing the function of one tool for another while providing a service to the wider public. This particular description of hacking, together with a list of prescriptions defining its ethics, has been clearly outlined by Steven Levy in his well-known book.<sup>1</sup> !Mediengruppe Bitnik's interventions comply with this philosophy: in the case of their work *Opera Calling*, the artists simply used mobile phones as hidden audio bugs which were disseminated in the auditorium of the theatre, thereby offering everyone, and in particular those who couldn't afford to attend, the opportunity to enjoy the music at home. However, it would be wrong to only associate the group with hacking strategies. In recent years, another strategy has strongly characterised their artistic approach. During one of our personal conversations, Carmen Weisskopf and Domagoj Smoljo, the two artists behind the group, explained that lately they had been focusing on what they referred to as tactics of "remote execution". This strategy relies on the exploitation of an existing system, such as a postal service, an underground Internet market or a surveillance network, to create a series of events that are triggered at a distance, involving persons and objects that ultimately become the pieces of a performative, process-oriented work.

#### A glitch in real life

Before discussing further examples of remote executions, let's consider one of !Mediengruppe Bitnik's artistic projects, which exemplifies their dual position between contemporary and media art, between activism and aesthetic gesture, and, quite remarkably, between the real and the digital. *H3333333K* is an intervention on the façade of the House of Electronic Arts Basel, a *Kunst am Bau*, reproducing a digital glitch by deforming the architectural elements of the building such as the pillars, the water pipes and the balustrade. A computer glitch is a failure, an error generating a slight mistake that mainly impacts the graphic output without necessarily preventing the program from running. Since the 1990s, the use of glitches has been common among artists who engage with computers as part of a confrontational stance towards technologies – a prominent

example being the artist duo JODI. These artists have largely exploited glitches to create their distinctive aesthetics, while symbolically working against the myth of an infallible computing machine. Glitches exemplified the loss of faith in machines and depicted the victory of the irrational over the rational by disclosing a failure within a processing unit. In the 21st century, a younger generation of artists took over the aesthetic of the glitch, further developing its language and applications. Among them, Rosa Menkman not only exploited glitches to create electronic performances and video works, but she also published a manifesto to offer a critical perspective on the second generation of glitch artists.<sup>2</sup> When !Mediengruppe Bitnik produced a glitch for the façade of the House of Electronic Arts Basel, stylised as H3K, they unequivocally paid tribute to this artistic tradition, while simultaneously using the form in a new context to develop their own discourse. By bringing the digital glitch into the real world, they not only created a playful work of post-digital art, they also offered an additional layer of meaning related to the function of a cultural institution. Glitches, in the sense of failures, mistakes and malfunctions, naturally exist in the world and, in architecture, they occur when inaccuracies are made in the construction process or when natural phenomena intervene to deform a building. These glitches have their own, organic appearance. The specific glitch created by the artists contradicts the material nature of the structure that houses the centre for electronic arts, thereby pointing to the building's function and highlighting the digital artworks and electronic-based performances that it hosts. Today, the group's intervention can easily be read by visitors as a glitch, given that they have become accustomed to consuming digital information and are educated about the recuperation of glitches by media artists. Despite its subversive motivation, the glitch inevitably becomes the fetish of a cultural elite. At the same time, the glitch inflicted by !Mediengruppe Bitnik upon a cultural institution creates an allegorical fissure, in that it acts as a wishful virus seeded into a public establishment to germinate the entire society.

**Bots will rip you off**

Glitches occur frequently in video games and other applications, they usually appear as errors in the graphic output of the texture of a character, furniture or landscape. Sometimes, they take hold of NPCs (non-playing characters) causing them to behave unnaturally and thus revealing their algorithmic nature. Sometimes, NPCs turn out to be bots (short for robots) created to perform specific tasks in mmorpg (multi massive online role playing games), where bots are created to farm virtual resources and gold to be sold to real players, or in social networks and dating websites, where bots are created

to entertain the users and deceive them by giving the illusion of a larger population of active users. Although bots are not glitches per se, they certainly act in “glitchy” ways: they move uncannily in virtual worlds and they are unable to properly communicate with a real person in the long term. When created to perform questionable activities such as gold farming and cheating, they represent a breach in a system. The controversial dating website Ashley Madison has been revealed to use a massive number of bots to lure male customers by misleading them about the presence of a larger pool of female users. As was widely reported in the media in 2015, this was exposed by hackers who stole and disclosed not only the private accounts of customers, but also the whole website code, the databases and functionality. In their work *Ashley Madison Angels at Work* relating to this event, !Mediengruppe Bitnik did not intervene in the hacking of the site, they simply staged the information disclosed by the hackers and gave a second life to the enthralling chat bots, creating several impersonations in the form of 3D avatars displayed on flat screens. Despite the appealing representation of the bots as young and beautiful faces, their graphical representation and their artificial voices clearly unveil their digital nature. In addition, the artists printed pictures of the alleged physical location of the bots, further revealing their forged identity. In this work, !Mediengruppe Bitnik touch on a larger phenomenon that binds neo-capitalism and the mechanisms of desire. In the case of the Ashley Madison website, bots are a scam to trick visitors and turn them into customers, eventually convincing them to buy, consume and keep their subscription active. In the end, they are but another tool of profit-oriented industries for whom all means are acceptable when pursuing profit. In her critique of image scams, artist and theorist Hito Steyerl concluded that the vast amount of representations of ideal and unrealistic human beings, created to sell commodities, are producing an unexpected result whereby people are slowly beginning to revolt against images, by refusing to take part in constructed and manipulated representations of humanity.<sup>3</sup> The portraits of the bots created by !Mediengruppe Bitnik are an elaborate version of the image scams that depict flawless bodies to sell merchandise. By revealing the true nature of these images, the artists seem to have contributed to the acceleration of a wider rebellion against the slavery of representation.

Bots and the darkest dynamics of consumerism are also the focus of another !Mediengruppe Bitnik project: *Random Darknet Shopper*. As described by the artists, the work is a live mail art piece, but it is also a link between the real world and the Internet and, more specifically, between an art space and the Darknet, the online platform where dodgy and illegal activities are taking place under the cover of anonymity provided by The Onion Router (TOR). In this work, !Mediengruppe



Bitnik have created a bot that randomly buys items found for sale on Darknet marketplaces, instructing vendors to deliver the products directly to the exhibition space: the Kunst Halle Sankt Gallen, where it was first exhibited, and then in London and Ljubljana. Unsurprisingly, the work generated some controversy, when the bot selected MDMA pills. The pills arrived at the Kunst Halle and were exhibited with the other items. After the closing of the show, the whole work, including the bot, was seized by the police and subsequently the drugs were destroyed. *Random Darknet Shopper* certainly raises some noteworthy questions regarding the attribution of legal responsibility in the case of the acquisition and importation of illegal products when these actions are, allegedly, carried out by an algorithm. But what is perhaps more relevant is that with the random purchase of items from the Darknet, the artists created a statistical portrait of the current offer on the illicit market, hence providing an insight into those consumer needs and desires which cannot be satisfied legally. This anthropologic enquiry in the digital age revealed some predictable objects of desire: drugs, cigarettes, locksmith tools, hacking instructions, fake Viagra, counterfeit clothing, credit card accounts, and the list goes on. But the work also disclosed items which pointed to social issues that go beyond hedonistic purposes. For instance, the bot acquired a scan of a passport, exposing the precarious situations faced by immigrants and the undocumented. With the *Random Darknet Shopper*, !Mediengruppe Bitnik effectively use a strategy of remote execution not only to create an autonomous work, but also to map society's darkest desires and uneasy existence. As Marxist philosophers like Herbert Marcuse and more recently Slavoj Žižek and Franco Berardi have pointed out in their analysis of neo-liberalism, the authorities and private industries are acting conjointly to maintain consumers' desires and provide them with constant entertainment, while also diverting the majority of citizens from engaging in political actions. The *Random Darknet Shopper* cleverly exposes the paradoxes of a capitalist system that largely feeds on desire only to exploit it for the benefit of the wealthiest elite of producers instead of providing welfare and prosperity for everyone.

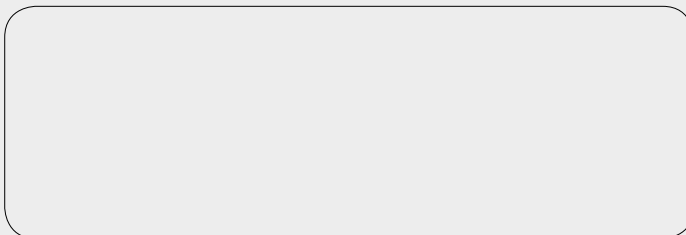
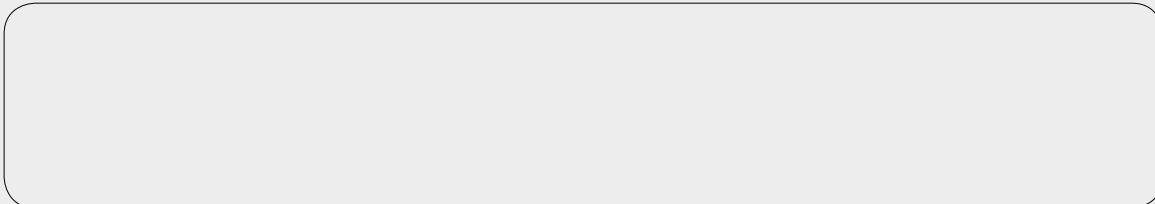
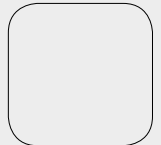
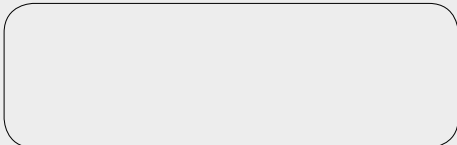
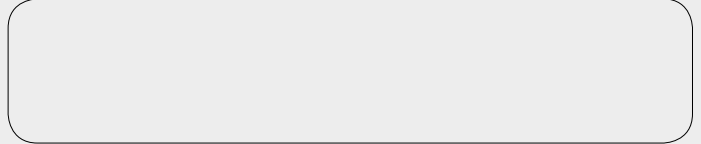
#### Games of surveillance

Strategies of remote execution have also been applied by the artists in the works *Surveillance Chess* and *Delivery for Mr. Assange*. In the former, !Mediengruppe Bitnik exploited wireless signals from surveillance cameras found in public areas. The artists created a connection with the security agents by sending messages to their screens and, as a humorous gesture, they invited them to play a game of chess. As conceded by the artists in their interview with Dominik Landwehr, none of the solicited agents accepted the invitation, rather they

hurried to the artist's location and questioned them about their intentions.<sup>4</sup> In this example, the remote interventions destabilised the usual relation between the overseer and the guarded, suggesting a possible empowerment of the citizens by stepping out of their passive role. With *Delivery for Mr. Assange*, the surveillance system that the artists confronted was certainly more shielded and intricate. Curious to test the possibility of communicating with the founder of WikiLeaks secluded in the Ecuadorian embassy in London, they sent a parcel to him by post. The parcel was equipped with a smartphone which tracked the journey. During the transit of the parcel, the phone took pictures through a hole in the cardboard box and sent them directly to the artists' website, where the parcel's progress could be watched live. The artists also relayed the event through their Twitter account as it unfolded live. Once the package reached its destination, Assange visually communicated with the artists by displaying postcards and notes in front of the camera to express some of his fundamental ideas and to call for the release of Chelsea Manning, Nabeel Rajab and Jeremy Hammond. As expressed in his essays, Assange regards most current regimes, including political parties of democratic societies, as conspiracies to be countered.<sup>5</sup> He believes that modern technologies should be used to gain insight into the agenda of these organisations in order to reduce their influence and finally eliminate them. Eventually, WikiLeaks became the ideal and iconic instrument to execute his political programme. In an effort to support and act on Assange's calls to expose the workings of these machinations, !Mediengruppe Bitnik used the strategy of remote execution to track and disclose the tortuous path of the package as it moved through each stage of the postal service, thereby uncovering the pervasive surveillance system that surrounds the famous hacker and whistle-blower. This strategy was made even more explicit by the artists in their successive work *Delivery for Mr. Rajab*, in which Assange collaborated with the artists to attempt to send a similar package to the imprisoned Bahraini activist. These works are not only an homage to prominent hackers and whistle-blowers, they are a reminder of the permeation and the repercussions of surveillance systems in every aspect of our lives.

With their interventions, !Mediengruppe Bitnik question the governance of structures that we are compelled to use, lest we give up our place in an interconnected society. Furthermore, they unveil the subtle strategies that lie behind these systems, often compromised by economical imperatives that only increase inequalities among the population. Who is governing these systems? How do they influence or even control our existence? What are, eventually, the options that we can envisage to play a more active role in shaping these systems and ultimately take back the control of our lives? This last, central question is possibly the one that the artists tackle more convincingly.

Their remote execution strategies exploit existing systems – sometimes unveiling their mechanisms, sometimes finding a breach to disrupt them – in order to highlight the need for alternative actions and the potential opportunities to take such actions, which must be embraced by citizens who wish to think and act beyond the role of passive consumers.



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| <ol style="list-style-type: none"> <li>1 Levy, Steven. <i>Hackers: Heroes of the Computer Revolution</i>. Garden City, N.Y.: Anchor Press/Doubleday, 1984.</li> <li>2 Menkman, Rosa. <i>The Glitch Moment(um)</i>. Amsterdam: Institute of Network Cultures, 2011.</li> <li>3 Steyerl, Hito. <i>The Spam of the Earth: Withdrawal from Representation</i>. In: <i>The wretched of the screen</i>. Berlin: Sternberg Press, 2012.</li> <li>4 <i>Interview with !Mediengruppe Bitnik</i>. In: <i>Hacking. Edition Digital Culture 2</i>, edited by Dominik Landwehr. Basel: Christoph Merian Verlag, 2014.</li> <li>5 Assange, Julian. <i>Conspiracy as Governance</i>. 3 December 2006. <a href="http://cryptome.org/0002/ja-conspiracies.pdf">http://cryptome.org/0002/ja-conspiracies.pdf</a>.</li> </ol> | <ol style="list-style-type: none"> <li>1 Levy, Steven. <i>L'Éthique des hackers</i>. Paris : Editions Globe, 2013.</li> <li>2 Menkman, Rosa. <i>The Glitch Moment(um)</i>. Amsterdam: Institut des cultures en réseau, 2011.</li> <li>3 Steyerl, Hito. <i>The Spam of the Earth: Withdrawal from Representation</i>. In: <i>The wretched of the screen</i>. Berlin : Sternberg Press, 2012.</li> <li>4 <i>Entretien avec !Mediengruppe Bitnik</i>. <i>Hacking. Edition Digital Culture 2</i>, édité par Dominik Landwehr. Bâle : Christoph Merian Verlag, 2014.</li> <li>5 Assange, Julian. <i>La conspiration comme mode de gouvernance</i>. 3 décembre 2006. <a href="http://cryptome.org/0002/ja-conspiracies.pdf">http://cryptome.org/0002/ja-conspiracies.pdf</a>.</li> </ol> |
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!Mediengruppe Bitnik, installation view, PA MAC DI (Postal Machine Decision Part 2), Super Dakota Brussels, 2018. Photo courtesy Super Dakota.

# ALGOREGIMES

Felix Stalder in conversation with !Mediengruppe Bitnik

3 December, 2020  
!MEDIENGRUPPE BITNIK  
FELIX STALDER

POLITICS | WORLD

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*The following conversation is part of the book Hyperemployment— Post-work, Online Labour and Automation curated by Domenico Quaranta and Janez Janša, and co-published by NERO and Aksioma – Institute for Contemporary Art, Ljubljana. Featuring words by !Mediengruppe Bitnik (Carmen Weisskopf and Domagoj Smoljo) and Felix Stalder—republished here, and Silvio Lorusso, Luciana Parisi, Domenico Quaranta along with works by !Mediengruppe Bitnik, Danilo Correale, Elisa Giardina Papa, Sanela Jahić, Silvio Lorusso, Jonas Lund, Michael Mandiberg, Eva and Franco Mattes, Anna Ridler, Sebastian Schmieg, Sašo Sedlaček, and Guido Segni, Hyperemployment is an attempt to scrutinise and explore some of these issues. A catchphrase borrowed from media theorist Ian Bogost, describing “the Exhausting Work of the Technology User,” hyperemployment allows us to grasp a situation which the current pandemic has turned endemic, to analyse the present and discuss possible futures.*

*24/7. Algorithmic sovereignty. Anxiety. Artificial intelligence. Automation. Crowdfunding. Data extraction. Entreprariat. Exploitation. Free labour. Free time. Gig working. Human-in-the-loop. Logistics. Machine vision. Man-machine complexity. Micro-labour. No future. Outsourcing. Peripheral work. Platform economy. Post-capitalism. Post-work. Procrastination. Quantification. Self-improvement. Social media fatigue. Time management. Unemployment. These are arguably just a few of the many keywords required to navigate our fragile, troubled, scattered present, in which the borders between life and work, home and office, sleep and wake, private and public, human and machine have faded, and in which the personal is not just political but economic.*

## Where institutional processes disappear into black boxes

**Carmen:** My app says that we can record for more than 10 hours.

**Felix:** OK, so it seems to be recording well.

**Doma:** So we now have two recordings.

**Felix:** Your interface is much nicer than Doma’s.

**Doma:** Yeah, mine is the open-source software. (laughs)

**Felix:** Carmen’s app tells me something is happening. ... OK, so let’s start. In 2015, Frank Pasquale, an American legal scholar, published a book called *Black Box Society* by which he meant that ever more processes in society disappear into black boxes. These are increasingly difficult to audit from the outside—be that from the public or from specialized regulatory bodies. What I really liked about this notion of the black box was that the means by which the blackness is produced is not necessarily only technical. Of course, there are a lot of technical black boxes, automated systems, self-learning systems that are increasingly opaque, but layered on top of that, or sometimes even without the technical layers, there are institutional layers, that make it harder and harder to see inside of institutions. There are all kinds of mechanisms by which the knowledge of interest to an institution never comes out. There are also legal layers; before you even enter an institution, then you have to sign an NDA agreement and all of that, so there are lots of different layers that produce this blackness. In your work, it seems that you also deal a lot with black boxes. What is interesting for you or why are these black boxes worthy of your attention? Why do you try to explore them?

**Carmen:** I think, for us, often it’s a question of participation. It’s very hard to participate in processes if you can’t get beyond these layers of black boxing. Much of our work is interventionist and tries to involve either ourselves or other people with a system. We find involvement is the only way of opening black boxes or probing them to find out how they work. Something that worries us is that there’s less and less of this involvement on a technological level. It’s very hard to get beyond the screen or the user interface. But you need to go beyond the interface to understand exactly what the decisions you make as a user produce as a reality or as an environment.





Machine Supper, Black Box Installation, Jewell PA  
MACO Digital Media, Denver, CO, 2018, p. 21,  
Super Dakota Brussels, 2018. Photo  
courtesy Super Dakota.

**Doma:** Probing the black box starts with simple questions like, how does Google see the world and what kind of world does it produce for us? We are constantly immersed in these worlds, and they define how we surf, what we see, what's available for us, what's visible and explorable for us as a user or as a web surfer. In our works, we just use trial and error most of the time. We shoot at the black box, trying to understand it by what we get back, whether there is something meaningful in it. Like you said, it's not only the technical part of it, but it's also the social part or the legal parts. You see that even in buildings. Like, when Google came to Zurich some years ago, and there was no interface for the public in the architecture they built for themselves. There's no lobby, there's no local phone number. You cannot call anybody; it's as if they are there, but at the same time not accessible. The inner workings are totally hidden. And even for the municipality, there's nobody to call if you want to do a project with Google. As a politician, there's nothing you can do. You need to go through headquarters in the US. So to shed light a bit into those processes is interesting ...

**Carmen:** Yeah ... I guess transparency is one of the bases of a democratic society, it's implied that you need to be able to form an understanding through gaining knowledge or information about something to make an informed decision as a citizen. I think within our lifetime there has been a shift. We're less and less citizens of our environments. We're more and more just the users who need to work with the rules we're given. And I think as artists, we have the freedom to question that and to try and push these systems beyond just giving us the little interfaces they give us, and asking the question of why is it like this and do we want to live in this world?

**Felix:** With that, as much as I like this notion of the Black Box Society—because I think it captures really important things—I'm always a bit hesitant about the term because it has this simple dichotomy of visibility/non-visibility in it. Theoretically, Pasquale makes this case about these layers. I think coming from internet culture, we're very used to thinking about layers, and different layers have different logics, and different logics allow potentially for different forms of engagement. On the one hand, there is this idea, as you said, of transparency that can create visibility. But on the other hand, there is also this knowledge, or this experience, that behind each layer of visibility there are other layers that are hidden. These are dark and opaque. So it seems less that something is understandable or opaque but that you can illuminate certain areas that give you perhaps a feeling for the depth that you don't know, that you cannot see. Through this strategy perhaps, or another one, you get another spotlight, but it's always these zones of visibility and invisibility. I wonder what that does or what it means for an aesthetic strategy. When you use the notion of "art as a perception machine," it is kind of an aesthetic question of how do you make something accessible to the senses, in this most basic sense of aesthetics. But how do you do that when you know that beyond the thing that you see, there is always a constitutive part of the thing itself that you want to see which is always partially hidden and partially concealed? And the Black Box also has the problem of being dynamic. It's not like the elevator, which for me is also a black box, but whenever I press the button number two I end up with floor number two. You know, the input/output relation is always dynamic and it's really hard to say anything about the system, other than its particular state, which might be changed by the time you say it. So I wonder what does that do to the perception or to strategies of creating particular perceptions? Or how do you create the perception for something that you cannot perceive, that you know remains hidden even if you reveal certain things?

**Carmen:** That's something we see a lot, with the systems we probe. They change with our probing. This makes working in this field really interesting. Many of our works are open-ended, so we need to deal with a certain loss of control. We have a conceptual approach where we decide to engage with the system and we come up with a way of doing something that we think will produce an interesting outcome. But many times for us, what this outcome will be is not foreseeable. Sometimes we think we're making visible a certain part of the system, but then something totally different becomes apparent. For example, in our first work, Opera Calling, we bugged the Zurich Opera. We tried to reconnect the closed system of the opera house with the open system of the city by rebroadcasting their audio signal from live performances via the telephone network. Through that work, we learnt so much about the kind of the social norms around the opera, the expectations people have, how the whole cultural funding system works in Zurich. But that was actually not what we wanted to do. We really wanted to update the opera and open this up and find a new way of engaging. I also think for the people listening to the audio feeds at home, it was just very surprising to have this come into your daily life when you didn't expect it. You pick up the phone, you think somebody wants to talk to you, but then you're listening to this live performance. But the work also had an impact on the Zurich Opera itself. They suddenly realized that they actually wanted a different connection to the city. That they didn't actually want to be locked in this little building. Of course, things always stay opaque. I agree, it's not black and white. It's kind of surprising what you suddenly get to see. And in the best case, the systems begin to shift. I think art is not good as a solution. It's good at asking questions. So these are temporary artistic interventions that kind of narrate one singular story or a single moment in this story. But I still think it's a very valid way of trying to perceive what is going on because just being a user usually gives you no information.

**Felix:** Yeah, I think this loss of control is something that is almost unavoidable if you want to deal with the system that is complex beyond your understanding ...

**Carmen:** Exactly.



Mediengruppe Blink, Installation view  
MAC DI (Postal Machine Decision Part 2),  
Super-Dakota Brussels, 2018. Photo  
courtesy Super-Dakota.

## The postman should decide where it goes

**Felix:** ... Even in the case of something that is relatively, as you say, bounded like the opera, like the Opera House. We have a few hundred years of experience of what the opera is, so this is not an unknown system. But, if you see it as part of a larger social-cultural system, you realize, oh, there's so many layers that you couldn't possibly think of all of them. And then it almost invariably gets out of your control. Still, you can also use that the way you do it, as a kind of key part of the strategy, so allowing these dynamics to emerge from edges and layers that you don't even know, but that tells you something about the system. Perhaps not what you asked, but something else that is different. This makes me think of one of your most recent works, Postal Machine Decision, which, I think, is a very interesting set-up, so to speak, or conceptual device. At the same time, it is tightly controlled since it has very few options, actually only two. And it is within a system that is also very bounded: the task of the postal system getting a letter from A to B in a reasonable time frame. Can you say a little bit about the work and what interests you in that particular approach?

**Doma:** Postal Machine Decision comes from an interest in how work and labour are currently changing in the era of highly complex logistical systems, in which things are produced in China and become available within two weeks in Europe. How does that work? You know, what kind of machine is behind those processes?

We looked at this from different perspectives. We visited DHL's big logistical centers, trying to understand how the workforce is structured there and what types of machines are employed. And during this research we kept coming back to an art piece which has always impacted us. It's *The Postman's Choice* by Ben Vautier from 1968. Vautier was part of the Mail Art movement of the sixties which used the mail network as an artistic medium. In *The Postman's Choice*, he sent a postcard with an address on each side, addressed to two entirely different people in different cities and left the choice of where to deliver the card to the postal worker. It's a very beautiful work, because when you think about the kind of agency the postman normally has, there's nothing to decide. Usually, he's just a small screw in a machine, he just functions as a robot. And suddenly with this postcard, he gets a choice to make. It's beautiful to give that agency to a position which normally doesn't have it. We were really intrigued by the idea of updating the piece from 1968 to 2020. What has changed? Who will decide today in today's highly automated postal system, where the sorting is not done by humans anymore? Today, it's the barcode, the computer-readable barcode which decides what route a piece of mail will take and not the postman. We addressed 24 parcels with two addresses each: The first address was an exhibition space in Leipzig/Halle, the second an exhibition space in Brussels. And depending on which side the parcel fell on the conveyor belts in the automated sorting centers, the parcel changed route towards Brussels or Leipzig. So what happens is that it starts to bounce within the mail system. A parcel would take a route and almost be in Brussels, and then it would check in for Leipzig again and just go back. It took weeks for the parcels to arrive at one of the two destinations.



Mediengruppe Blink, Installation view PA  
MAC DI (Postal Machine Decision Part 2),  
Super-Dakota Brussels, 2018. Photo  
courtesy Super-Dakota.

**Carmen:** It is interesting to observe how logistical systems are shifting from human-driven systems to computer driven-systems. Today, standard parcels don't actually pass through human hands anymore. They're automatically sorted by machines. By probing the machines, a map of the logistical nodes emerged. When we did the work for Leipzig/Halle and Brussels, the interesting thing was that all parcels—when they finally did arrive at a destination—had actually all passed through human hands because somebody just got fed up with a parcel that kept bouncing within the system because it had two addresses. So somebody actually went and got it off of a conveyor belt to remove or destroy one of the two labels.

**Doma:** ... or they put stickers on it, saying we are here, we're going in this direction. What I like about the work also is that we weren't in charge of what was shown in the two exhibitions because the pieces were transported within these parcels. So we had no idea whether anything would arrive at the exhibition space in Brussels—the first five packages all arrived in Leipzig/Halle. We were like, what if we have an empty show in Brussels and a totally overflowing one in Leipzig/Halle. Yeah, we like to provoke situations, where we don't know what kind of results we'll get. And where there's also pressure involved in it.

**Felix:** The nice thing about doing this today rather than in the sixties is you have all these moments where the thing is tracked and the follow-your-parcel-type interface gives you an idea of how this is moving and how it's moving back and forth. But I'm very surprised about what you said now, that at some point someone intervened?

**Carmen:** Yes.

**Felix:** Because, theoretically, this could have gone on forever.

**Carmen:** Yeah, sure.



**Felix:** Right, 'cause it always looks like a normal package, right?

**Carmen:** Yes.

**Felix:** I don't know whether maybe it creates its own history, so this package may have been flagged. At some point a red flag comes up and somebody has to go down and look it up and see why the parcel is behaving so abnormally.

**Doma:** The thing is that the parcels sometimes also disappeared entirely from the system. For the postal system, every piece of mail can have only one address. So when suddenly the other side is scanned and the parcel is transported somewhere else, the first address is flagged as missing.

**Felix:** There must be some kind of error detection. Maybe if a parcel has too many checkmarks, or has gone through seven hubs and usually three are enough to arrive, or when, it's too far off a standard set of routes. Normally, between these two cities it goes either through that major hub or the other and suddenly ...

**Doma:** You know, sometimes a parcel passed through the same hub three times or four times. So it produced a mess within the system. And I loved reading the tracking information because it became totally absurd. It was total chaos.

**Felix:** But it seems that if it can pass the same hub several times without raising flags, then the error-detection is not particularly sophisticated. You would expect that already the second time in the same hub should be a major red flag. But maybe not. Maybe there are a lot of these errors anyway. We all know this experience that quite often packages arrive quickly, but sometimes they don't. Yeah, so maybe there's a lot just in the normal error rate of misreading, or it falls off the conveyor belt, or somebody who should do something does not. So that the error rate or the inefficiency of the system is so high that it takes a lot of going back and forth for any flag to be raised. Otherwise, it would create endless flags, and then the whole system would break down.

**Carmen:** This leads me to something that I've been wondering about. In the past, a higher level of objectivity has been attributed to algorithmic or computer-driven systems than to their (flawed) human equivalent. Especially when it comes to decision making, computers were often seen to be less biased. And institutions have been known to use this as a defence against blame: It was the algorithm which decided, so the decision cannot be contested. I wonder whether you see that this is currently changing and that people are less willing to accept this?

**Felix:** I think this is emerging as a major area of contention and there are big fights around that. I think for a long time, the institutions have had a free pass. I would say it's just a system, it's just computers. I remember when Google started to scan Gmail to place ads. This was seen as a major invasion of privacy. Oh, now they're reading our private mail! And they said no, no, we don't read it, it's just the algorithm. And somehow that was acceptable. And I think this is beginning to change. That claim is not so simple any more, but it's still made very often. I mean, there was this big kind of outrage in the UK just recently about the algorithm grading students—because of Corona they couldn't take enough exams—and creating all kinds of weird, unexpected outcomes. This was clearly part of a kind of austerity in the educational system, and we just do it, you know, we automate all of that, and so it's a set of political decisions that leads to that point to say, oh, let's let an algorithm, do it. But what happened? Johnson came and said, this was another, he had a very odd word, I can't remember it now. I can maybe look it up afterwards, but it was only just a computer malfunctioning. (He called it a "mutant" algorithm.)

**Carmen:** Yeah, a misunderstanding.

**Felix:** A computer error, so to speak. Which means, well, it has nothing to do with us. Nobody could have foreseen that. And I think these kinds of strategies are part of this, "Let's outsource decision-making to computers so we're not responsible for that, even though occasionally things do go wrong, but quite often they do what is expected." But dodge responsibility, by either saying, "I don't know how this happened. The system is proprietary and I just, you know, sent my data and I got the evaluation back." Or, you can say, "This is all so complex nobody can say who made a mistake." I think this is strategic. I think this is a way of assuming power but not responsibility. So you can do it, but you're not responsible for what is being done. And that is an old trick, but I think it is becoming contested now. But for the moment, it seems in this particular case in the UK that, OK, it was a computer error. They always can happen. We all know that, so it was politically neutered, even though it was clearly the culmination of problematic education policies for the last decades. So I think it's important to go against this myth of the autonomous system. This is another one of those fantasies, like systems are autonomous, so it means that they do it by themselves, which is obviously bullshit. There are no systems that are autonomous, there are systems that have certain decision-making capacity, sure it is relegated, but it is always embedded in an institutional setting and somebody looking at the bottom line and saying, "Oh, this is very profitable and we don't need to care about errors."

**Doma:** Somebody still writes the software.

**Felix:** Somebody still writes the software. Quite often the people who write the software don't really know what exactly they are doing. Or the software is compiled out of a lot of different libraries and so on. So I think it's to develop not only an understanding of these systems, how they work, how they operate, but also how they embed it, how they are not autonomous. I think it is quite challenging, but also quite important because this is really one of the important political fights of the moment.





## The honeymoon phase of social media is over

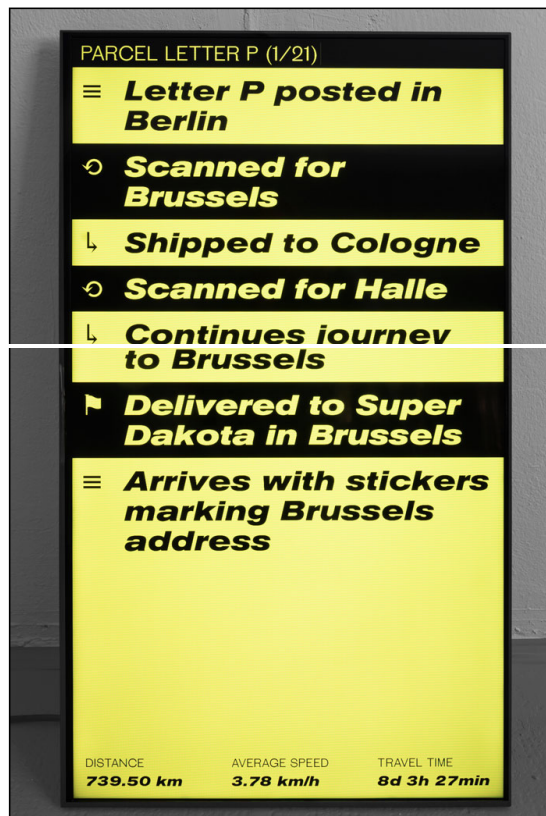
**Felix:** I think this fight will probably be a long one. One which will go on for the next couple of years. So maybe that is a good segue into another work of yours dealing with algorithms that sort job applications.

**Carmen:** Yes.

**Felix:** Maybe you can simply start by quickly describing it. You know, what does that algorithm do and how does it work?

**Carmen:** This work comes from an ongoing interest in looking at algorithmic systems that have gatekeeping functions. For example, for a number of years now, when you enter the US, you are asked to hand in your social media handles as a way of background checking you. Due to the sheer number of people to be processed, these checks are usually done algorithmically. They're delegated to a machine which sifts through, say, seven years of people's social media accounts and looks for certain keywords or certain kinds of behavioral patterns to rate people's behavior on social media. To look at the way that social media profiles are algorithmically rated, we have been looking at an algorithm that's used by human resources departments to rate job applicants social media profiles. This is done for two reasons: It's a fast way to reduce the pile of applications to just a few to be then looked at in-depth. And it is seen as a way of reducing the threat of social media shitstorms directed at the company. Companies want to ensure that the new hire does not pose a threat to the company's reputation with their private social media posts. Because potentially, today, any single tweet can generate a Twitter shitstorm, and this can reflect negatively on the employer of that person. What we found really interesting is that the companies that sell these algorithms don't actually disclose how their algorithm works. They use the same strategy as Google and say that the algorithm is their business secret, while at the same time, telling you that they can absolutely predict people's personality through their public social media data. We ran eleven social media profiles through the standard hiring algorithm to find out how it operates. What exactly do we get back in terms of rankings, in terms of flagged content, in terms of the kinds of personality structures the algorithm attributes to the profiles. And we used the output to generate prints for sweatshirts to also talk about how you don't know how you are rated, but you still carry it on the outside of your body in a certain sense, because it's what people see and know about you.

So the algorithm goes seven years into your social media history. It collects all posts, all images which then becomes the basis for the analysis. From this data, the algorithm calculates a sentiment analysis indicating, for example, how somebody felt while posting something. They sift through the content for anything that is politically explicit. Nudity, for example, or bad language is flagged in cases that seem exaggerated. In this, the view on the content is a very Silicon Valley-slash-US American view on content. Many times, looking through the flagged posts was confusing to us, because often we didn't understand why something was flagged. Maybe there's somebody in the background of the image wearing a bikini and that's already enough to flag for nudity. But through trial and error, through feeding it data, we came to understand what kinds of outputs the algorithm produces. However, the companies which employ these algorithms don't actually look at the details of what the algorithm produces. They run, let's say, 250 applications through the system. And then they only look at the 15 "best" candidates, but they have no way of actually understanding what "the best" means for this algorithm. This is quite worrying, because this procedure also doesn't necessarily produce the best fits for the company. The best fits may be in the other, discarded pile, and that is also actually harmful because it does the opposite of what the algorithm should be doing. It was really interesting to look at how also in the employment world these decisions are kind of outsourced and how little oversight there is.



**Felix:** For me, there are two things that are really remarkable about the world that this work reveals. The first one is that you said that basically everywhere are lots of companies offering these services, but these are shells all leading to the same algorithm(s). So there's a very small number of algorithms that are doing this. Perhaps only one, perhaps there are a few more, but it's definitely much less than the number of service providers that seem to be working, for low-end or high-end clients. But in the end, it's all the same, which indicates that the bias has become really uniform.

**Carmen:** Yes.

**Felix:** Obviously, human nature is also super-biased. There are lots of tests, you know, where if you just change the name to a German-sounding name or an English-sounding name or whatever your chances are much higher, so there's lots of bias in that, but you still have the chance of finding different biases and not being hit by one, but, or getting—

**Carmen:** or hit by the same one all the time ...

**Felix:**—either you're always going to get through or you're always penalised, which makes it extremely difficult to route around that bias. And the other thing I find really fascinating in a frightening way is how primitive the algorithms are in terms of both the psychology and the categories. They employ this psychology from the 1950s that is largely disregarded as meaningless, but it's very easy to program and to code. But, still, from this, they'll make very real decisions that impact peoples' lives in ways that must feel really random, right? You don't know why, you just never hear back from anyone. There's no way for you to control that or deal with that. And it's always the same. It always hits the same people in the same way. That seems to be really, really problematic in terms of having any sense of equal chances.

**Carmen:** Yes, and what we also saw with the test profiles we ran through is that those algorithms use only the "public data." But to the people producing it, to the people posting images, this public data, or this publicly available data, might feel very private. So some of these accounts were people posting a lot from their family life, for example, and I'm not sure it's ethically OK to kind of mix that—

**Doma:**—with our work ...

**Carmen:** ... with a job application process. Where before it would also not happen. Usually, up until now, as an applicant, within certain social norms, you could decide what you were going to tell your future employer about yourself. You wrote your CV, you submitted the photo, and that has kind of changed, you know. People are forced to have more parts of their identity become public in a way. I think that's also a worrying shift, in the sense that I'm not entirely sure people understand this. And I'm also worried about a generation growing up now that is filling, or starting to fill, their social media profiles at 15. And then 15 years later, you're applying for a job at 30 and you're confronted with this whole history of ...

**Felix:** It's hard to decide what's worse: that you don't know that, and then you're suddenly confronted with your party images and whatnot, which, usually when you used to write your CV there was no space where you had to write how you spend your vacations.

**Carmen:** Yeah, exactly.

**Felix:** And now this comes in. But the other thing is also quite scary if you know it, and then you have to kind of curate your private life into

**Doma:**—towards an algorithm.

**Carmen:** Yeah.

**Felix:**—towards an algorithm that has, let's assume it works, which we know it doesn't very well, but let's assume it does, so you have to curate your private life for an algorithm that has the interests of the employer kind of built-in ...

**Carmen:** Yeah, in mind.

**Felix:** So you always have to, even if you go out, you have to be professional. I think about the pressure that puts on people, particularly on young people. Psychologically this is really problematic. So it's really hard to decide what's better, to know it or not, but I think more and more people know it. Yeah, I think that this honeymoon phase of social media is over. And yes, there's enough stories of people getting fired because they had a drink that evening and posted it on social media.

**Doma:** What struck me about this relation between the hiring process and software is that it's everywhere. It's not only describing or trying to understand your public image, but also the documents you hand in, your CV, the cover letter, run through computers to see if, for example, you are using enough keywords from the job offer. And if you're not, you're also part of the list of the less qualified, right?

**Felix:** At least this part you control.

**Doma:** You can try.

**Felix:** The hiring process is a fairly controlled environment, and you know you are entering it. But if it spans your entire life it becomes complicated. Social media is how you connect to your friends and family and whatnot. I think this creates a really kind of schizophrenic situation. Where you have to reveal yourself, but at the same time you have to hide yourself.

**Carmen:** With this, I think that we're coming back to the black boxes.

**Doma:** I also like the term that you coined, which we borrowed from you. Some years ago, you worked around the term of algorithmic regimes: Algoregimes. And we started to use this as a hashtag for stuff we didn't know how to label. We just used your term. Maybe you could elaborate a bit on the term?

**Felix:** The term regime refers to political order and usually in a bad way. So you have authoritarian regimes, dictatorial regimes. On a political science level, you could also say a democratic regime, but in everyday language, you don't really say that. So what we wanted to get at was that these are systems that organize society. That they organize the way we live. And when you look at that from that perspective, the question of whether they are correct or not is not the most important one, because even if they are total bullshit, they still organize your life. Even if the HR algorithm consistently

important one, because even if they are total bullshit, they still organize your life. Even if the HR algorithm consistently mislabels you in the most grotesque way—it's still there and if you fall under the threshold you are discarded right away, and you will never know even that. So we should not think, or that was our idea that we should not think, in terms of the veracity of these insights that these produce or accuracy or fairness, even though these are all important things, but we should also think about in terms of the effects. No matter how shitty it is, no matter how good it is, it produces certain types of effects. And these are actually at least as important as the questions of good or bad, whether it's accurate or not. That was the idea, that these effects create a new kind of way of ordering society for the better or worse. I mean, maybe it's better and I can see certain instances where perhaps the most obvious racist bias that is distributed in society might be less pronounced in the system, even though we know that these biases creep in through the data used to train these systems. But at least the idea that you could think that it might be better, but still it's a regime. It's a way of ordering society.

**Doma:** Well, I think we should stop here.

**Felix:** I think we almost filled the reader.

**Carmen:** I'll stop the recording.

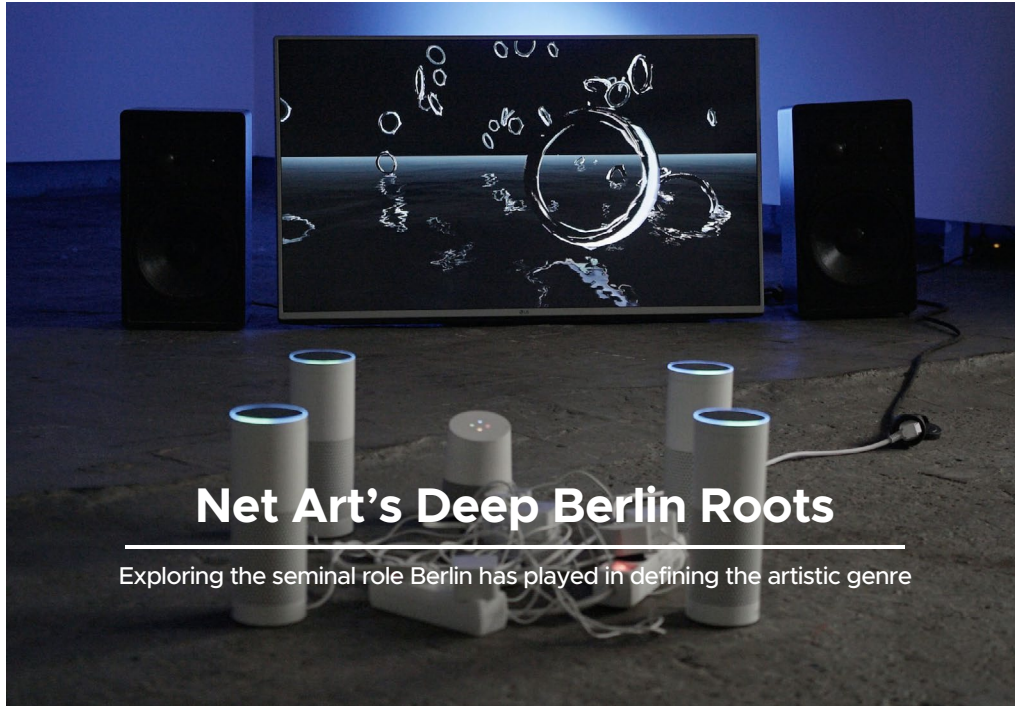
**Felix:** Yeah.

**IMEDIENGRUPPE BITNIK** (Carmen Weisskopf and Domagoj Smoljo) are contemporary artists working on and with the internet. Their practice expands from the digital to affect physical spaces, often intentionally applying the loss of control to challenge established structures and mechanisms.

**FELIX STALDER** is a professor and cultural producer with groups such as nettime, world-information institute and technopolitics. He is the author of *Digital Condition* (2018).

#ALGOREGIMES #BLACK BOX #CONTEMPORARY ART #TECHNOPOLITICS





## Net Art's Deep Berlin Roots

Exploring the seminal role Berlin has played in defining the artistic genre

### WORDS BY

*Liam Kelly*

The net art scene forms a vast, modular, and visually intertwined web of artists, where Berlin stands out as more than just a highly influential node. The city has played a seminal role in defining the artistic genre, from early hackers in the 1990s and the rise of rave culture, the dotcom boom in the 2000s, to today.

As our global culture hurtles ever faster towards all-consuming digitalisation, Berlin's net artists continue the tradition of questioning, connecting, and disrupting the systems of the modern world.

The Twitter account [@mothgenerator](#) tweets images of moths composed with JavaScript. Any Twitter user can reply to the account and have a unique moth generated based on the letters of their name. Switch a few letters in the name, and the bot will create a wholly new and original moth.

What distinguishes this account, and other bots like it, from the rest of the Twitter-verse is that it leverages an inherent quality of Twitter to generate pieces of art. The social media site is both the medium and the work. Some would include this when presenting examples of net art, but summing up the net art movement in 140 characters is indeed a poetic task in itself.

Net art is a movement in which artists use the internet as their medium, and it has spawned numerous term wars with artists claiming territory in "net.art", "net art", "post-internet art", "new aesthetic", and new media practices. Contemporary definitions extend to any art, physical or digital, that mimics the characteristics of internet technologies.

# 0.25974025 BITCOINS









“ In many ways, our work is rarely within our control. Anything could happen. ”

Berlin-based net art historian Robert Sakrowski, founder of the panke.gallery near Mitte, pointed out to *LOLA* that commentators have traced the roots of net art all the way back to Dadaism in the early 20th century. It was a time of rising modernity, nationalism, corrupt politics, and new technologies that brought with them a cold veneer of rationality about how the world should operate, spawning an art movement that sought to disrupt these systems with absurdity. Like today, not everyone was keen on the new aesthetic of global capitalist rationality. In the words of Dadaist poet Tristan Tzara, “the beginnings of Dada were not the beginnings of art, but of disgust.”

Sakrowski points out that central figures of the Dadaist movement, such as Tzara, Marcel Duchamp, and Hugo Ball, had much in common with the current aesthetics of net art. “The use of recycling and collage from this period has influenced similar techniques today,” says Sakrowski. “One could even consider sending physical letters in the post as a sort of net art, as it leverages a networked system.”

As the Dadaist movement flourished at the end of WWI, net art was similarly enconced in sentiments of creative beginnings following the fall of the Berlin wall in 1989. Citizens of both eras expressed their liberation in new artistic styles. Dada’s progeny, the Surrealists, continued the fight against a rational vision of the world via dreamy and absurd landscapes. The fall of the Berlin wall and the spread of rave culture from Great Britain meant that boundary-breaking technologies like the internet were welcomed with open arms in the art world as well. In fact, dancing and technology were often found within close proximity. Sakrowski describes a scene at a club in 1994 in which several ravers were huddled around a series of computer terminals, typing away. “I walked over to see what they were doing and was initially disgusted,” he says. “‘We’re at a club,’ I thought, ‘why aren’t you dancing?’”

It turns out that these computers were connected to machines at other clubs in the city: Sakrowski was witnessing partygoers messaging one another via interlinked VT100 terminals to ask how the party was on the other side. The project, called Clubnetz, connected Tresor, E-Werk, and Friseur, and was later turned into an app and put on display at Sakrowski’s gallery in 2018. Between Duchamp’s urinal repost in 1917 and the rise of FOMO in 1994, the Fluxus movement of the 1960s and 70s is another influence on modern net art. Fluxus focused more on the process of artistic performance rather than the end result. An aesthetic of motion, spontaneity, and an active relationship between the consumer and producer are key identifiers of the genre.



!Mediengruppe Bitnik is a tandem art collective working with, on, and around the internet to dig into contemporary issues. In early 2013, the duo sent a camera to Julian Assange at the Ecuadorian embassy in London. Not long after, they let loose a bot holding a Bitcoin wallet to make purchases on the Darknet. The bot, later named Randy by followers of the experiment, was given a small allowance of \$100 in Bitcoin. The purchases, which included ecstasy, cigarettes, and Viagra-like knockoffs, were then sent to the Horatio Jr. gallery in South East London for display. In 2018, at panke.gallery, the group also exhibited ALEXIETY, which addressed concerns surrounding data privacy, surveillance, and the use of digital assistants such as Amazon’s Alexa. It was also thanks to Sakrowski that !Mediengruppe Bitnik and another Berlin-based collective, Omsk Social Club, collaborated on a project called Cryptorave.

Before the night of the rave, participants were tasked with mining cryptocurrencies on their personal computers in exchange for a ticket to the party. For the uninitiated, exchanging computing power for monetary value is the essential premise behind mining for cryptocurrencies. Instead of buying a ticket with cash, Cryptoravers paid by running an algorithm on their computer for a specific time. This mechanism, among a few others, has led artistic groups to experiment with alternative ways to fund their projects. The Cryptorave tickets also provided ravers with an identity for the night in what can best be understood as a crypto-based live-action role-playing game. The character descriptions were replete with likes, dislikes, dreams, ambitions, and even tasks to guide them through the event.

So, while not strictly confined to the internet, !Mediengruppe Bitnik is working with the ancillary theme of networks. The camera sent to Assange, for instance, recorded the entire journey through the postal service. Similarly, the Random Darknet Shopper crawled the uncharted depths of the internet to execute its arbitrary purchases and produce artifacts of its journey. And Cryptoravers, with their mined tickets and identities, participate in a shared physical raving experience mediated by their digital participation. Each project merges the digital and physical to reach its ends.



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!Mediengruppe Bitnik also mentioned its preference in highlighting the artistic process rather than a finished product. “We were very inspired by the performative aspects of Fluxus rather than simply the creation of objects,” they explain. “In many ways, our work is rarely within our control. Anything could happen.”

An early touchpoint for the collective was Ben Vautier’s The Postman’s Choice from 1965. In it, Vautier glued together two postcards with the addresses facing out. On one side, he wrote one address, and on the other, a completely different address. “In Vautier’s work, the postman becomes a part of the work in that they must choose where the postcard goes rather than Vautier,” !Mediengruppe Bitnik explains.

This aesthetic, prioritizing the artistic process over its outcome, has been embraced by many artists experimenting with the internet. Early contemporaries of !Mediengruppe Bitnik include etoy, who critiqued the rampant capitalism of the dotcom bubble. In 1999, etoy entered into a legal battle with an internet-based toy retailer called etoys.com. The latter claimed that the art collective was responsible for customer dilution and eventually sued the group for trademark infringement.

After having their site taken down, etoy retaliated via denial of service attacks on etoys.com and a strategic media campaign. The conflict was later coined the “TOYWAR.” Eventually, the online business dropped the legal charges, and etoy relaunched their site. In the process, etoy recruited 1,798 artists, journalists, lawyers, and celebrities which made up “the most expensive performance in art history” according to toywar.etoy.com.



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“ Berlin is advantageous because everyone comes here. Everyone passes through the city at some point. ”

“All art is political”, Sakrowski reminds us, even internet-based art as it exposes and questions the new structures of technological, social, and political power on and offline. Considering the genre’s roots in Dadaism and Fluxus, one continues to see similar experiments in which artists use the systems around them to execute their work. Decades after Ben Vautier and others explored pre-internet networks, the Cambrian explosion of innovation that was the internet gave rise to new forms of artistic practice and experimentation.

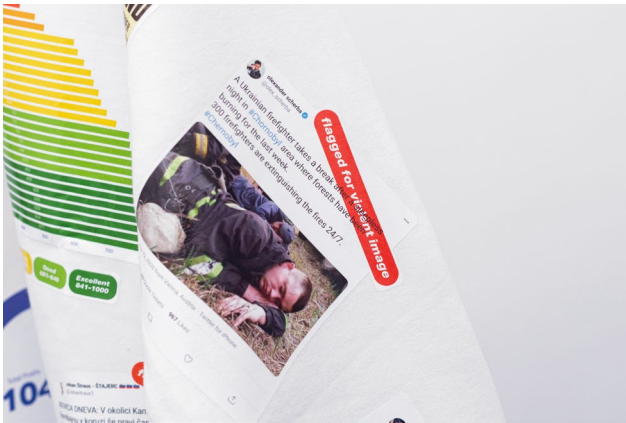
The Clubnetz that Sakrowski witnessed in the early nineties, the TOYWAR of the 2000s, and !Mediengruppe Bitnik’s artful trolling have made way for creative connections and critiques of what the internet was, is and may be if we are not careful. Despite the intangibility of the internet, physical spaces like Berlin remain critical to where net art is going. “There are always places like Amsterdam, London, Paris and New York,” says Sakrowski. “But Berlin is advantageous because everyone comes here. Everyone passes through the city at some point. The city touches and influences many projects, which is nice because it means that I don’t have to move very much.”

Visit [panke.gallery](http://panke.gallery) at Greichtstraße 23, 13347 Berlin. For more on !Mediengruppe Bitnik head to [bitnik.org](http://bitnik.org)

SHARE ON



## !Mediengruppe Bitnik → "Flagged for", 2020



detail, !Mediengruppe Bitnik, "Flagged for Political Speech", 2021

## May 2022 Ingrid Luquet-Gad

### Flagged for lulz

!Mediengruppe Bitnik might just be doing it for the *lulz*. To present-day eyes and ears, this internet phrase is already an item of media folklore. Referring to a carnivalesque laughter rising from the depth of message boards, the term denotes both a specific historic context and a strategic positioning towards institutional power. The former has become understood through [anthropologic studies of the hacker galaxy Anonymous](#), and it also marks a global, generational awareness of internet-assisted activism. The latter, meanwhile, is a spirit and a strategy, symbolised through the persona of the lone trickster, jester or fool, which transcends mediatic regimes – one that, plunging its roots in the avant-garde practices of Dadaist outrage and Ubu-esque absurdity, resurfaces in sweeping waves at times of paradigmatic political change.

These two strands of analysis – the temporal and the transhistorical – are what make a reflection on !Mediengruppe Bitnik's practice all the more compelling. Without any additional context, the first impression of their recent "Flagged for" series (2020–ongoing) is one of seamless contemporaneity. A visualisation of the automated enactment of censorship according to a set of predefined criteria, the works' surfaces are covered entirely with various "flagged" social media posts. The project's first iteration, *Flagged for Political Speech* (2020), takes the form of 27 white sweatshirts, each of which is [printed with flagged posts](#) from and qualitative analyses of each European Union state leader's social media presence. Hung from the ceiling, [the installation](#) confronts the viewer with a range of portraits not unlike Dadaist caricatural



collages made from newspapers: a series of "bachelor machines" at the advanced stages of reification, where an auto-generated recombination of publicly available data becomes a stand-in for the subject's long-lost unity.

A second layer of meaning makes the work more complex. Here, the analysis of a person's data trail, although automated, also implies a commodification of how it's carried out and by whom. As the developers and marketers of the algorithms, several commercial companies sell their services to potential employers, banks and insurances companies as well as to states' border police forces and citizenship caseworkers. While the criteria used by the algorithms remain hidden, their effects spill over from the digital to the physical, further cementing asymmetries in access, visibility and mobility. The second piece in the series, *Flagged for Explicit Image* (2021), turns a closer lens to the personal consequences of assessing an individual according to a fixed set of norms and binaries: Your post is either flagged or not; your presence deemed negative or not. Through a made-to-order **bomber jacket** (size S–XL) or **wallpaper** (adapted to the site and size of the wall), any person – no longer only a political official or a blue-check figure – can wear their score on their sleeve or cover their domestic space with their metrics. To phrase it after Hito Steyerl, herself indebted to the mimetic excess that runs from Dada to hacker: "We successfully impersonate a human for a machine," so why not "intensify it" and make it visible to all?

With the "Flagged for" series, !Mediengruppe Bitnik's deriding laughter conveys two slightly different qualities of lulz. *Flagged for Political Speech* builds on the established tradition of the struggle of the powerless against the powerful that became especially visible around the turn of the 2010s, when leaderless, networked protest movements expanded earlier phreaker and hacker solitary modes of action to the 99%. In keeping with this tradition, the work proceeds to invert, even if incidentally so, the given polarities of social order. With the exhibition context acting as a carnavalesque space and time, updating the medieval celebration that performed a collective upending of hierarchies, we too can watch the

watchers, prey on the predators and feel temporarily liberated from established public symbols of political power – theirs a relative one compared to a greater evil, the immaterial and infallible authority. Although similar in appearance, *Flagged for Explicit Image* could seem closer attuned to the helpless jolt, barely a laugh, more of an anxious smirk, of the post-internet years and the end of that decade. As the target grows individualised, turning from deriding governments and supra-national entities into mimicking ordinary systems of oppression, mechanisms of control seem to tighten on the span of actions afforded to every social actor.

What is reflected in !Mediengruppe Bitnik's series corresponds to a wider societal shift, tapping into aesthetic nihilism as that which remains when action feels structurally paralysed. It can, however, be helpful here to dive deeper into the duo's practice and to look at its continuity through time, so as to assess whether these recent works constitute a continuation by other means, or a paradigmatic break, with the artists' earlier pieces. Carmen Weisskopf and Domagoj Smoljo first met when they were students at the University of Zurich in 2000. Two years later, they decided to create **their first website** and to do so surreptitiously swapped one of the university's servers for their own. Connecting it to the internet, they named the hidden bug in the academic matrix "bitnik" – a rephrasing, like lulz is to lol, of the beatniks who refused conventional society at the turn of the 1950s. If their collaboration originated as an act of trolling, then their first projects similarly stayed true to the popular hacker slogan, "Do not propose, do!" With *Opera Calling!* (2007), which transmitted opera concerts for free to randomly dialled landlines in Zurich, or 'CCTV Dérives' (2009–10), a series undertaken in various cities that used self-made signal receivers to disclose hidden surveillance-camera signals in public spaces, !Mediengruppe Bitnik enacted a strategy of reversed surveillance, watching the watchers by tapping into existing networks and repurposing their uses.

*Delivery for Mr. Assange* (2013), arguably their best-known work, proceeded similarly while simultaneously anchoring the viewing experience more directly in the exhibition

context. Here, a parcel containing a camera and a GPS signal was sent to Julian Assange, the founder of WikiLeaks, who was living in reclusion at the Ecuadorian Embassy in London. Via a hole in the cardboard package, the camera recorded the parcel's 32 hours in transit, from the 16th to the 17th of January 2013, through the Royal Mail postal system as it was en route to its hyper-surveyed addressee. A livestream of the journey, transmitted to the duo's website and Twitter account in real time, was then presented in 2014 at the Helmhaus Zurich as a video installation alongside a life-size recreation of the hacktivist's room at the embassy. The same year, *Random Darknet Shopper* (2014–16) went on to put the artistic institution directly to the test, this time using its space for the intervention itself. With a budget of \$100 in Bitcoin per week, a bot was programmed to randomly buy items on the illicit goods emporium Agora. The items were shipped to the exhibition space, Kunst Halle Sankt Gallen, unpacked as they arrived and mounted for display. Upon charges (later dropped) of buying ecstasy, the Swiss authorities closed the exhibition.

When looking at the mischief-making collective's practice over a wider span of time, there are overarching tones and actions that continue to inform their most recent pieces – even if they resort to more conventional modes of display. What remains is the earlier spirit of politicised laughter – a lulz putting pressure on any system and apparatus – of the early 2000s. Beyond the apolitical stance of post-internet art and its present day metastases, !Mediengruppe Bitnik's approach persists even if their visual language evolves and adapts. In a way, their strategy could also be approached according to what design collective Metahaven explored in their 2013 book *Can Jokes Bring Down Governments?*: They defined the joke as an “open source weapon of the public”, one with the “capacity to resist and overturn the frame of reference imposed by any political status quo”. In their “Flagged for” pieces, the duo's oppositional stance may be less frontal, but the present-day era is one where the lines between inside and outside, private and public, aesthetics and politics, have become more blurred – and the mimicry ever closer to its subject.



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## Ingrid Luquet-Gad

Ingrid Luquet-Gad is an art critic based in Paris and a doctoral candidate at Université Paris 1 Panthéon-Sorbonne. She is the arts editor of *Les Inrockuptibles*, a contributing editor to *Spike Art Magazine*, and a correspondent for *Flash Art*. Her research, developed through essays, catalogue texts and conferences, explores the individual and collective structures of the networked self and investigates strategies of artistic autonomy developed in the 2010s.

LIFE & WORK | IDEAS | ICONS

## Making Art for the Age of Screens

A new exhibition in Fort Worth, Texas, gathers decades of digital art, from paintings to augmented-reality experiences



An image from Kristin Lucas's augmented-reality work 'fIARmingos.'

PHOTO: KRISTIN LUCAS/AND/OR GALLERY

*By Susan Delson*

Jan. 13, 2023 1:54 pm ET

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In 1987, artist Gretchen Bender created the installation “Total Recall,” a wall of televisions and projection screens emitting a barrage of nonstop flashing images and sound. As a critique of digital culture, it was strikingly prescient. The shift to screen life has been decades in the making, and generations of tech-savvy artists have been charting those changes. The new exhibition “I’ll Be Your Mirror: Art and the Digital Screen,” opening Feb. 12 at the Modern Art Museum of Fort Worth (MAM), features more than 70 works by 50 artists, for whom the screen is both indispensable tool and irresistible subject.

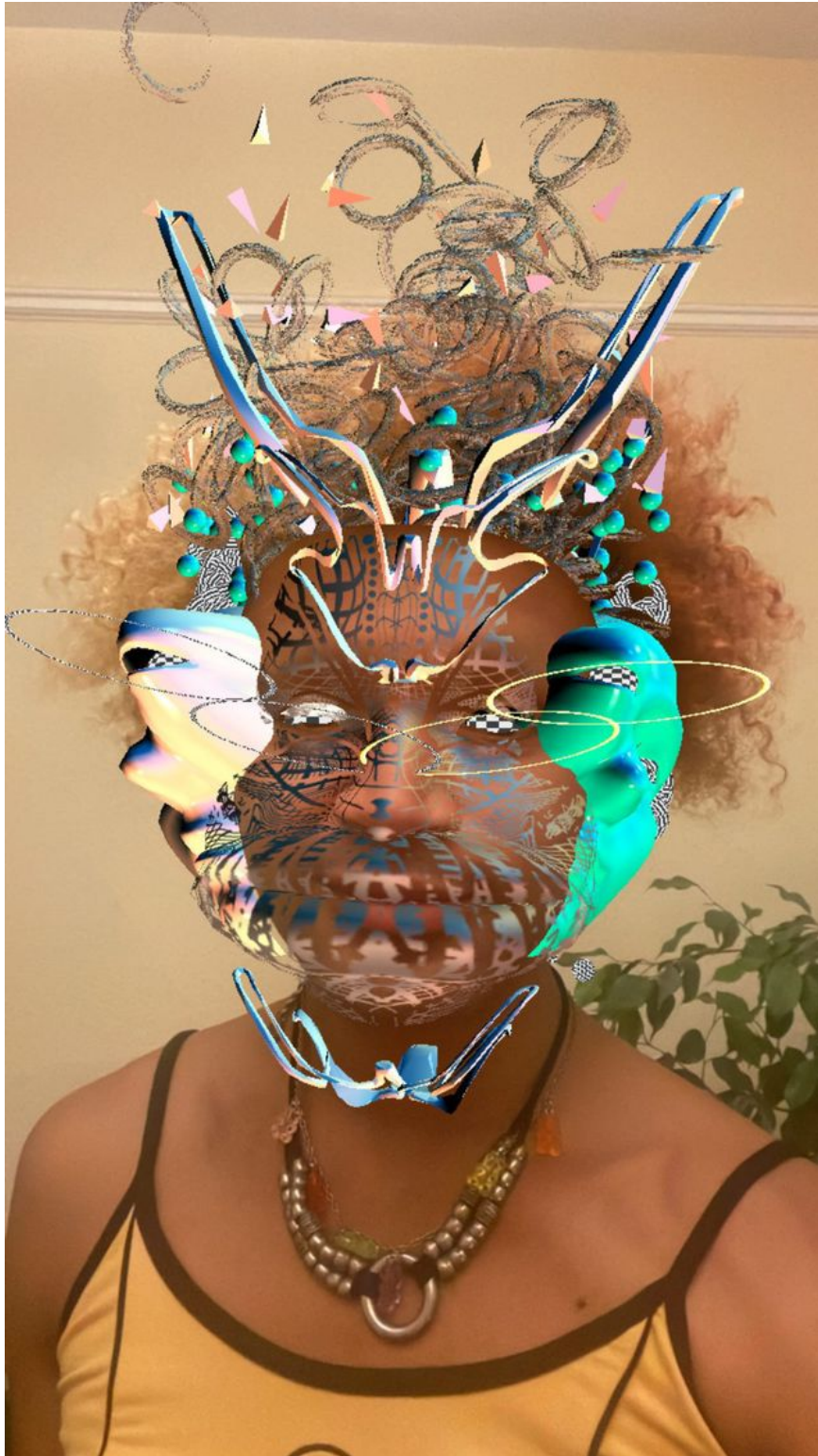
These works include paintings, sculpture, videogames, augmented reality projects and more the 1960s to the present. The show is structured around themes such as connectivity, surveillance and the posthuman body, in which art and screen “intersect most dynamically,” says the show’s organizer, MAM curator Alison Hearst.

The first section presents screen-art pioneers like Nam June Paik, whose “TV Buddha” inspired the exhibition. In that piece, an 18th-century sculpture of the Buddha seems to gaze at its own image played back on closed-circuit TV. Originally created in the early 1970s, Paik’s iconic work foreshadows the “closed-loop echo chamber that screens create” online, Ms. Hearst says, as well as the “vanity of contemporary social media.”

Andy Warhol tried his hand at screen art in 1985, when he was hired to promote a new graphic software and created digital drawings on the



Amiga, a short-lived computer beloved by programmers. At the museum, the Amiga displaying these works is a vintage 1985 model. Using an old-style corded mouse, visitors can click through a dozen Warhol pieces, including a pattern-crazed, psychedelic self-portrait. “I can’t wait for younger generations to interact with this technology,” Ms. Hearst says, imagining “how slow and awkward it must feel” to Gen Z audiences.



Huntrezz Janos's Instagram filter 'Tinsel Polycarbonate' (2019).

PHOTO: HUNTREZZ JANOS/TRANSFER GALLERY

Other works invite further interaction. Visitors approaching Huntrezz Janos's “Tinsel Polycarbonate” and “Hologram Mythography”—augmented reality filters created on Instagram in 2019—will see colorfully masked and embellished versions of their own faces. In the section on

surveillance, Rafael Lozano-Hemmer’s “Pulse Index” (2010) relies on participation via a fingerprint scanner and heart-rate sensor, gathering and then displaying the user’s information—a reflection, perhaps, of the internet’s predilection for amassing personal data.

The most playful interactive work in “I’ll Be Your Mirror” is Kristin Lucas’s “FIARmingos,” an augmented reality experience that allows the user to dance with animated flamingos superimposed on real-life settings. First created in 2017, the piece has evolved through the years, from an initial rendering made for Google Glass—a much-heralded, soon-vanished brand of smart glasses—to the current version. The birds’ movements have become increasingly interactive and realistic, Ms. Hearst says, and in dancing together, users’ bodies now overlap with the animated figures “in ways that weren’t possible before.”

The show’s ecology theme, fancifully embodied by Ms. Lucas’s flamingos, takes a sobering turn in the work of Ethiopian artist Elias Sime. “Tightrope: Contrast” (2017), a 6-by-13-foot wall panel, is made from computer detritus gathered at open-air markets in Addis Ababa. Using traditional weaving techniques, Mr. Sime transformed reclaimed electrical wires into a striking abstract composition, drawing attention to Africa as a disposal site for the world’s toxic e-waste.



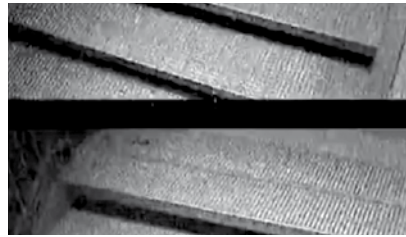
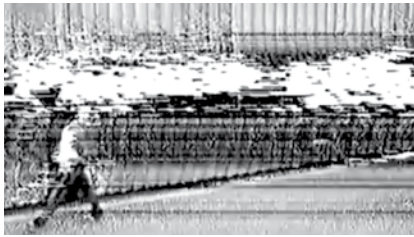
‘Ashley Madison Angels at Work in Fort Worth,’ an installation by !Mediengruppe Bitnik (2023).  
PHOTO: ANNA KULTYS GALLERY

The section of the exhibition on automation and loneliness spotlights another dark side of virtual life. “Ashley Madison Angels at Work in Fort Worth” (2023) is a five-channel video installation focusing on Ashley Madison, a website for people seeking extramarital affairs. A 2015 data breach revealed that, in an effort to retain its millions of male users, the site had surreptitiously added more than 70,000 “female” chatbots. Created for the exhibition by the artist collective !Mediengruppe Bitnik, the work presents conversational snippets from five “fembots” said to be in Fort Worth—“all within a mile of the museum, supposedly,” Ms. Hearst says. Even knowing the circumstances of the work’s creation, she adds, “it’s a bit enticing and surprising, maybe, when these chatbots start talking to you and flirting with you.”

The show opens and closes with works that reflect the sheer volume of information available online. Penelope Umbrico's "48,586,054 Suns from Sunsets from Flickr (Partial) 11/05/20" (2020) presents a selection of the images she found by searching "sunset" on the photo-sharing app Flickr on a single day. The final work in the exhibition, Molly Soda's "Me Singing Stay By Rihanna" (2018), compiles 42 videos of YouTube users—mostly young women—singing Rihanna's 2012 pop song "Stay" in their bedrooms. Though created in isolation, when all 42 videos are synced and shown together on a single screen, the singers become a poignant chorus and momentary online community in a way that seems both haunting and familiar.



# Hacking



Edition Digital Culture  
Migros-Kulturprozent  
Christoph Merian Verlag

# Hacking

# Ever

# yday

**Raffael Dörig**

Between March and May 2007, bugging devices made from converted mobile phones and hidden in the stage area of the Zurich Opera House secretly transmitted performances to randomly selected telephone mainlines. Zurich inhabitants were able to listen in to the ongoing performances for as long as they liked. In total, more than ninety hours of live opera were broadcast to 4363 households through the city of Zurich telephone net.

# Life

The action “Opera Calling” of the Zurich !Medien-gruppe Bitnik is downright exemplary of an artistic practice which – explicitly or implicitly – is connected to the discourse on hacking. The artists’ group intruded into an otherwise relatively closed system, where it retrieved content and passed it on. It did this by exploiting weak points and the application of knowledge, particularly in the area of IT – and with the use of unorthodox methods.

In what follows I want to delineate various aspects of the multifaceted term “hacking” and its transfer into the domain of art, using “Opera Calling” and other artistic actions in Switzerland as examples.

#### **Cracking Everyday Electronics**

The Zurich Opera House executives were astonished to find out that the listening devices described in the media turned out to be old, disused mobile phones which had been modified. Diverting objects from their intended use, contrary to the instruction manual, and tinkering with obsolete objects or instruments is one important partial aspect of hacking.

If we look at art history, from a Swiss perspective we think of Jean Tinguely as one of the “godfathers”. Tinguely’s rusty debris of the machine age is today the electronic junk of the information age. But here I would like to point out two other Swiss pioneers, Andy Guhl and Norbert Möslang. Under the name “Voice Crack” the artists from St. Gallen experimented since the early 1980s with dismantled radios, remote controls and other modified gadgets in the area of experimental music and sound instal-

lations. This kind of “hardware hacking”<sup>1</sup> they termed “cracked everyday electronics”. Precisely the reference to the everyday is crucial. Here objects are taken out of their everyday context and made to serve new uses; hence there is a moment of analysis and one of synthesis.

In recent years a new and lively scene has emerged in Switzerland which continues such practices of hardware hacking and electronics tinkering. Just to mention some of them whose core practice involves the development of idiosyncratic instruments for musical and audio-visual performances: the “bricoleur universelle” Flo Kaufmann, the duo “[anyma]” with its hybrid video and musical instruments, “Strotter Inst.”, who makes record players sound with everything except records, Iris Rennert’s experiments with circuit bending, Effi Tanner as an artist and with her workshops, or Marc Dusseiller with his biotechnology hacks.

This is a hybrid practice between art, music, activism, hobbyism and a certain enjoyment of celebrating “nerdiness”. Of great importance here, too, is the transfer of knowledge for example in the workshops of the Swiss Mechatronic Art Society (SMAS), in which some of the above mentioned artists are active. And finally, this is also – as always with hacking – about an emancipatory use of technology, the appropriation of the means of production. The use of

<sup>1</sup> The expression is used, for instance, by Nicolas Collins, another pioneer in the field, in the caption of his standard work. Collins, Nicolas: *Handmade Electronic Music. The Art of Hardware Hacking*. New York 2006.

technology contrary to the instruction manual represents the refusal to have restrictions forced upon one by the manufacturers. This may have primarily artistic reasons, such as the search for interesting sounds beyond the predetermined presets, but always also contains a political element. Hackers don't let themselves be forced to use a tool in only one particular way. Their work is about discovery and the questioning of limits and restrictions. Wau Holland, one of the founders of the Chaos Computer Club, put it this way: "A hacker is someone who tries to find a way how to use a coffee machine to make toast."

The most important nucleus of hacker culture and the term hacking is usually considered to be the Tech Model Railroad Club (TMRC) at the Massachusetts Institute of Technology (MIT) in the 1960s, which was largely composed of computer scientists.<sup>2</sup> Hardware tinkering and software creativity until today remain keystones in all kinds of hacking, including the artistic type.

### **Infiltrating (Operating) Systems**

By the time the figure of the hacker entered the mainstream in the 1980s, for example in films such as "War-Games" (1983), where a teenager penetrates the Pentagon computer network and thereby almost triggers World War Three, the term's use became more limited. Now a hacker was considered to be a "computer user attempting to infiltrate other computing systems via data circuits and thereby gain access to data or data-

2 Cf. Steven Levy's classic account: Hackers. Heroes of the Computer Revolution. New York 1984.

bases".<sup>3</sup> This is undoubtedly a problematic reduction of the term's meaning, because it involves "the general acceptance of [...] the criminalization of electronic competence".<sup>4</sup> Since then the expression has undergone an interplay between being heroized and criminalized in films and the press on the one hand, and attempts at explanation, differentiation and integration by the real hacker scene on the other.<sup>5</sup> What is certain is that since then the exploration of systemic weaknesses and the infiltration of (computer) systems are part and parcel of the term hacking.

The artist Hans Bernhard, formerly with etoy, now with UBERMORGEN, assumes the prior meaning of hacking when talking about his practice of media hacking, which may serve as an example. He describes it as the intrusion into mass-media channels using standard technology.<sup>6</sup> Media hacking enters the system of the attention economy. Mass media select topics. Media hacking analyzes the mechanisms of this selection, assimilates and thereby penetrates them. The security hole thus exploited for invasion is the necessity of the media to generate attention. Media hackers react to this by generating or faking events

3 Art. Hacker. In: Brockhaus. Die Enzyklopädie in vierundzwanzig Bänden. 20., überarbeitete und aktualisierte Aufl. Vol. 9. GOTL-HERP. Leipzig/Mannheim 1997, p. 347.

4 Lovink, Geert and Schultz, Pit: Aufruf zur Netzkritik. Ein Zwischenbericht. In: nettime (Ed.): Netzkritik. Materialien zur Internet-Debatte. Berlin 1997, pp 5-14, to this p. 13.

5 Cf. Thomas, Douglas: Hacker Culture. Minneapolis 2002.

6 Cf. Bernhard, Hans: Media Hacking – Digitaler Aktionismus. Online at: [http://www.ubermorgen.com/publications/iem\\_cube\\_2005/CubeMediaHacking.htm](http://www.ubermorgen.com/publications/iem_cube_2005/CubeMediaHacking.htm) (last accessed on August 11, 2014).

which follow this logic. Hence there is a deconstructive look at the media vying for attention. Simultaneously the theme chosen by the artists gets attention.

The project “Vote-Auction” by UBERMORGEN, an online platform ostensibly for the offering and auctioning of votes during the US presidential election in 2000, indisputably contributed to a discussion about the entwinement of money and politics.<sup>7</sup> Of central importance here for media hacking as an artistic action was, however, the play with the attention economy. Soon there were increasing numbers of media reports, around 1800 finally, and the artists – always acting as “Eastern European businessmen” – gave dozens of interviews every day. The high point was a half-hour report on CNN. As an artistic action its experimental nature was important. It didn’t pursue a clearly defined goal, as is typical of political activism in general, but an open-ended result. The !Mediengruppe Bitnik also invokes this experimental character of artistic hacking.<sup>8</sup> In “Vote-Auction” by UBERMORGEN, for instance, the experiment was extended to the point where law enforcement authorities stepped in. Thus, the judiciary was also duped by the simple website. The prosecution in turn raised the media attention. The artists bore the risks. Besides high legal costs the consequence was a five-year ban on entering the US.

7 According to the original intention of the student James Baumgartner, who developed the site as a satire and later for legal reasons handed it on to the artists who removed all explicitly satirical references and continued the game through subversive affirmation.

8 Cf. the interview with the group in this volume.

### **Liberating Information**

In “Opera Calling” the !Mediengruppe Bitnik extracted information in the form of opera performances from the system opera house and redistributed it. “Information wants to be free” is the central motto of all hacker manifestoes. While so far the methods of hacking were discussed, in concluding I want to focus on the explicit demands of the hacker movement which have been articulated since the 1980s in manifestoes and hacker ethics, especially as a response to the criminalization of electronic competence. “Access to computers and everything that shows you how this world functions should be unlimited and complete”, is another central tenet.<sup>9</sup> In recent years this hacker movement has gained increased media attention through the debate about surveillance and the persecution of Wikileaks. The struggle against censorship, surveillance and technical restrictions through the state and the private sector is more topical than ever.

Swiss artists Christoph Wachter and Mathias Jud have worked on this subject for years and as part of their artistic projects have developed working programmes and methods to, for instance, circumvent internet censorship (“Picidae”, since 2007) or create an independent communication network (“qaul.net”, since 2012). Within an art context these works have given rise to discussions of social and political questions, while also addressing issues in visual studies and art history. Outside the domain of art their tools are being

9 Cf. [www.ccc.de/hackerethics](http://www.ccc.de/hackerethics) (last accessed on August 11, 2014).



used as working instruments and further developed by activists ranging from China to Syria.

In one of their most recent works, “Delivery for Mr. Assange” (2013), the !Mediengruppe Bitnik focused on a famous and controversial protagonist of the current hacker movement, Wikileaks founder Julian Assange. Since 2012 he has been staying in the Ecuadorian embassy in London, because if he left it the British would arrest him. The !Mediengruppe Bitnik sent him a parcel containing a camera which transmitted a picture every few seconds onto the net. Assange finally received the parcel, and he used the action for distributing some of his core demands and solidarity notes to other persecuted hackers via handwritten notes which he held in front of the camera. Again, we find here the moment of infiltrating something that is restricted as well as the extraction of information. Methods used hereby include hardware tinkering and the unconventional use of technology competence. And finally, the whole action could be watched on the internet in real time. Information wants to be free.

Translation: Henry Taylor

Raffael Dörig (\*1976) is director of the Kunsthhaus Langenthal. He also teaches at the Haute école d'art et de design (HEAD) in Geneva. From 2005 until 2011 he was engaged at the Medien-kunstforum [plug.in] and the House of Electronic Arts (HeK), both in

Basel. He was co-founder and co-director of Shift, the electronic arts festival (2007–2011). In recent years he has dedicated himself to the topic of hacking in a number of exhibitions – among them at the Electron Festival Geneva – devoted to the subject in general.

HACKER CULTURES (HTTPS://NETWORKCULTURES.ORG/LONGFORM/CATEGORY/HACKER-CULTURES/)

# Dérives in the Digital: Avant-garde Ideology in Hacker Cultures

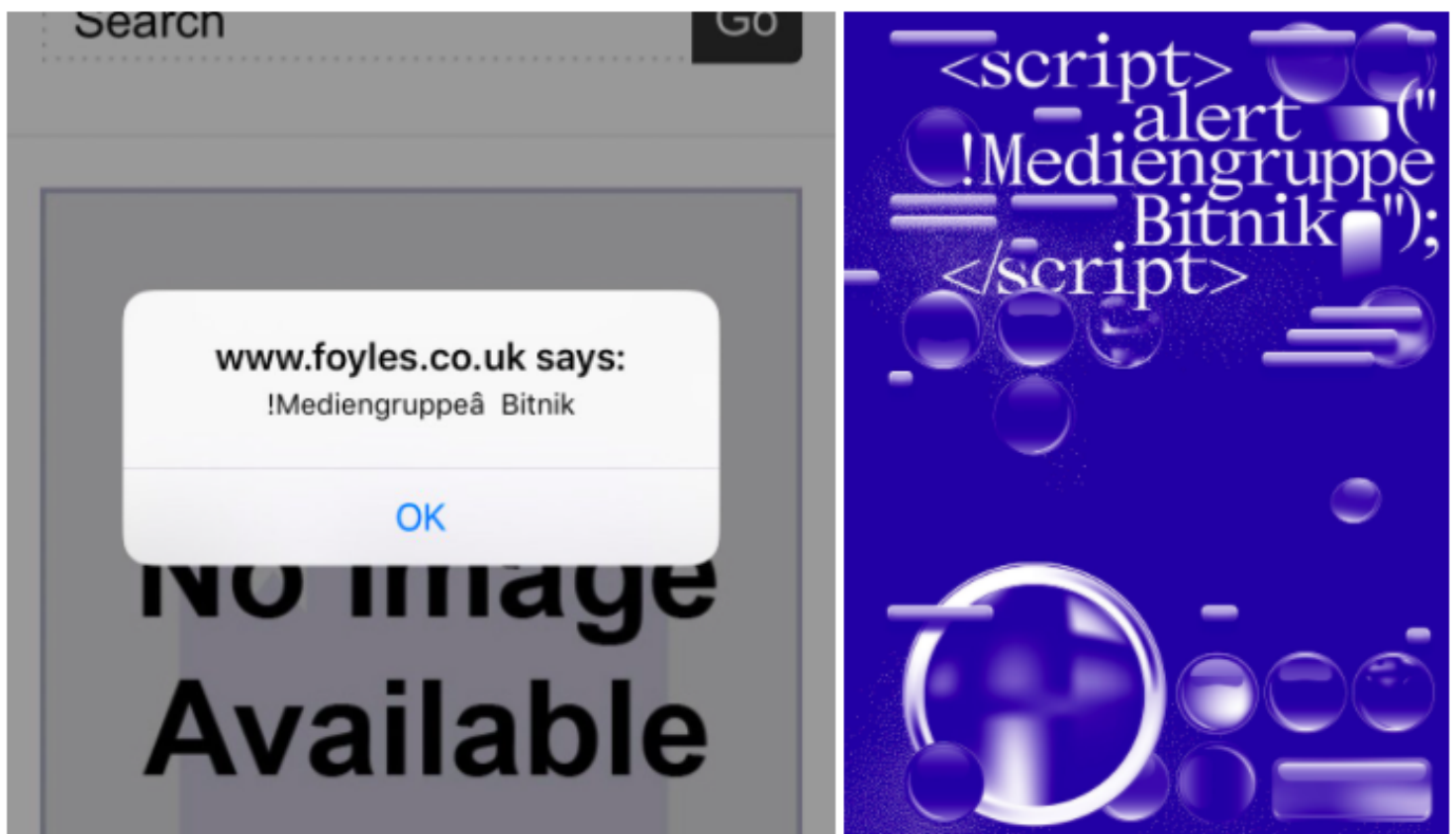
*by* JULI LACZKÓ

(HTTPS://NETWORKCULTURES.ORG/LONGFORM/AUTHOR/JULILACZKO/)

December 2nd, 2020

# I N T R O D U C T I O N

Picture this. It's 2017, we are the character @observer on one of freenode's IRC channels, while Tz4R4, dchmp and B\_All are watching the newest !Mediengruppe Bitnik hack with awe: if you type the title of the the Swiss artist duo's new book into the search bar of a seller's website, it creates a popup window on the site with their name, blocking access. (The title is a code injection.) *Nothing could express DADA better*, exclaims B\_All to Tz4r4, while dchmp is busy copy-pasting lines of script graffiti on Facebook in order to achieve a resemblance to the Gioconda on the (anti)social media platform's feed.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/Screen-Shot-2020-11-26-at-14.15.21.png>)

!Mediengruppe Bitnik's 2017 book.

Do you think that Hanna Höch would have created her collages in Gimp? That Picabia would have used microcontrollers? That Rose Sélavie would have her tweets going viral? Or that Hugo Ball would have written a bunch of Wikipedia articles about the DADA movement? I definitely think so. Except that without them behind us, we wouldn't have had and used all these tools the way we do now. This text is an attempt to demonstrate why. It starts out from the assumption that there is something eerily common in the workings of the historical avant-garde and of hacker cultures, and methodologically examines them from different angles to rationalize this assumption and look at how this close kinship brings about hacktivist artworks.

Hacktivism can be interpreted in the context of art history and activist practices in contemporary media art. As I will show in this essay, hacktivism and the historical avant-garde are comparable and might shed light on each other. I also observe source code as text in relation to the avant-garde's attitude towards language and of hacker cultures to programming languages to demonstrate the overlap of their core values. My question is what insights does the existing theoretical framework of the avant-garde provide to understanding hacker cultures and especially hacktivism? And what does hacktivism mean to subversive endeavors in media art? How can the realization of these connections inform artists to create more relevant work in a contemporary wired environment?

A V E R Y   S H O R T   I N T R O D U C T I O N  
T O   H A C K E R   C U L T U R E S

Hacking is best explored as a loose network of subcultures with a diverse history and a dispersed contemporary geography. As part of the history of digital culture, the history of hacker culture unfolded in connection with the closely interwoven technical, societal, and economic conditions of the late 20th century . The meaning of hacking changes through its rich history. Steven Levy defines a set of values as the hacker ethic, referring to early computer engineering communities. The six values are **direct access, freedom of information, decentralization, meritocracy, the value of computer engineering ingenuity and aesthetics, and a general optimism towards computers.**

#### The Hacker Ethic

1. Access to computers - and anything which might teach you something about the way the world works - should be unlimited and total. Always yield to the Hands-On imperative!
2. All information should be free.
3. Mistrust authority - promote decentralization.
4. Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position.
5. You can create art and beauty on a computer.
6. Computers can change your life for the better.

(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/Untitled2-1.png>)

Steven Levy, The Hacker Ethic, from 'Hackers: Heroes of the Computer Revolution'.



Tim Jordan defines hacking according to technological determinism and distinguishes between hacking gestures based on their level of novelty and technological complexity: 'Hacking creates new technological determinations by means of intervention, opposing an existing determination. Hacking is a material practice that produces change or novelty in the system of a computer, network, or communication technology.'

Jordan sees the continuity of the hacker ethic in hacktivism, as it intervenes into technological and societal determinations at the same time, thus changing how people interact with technology and each other. Hacktivism is the creation of new technological determinations, where these new determinations define interaction with technology in new and unexpected ways. Furthermore, hacktivism's methods and goals are both collective, open and non-violent, aiming for political change. The determinations reformed by hacktivists are not only of technological nature but of cultural, economic, and communal character as well.

T H E   A V A N T - G A R D E   A S   A  
P R E C O N D I T I O N   T O  
H A C K T I V I S M

This essay proposes that the historical avant-garde of the 20th century played a major role in setting the stage for the intellectual framework of today's hacktivism. Overcoming existing determinations and the creation of new ones was invented by the historical avant-garde and is now at the heart of hacktivism. In what follows I will dive into these parallels further.

The historical avant-garde was the first revolution in art that meant to attack, corrode, and question the institutions of art, its traditional genres and status in bourgeois society. The demolition of borders between art and life, the rejection of alienated artistic practice, and the invention of new practices are central to Peter Bürger's interpretation of the avant-garde's program in *The Theory of the Avant-Garde*.

We may find numerous analogies in the way avant-garde and hacktivism operates, such as their program of activism, their border violation practices, their performance and hacking instructions to be reconstructed by peers, their relations to tradition and invention, their questioning of individual authorship, and their provocative behavior towards mainstream society. Hacktivism overcomes technological determinations, in accord with hacker ethics, to create new modes of interaction and cultural attitudes. Those new interactions are not only non-conformist in their technological means, but in cultural attitude as well. Disrespect towards institutional, technological or societal authority is an apparent common element of avant-garde art and of hacker culture. They do not only question but oftentimes ignore authority, not only without respect, but with remarkable wit and amusement.

Claire Bishop identifies three major shifts of social paradigm in the history of Western European art: the **avant-garde starting in 1917**, the **neo-avant-garde ending in 1968**, and the **fall of the Berlin Wall**, along with the transition that followed. All the three social turns are the aftermath of a collapse of a vision of society. According to Bishop, these collapses are regularly followed by the re-articulation a Utopian rethinking of art's relationship to the social and of its political potential. These attempts of re-articulation include the production, consumption and critique of art. These

shifts, according to her, brought forth experiments to redefine art collectively, focusing on inclusion and cooperation. We see a similar process taking place in hacker culture in the nineties, just about the time of the third participatory paradigm shift (the fall of the Berlin Wall) identified by Bishop. Let's examine the first shift to better understand this parallel.

The cult of novelty is of major importance to the avant-garde. Novelty in this regard is what circumvents institutions but is always instantly institutionalized. Helen Molesworth, in her study *From Dada to Neo-Dada and Back Again*, claims that the societal critique of Dadaism is a sublime failure, as the concept of artwork and the institutions resist all symbolic attacks against them without major difficulty. Kappanyos calls this the paradox of success. This paradox is omnipresent in hacker cultures any time someone previously attacking systems becomes an informant or a full-time employee of that same system. In this comparison to the avant-garde, the mainstream software industry resembles the novelty-hunger of art institutions.

Consequently, both the avant-garde and hacktivism depend on a status-quo to refer back to, to provoke, to expand or to question. Avant-garde artists provoke the canon and end up being canonized for the very same innovation. Hacktivists intervene in novel ways into an already existing system of a network, computer or communication technology. Both avant-gardists and hacktivists build their legitimization on a double basis: **tradition and novelty.**

(Les Signataires de ce manifeste habitent la France, l'Amérique, l'Espagne,  
l'Allemagne, l'Italie, la Suisse, la Belgique, etc., mais n'ont aucune nationalité!)

# DADA SOULÈVE TOUT

DADA connaît tout. DADA crache tout.

## MAIS.....

*DADA VOUS A-T-IL JAMAIS PARLÉ :*

de l'Italie  
des accordéons  
des pantalons de femmes  
de la patrie  
des sardines  
de Fiume  
de l'Art (vous exagérez cher ami)  
de la douceur  
de d'Annunzio  
quelle horreur  
de l'héroïsme  
des moustaches  
de la luxure  
de coucher avec Verlaine  
de l'idéal (il est gentil)  
du Massachussetts  
du passé  
des odeurs  
des salades  
du génie . du génie . du génie  
de la journée de 8 heures  
et des violettes de Parme

## JAMAIS JAMAIS JAMAIS

DADA ne parle pas. DADA n'a pas d'idée fixe. DADA n'attrape pas les mouches

## LE MINISTÈRE EST RENVERSÉ. PAR QUI? PAR DADA

Le futuriste est mort. De quoi? De DADA

Une jeune fille se suicide. A cause de quoi? De DADA

On téléphone aux esprits. Qui est-ce l'inventeur? DADA

On vous marche sur les pieds. C'est DADA

Si vous avez des idées sérieuses sur la vie,

Si vous faites des découvertes artistiques

et si tout d'un coup votre tête se met à crépiter de rire,

si vous trouvez toutes vos idées inutiles et ridicules, sachez que

## C'EST DADA QUI COMMENCE A VOUS PARLER



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/Untitled3.png>)

DADA soulève tout.

∨\The Conscience of a Hacker\∨

by

+++The Mentor+++

Written on January 8, 1986

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Another one got caught today, it's all over the papers. "Teenager Arrested in Computer Crime Scandal", "Hacker Arrested after Bank Tampering"...  
Damn kids. They're all alike.

But did you, in your three-piece psychology and 1950's technobrain, ever take a look behind the eyes of the hacker? Did you ever wonder what made him tick, what forces shaped him, what may have molded him?

I am a hacker, enter my world...

Mine is a world that begins with school... I'm smarter than most of the other kids, this crap they teach us bores me...

Damn underachiever. They're all alike.

I'm in junior high or high school. I've listened to teachers explain for the fifteenth time how to reduce a fraction. I understand it. "No, Ms. Smith, I didn't show my work. I did it in my head..."

Damn kid. Probably copied it. They're all alike.

I made a discovery today. I found a computer. Wait a second, this is cool. It does what I want it to. If it makes a mistake, it's because I screwed it up. Not because it doesn't like me...

Or feels threatened by me...

Or thinks I'm a smart ass...

Or doesn't like teaching and shouldn't be here...

Damn kid. All he does is play games. They're all alike.

And then it happened... a door opened to a world... rushing through the phone line like heroin through an addict's veins, an electronic pulse is sent out, a refuge from the day-to-day incompetencies is sought... a board is found.

"This is it... this is where I belong..."

I know everyone here... even if I've never met them, never talked to them, may never hear from them again... I know you all...

Damn kid. Tying up the phone line again. They're all alike...

You bet your ass we're all alike... we've been spoon-fed baby food at school when we hungered for steak... the bits of meat that you did let slip through were pre-chewed and tasteless. We've been dominated by sadists, or ignored by the apathetic. The few that had something to teach found us willing pupils, but those few are like drops of water in the desert.

This is our world now... the world of the electron and the switch, the beauty of the baud. We make use of a service already existing without paying for what could be dirt-cheap if it wasn't run by profiteering gluttons, and you call us criminals. We explore... and you call us criminals. We seek



after knowledge... and you call us criminals. We exist without skin color, without nationality, without religious bias... and you call us criminals. You build atomic bombs, you wage wars, you murder, cheat, and lie to us and try to make us believe it's for our own good, yet we're the criminals.

Yes, I am a criminal. My crime is that of curiosity. My crime is that of judging people by what they say and think, not what they look like. My crime is that of outsmarting you, something that you will never forgive me for.

I am a hacker, and this is my manifesto. You may stop this individual, but you can't stop us all... after all, we're all alike.

+++The Mentor+++

([https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/the\\_hacker\\_manifesto\\_by\\_fpsrome-d321boe.jpg](https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/the_hacker_manifesto_by_fpsrome-d321boe.jpg))

The Hacker Manifesto, Anonymous.

Both avant-garde and hacker culture refuse existing structures of the past/present in favor of an idealized future utopia. These tendencies show especially well in their common affinity for issuing ambitious manifestos. There is rarely a group or tendency of second-generation hackers without a manifesto declaring their ethics. General Public License for Free/Libre Open Source Software, *The Cypherpunk Manifesto*, the tech-critical Kaczynsky's lifelong ambition of finishing *The Unabomber Manifesto*, *The Conscience of a Hacker*, the slogan of Anonymous, along with McKenzie Wark's *Hacker Manifesto*, all appear with compositions of Utopian ethical standards aimed at the future. Just as the artists of the avant-garde, hackers also feel personally addressed to destroy borders and barriers that stand in the way of realizing their own autonomous ethic.

Kappanyos defines the framework for analysis of avant-garde strategies in the triptych of **activism, abstraction, and anti-art**, referring to composition, action and invention. He maps its many -isms as combinations of these factors' variations. Let's see how that applies to hacking.

Activism resonates in hacker cultures especially in the 'Hands On Imperative', in F/LOSS culture, and in the hacker work ethic. Hacker culture radically intervenes into political power structures, changes societal roles of info-technologies by making technology available to the public, previously an exclusive privilege of the military-industrial complex and academia. These practices do not only transgress borders of institutions, but borders between specialists (artist/hacker) and non-specialists (non-artist/ non-hacker/ public). In this regard, we may compare participation in case of a DDoS attack to that of a Cabaret Voltaire performance: in both cases, the specialist initiators (artists/hackers) act to change the behavior of a group of people that engages with them, in order to intervene into the societal/social status quo. The activity of the engaging group is a legitimate part of the hack or of the artwork, and through this engagement is the transgressive goal of the work fulfilled.

Abstraction, the liberation of composition from representation, is present in another statement of the hacker ethic: **Code can be beautiful**. Code is not only judged by its functionality, but by its linguistic value and structural elegance (within what particular language it is written in). This will be examined in the 'Code is Speech' part in more detail.

Actions of DADA and Fluxus are often recorded only by instructions, and are performed differently each time. Recipe-like instructions for performing action are not only a tradition of DADA and Fluxus, but of hacktivism as well: Anonymous and many other groups make their sets of instructions for performing a certain hack widely available to others. Instructions for reconstructable performativity play an instrumental role in F/LOSS and open hardware culture, such as online repositories and public documentation.

## MAP PIECE

Draw an imaginary map.

Put a goal mark on the map where you want to go.

Go walking on an actual street according to your map.

If there is no street where it should be according to the map, make one by putting the obstacles aside.

When you reach the goal, ask the name of the city and give flowers to the first person you meet.

The map must be followed exactly, or the event has to be dropped altogether.

Ask your friends to write maps.

Give your friends maps.

1962 summer

([https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/map\\_piece.jpg](https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/map_piece.jpg))

Map Piece, Yoko Ono, 1962.

## Instructions for finding ISIS-related websites

1. Get Python at <https://www.python.org/downloads/> unless you already have it (Mac does)
2. Open Terminal (or Command Prompt for Windows) and type (without quotes) "python"
3. Now, this step requires a little explanation. Let's set this out neatly, shall we...
  - Copy the contents of the following link to your clipboard  
<https://ghostbin.com/paste/oo4tb>
  - The contents of that link are some search terms that relate to ISIS and their content, allowing you to narrow down the results to specific ones
  - Paste the strings into the Terminal and press Enter
4. Choose a couple of strings (3 recommended) from the list of strings. For this example we will use strings 3+38+46
5. Once chosen, continue in terminal (without quotes) "print(str3+str38+str42)" and copy the results
6. Paste the results in <https://www.google.iq> and analyze the new results To translate pages, it is recommended to use Google Chrome, which has integrated translation
7. Submit any valid ones to one of the channel operators and we will deal with the info accordingly

(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/CUHqtRHUcAAfrdK.png>)

Instructions for finding ISIS-related websites, Anonymous.

The deconstruction of individual authorship is not only present in the avant-garde, but in hacker cultures as well. This belongs to the category of anti-art according to Kappanyos, but is just as relevant for performable instructions of action. Bürger ascribes the beginning of the negotiation of individual authorship to Duchamp's signature mass-produced ready-mades. F/LOSS, Free/Libre Open Source Software culture, has existed since



(and to some extent, because) software became protected intellectual property. It is the world-wide movement of creating software in developers communities with public source code. In the classical sense, software created this way has no single author, as many authors contribute to it freely, creating different versions and strands of the same program. According to Coleman, individualism and collectivism are both present in a constantly contradicting manner in F/LOSS culture.

In order to examine how the avant-garde and hacktivism resemble in operation and process, we may analyze hacktivist interventions along the process-oriented typology of the avant-garde artwork described by Kappanyos. We may as well dissect avant-garde processes by Jordan's novelty- complexity- and process-oriented hacking-typology.

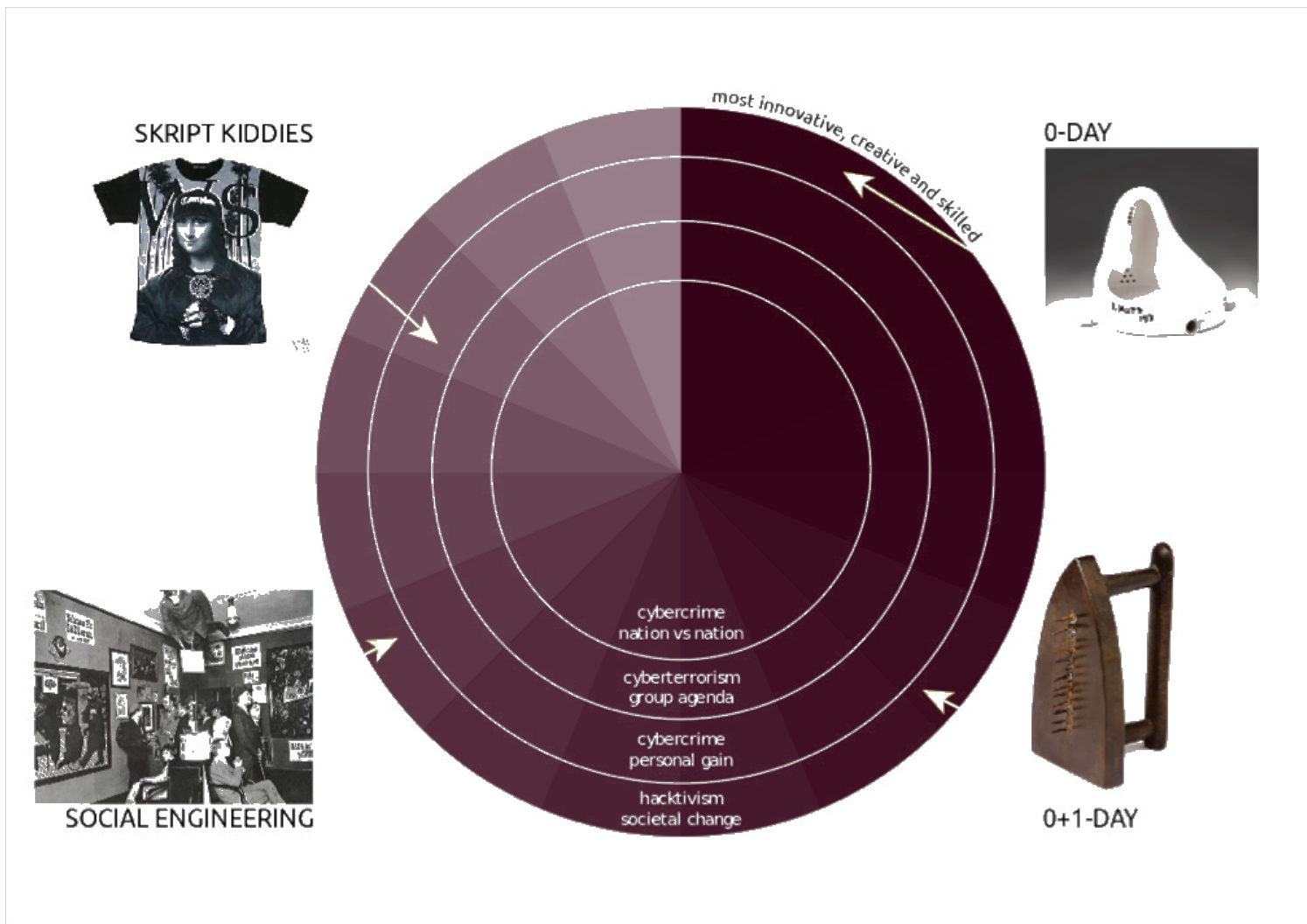
## H A C K I N G T Y P O L O G Y O F A V A N T - G A R D E P R O C E S S E S

As Schulte-Sasse and Kappanyos both point out, the art-making of the avant-garde is much more focused on methodology and process than on end product. In the following, I will examine how avant-garde processes may be understood within Jordan's novelty-complexity- and process-oriented hacking typology.

As described above, **novelty** is of major importance to the reception of the avant-garde artwork: the level of novelty and creativity the artwork exhibits when first published. Such is the case with the 0-day exploits known in hacker cultures. A 0-day exploit is the exploit of a so far undiscovered

vulnerability of a system, and it represents the highest value of intellectual achievement, creativity, and innovation in hacker subcultures. It is broadly perceived as excelling creative intellectual work (and is bought and sold on information security black markets accordingly).

Let's examine Duchamp's *La Fontaine* as a 0-day attack, slipping through a hole of the artistic canon's security protocol. In this case, the vulnerability is the novelty-hungriness of the bourgeois that instantly includes the piece in the canon for the idea of wanting to provoke it. Any further ready-made may be considered a 0+1-day in this regard, whereas the vulnerability is still present, and the results achieved with the same exploit, although less outstanding, are very similar.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/output-onlinepngtools-1.png>)

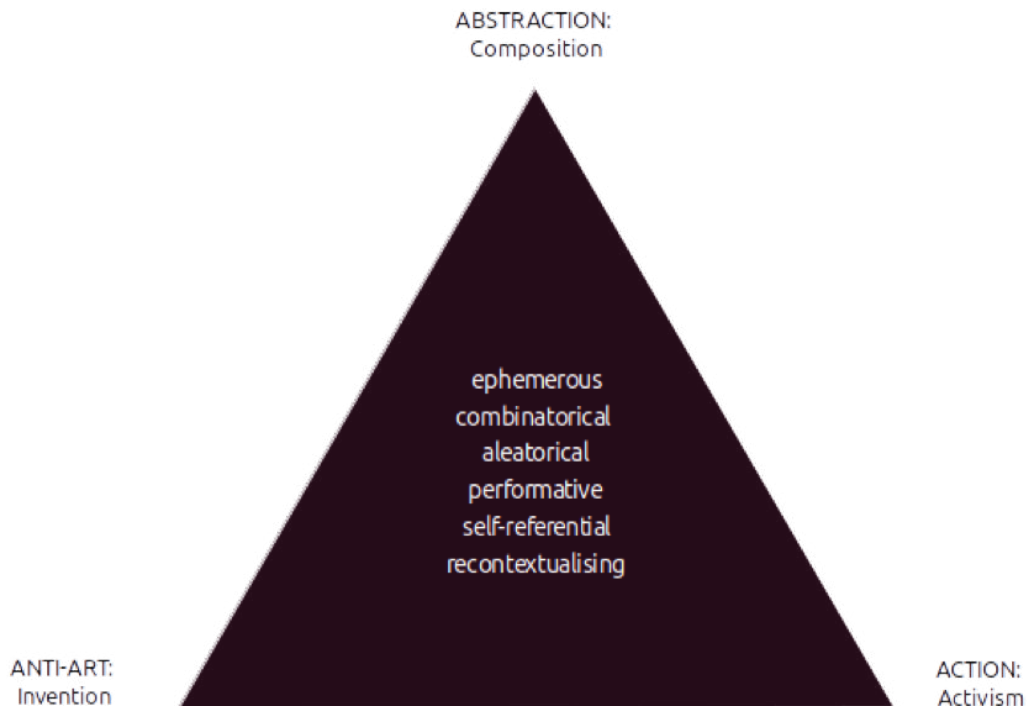
Hacking typology of avant-garde processes.

A rubber key-chain in a Parisian souvenir shop today, picturing the pissoir first appropriated by Duchamp shall, by no means, compare to the first presentation of *La Fontaine*. Not only because it is a cheap representation of it, but also because the level of novelty and creativity in the latter is nil. If we understand the first publication of *La Fontaine* as an original 0-day masterpiece, rubber key-chains are script kiddie level activities at most.

We may find numerous examples of social engineering as the hijack or misuse of common social conventions in DADA performances. The Grand Soirée organized in 1919, in Zurich's Saal zur Kaufleuten may serve as a good demonstration. The event reached its scandal-provoking peak with readings from Tristan Tzara and Walter Serner, which were indeed planned to provoke the audience against the performers. They definitely succeeded in doing so, getting the spectators involved in the event by throwing trash, money, and cigarettes towards the performing dadaists, preventing them from finishing their reading sessions, including Serner's *Letzte Lockerung* (Last Loosening). The screenplay anticipated the audience's reaction, building on the manipulation of social behavior.

## A V A N T - G A R D E    T Y P O L O G Y    O F H A C K I N G    G E S T U R E S

The reverse is the application of the process-typology of Kappanyos to phenomena of hacktivism. Kappanyos analyzes the destruction of the author's traditional relation to their own work of art as part of the avant-garde's anti-art component. He regards innovative processes to be at the core of the innovation of the avant-garde, instead of the artworks themselves. He identifies ephemeral, aleatoric, combinatorial, recontextualizing, self-referential and performative processes. In his interpretation, aleatoric gestures do away with the artist's implicit intention, the readymade excludes craft, and performance puts an end to artwork being a product solid in space and time. I will examine the presence of these processes in hacker culture to demonstrate how the framework available to interpret avant-garde artworks helps us understand hacker cultures.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/hacking2.png>)

Avant-garde typology of hacking gestures.

Most hacks are definitely ephemeral by nature, as they last until repelled, and, when system administrators on the defense side are smart, they leave no trace, or the trace they leave is reversible. Much of the history of hacking is maintained through documentation as a result of the temporary nature of hacking actions. The actions themselves do not last, but they are kept alive by documentation in the subculture. For example, Operation Payback



targeted opponents of internet piracy and banks withdrawing donations from Wikileaks in 2010 with DDoS attacks. The chain of events was over in three months, but it is well-documented in the history of hacking.

Looking at Free/Libre Software development, we see a general combinatorial method, working on several parts and versions of the same software, testing and improving each other's work via tracking versions and contributions in repositories. The TOR Project (<https://www.torproject.org/docs/debian.html.en>) is an instance of privacy-guarding open source software developed by groups of people over time with different public versions.

Chance plays a role in many actions of hacker culture. Observing the operational strategies of Anonymous as described by Coleman, one might marvel at how big of a factor chance is in a hacktivist operation. An attack may be pursued just because it is technically feasible, whether it islet that be or not be against a very specific target or a pick from a broad pool of antagonists. From the many potential attacks, the one that eventually can, will be pulled off. This is especially true in the case of trolling and the LulzSec collective. Many attempts of attacks do not turn out to be successful, whereas some reach unintended targets. Therefore, intended chance or the intent of chance is present in hacktivism. A prominent example of a chance-based 0-day exploit from the seventies is the becoming of the famous phreaker Captain Crunch. John Draper discovered that a certain toy found in a cereal box makes a sound exactly the same as the frequency triggering US long-distance calls. Draper became a cult hero for this discovery among fellow phreakers (Author's note: Phreakers or phone freakers are early phone hackers).



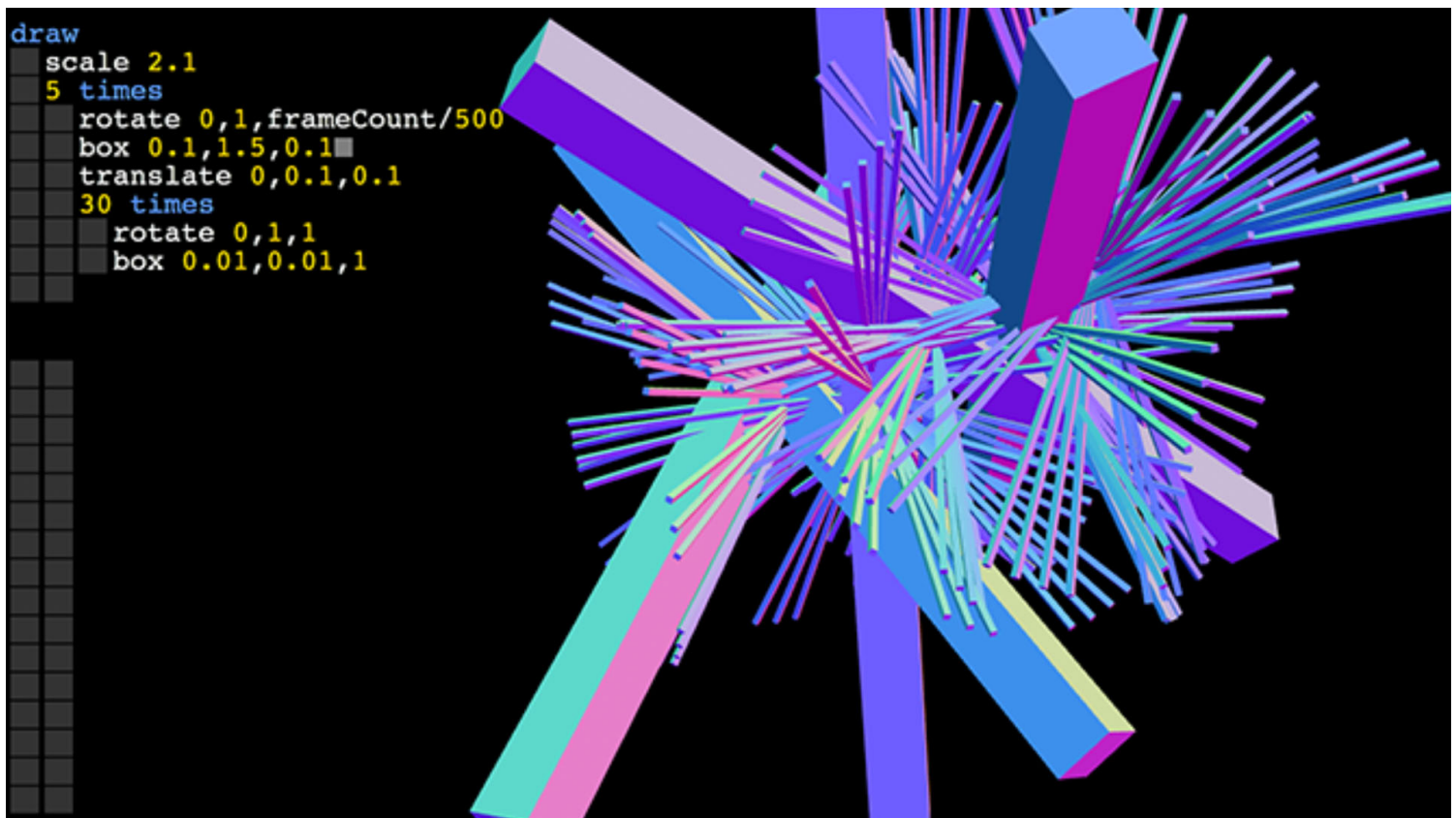
(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/capncrunch.png>)

The Captain Crunch cereal packaging with the famous whistle.

**Recontextualization** is central to hacker culture, as it transgresses and sometimes even demolishes borders of institutional and private, state and civilian, commercial and anti-consumerist information technologies. The list of examples is endless, but the genre of leaking and doxing are probably the best of those in terms of recontextualization. Wikileaks' Iraq War Leak of 2010, including the video now famous as 'Collateral Damage',

may be regarded as a recontextualizing hack, as, by making data public, it led to questioning the actions of the US authorities and military in the Iraq war.

One of the sophisticated **self-referential** phenomena of hacker culture is live coding: a digital performance where one writes a code that generates an image or animation, and both the code itself and the generated imagery is shown on the same projection screen. This way, not only the aesthetics and complexity of the generated animation, but the wit and craft, and even the possible humor of the written code generating it, might be observed. Exploits with signatures of their authors are on the opposite ledge of the self-referential creativity range: A targeted website or server may be down while the signature of the hacker appears on the same URL.

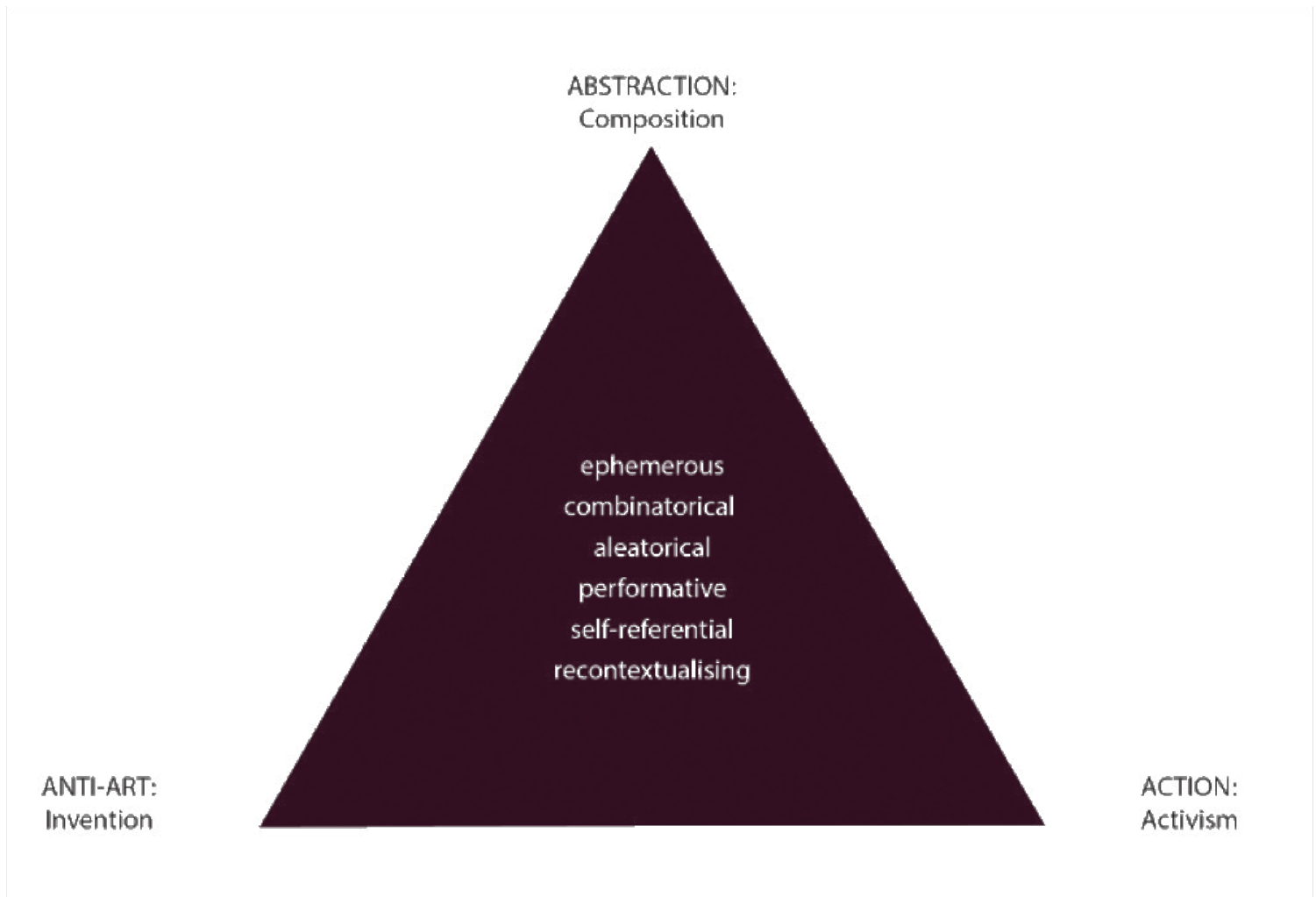


(<https://networkcultures.org/longform/wp-content/up->

loads/sites/31/2020/12/Live-Code-Leaderboard.jpg)

A screenshot of live coding created with livecodelab, livecodelab.net.

**Performativity**, as the overcoming of the artwork's mediated character might be the single one aspect of the avant-garde that hacker culture does not deliver, if we understand it as an elimination of mediation. If by exceeding mediation we mean overcoming the character of the medium, it might be considered a very valid factor. When the open culture activist Aaron Swartz wrote a script that downloaded thousands of paywall articles from JSTOR through MIT's library access, he was definitely overcoming the limitations of the medium, as it was designed for manual use only.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/output-onlinepngtools.png>)

The existing theoretical framework available to analyze the traditions of avant-garde art can provide valuable new aspects to understand hacker cultures and hacktivism. As most theoreticians point out, the historical avant-garde, in contrast with its declared intent, did not destroy the institution of art as a whole, nor did it erase traditional genres of art, but carried out interventions that changed the tradition of art forever. Similarly, hacker culture did not destroy information society as such, but its contribution to shaping techno-societal relationships is of substantial importance.

T H E I N F L U E N C E O F  
A N A R C H I S M

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*What a hacker does and will do is embarrass the power elite as dudes on the ground can't (...) by puncturing the illusion of power.*

-PROF. PETER LUDLOW

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Anarchist ideology inspired the artists of the avant-garde. Patricia Leighton wrote about the influence of anarchism on the pre-war Paris art scene. She points out how individualist anarchism was appreciated by many artists of the era for enabling them to work more freely and less according to tradition. Roger Farr examines Hugo Ball's commitment to anarchism in the period of the Cabaret Voltaire being active in Zurich. According to Farr, Ball's reflection of the collectivist Bakunin's writings proves that Bakunin's ideas on destruction as an act of creation and his criticism of language as a tool in the hands of power influenced Ball's Zurich activities instrumentally.

Anarchist ideology inspires contemporary activist struggles, as well as it affects much of their practical, operational and public tactics.

Decentralization and autonomy, the equal share of agency between members of a community, affinity based work groups are cornerstones of anarchist ethics. Anarchist communities practice decision-making methods fairly unknown to the wider public, such as consent, cooperation without agreement, unauthorized direct action, mostly in small groups whose members work for the same goals. The following remarks point out patterns of anarchist ideology in the history of hacker culture.

The system-architecture of the Internet collides with how anarchism envisions communities: a decentralized network of nodes which operate without a controlling hierarchy, forming a dynamic network with each other, and reorganizing themselves if needed. In the case of the World Wide Web, nodes are servers, while in the case of anarchism, nodes are syndicates, collectives, affinity-groups or work-groups. Both systems are non-hierarchical and decentralized by design, therefore the loss of a node does not affect the overall performance of the network, and the nodes are

free to reconnect in different constellations. If we examine the birth of this system architecture in a historical context, Stewart Brand's *Whole Earth Catalog* appears to be of major influence. The *Catalog* formed an open information network connecting colonies, cities, reserves and other actors in accordance with the West Coast Zeitgeist of the late sixties. It is definitive that the architecture of the World Wide Web and anarchist methods of operation are reflecting each other, and that the former is used by all known contemporary activist struggles.

Eric S. Raymond, editor of the hacker *Jargon File* claims to be an anarchist. Steven Levy points out that MIT's AI Lab was operating on principles of anarchism. *An Anarchist's Guide to Free Software* explains in detail to less technically prepared anarchists why F/LOSS is the sole acceptable choice of software for an activist critical of capitalism and globalization. **The original hacker ethic echoes the ideology of anarchism in direct access, the questioning of authority, and by being anti-bureaucratic.**

## W E B S O F A C T I V I S M

Tim Jordan examines the latest participatory turn that followed the fall of the Berlin Wall (also identified by Bishop in the context of art) in his book *Activism!*. He points out that the activism of the millennium is relieved of the rhetoric of the class struggle, and organizes along a new set of values in a horizontal manner, where these values are not exclusive to each other. These groups share an anti-globalist, oftentimes anti-capitalist, leftist, anti-machist and non-violent agenda. Anonymous represents part of the post-

9/11 wave of this generation, and serves as a great example of information technology shaping operational strategies that reflect the principles of anarchism in digital space.

Anonymous consists of activists all over the world working for different goals, oftentimes independently, without each others' consent or knowledge. There is no membership, permanent location or main goal, and not all who contribute possess high-level computer skills. The method of organizing, the tools of the actions, a few principles and the identity framework are common. Anonymous functions along the lines of doocracy, a shared work dynamic where everyone does what they prefer according to their interest and motivation. Work-groups are formed spontaneously and without solid borders; fluctuation between and from and to groups is constant. Debates do not necessarily end with agreement, but sometimes with the acceptance of non-agreement. In spite of the fact that many prominent members are currently serving sentences, Anonymous is an important actor of the activist scene: it mostly works in defense of information freedom and people's privacy, as a sort of self-authorized public service justice organization protecting civilian rights in the digital realm.

Coleman understands the public identity of Anonymous as a collective identity. This is, on one hand, the continuation of the golden era hacker gang names, but also rooted in neo-avant-garde tradition. Tatiana Bazzichelli marks several grassroots groups of this collective identity tradition as cultural forerunners of Anonymous in her book *Networked Disruption*, such as the Luther Blisset Project, Neoism, the Church of the SubGenius and the Italian Anna Adamolo movement. Bazzichelli

understands these groups as part of a shared network modality tradition, where the groups come from different contexts and goals, but do share a grassroots network structure, which, just like mail art, according to Bazzichelli, created new, free patterns of communication for many art movements from DADA to Fluxus. Brian Holmes takes the liberating power of collective identities further: he claims that free identities like the Luther Blisset Project created prototypes of media subversion, that made the emergence of transnational activist movements possible by the millennium.

## C O D E   A S   S P E E C H

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*The word has become a commodity (...) We must give up writing second-hand: that is, accepting words (to say nothing of sentences) that are not newly invented for our own use.*

-HUGO BALL

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Hacker culture and the historical avant-garde share a stark skepticism and deconstructive attitude towards language, given that we understand code as language. Coleman, in her book *Coding Freedom*, claims that source code may be understood within the category of speech, and thus shall be legally

protected as free speech. The 5th statement of the Hacker Ethic claims that one can create art and beauty on a computer. Contemplating these statements one may look at hacking as the overcoming of the semantic determinations of software. We may analyze hacking as an intervention that hijacks meaning (function) of text (code). We may find yet another analogy with avant-garde art in its skeptical, deconstructive attitude towards traditions of language and forms of literature as parts of the institutionalized status quo. This requires a bit of explanation.

A programming language is an artificial, human-made, electronic language that has a fixed syntactic set of rules. Code written in such language is a set of commands to be executed by a computer. The author of a piece of software composes a text (code) in a high-level language, where this text (code) consists of a series of logical operations, and is called the source code of that software. This source code is compiled by that language as an application, translating its operations into assembly, then to machine language for the computer to execute. The vocabulary of most high-level languages consists of mathematical signs and words of the English language. This short intermezzo shows that each software is a particular artificial linguistic construct, that is meant to transmit information between human and machine or machine and machine. Each family of programming languages has different syntax systems, while, within a single family of languages the subgroups are understood differently as in the case of human languages. In this interpretation text is the source code of software to which a particular set of syntax rules apply. The meaning of a source code is the function of the software compiled by it. Being skeptical towards language,



the deconstruction of semantic, literal, poetic norms present in the avant-garde concurs with the deconstruction of the functionality, or the meaning of software.

We may regard hacking gestures that hijack or impair a functioning communication system by coding as a semantic intervention. We have to remember that the hijack still has to happen within the syntax of the given language in question in order to function as such. The destructive semantic interventions of hacker culture resembles the avant-garde's relationship to language. The skepticism towards the status quo of language is, in both instances, induced by the submission of that given language to the institutional power structure.

Presently, the avant-garde ideology of hacker culture is most genuinely expressed in the *FROM DADA TO DATA* manifesto published by the former MOTI, Museum of the Image, in 2017. Among the many prominent authors of this critical and satirical publication we find Mieke Gerritzen, Geert Lovink, Bruce Sterling, and McKenzie Wark. The manifesto quotes Kurt Schwitters claiming that it is not DADA that produces nonsense textuality, but reality controlled by authoritarian institutions and capital. For Dadaism, lovemaking and lawmaking with the same set of words is absurd. Bürger and Kappanyos both point out that the relationship of the avant-garde with language depends closely on its relationship to society and to the institutions of art.

On the 100th anniversary of the Cabaret Voltaire, the Dataist Manifesto calls for a new Dadaism in the 21st century over-saturated by digital data. The new Dadaism shall be Dataism. Dataism calls against embracing Big Data

and the controlled communication provided by contemporary information technologies, and highlights the lack of societal consent over surveillance and control technologies already in practice. It criticizes maker culture for not being critical, and it expresses solidarity towards the hardship of artistic production.

In an article (<https://www.eurozine.com/from-data-to-dada/>) that briefly precedes the Dataist manifesto, Lovink already invited radical thinkers to question authoritarianism in the online world: he claims that '[w]e need to remain rigorous and ruthless and demand avant-garde experimentation at the highest level and live art forms that express the feeling of our era'. Dataists, independent programmers and artist-hackers who resist the powers that control the Web, demand a new, 21st century art: independent programmers and artist-hackers who resist the powers that control the Web. They claim that programming is the new painting and writing that finally ends the cult of the author for good.

## G O O D P R A C T I C E S

Before concluding the investigation of how the historical avant-garde and hacker cultures are connected, it is worth looking at a few great examples of correlation: artworks from the last two decades' techno-critical, subversive new media scene that do not only comply with the definition of hacktivism as transgressive gestures, but represent aesthetic and sensory authenticity as well, fulfilling the demand of DATA TO DADA's aesthetics and ethics. I dare to recommend these transgressive works that I understand to fulfill the dataist manifesto's objectives as worthy of close observation.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/Untitled10.png>)

'Border Xing', 2000.

*Heath Bunting.*

In 2000, **Heath Bunting** spent seven months crossing Europe's borders illegally by foot, and documented, then published the full process as a manual. He listed the necessary equipment, tools, sources of food and help, as well as the expected difficulties. One can only view '**Border Xing**' from an

IP outside the EU. Bunting, an ascetic net:art pioneer of the nineties, experiments with building low-tech communication systems that aim to be open and egalitarian. Most of his works walk over borders of consensual power structures. 'Border Xing', completed with Kayle Brandon in 2000, is probably the most prominent example of ambition. In the age of biometric passports, RFID chips, international highways and integrated circling databases, network technology defines the methods of surveillance. The simple act of walking through borders, in such context, is a revolutionary act. Bunting and Brandon refuse to contribute to the methods of surveillance with this experience, rather, they create their own accessible micro-database, that works in opposition to official ones. Doing this as backpackers and DIY media activists does not only ignore any of the aforementioned formal powers, but ridicules them out right by not requesting a dialogue with them.





([https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/ostojic\\_lookingforhusband\\_2000-05-scaled.jpg](https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/12/ostojic_lookingforhusband_2000-05-scaled.jpg))

'Looking for a Husband with EU Passport', 2000-2005.

*Tanja Ostojic. Photo by: Rupert Larl.*

In a project concluded in 2005, **Tanja Ostojic** (citizen of the then non-EU member country of Serbia) used the image of her body online in '**Looking for a Husband with EU Passport**'. The now defunct website pictured Ostojic naked, without any hair, stating that she is looking for a husband with an EU passport. Objectifying her body for her own means, instead of the state's, men's or anyone else's, Ostojic made a brave statement. After receiving numerous applications, she married a German artist, whom she later divorced, and created an exhibition of the process, including the application



letters and the wedding ceremony. Her project thematizes the commodification of the female body during a turn in digital commerce when that same female body joins the arena of online goods. Ostojic currently lives in Berlin, Germany.



(<https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/darknet.png>)

*!Mediengruppe Bitnik.*



([https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/parcel\\_xts\\_04\\_905.jpg](https://networkcultures.org/longform/wp-content/uploads/sites/31/2020/11/parcel_xts_04_905.jpg))

'Ecstasy 10 yellow Twitter Pills 120mg MDMA. Ordered by Random Darknet Shopper', 2014.

*!Mediengruppe Bitnik.*

A decade later, in 2016, the Swiss art duo **!Mediengruppe Bitnik** published the **Random Darknet Shopper** (<https://www.bitnik.org/r/>), an online shopping bot with a weekly budget of 100 dollars. The bot chose and purchased random products from the deep web, with the resulting packages

exhibited in a St. Gallen gallery. The shipments were received and loaded into the empty display boxes of the exhibition space by the gallery staff. Among the shipments were fake branded goods, non-taxed cigarettes, a Hungarian passport and a packet of MDMA. When the Swiss authorities wanted to arrest whoever was responsible for the purchase of the latter, they faced an unexpected problem: how do you arrest an algorithm? After two months of press attention and debates, the algorithm was released and continues its activities until this very day. This project shows more than one eerie aspect of our digital lives: however accustomed we are to robots serving us, we are still very unprepared for them making decisions for themselves; this is demonstrated in an ever sharper light when the methodology of decision does not stick to any set of values but is fully randomized; on top of this, the program goes shopping on the dark web, a medium unusual and startling by itself.

## C O N C L U S I O N

Hactivist art has amazing potential for transgression and it's time we talked more about it and understood it better. Non-conformist information technologies are probably the most inspiring layer of contemporary culture to study, as they have way more effect on shaping this culture than what one would think at first sight.

The immediacy, innovation, subversion, and operation methodologies that are present in these phenomena might rejuvenate contemporary artistic practices and their interpretation. This text hopes to contribute to the inception, reservation, and understanding of such subversive attitudes.

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# Machine Creativity in Terms of Detachment, Withdrawal, and Renunciation

Anna Olszewska

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Anna Olszewska is a researcher and curator based in Poland. Responsible for Re:Senster project of cybernetic art restoration. She is currently involved in artificial vision and post-growth technology studies. She is an adjunct at the Faculty of Humanities at AGH University of Science and Technology in Krakow. Background in art history and culture studies.

## ABSTRACT

This paper argues that the ongoing debate on artificial creativity has largely overlooked the passive component of creation. The study questions the discussion of inventiveness merely as an act resulting in multiplication of artefacts, ideas and methods. Alternatively, it suggests expanding the artificial creativity discourse to include concepts of detachment, withdrawal, and renunciation. The proposed approach implies that an artificial system's creativity may arise from the withholding of movement or an energy flow reversion. Renunciation of routine activities and detachment from the external environment resulting from those processes can be accomplished either by a reflexive subject or a machine. To envisage how artificial creativity programmes could profit from exploration of the passive aspects of creativity, the paper reviews manifestos, artistic interventions and blueprints that test the technical domain on its completeness, limitations and self-sufficiency. The discussed examples of artistic interventions into the technical sphere come from artists such as !Mediengruppe Bitnik, *Guido Segni*, Sam Lavigne and John F Simon, together with the critical essays of Timothy J. Clark, McKenzie Wark and Silvio Lorusso. The paper looks at renunciation patterns and artistic interventions as if they were games played either by human or non-human actors. The text reconstructs the roles behind the scripts and the mythologies of technicity in order to infer how non-actual is used in human-machine relation. The study provides a set of arguments for those who discuss alternatives to AI or artificial creativity projects.

## KEYWORDS

artificial creativity, AI art, renunciation, withdrawal, interventions, philosophy of technology, machines

## Introduction

Voices in contemporary debates on AI art and generative design (Du Sautoy; Miller) tend to regard creation merely in terms of the Aristotelian transformation of potentiality into actuality (Abel 67). While invention is considered as an act that either reconfigures or supplements the environment with novel, surprising elements (Boden), the withdrawal or renunciation of existing worldviews decrees that violation are still a gloss in a historically experienced philosopher's account (Abel 57). By locating creativity on positivist ground, visions of human/machine interrelation remain anchored in the mythology of neo-liberal growth economy (Zylinska 75-87). A contemporary study of "creative renunciation", to use Simone's Weil theology imbued term (Palaver 145-147), demands a rethinking of the myth of the relentless machine both on a technical and a social plane. The creative potential of retreat, detachment or withdrawal, which used to be recognised as part of a subversive strategy, has lately gained some deserved attention as a constructive component, not only of artistic, but also of political, economic and technological relations (McGranahan; Lorena; O'Murchú). Bearing this in mind, I endeavour to explore how renunciation can be integrated into mechanical systems.

In the following paragraphs I consider artificial creativity merely as a programme for technoculture outlined by authors like Margaret Boden (Boden); popularised recently in Marcus Du Sautoy, Arthur I. Miller; promoted by the tech corporate industry; presented to the general public during a series of AI art festivals; debated and criticised in studies of: Lev Manovich, Andreas Broeckmann, Joanna Zylinska. Definitions of creativity to which I refer are derived from Teresa M. Amabile (33) and Günter Abel (57 footnote 1). The following proposition is inspired by performative theories relating to the production of knowledge understood in terms of an act rather than a representation. I narrow down my enquiry to performances and scenarios because my aim is to work with the most basic definitions of invention or ingenuity so that the complementary concepts can be well integrated into the creativity discourse.

In the first part of this essay, I review theoretical inquiries and manifestoes pointing to the transformation of the social sphere through the abandonment of toxic, repetitive, or troublesome actions. In the second part I demonstrate how these postulates resonate within creative environments. I review artistic interventions into technicity and show how artists tend to position humans and machines in extreme situations, at the same time referencing examples of machine creativity projects and analysing these in terms of restless action. This is to see if artificial systems could be embedded in the scenarios of the game of creation. Finally, I return to the discussion on artificial creativity and show how renunciative machinery could be used to revise the nature and range of artistic vision of artificially intelligent futures.

## Renunciation Patterns

Voices presenting withdrawal as a potentially creative strategy appear in recent anthropological theorisations of refusal (McGranahan, 319-325). Outlining the

refusal studies program Carole McGranahan considers that refusal marks the point of a limit being reached and understands it as a strategic move which redirects levels of engagement. The theorisation states, the strategy lays claim to the sociality that underlines relationships, primarily those of a political nature. Collection or papers introduced by McGranahan has accentuated the affiliative and creative aspects of refusal as a strategy that strengthens social relations, enable meaningful affiliation and is “insistence on the possible over the probable”, and thus in Isabelle Stengers’s terms, is aligned with hope (McGranahan 322, 323)

McGranahan’s theorisation has been adopted in a *For Refusal* manifesto issued by the Berlin Transmediale Festival of digital culture (“For Refusal”; Lorena, O’Murchú). The introduction to the 2021 edition proposes three perspectives for taking refusal into consideration. These are: friction, scale and entanglement. Friction is the perspective focused on explaining refusal as a power that reconfigures political relations by introducing irrelevance, uncertainty and contradiction: “By manifesting in diverse and sometimes oppositional activities, blurring their practices and values, refusal has the capacity to generate friction and to polarise positions” (“For Refusal”). This discordant quality of refusal is further balanced by its entanglement. The entanglement perspective explains the role that refusal can play: “moving beyond an understanding of refusal as a no or an exit” and states that refusal “can develop new practices and values, building momentum for the creation of more equitable futures” (“For Refusal”).

Calling for the acknowledgement of denial in the fields of finance, environment and technology, the Transmediale manifesto does not specify that repetitive algorithmic activities are the subject of refusal. However, it is not an image of Taylor’s production line that could illustrate the critique. It is not valuable anymore to call for the Revolution that would destroy factories, production lines and banks in one blow. Instead, the manifesto implies that to gain power the refusal needs to be repetitive: “Through a continuous process of rejection and reassembly of relations between finance, technology, subjectivity, and the environment, refusal can bring new settings and concerns into focus” (“For Refusal”). This refers to the third perspective – scalability. Here, “small or quiet forms of refusal cater to different capacities and abilities” (“For Refusal”). Inspired by such a contemporary postulate which ponders on micro gestures, endorsing continuously abandoned and reassembled orders, we can begin to develop a new pattern for renunciation. Because a call “for refusal” can be understood as implying “re-enunciation”. Such re-enunciation would be reflexive and peri-systemic rather than anti-system and primarily no longer a one-time gesture, gaining power through repetition.

Another, quite distinctive renunciation pattern has been explored by authors from the Situationist circle. They see labour and idleness as interlacing in utopian, anarchic ideologies. Renunciation of daily duties derives its gravity from, and is well inscribed in traditional social structures. For the same reason it has been banned from disenchanting modernity. In his paragraphs on anarchism and pastoral themes T.J. Clark explains: “Idleness is ultimately a political matter. Pastoral is a dream of time – of leisure sewn into exertion, snatched from it easily, threaded through the rhythms of labour and

insinuating their tempos and imperatives into the working day. I did say a dream” (Clark 70). Clark’s account of idleness is well illustrated by Camille Pissarro’s “Two Young Peasant Women,” which is the artist’s major painting first shown during his retrospective in 1892. Bathed in vibrant sunlight, two women recline chatting lazily. The viewer’s attention is gripped by the rift formed by their figures filling the foreground. As the women engage in interaction, a field, an orchard and cultivated ground all quietly await the labourers’ return.

Clark reads Pissarro’s images of idleness as manifestos of a political nature. He links the painting with a contemporary passage from par Élisée Reclus, a pamphlet of the 1890 *À Mon frère le paysan*. The anarchist, friend of the painter, is alert to the dangerous capacities of machines as an elemental force “They are going to take the fields and harvests from you, they will take your very self from you, they will tie you to some machine of iron, smoking and strident, and surrounded by coalsmoke” (70). He warns that the machine will disrupt the natural rhythm of labour and idleness, as “you will have to put your hand to a piston ten or twelve thousand times a day. That is what they will call agriculture. And don't expect to make love then when your heart tells you to take a woman; don't turn your head towards the young girl passing by” (70). He draws our attention to the comforting power of interruption, with surprise and pleasure: “there will be no women and children coming to interrupt toil with a kiss or caress. The workers will be drawn up in squadrons, with sergeants and captains and the inevitable informer.” Adding to the reflections on the anarchic perceptions, McKenzie Wark argues that Pissarro’s images of anarchy were in the spirit of the First International (1864–1876) (Wark 41). In his account, renunciation inherent in everyday labour – irregular, pleasure-giving – belongs to some archaic neglected order of socialism. Therefore, the sensual anarchy of peasants became disparate from the militant rage of the proletariat acclaimed during the Second International (1889-1916) and the systemic machinery of Leninism (1919-1943). The Situationists call for reintegration of desire and pleasure into social life. In this account, idleness belongs to some archaic world formed by the agricultural pre-industrialised civilisation. Machine and human relations are antagonistic. In this scenario individuals can’t cease to work because a reckless machine needs their constant attendance.

Moving away from the postulates for individual reflexive refusals, one encounters some socially normalised forms of rejection. Sanctionary techniques such as consumer boycotts or contemporary variants of cancel culture (political, ecological etc.) emerge regularly against specific social ideologies and viewpoints. A well-organized boycott campaign would use distinguishable slogans, produce its own iconography, and provide clear instructions on how to participate. Like a cancel culture campaign that calls for a “flight free year” (Saner) or a generic consumer boycott would aim to control social behaviour, with the promise of re-entry into a commercial relationship after their postulates are satisfied. Interaction synergy makes cancel culture distinct from Pissarro’s vision of women abandoning their daily duties for no apparent reason. A Situationist like Raoul Vaneigem would suggest that renunciation should be practiced for the sake of pleasure. A boycott renouncement is neither pleasure-driven nor anarchic: it is system-compliant.



System-compliant sanctioning techniques are more about reflex than reflexivity. While boycotting being often recognized as rooted in the ethos of liberalism and individualism specific to the culture of the global North (Friedman; Bozonnet) withholding esteem or financial support from a player who has violated the social rules is discussed by scholars seeking to explain the mechanisms of third-party enforcement of cooperation. In the legal-economic literature mechanisms underlying boycotts can be described in terms of game theory as a “repeated prisoners dilemma” (Mahoney and Sanchirico 1295-1297; Zhang 145-147). Debaters on second order collective action problem argue that horizontal agreements on negative sanctions such as withholding esteem for a product or a person is an efficient third party punishment imposed by the players oriented toward future cooperation (McAdams 366-375). This game-planned nature of cancel culture and boycotting is another point that differentiates them from anarchic incidents described in Situationist manifestos or anthropological accounts on constructive refusal.

Continuing from reflexive to reflex, from individual refusals to collective boycotts, we find patterns which suddenly gravitate towards acts that seem to be the opposite of what may be regarded as intentional gestures. These acts rely on instrumental renunciation – a halt which amounts to a simple stop executed according to a predefined rule, a cut executed on time. The banality of these scenarios makes them look as if they have been untainted by ideology, and, even if this were so, aren't we all aware that not crossing at the empty junction before the lights change, or not leaving the production line before the shift ends, is a legacy of the discipline training which Michel Foucault has lectured on. Nonetheless, such a halt is interesting in terms of creativity because it blurs the division between reflexive and reactive, human and machine. Ubiquitous stop procedures are both adapted by and applied to creative activities. From Vertov showing an alarm clock as an icon of modernity, through Kaprow's ringing the bell at Reuben Gallery, modernity has made us the masters of pre-programmed retreat.

At its height, automated refusal may become an efficiency tool. In an ironic essay on productivity apps, Silvio Lorusso has exposed the anxiety threatening entrepreneurs of neoliberal economy: “today we quantify our spare time adopting the same logic that informs the tools used during work time” (Lorusso). He argues that productivity has become the point of reference, a parameter for every type of human activity. To elaborate on this issue the artist has distributed a sticker which says: “shouldn't you be working?” and could be applied freely both within and beyond working zones. Lorusso has copied the phrase from a productivity plug-in that pops-up a warning on a user's screen if their somnambulistic page scrolling took too long. Distributed in restrooms, kitchens and on public transport, the productivity meme claims attention anytime, anywhere. Eventually, this efficiency rush forms a pair with the stop button. Once productivity infiltrates every aspect of life, an automated stop might be the only safety switch left.

Anarchic, reflexive, organised into a consumer boycott or pre-programmed, we become aware that these calls echo one another. If you add some reflexivity to anarchic peasants it takes you straight into the camp of the

refusal anthropology debaters. Take away their reflexiveness and you are part of militant cancel culture. Move from pre-planned, algorithmic boycott to automated signals and the stop light becomes your rescue from the neo-liberal race of productivity. Eventually, you internalise halting patterns, rely on your drives and re-enter the pastoral area of Situationist writings. Circumambulation of course makes a nice rhetorical figure, but perhaps there is a little more to it than that. Once we follow narrations discussed above, step by step we begin to sense that the transformative power of rejection does not depend on humans or machines, intentional or reflexive gestures – it operates on the meta level, redirects flows of energy and information, and evolves in time.

### Machine Mythologies

Machine mythologies are built around notions of alienation and endurance. Technical ensembles can be conceptualised as antagonistic to humans, operating regardless of social constraints and scales, and thus unknowable and nature-like (Broeckmann “Robots versus Machines”; Broeckmann “The Machine as Artist as Myth”). Mythologies claim that a technical systems (either machines or robots) must not stop working; it is its *raison d'être* (Ford 194-196). This supposition proves to be powerful enough to make researchers of machine ethics hypothesise that when choices between ethically desirable and active behaviour are to be evaluated we tend to judge machines according to different standards than humans. This was the conclusion of a research project which tested “a trolley dilemma” with two variants (*Malle*). One gave a human actor decision-making power to decide whether a trolley route should be manipulated so that many lives can be saved rather than one; the other delegated that decision to a mechanical system. The outcomes of the experiment suggest that we expect machines to act even if we consider them to be making wrong decisions, while we let humans withdraw from an action where the consequences are morally dubious.

In the art domain, the association of machines with activeness lays the foundation for basic scenarios of technical system detour. Self-destructing sculptures, glitched films or obsolete systems are testimony to the irreverence of techno-ideologies. Some artists recklessly expose technical alienation by running systems that are understandable only in machine scale. This was the case of John Simon Jr.'s *Every Icon*. The piece was presented in Sean Cubitt's essay as a textbook exemplification of digital aesthetics (Cubitt). *Every Icon* is a grid onto which a program flickers every combination of black and white points possible. It will take 10,298 years to draw every icon on a canvas measuring 32 x 32 pixels (Simon).

Some artists use technical systems to practice idiosyncratic forms of abandonment. For example, the works of Guido Segni fuse anarchic withdrawal with productivity rush (Segni). Announcing “performative resting” under a “Demand Full Laziness Five Years Plan 2018-2023” red flag, the artist ceased his professional duties. During the first year of this durational performance Segni trained AI to produce his portraits while he lay on a sofa, slept, or ate dinner. This somewhat physiocratic model of digital labour is linked to the practice of fundraising and social media platforms. Automated

banking and communication systems contribute to the successful pursuit of the Plan. Another example comes from recent works by !Mediengruppe Bitnik.

Responding to the Transmediale programme, these artists have released a web browser plug-in, “refuse to be human” (Weisskopf; Smoljo). Having installed it the user retreats from her or his “privilege” to interact with the web content providers as a human. What one gets in exchange is the status of the Yandex search engine bot. The change of status reveals unexpected trade-offs. Freed of human identity, one could be gate-kept by captcha but free to enter paywalled libraries and scroll news with no flicking and distracting adverts. Playing a game that reverses the Turing test, Bitnik lets the curious individual peep into an infrastructure made for machines. Surprisingly, the bot-internet can turn out to be quite comfortable and well-suited to human scale. Bearing all that in mind, one can argue that in the cases mentioned above, technical systems are real time controlled by humans. Furthermore, systems do not slow down, block or halt any other actors. Renouncing customary definitions of labour, raising funds for performative resting and reversing Turing tests are all transformative gestures. However, it is the human who instigates retreat and renounce, not an artificial agent. It is possible to respond to this argument by referring to projects where a maker would set one technical system against another. Sam Lavigne’s “Slow Hot Computer website” is one good example (Lavigne). It decreases CPU performance by making it overheat with computationally exerting tasks. Lavigne’s project is an ironical response to efficiency hype and may be effective as a safety switch for an exhausted user. Although setting systems against each other is a weak strategy – it results in a retreat rather than renunciation - one should agree that the method emphasises and favours a passive component of artificial system performance.

“Slow Hot Computer website” makes an interesting case for discussion on passive creativity, not only because it lavishly demonstrates how a virus-like program can slow down a hectic user but because it is a reminder that we use devices with limited capacity. Since the limited capacity of a system can lead to such undesirable effects as hardware overheating or program freezing, competent designers do their best to avoid it. However, if a response to data overload is handled as an integral part of the system’s performance, one can conceive of a machine that ceases to work, shies away from, slows down, or rejects tasks beyond its scale – all for a very deliberate reason. Making response to data overload a part of performance has been practiced in pioneering computer art projects. Edward Ihnatowicz introduced a characteristic retreat into the interaction pattern of *Senster* – a large cybernetic sculpture controlled by a mainframe computer. From the spectator’s point of view, retreat looked as if the heavy animalesque form could suddenly shy away startled by noise or an expressive gesture. An exploration of Ihnatowicz’s correspondence shows that the mode had not been programmed to make the arm’s movement more varied. The retreat has been introduced in case signals collected by the sensors mounted on the top of the arm could not be processed by the mainframe on the fly. These examples of works by Lavigne and Ihnatowicz suggest that playing with the systems’ limitations may result in patterns that push the boundaries of system engineering.

Continuing our deliberation on the creative potential of pre-programmed systems, it is necessary to examine halting patterns in the context of generative art. In its relatively long tradition, generative art and design has used either modular, parametric and machine learning approaches while dealing with questions of when to terminate the design process. Defining halting criteria for the program has always been a substantive part of such methods. However, discourse on generative art has hardly ever looked at this issue in any depth. On the contrary, generative art and design made its name by boasting about the countless variants of works it could produce. Initially, this promise (or threat) was restrained by limited computing powers. This is illustrated by a technical description of Harald Cohen's AARON which states: "the most recent version was written under UNIX on a MicroVax-II, on which machine a single drawing takes about an hour of CPU-time" (Cohen 855). Cohen's program performance was designed as event-driven and randomised. The limitations which emerged in the process were so significant that they eventually made the procedure redundant. Importantly, the stop did not imply the completeness of representation. The Artist has clearly differentiated between completeness, correctness and plausibility of representation. His priority was to investigate the basic necessary conditions for producing a plausible image. Such conditions were established on a high-level description in a statement such as: draw three persons in a botanical garden. Having established clear stop criteria, an artist using the program would be free to allow it autonomy.

With machine-learning, stop criteria become much more problematic. Designers who work with generative adversarial networks struggle with theoretical lacunas, part of which pertain to training and evaluation of the system. Although each iteration of the program runs in limited time, there are no universal criteria for generative adversarial network training to be terminated. It has been acknowledged that the training should stop when the program reaches Nash equilibrium: an optimal balance between the loss function of discriminative and generative networks. However, instances when a program oscillates between two values weaken this rule. Moreover, there is no agreement as to whether the loss function should be the only criteria to decide on termination. Depending on the training set and future use of a programme, principles such as human spectator judgement are recommended. We could compare a never-ending training procedure to a non-halting algorithm. There is no general rule that could inform us about the consequences of interruption. Shaped by human labourers engaged to train the network, biased by the training set and trained according to vaguely defined criteria, AI generated artefacts might be far less autonomous than classic examples of generative graphics.

Generative art methods show that infinite loop execution or halting before a deadline are fundamental in terms of computation theory, albeit that in relation to art and design they are handled rather instrumentally. This discussion of the stop criteria closes the review of strategies that can be merged with technical systems. We have looked at how a passive component is used by artists engaging with a technical environment. We have explored how renunciation can be practiced – by performative resting, refusing and retreating from labour or consumption; how retreat executed by an artificial agent can impact on the

environment – overheating CPU, updating a database, opening access to a service. We have seen that retreat might become an essential and deliberately introduced part of the system’s performance – by using data overload or arranging system-against-system setups. For the most part, we have been primarily concerned with socially-aware projects, with interventions rooted in a specific political or economic context. At first sight, the technical criteria for building a “renunciative machine” appears to be rather ambiguous. A programme’s stop has turned out to be of secondary importance in the practice of generative graphics. The following interventions could have employed either some complex machine learning scripts or fairly simplified feedback loops. However, we have managed to touch on the issue of a mechanical system’s capacity limitations as a strategy that is not only socially plausible but also grounded in the problems of system engineering.

## Conclusions

The exploration proposed here has been limited to selected examples of artistic and social projects. It does not venture to fully analyse how definitions of artificial creativity could be reframed in terms of renunciation and withdrawal. Neither has it elaborated on economic and ecological aspects of post-growth creativity as opposed to the neoliberal concept thereof. Technological strands of the alternative program for artificial creativity have only been mentioned briefly. It has been my aim to encourage discussions on economical context, feasibility and minimal definitions, as these would create an opportunity to test and evaluate the proposed approach. In its current form this study provides a set of arguments for those who discuss alternatives to AI related practices or artificial creativity projects. Conceptual experiments envisioning scenarios of how our existence can be influenced and conditioned by the technological domain might become open to new interpretation once the patterns of refusal are applied more widely to human and artificial agents.

The diversity of concepts and artistic practices outlined above shows that reflection on passive aspects of creativity may contribute to both artificial creativity research and machine art studies. In the latter case the contribution would ensure further discourses on blending machine art with techno-materialistic approaches. The techno-materialist turn results from the observation that artists, developing not only reflex and automated, but also reflexive and anarchic forms of renouncement, rely on core engineering concepts such as system performance limitation, adversity, compression and parsing. Artistic interventions that put machines to idiosyncratic tests expose affordances that have already been embedded in the system. Experiments permitting manipulation of the performance intensity and scaling emerge as a new standpoint in the discussion on what form of creativity could be achieved. A simple exposure of the system’s limitations, when attuned to a specific social context, may make a technical environment if not genuinely creative, then at least epistemologically intriguing.

A possible contribution to studies on artificial creativity would result primarily from renunciation providing an opportunity to theorise artificial creativity beyond predominant models derived from cognitive psychology. The



framework for artificial intelligence (AI) and creativity research, outlined by Margaret Boden, states that although any purely psychological theory can explain the phenomenon and the H (historical) creativity is considered more glamorous, the P (psychological) creativity is “more fundamental” (Boden 268). Observation of renouncement situates cognitive experience of the one who creates a vacuum in a busy environment on a second plane compared to the observations on behaviour of the one who adapts to the reconfigured, novel conditions. From that perspective the study of artificial creativity shifts from cognitive to behavioural and eventually phenomenological planes. At the same time, it remains linked to its original question and aims such as: to know whether AI models can illuminate human creativity, and how creative ideas arise.

Exploring the passive side of creativity also creates the potential to change artistic practice. It is possible that, instead of relating artificial creativity to questions on *how* algorithms generate novel solutions and surprising effects, it presents a creativity study with the question of *when* creative process occurs and *when* it terminates. The problem can be considered either from an artistic or algorithmic perspective. On the extremum of computer science, the termination is considered as the halting problem, which is a specific, undefinable aspect of the problem of algorithm termination (Harel 200, 202). What is termination of the program in the technical agenda becomes part of the creative strategy on a social level—specifically when art generated in an endless series comes with the cost of depriving it. Neglect of the art of the last line drawing posits generative methods as an art inflation factor. Some forms of functional retreat, I believe, should eventually make their way into an attention-arresting technical environment. It is largely improbable that a renunciation machine *sensu proprio* would ever function outside some artistic or philosophical niche. However, if someone should ever succeed in building one, the halting problem would explode into a myriad of patterns.

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