

Surveillance and Art

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Introduction

Surveillance has been with us throughout western history. The use of technology opens up opportunities for covert activities.

Increasingly sophisticated methodologies are employed with each advance in technology.

In this paper I set out examples of surveillance, contrasting desirable and undesirable outcomes in its use. I present examples of recent and more sophisticated techniques of surveillance to raise the question - is surveillance out-of-control? Evidence suggests that the Internet has accelerated the advancement and aggregation of bad actors in the commercial arena to a toxic extent, a manifestation referred by commentators on surveillance as 'surveillance capitalism'¹. Could it be that the government-initiated high technology surveillance methods used on their populations are a good thing and perhaps necessary for the ultimate survival and benefit of mankind? The resultant asymmetry of power does not only lie in global corporations but is also held by governments. How has the evolution of surveillance and the questions it raised been dealt with by artists and how do they approach the subject?

The term surveillance ("sur" meaning "from above" and "veiller" meaning "to watch") was first used by Le Comité de surveillance

¹ The Age of Surveillance Capitalism the Fight for A Human Future At The New Frontier of Power Shoshana Zuboff Pub Hachette Book Group (2019) Pages 13-17

Révolutionnaire, set up in 1793 by Jean-Paul Marat, the Comité de Surveillance.

Established 4 years after the French revolution, the Comité de surveillance was responsible for drawing up the list of foreigners present on their territory.

At the same time as the French revolution, in London the social reformer and philosopher Jeremy Bentham proposes a new prison design based on a central observation tower, surrounded by a circular arrangement of prison cells. The benefit of Bentham's design was to employ fewer guards, being able to supervise more prisoners thus saving money. This innovatory design, named the Panopticon, would not only save money but to enforce discipline more effectively. Prisoners would not be able to tell if the observing guards at the centre were watching them and restrain themselves accordingly².

In his book *Discipline and Punish* (1975), French philosopher Michele Foucault contends that the unseen guard in Bentham's Panopticon causes surveillance to be internalised³, for it is built into the social order "in order to constitute the individual as effect and

² https://oll.libertyfund.org/titles/bentham-the-works-of-jeremy-bentham-vol-10-memoirs-part-i-and-correspondence?q=a+mill+for+grinding+rogues+honest#Bentham_0872-10_1504

³ Foucault, M. (1977/1991) *Discipline and Punish: The Birth of a Prison* Penguin

object of power"⁴. Since surveillance is internalised, behaving within culturally defined norms appears natural and instinctive. Gilles Deleuze extended Foucault's identification of surveillance as a means of enforcing discipline, within institutions such as the school, prison, factory or office. Seeing surveillance as a ubiquitous phenomenon, tracking individuals not limited by institutional boundaries. In his essay 'Postscript on the Societies of Control'⁵ he defines this format of fluid surveillance as "societies of control". The intrusion of close circuit television cameras (CCTV) into public life in the 1980's prompted the study of surveillance by scholars such as Stanley Cohen (1985)⁶, Kenneth Laudon (1986)⁷, Gary Marx (1988)⁸, and David Lyon (1994)⁹, referring to this as the "electronic panopticon"¹⁰.

⁴ Foucault, M. *ibid.*

⁵ Deleuze, Gilles (October 1992). "Postscript on the Societies of Control". MIT Press. 59: 3-7

⁶ Cohen, Stanley. 1985. *Visions of Social Control: crime, punishment, and classification*. New York: Polity.

⁷ Laudon, Kenneth C. 1986. *Dossier Society: Value Choices in the Design of National Information Systems*. New York: Columbia University

⁸ Marx, Gary T. 1988. *Undercover: Police Surveillance in America*. Berkeley: University of California.

⁹ *The Electronic Eye: The Rise of Surveillance Society*. University of Minnesota Press.

¹⁰ D. Lyon, *The Electronic Eye: The Rise of Surveillance Society* (Minneapolis: University of Minnesota Press, 1994), 57-80.

The ongoing progress of technology and techniques in developing surveillance have given rise to both undesirable outcomes and forces for good. Brian Tomasik¹¹ and Nick Bostrom¹² advocate for surveillance as desirable, even as saviour to our collective futures. Tomasik focuses on the beneficial outcomes of Artificial Intelligence. Bostrom's Vulnerable World Hypothesis¹³ cites total surveillance as a force to counteract terrorism, ecological disasters, thus avoiding a potential outcome of "semi-anarchic default condition". He conducts 'thought experiments' that address scenarios of 'black/grey/white' swan events. A black swan event denotes an unforeseen catastrophic event, for example, a terrorist mass killing. The black swan events might be anticipated by total surveillance. He suggests a scenario where social control can be switched on at an instant, a "highly sophisticated surveillance and response system, like the one depicted in 'High-tech Panopticon'". Bostrom's conclusion is that we are vulnerable to mass extinction unless we take action using surveillance technologies to reduce risk. The question arising from this is whether surveillance our only means of the survival of the human race or is it an unacceptable loss of personal freedom and privacy.

¹¹ <https://foundational-research.org/artificial-intelligence-and-its-implications-for-future-suffering>

¹² <https://nickbostrom.com/>

¹³ <https://nickbostrom.com/papers/vulnerable.pdf> (pages 31,32)

Yevgeny Zamymatin in his novel "We" (1925)¹⁴ describes a dystopian 'panoptic' future, where men and women, identified only by numbers live in glass buildings, with no walls, a society lacking in individuality and personal privacy... The West German TV broadcast, in 1982, of a highly acclaimed play "Wir"¹⁵, based on Zamyatin's "We". This may have reminded them of their surveilled East German neighbours. The enthusiasm for the East German government (and other Iron Curtain countries) to watch closely over its citizens and operate a regime of systematic surveillance through the East German secret police (Stasi). The East Germans watched over the population mainly via a network of citizens turned informants. The glass walls portrayed in Wir was especially relevant to the plight of their former countrymen in the East, vulnerable to being informed upon by a next-door neighbour or colleague.

We do not have elaborate secret police network comparable to the Stasi in the UK. However, we have become accustomed to a high a density of CCTV. In 2013 it was estimated by the British Security Industry Association that there was one camera for every eleven people^{16,17}. Indeed, the UK led the way in CCTV uptake. The

¹⁴ Zamiatin, Eugene [Yevgeny Ivanovich Zamyatin] Published by E. P. Dutton, New York (1925)

¹⁵ Wir, Movie; <https://www.imdb.com/title/tt0164234/>

¹⁶ <https://www.telegraph.co.uk/technology/10172298/One-surveillance-camera-for-every-11-people-in-Britain-says-CCTV-survey.html>

¹⁷ <https://www.bsia.co.uk/Portals/4/Publications/195-cctv-stats-preview-copy.pdf>

combination of CCTV with facial recognition, big data and Artificial Intelligence creates levels of monitoring our behaviour far beyond the scope of human watchers, now conducted on a mass scale by computers.

Perhaps the greatest development in surveillance is the inception of internet-mediated surveillance. Shoshana Zuboff's "The Age of Surveillance Capitalism, The Fight for a Human Future at the New Frontier of Power"¹⁸ describes how corporations and governments have already transformed surveillance. The rapid evolution of this technology requires a new vocabulary to describe it, the core concept being termed 'Surveillance Capitalism'¹⁹. Surveillance capitalism describes the inception of a profitable business model, capturing behavioural data based on online activity and the internet of things as connected devices. The capture of behavioural data has provided a means of prediction and ultimately a means of control. The ascendancy of neoliberalism, she continues, "laid the groundwork for Silicon Valley to promote an extreme form of entrepreneurial capitalism, unencumbered by any substantive responsibility to the communities it purports to serve".

¹⁸ The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power Shoshana Zuboff.

¹⁹ The Age of Surveillance Capitalism the Fight for A Human Future at The New Frontier of Power Shoshana Zuboff Pub Hachette Book Group (2019) Pages 13-17

Google's combines geolocation with behavioural data is, for example, the online game 'Pokémon Go' (owned by Google), not only serves to Hoover up vast quantities of behavioural data but also is used to provide advertising opportunities situated near to a user's location.

Another example, in 2009 the villagers of Broughton in UK took to street protests of the Google cars surveying them. Google in 2014 also were caught capturing Wi-Fi points along with the street camera.²⁰; they were ordered to desist this operation.

The operations conducted by Google follow a recognisable pattern, described by Zuboff as the 'Dispossession Cycle' where the four stages are "incursion, habituation, adaptation, and redirection." Zuboff concludes that this dispossession cycle gradually erodes our collective awareness of just how vulnerable we are becoming to the manipulation by Google, Facebook, Amazon and Microsoft three of the

²⁰ "Investigations of Google Street View," EPIC.org, 2014, <https://epic.org/privacy/streetview>; David Kravets, "An Intentional Mistake: The Anatomy of Google's Wi-Fi Sniffing Debacle," Wired, May 2, 2012, <https://www.wired.com/2012/05/google-wifi-fcc-investigation>; Clint Boulton, "Google WiFi Privacy Breach Challenged by 38 States," eWeek, July 21, 2010, <http://www.eweek.com/c/a/Search-Engines/Google-WiFi-Privacy-Breach-Challenged-by-38-States-196191>; Alastair Jamieson, "Google Will Carry On with Camera Cars Despite Privacy Complaints Over Street Views," Telegraph, April 9, 2009, <http://www.telegraph.co.uk/technology/google/5130068/Google-will-carry-on-with-camera-cars-despite-privacy-complaints-over-street-views.html>;

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current big players in the West. Zuboff's work is without doubt highly accomplished and has provided new words to describe our current plight. Zuboff sees the world from a legal perspective, inadequate in showing how artists can respond, providing fresh imagined solutions. The artist is able to communicate more directly than the academic on the politics of surveillance. The artist is capable of imagining worlds which may inspire or warn us whereas the scholar may not be able to do this.

In his book *The Panoptic Sort*²¹ Oscar Gandy observes that social sorting, under the direction of database marketing, clusters groups according to their consumer behaviour. The means of obtaining far more nuanced data in real time now exists and has been developed to the extent with the collection of behavioural surplus data is collected by firms such as Google.

It is not only our utterances online that is being captured by commercial companies but also the detection of our emotions, termed as affective computing²². FaceFirst²³, a Californian tech firm specialising in facial recognition has gone beyond selling in store retail protection from shoplifters to a new 'VIP service' to track

²¹ *The Panoptic Sort: A Political Economy of Personal Information* (Critical Studies in Communication and in the Cultural Industries) by Oscar H. Gandy Jr. (1993-01-01)

²² *Affective computing* /. Rosalind W Picard Cambridge, Mass.; London : MIT Press, c1997 1998

²³ <https://www.facefirst.com/>

wealthy customers. NEC, also in this rapidly developing market offers 'non-intrusive detection' automating security and identifying valuable customers^{24, 25}. The recognition of our faces in busy public spaces may help lessen the risk but the technology can be used without our knowledge or permission for example at a peaceful demonstration. Metropolitan police²⁶ and South Wales police²⁷ already have piloted such systems. The work of Artist Zach Blas responds to these phenomena²⁸. Blas created 'Facial-Weaponization Suite' (2011-14) consisting of masks that thwart facial recognition technologies. As well as this work, in 2019, at the Venice Biennale, Blas and Shu Lea Cheang present a partial reimagining of Jeremy Bentham's Panopticon, focusing on persons criminalised for acts of sexual deviancy with a six-metre cell constantly monitored by six cameras²⁹.

Facial recognition is used not only to identify individuals but also to interpret and decode the expression the individual presents to

²⁴ <https://youtu.be/VrSI2floB-s>

²⁵ <https://www.theguardian.com/cities/2016/mar/03/revealed-facial-recognition-software-infiltrating-cities-saks-toronto>

²⁶ <https://www.crowdjustice.com/case/face-off/>

²⁷ <https://www.theguardian.com/uk-news/2018/may/05/welsh-police-wrongly-identify-thousands-as-potential-criminals>

²⁸ <http://www.zachblas.info/works/facial-weaponization-suite/>

²⁹ <https://frieze.com/article/society-has-become-biggest-panopticon-interview-shu-lea-cheang>

the camera. This technology forms part of affective computing, pioneered by Rosalind Picard^{30,31}.

Not only expressions on people's faces can be interpreted, for associate Professor. Nicholas Rule has published numerous research papers based on perception of traits from facial analysis including prediction of sexual orientation³², trustworthiness³³, Suicidal tendencies³⁴ and facial differences among Democrat and Republican voters³⁵. Facial recognition is not limited to screening the public for criminals or suspects but on extends also to determining our emotions as well. The potential for yet more asymmetric power in favour of owners of apps predicting and collecting, conduct social sorting and manipulate users goes far beyond singling out a face in the crowd.

³⁰ <https://www.media.mit.edu/people/picard/overview/>

³¹ Affective computing /. Rosalind W Picard Cambridge, Mass.; London : MIT Press, c1997 1998

³² Brief exposures: Male sexual orientation is accurately perceived at 50ms Journal of Experimental Social Psychology, Volume 44, Issue 4, July 2008, Pages 1100-1105

Nicholas O. Rule, Nalini Ambady

³³http://ambadylab.stanford.edu/pubs/2012_N.O.%20Rule_Accuracy%20and%20Consensus%20in%20Judgments.pdf

³⁴ Detecting Suicidality from Facial Appearance Social Psychological and Personality Science 4(4) 453-460

Sela Kleiman and Nicholas O. Rule

³⁵ <https://doi.org/10.1371/journal.pone.0008733> Democrats and Republicans Can Be Differentiated from Their Faces Nicholas O. Rule, Nalini Ambady

In March 2018 the Metropolitan police used facial recognition at a protest for the first time^{36,37}. Do we feel any safer from this or might it have a chilling effect on our right to protest and express ourselves in a democracy?

"In 2015 a start-up, Realeyes, won a 3.6 million euro grant from the European Commission for a project code-named "SEWA: Automatic Sentiment Analysis in the Wild".³⁸

This mode of rendition analysis uses techniques adopted by a team from Imperial College, London, collecting users' emotional reactions in real-time via apps.

Combinations of sensors and software can recognize and identify faces; estimate age, ethnicity, and gender; analyse gaze direction and blinks; and track distinct facial points to interpret "micro-expressions," eye movements, emotions, moods, stress, deceit, boredom, confusion, intentions, and more^{39,40}.

³⁶ <https://www.libertyhumanrights.org.uk/resist-facial-recognition>

³⁷ <https://www.theguardian.com/technology/2018/jun/14/police-face-legal-action-over-use-of-facial-recognition-cameras>

³⁸ <https://www.realeyesit.com/sewa>

³⁹ Patrick Mannion, "Facial-Recognition Sensors Adapt to Track Emotions, Mood, and Stress," EDN, March 3, 2016, <http://www.edn.com/electronics-blogs/sensor-ee-perception/4441565/Facial-recognition-sensors-adapt-to-track-emotions-mood-and-stress>

⁴⁰ The Age of Surveillance Capitalism *ibid*

The Chinese government has already begun to use facial recognition⁴¹, starting with the western province of Xinjiang⁴². This includes blood type databases and GPS tracking. The Uyghurs of Xinjiang must download an app that automatically reports their browsing history, as well as their given location. Petrol stations allow cars to be filled only through facial recognition linked to ID cards⁴³. In 2005 a camera system, Skynet, was developed further and evolved into “Xue Liang”, translated as “Sharp Eyes”⁴⁴. The Sharp Eyes project is being developed to integrate security cameras pointing at roads, shopping malls and transport hubs with private cameras on compounds, into one nationwide surveillance and data-sharing platform.

By 2020 the Communist Party of China (CPC) will have finished rolling out the Social Credit system⁴⁵ (SCS), an array of digital systems to implement social control⁴⁶, announced in 2014⁴⁷.

⁴¹ <https://www.chicagotribune.com/news/nationworld/ct-china-facial-recognition-surveillance-20180107-story.html>

⁴² <https://www.foreignbrief.com/asia-pacific/china/surveillance-uyghurs-future-china/>

⁴³ <https://www.spectator.co.uk/2018/11/social-credit-is-just-one-part-of-chinas-new-state-control/>

⁴⁴ <https://www.financialexpress.com/world-news/sharp-eyes-in-chinas-villages-an-app-that-is-turning-spies-out-of-ordinary-residents/1224621/>

⁴⁵ <https://www.chinalawtranslate.com/en/socialcreditsystem/>

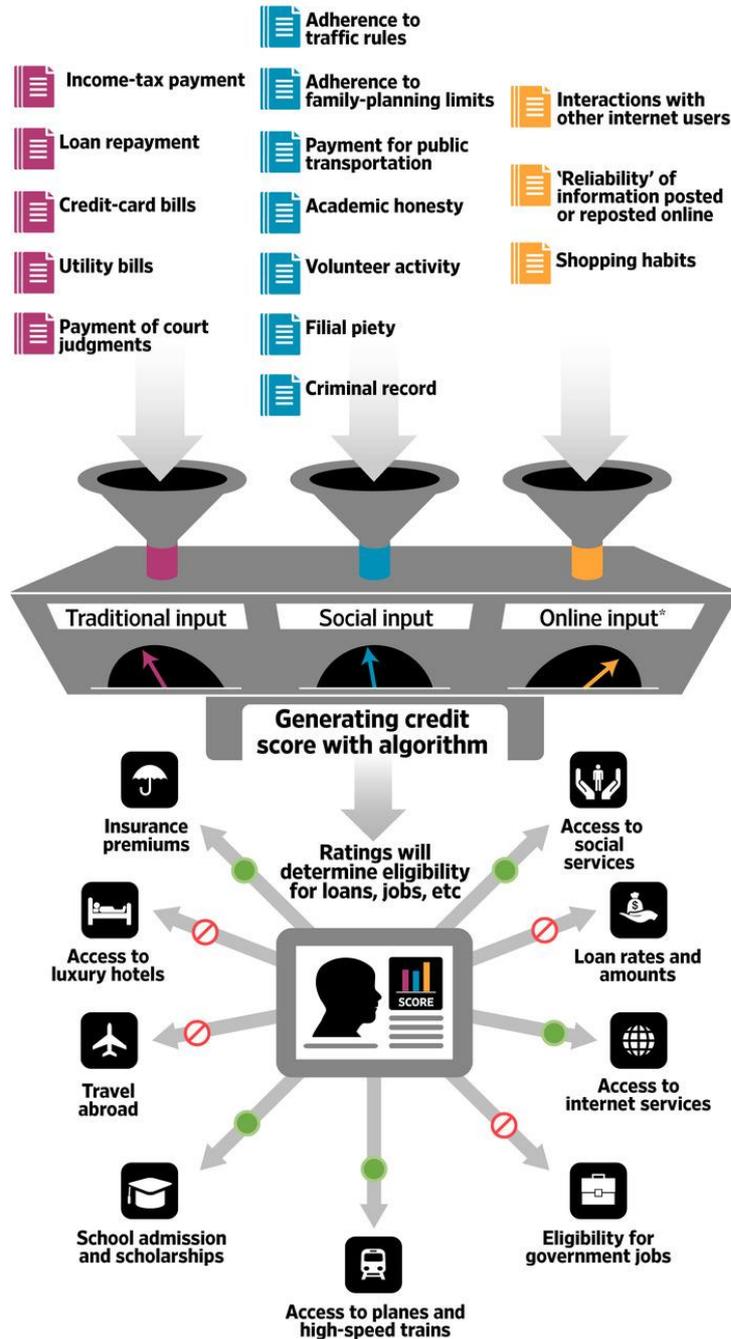
⁴⁶ <https://chinacopyrightandmedia.wordpress.com/2014/06/14/planning-outline-for-the-construction-of-a-social-credit-system-2014-2020/>

⁴⁷ <https://chinacopyrightandmedia.wordpress.com/2014/06/14/planning-outline-for-the-construction-of-a-social-credit-system-2014-2020/> 'as put

forward by the 18th Party Congress, 'establish and complete a social credit system, commend sincerity and punish insincerity' as put forward by the 3rd Plenum of the 18th Party Congress, 'establish and complete a social credit system'

China Watching

Beijing wants to create a nationwide 'social-credit' system that compiles digital records of citizens' social and financial behavior to calculate a personal rating that will determine what services they are entitled to — and what blacklists they go on. Here's a look at how the system might work.



* It is currently unclear how "online inputs" will be implemented. Source: WSJ reporting based on government blueprints, state-media reports and interviews with architects of the plan.

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Panoptic Surveillance has transformed into Panspectric Surveillance as seen in China today^{48,49}.

Panspectric surveillance, enabled by multiple sensors and points of observation can be carried out, due to the ubiquity of technology. The NSA has rolled out a system, whereby ...

*"... a multiplicity of sensors is deployed around all bodies: its antenna farms, spy satellites and cable-traffic intercepts feed into its computers all the information that can be gathered. This is then processed through a series of "filters" or key-word watch lists. The Panspectron does not merely select certain bodies and certain (visual) data about them. Rather, it compiles information about all at the same time, using computers to select the segments of data relevant to its surveillance tasks."*⁵⁰

There is much criticism of the social credit system, but advocates, mainly among the younger users, welcome the system, as promoting trust among their peers and convenience in day to day life.

⁴⁸ <https://wiki.p2pfoundation.net/Panspectrocism>

⁴⁹ Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure Fan Liang, Vishnupriya Das, Nadiya Kostyuk, and Muzammil M. Hussain
Policy & Internet, Vol. 10, No. 4, 2018

⁵⁰ DeLanda, Manuel, War in the Age of Intelligent Machines New York: Zone, (1991)

In a trendy neighbourhood in downtown Beijing, many were enthusiastic when asked about their Sesame Credit ratings, proudly displaying them on their mobile phones⁵¹.

How much have the early adopters of the digital world already sacrificed in the asymmetric balance between government/corporations and individuals?

Writer and journalist Glyn Moody gave a very pessimistic account to the social credit system at a Cryptoparty event in London⁵². He is highly critical of the big three web sites; TenCent, WeChat and AliBaba, suggesting that these commercial enterprises enable the CPC to undertake their SCS project. An article expressing his opinion can be found online⁵³. He believes it is likely that in a few years' time a western version of China's SCS programme will be implemented. However, Moody is not a technologist, but a writer. He appears see the picture through a Westerner's lens, omitting any positive narrative about the Chinese SCS; for we cannot ignore the benefit of trust provided by SCS. This is highly valued by Chinese citizens, despite the cost to their privacy. Articles supporting SCS are worth

⁵¹ <https://www.bbc.co.uk/news/world-asia-china-34592186>

⁵² <https://freeword.org/event/cryptopartyldn-privacy-2028/>

⁵³ <https://www.privateinternetaccess.com/blog/2018/11/welcome-to-the-globalized-interlinked-business-of-surveillance/>

considering^{54,55}. For example, Dr. Genia Kostka's⁵⁶ article⁵⁷ references a survey conducted by The Washington Post;

Fully 80 percent of respondents approve of social credit systems in China, with just 1 percent reporting either strong or moderate disapproval. And only 1 percent believe that a nationwide social credit system should not be implemented."

Improvements in social infrastructure and health systems are also possible; "around 500 cities are cooperating with information technology (IT) firms to improve their transportation, public administration, and health services⁵⁸

⁵⁴ https://www.washingtonpost.com/politics/2019/03/21/what-do-people-china-think-about-social-credit-monitoring/?noredirect=on&utm_term=.c8dff4dece56

⁵⁵ <https://foreignpolicy.com/2018/11/16/chinas-orwellian-social-credit-score-isnt-real/>

⁵⁶ https://www.geschkult.fu-berlin.de/e/oas/sinologie/institut/mitarbeiter/1_professoren/Kostka.html

⁵⁷ https://www.washingtonpost.com/politics/2019/03/21/what-do-people-china-think-about-social-credit-monitoring/?noredirect=on&utm_term=.c8dff4dece56

⁵⁸ Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure Fan Liang, Vishnupriya Das, Nadiya Kostyuk, and Muzammil M. Hussain
Policy & Internet, Vol. 10, No. 4, 2018

China's surveillance society has been transformed from the Foucauldian Panoptic model to a Panspectric model. Human society can be seen in terms of "information traffic"; the actions of the masses rather than individuals.⁵⁹

As Roger Creemer notes:

Instead of positioning some human bodies around a central sensor, a multiplicity of sensors is deployed around all bodies: its antenna farms, spy satellites and cable-traffic intercepts feed into its computers all the information that can be gathered. [...] The Panspectron does not merely select certain bodies and certain (visual) data about them. Rather, it compiles information about all at the same time, using computers to select the segments of data relevant to its surveillance tasks.^{3660,61}

Panspectric surveillance, we see emerging rapidly in China, may be the manifestation of Gabriel Tarde's theories. Tarde, a French Sociologist writing in the 1880's, was an opponent of Durkheim's social holism theory and his search for social laws. For Tarde, not only human interactions are of importance but also focusing on the individual and their psychological properties. According to Tarde,

⁵⁹ https://wiki.p2pfoundation.net/Panspectric_Surveillance

⁶⁰ Creemers, R. 2017. "Cyber China: Upgrading Propaganda, Public Opinion Work and Social Management for the Twenty-First Century." *Journal of Contemporary China* 26 (103): 85-100.

⁶¹ manuel Delanda, *War in the Age of Intelligent Machines* (new york: Swerwe editions, 1991), pp. 205-206

the mind is completely open to the world - there is no difference between what happens inside and outside the human skull. In other words, the intra-psychological reflects the inter-psychological⁶²

Tarde contends that this blurring of the lines between inter and intra psychology gives rise to the possibility of society behaving as an organism and promoting spontaneous events. This has great consequences for the surveillance of the human multitude capacity to organise itself, turning against the social order.

Tarde's thinking preceded the writing of Bruno Latour and Gilles Deleuze, and the effects of technology's advances bear out Tarde's theories. The advent of huge databases, available to those wielding power, coupled with advanced research and development including AI were not available in Tarde's time, as Latour points out:

The massive digitalization of many types of documents may offer Tarde a belated vindication. The poor statistics available at the end of the nineteenth century could not validate his requirement for a point-to-point 'epidemiology'. It's interesting to think that the possibility of a Tardian quantitative sociology might be opened now. We now have the quasi-quantitative tools

⁶² <https://blog.p2pfoundation.net/the-age-of-panspectric-surveillance-and-its-effects-on-dispersed-subjectivity/2010/02/26>

allowing us to follow in the same fashion, rumours, opinions, facts, and fantasies". (Latour2005:208)⁶³

Institutions or governments with sufficient money and resources have the means to tighten the hold on the public in ever-more powerful ways through surveillance, making it hard for the individual protect themselves. Panspectric surveillance can be seen as a contagion where it is an object of knowledge and control, whereas Panoptic surveillance endeavours to stop and contain contagion. Google uses metrics to survey movements, rather than focusing on individuals in order to predict what the collective group of individuals will do tomorrow.

Zygmunt Bauman describes the term 'liquid surveillance'⁶⁴. He believes that we are in a post-panoptic era, enabled by the ubiquity of digital technology from drones to social media. The Panopticon is part of the 'before' story, arising from modernity, of which the 'after story' is now liquid modernity. Bauman sees the Panopticon as being 'cyborgized' or electronically enhanced, way beyond how Bentham or Foucault could have imagined it. In the liquid modern society of consumers, we move from enforcement to seduction, from policing to arousal of desire. As Bauman notes;

⁶³ Latour, Bruno (2005). *Reassembling the social: an introduction to actor-network-theory*. Oxford New York: Oxford University Press.

⁶⁴ *Liquid Surveillance: A Conversation* (PCVS-Polity Conversations Series) (2012)

In a nutshell, just as snails carry their homes, so the employees of the brave new liquid modern world must grow and carry their personal panoptic cons on their own bodies... tempted by the allure of consumer markets and frightened by the new freedom of the bosses to vanish, together with the jobs on offer, subordinates are so groomed to the role of self-watchers as to render redundant the watchtowers in the Bentham/Foucault scheme⁶⁵

Artists working on surveillance

Surveillance and the role it plays out on society is a subject of increasing concern by many artists. The following section of this essay addresses some the different approaches to communicate their concerns.

The Geography of Surveillance

My grandfather worked on the building of a telegraph network from Egypt to Calcutta. The telegraph wire, a forerunner to the optic fibres used now, carries the majority of the global internet traffic. Submerged cables cross continents and are known to have been intercepted. This is revealed in Edward Snowden's contribution to Wikileaks⁶⁶. . Artist Trevor Paglen locates and documents

⁶⁵ *ibid*

⁶⁶ Ewen MacAskill; Julian Borger; Nick Hopkins; Nick Davies; James Ball (June 21, 2013). "GCHQ taps fibre-optic cables for secret access to world's

underwater cables carrying data across continents. By organising dives he photographs the elusive cables underwater himself. These cables yield data, as pointed out by Snowden, are tapped into by NSA and GCHQ⁶⁷. Trevor Paglen informs us of how the physical aspects of surveillance manifests itself. Paglen offers us a view of the 'hidden' physical internet, how it informs us and articulates how surveillance is panspectric, crossing boundaries according to Tarde, on an industrial scale. This all hidden from any user's view behind a phone or computer. Paglen obtained the permission of the US government to photograph NSA and GCHQ listening station sites.

I do not see myself as a political activist," he (Paglen) says. "I feel like my job is learning how to see and creating metaphors and creating forms of seeing and making them available to other people. I don't think that images make arguments⁶⁸

So, Paglen investigates and reveals to us the geography and built environment aspects of surveillance in his art.

communications". The Guardian. London. Retrieved June 21, 2013. Trevor Paglen was cinematographer in Laura Poitras film Citizen Four⁶⁶, about Edward Snowden, which won an Oscar for best documentary in 2015⁶⁶

⁶⁷ <https://www.theguardian.com/uk/2013/jun/21/gchq-cables-secret-world-communications-nsa>

⁶⁸ <https://www.ft.com/content/beaf9936-a8ff-11e5-9700-2b669a5aeb83>

Another artist exploring the ontology of surveillance is Kathy Marmor⁶⁹. Her interest is in space, the fourth of the five dimensions of war defined by the U.S. armed forces, the others being land, air, sea and Information (cyber). In Marmor's installation 'Birding' (2007) she hangs homemade-style cardboard boxes from the gallery ceiling. ⁷⁰These represent satellites which watch over us. This surveillance-space may be complement Paglen's photographs of land and undersea cabling, manifesting the hidden world of surveillance operations, invisible to the naked eye. Although the technical substance of Marmor's installation is somewhat weak, the strength in her work is to remind us how we watch over each other, particularly from the perspective of inter-country espionage, dating back to the launch of Sputnik in 1958⁷¹, marking the beginning of this fourth arena of surveillance. This obfuscated observation also connects us with Farocki's Images of the World film⁷¹, exploring watching at a distance.

⁶⁹ Bird Watching by Kathy Marmor Leonardo Vol 41, No. 4 pp 317-323

⁷⁰ <https://history.nasa.gov/sputnik/>

⁷¹ <http://www.othercinema.com/otherzine/images-of-the-world-notes-on-harun-farocki/> the

Self-Surveillance, Labour and control

Harun Farocki makes many films on the subject of surveillance, several of which are non-narrative essay-films on the politics of imagery. *Images of the World and the Inscription of War* (*Bilder der Welt und Inschrift des Krieges*) (1989) shows us the use of surveillance not only in war but also in peacetime, for example, in architectural survey and fluid dynamics⁷², reminding us that surveillance, does not necessarily imply undesirable outcomes. In his film, he makes the point that the word reconnaissance, a form of surveillance, translates into German as *aufklärung* which also means enlightenment. His examples of its use in wartime includes the account of how the US air force in WW2, took aerial photographs while bombing the SS Industries I. G. Farben synthetic rubber plant. Nearby, the Auschwitz concentration camp is also photographed but ignored. This came to light many years later by two CIA workers pointing this out working in their own spare time. Evidently, allied forces did not pay sufficient attention to other 'activities' during the war. Farocki uses the cinematic medium itself as a cold dispassionate observer, viewing the subject at a distance, reflecting the materiality of surveillance. *Prison Images* (2000) shows us the use of cameras by prison guards observing prisoners. It challenges the Foucaultian proposition of 'self-surveillance' where the inmates 'perform' for the prison guards. *Eye Machine Series* (2003) shows us 'suicide cameras' on guided missiles deployed in

⁷² Harun Farocki's *Bilder der Welt und Inschrift des Krieges* (*Images of the World and the Inscription of War*), 1989.

Iraq I war. In. the same film Farocki uses scenes of the same technologies - prisoners (discipline/control as proposed by Foucault), juxtaposed with supermarket customers' movements (control). He uses 'found' CCTV footage, industrial training films, archived film clips and home movies to build his essay-films. Farocki draws back the curtain on material available in the public domain, e.g. the shooting of an inmate in prison. This contrasts with a more personal close-up 'fly on the wall' reportage of Julian Assange⁷³ and Edward Snowden⁷⁴ by Laura Poitras, revealing their lives and rendering them in a surveilled 'style'.

In his 2001 documentary-essay 'Ich glaubte Gefangene zu sehen (I thought I Was Seeing Convicts)', Farocki shows how the same tracking technique used to follow prisoners around to prevent undesirable behaviour, is used in the retail space. Surveillance in the retail space has evolved from theft prevention to promoting an increase in sales by tracking the movements of customers. Another example of the dual use of surveillance technology is Amazon's facial recognition service 'Rekognition'; is also used by police to track criminals.⁷⁵ Farocki anticipated many of the concerns with privacy and its political dimensions, being explored by contemporary artists.

⁷³ <https://www.imdb.com/title/tt4964772/>

⁷⁴ <https://www.imdb.com/title/tt4044364/>

⁷⁵ https://www.aclunc.org/docs/20180522_ARD.pdf

Sousveillance

An artist investigating self-surveillance is Steve Mann. Mann, known as 'the father of wearable computing', began his practice in 1980 with 'Digital Eye Glass' using a 6502 microprocessor and 64k of RAM. Challenges by security guards while wearing his apparatus prompted him to consider "surveillance" and reciprocal "sousveillance"⁷⁶, to surveill oneself. Mann created many wearable artworks; e.g.

'Wearcam' 'Wearable Wireless Webcam', a telematic body transmitting continually on the web (1994-6), clearly ahead of his time. Mann also produced 'Griefcase', 'HeartCam' . Another prescient example is 'Eyetape'; glasses which functioned as a camera used to film inside a casino. This was long before Google came up with 'Google glasses'^{77, 78}.

Another exponent of sousveillance is Professor Hasan M. Elahi.⁷⁹ Elahi was accidentally put on a watch list and questioned at Detroit airport in 2002, following which he was then subjected to questioning by the FBI for a six-month period and given nine

⁷⁶ Leonardo_36-1_001-098 1/24/03

⁷⁷ https://www.amazon.com/Google-Glass-Explorer-Version-Charcoal/dp/3283005737/ref=sr_1_2?keywords=google+glasses&qid=1560433199&s=gateway&sr=8-2

⁷⁸ <https://www.cnet.com/news/google-lens-google-glass/>

⁷⁹ <http://elahi.umd.edu/>

polygraph tests. In 2003, Elahi began to upload pictures and compile them, sending them to his website. The website shows all flight details, meals, even photos of his unmade bed, all available to view by the public (and FBI). His website still sends GPS coordinates of his location^{80,81}. Elahi's project shines a light on the inconsistent and partial conduct of government agencies, turning the tables on them by self-reporting and highlighting the Kafkaesque anomalies that can arise, all hinged on surveillance.

Artists Carmen Weisskopf, Domagoj Smoljo, Adnan Hadzi and Daniel Ryser form part of !Mediengruppe Bitnik (!MB) In 2013, !MB sent a parcel from Hackney, London to Julian Assange at his temporary residence, the Ecuadorian Embassy in London. The parcel contained a camera transmitting photos with GPS inside. The objective was to find out what would happen to the parcel on the way. The photos captured on this journey were published in the book 'Delivery for Mr. Assange'⁸². Assange currently faces charges by the U.S. government of conspiracy, acting in collaboration with Chelsea Manning, to break into a classified U.S. government computer. The material Assange and Manning released included surveillance footage of U.S. Apache helicopter operators killing two journalists and others on the ground in Iraq taken from the helicopter's gun

⁸⁰ <http://elahi.umd.edu/track/>

⁸¹ https://www.ted.com/talks/hasan_elahi/transcript#t-789780

⁸² Delivery for Mr. Assange! Mediengruppe Bitnik

camera.⁸³ The US military refused to discipline the helicopter's crew, saying "that there were insurgents and reporters in an area where US forces were about to be ambushed".

Laura Poitras in addition her film work, has also worked in the gallery space on issues of surveillance. Her work, *Astro Noise* first shown at the Whitney Museum, presented a sequence of projections, real-time video and surveillance related artefacts that remind us that we are the ones watching and at the same time, the ones being watched.⁸⁴

Stories of Our Intimate, Private Space

Internationally acclaimed installation artist Xu Bing⁸⁵ and his assistants culled through approximately 10,000 hours of surveillance videos sitting in the cloud and assembling them to make 'Qing ting zhi yan' AKA 'Dragonfly Eyes'⁸⁶ (2017). The title 'Dragonfly Eyes' is connected with a surveillance metaphor for the 20,000 tiny eyes the dragonfly has. The Chinese government is currently piloting a project *Dragonfly*⁸⁷, are highly restricted version of Google search

⁸³ <https://www.telegraph.co.uk/news/0/wikileaks-greatest-ever-stories-scandals/>

⁸⁴ Poitras, Laura *Astro Noise* Whitney Museum of Art

⁸⁵ <http://www.xubing.com/en/work/details/469?year=2017&type=year>

⁸⁶ <https://www.imdb.com/title/tt6576482/>

⁸⁷ [https://en.wikipedia.org/wiki/Dragonfly_\(search_engine\)](https://en.wikipedia.org/wiki/Dragonfly_(search_engine))

engine. The film tells a cohesive story voiced by actors contrasting mundane everyday images interspersed with sudden calamities, plane and car crashes⁸⁸.

I made an installation late last year which incorporated footage I obtained from internet-connected webcams⁸⁹, facing similar questions on what material to use. The footage was displayed on a small domestic answerphone integrated with its own black and white screen. I used places of work, factories, cowsheds, traffic intersections - where the cameras were positioned by the need for checking and validation, not simply confined to protecting property.

Where Xu Bing's film is fictional film making use of surveillance material, the recent documentary "Hello Surveillance Capitalism" by Marc Silver is a factual documentary on surveillance. In this film Chris Wiley's tells first-hand account of his whistleblowing of his activities in the Facebook-Cambridge Analytica affair. Cambridge Analytica used personal data, harvested by Facebook to create individually targeted political messages. Cambridge Analytica's parent company SCL has already 'worked on' 100 elections in 30 countries⁹⁰. This affair wake-up call for the public to the how far surveillance capitalism had already invaded our world.

⁸⁸ http://www.cloudwalk.cn/caseList_78.html

⁸⁹ <https://www.insecam.org/>

⁹⁰ <https://qz.com/1239762/cambridge-analytica-scandal-all-the-countries-where-scl-elections-claims-to-have-worked/>

Artworks can also show us how rapidly the technology of surveillance is occurring. Twenty years ago, CCTV was frequently used by artists. For example, Video Ping-Pong by Ernst Caramelle's (1974) video installation⁹¹, if shown now as a contemporary work today, would seem quaint.

Surveillance as the Voyeur

Between 1997 and 2001, artist Ann-Sofi Sidén developed a series of video installations focused on surveillance and infrastructure. Day's Inn (1997) and Who Told the Chambermaid? (1998) show the inner-workings of a hotel on surveillance monitors mounted on a shelving system that includes towels, new toilet paper rolls, and other backroom items, suggesting that a hotel employee is spying on its guests. The camera views include the front desk and also corridors, and storage closets. The videos go into the rooms, revealing dozens of guests involved in personal and private activities such as reading a newspaper, going to the bathroom, or having sex. Station 10 and Back Again (2001) repeats the formula but uses a fire station instead of a hotel. All three of these pieces are silent; their executions were all preceded by on-site research, during which Sidén lived on location.

Another exponent exposing a personal experience of being inside a surveillance world is Jill Magid. Magid before working as an artist already had worked as a spy, police officer and war journalist. As

⁹¹ <https://artpil.com/news/a-resume-ernst-caramelle/>

an artist she works with questions on power relations and the access to power. Working with the Dutch secret service (AIVD (De Algemene Inlichtingen en Veiligheidsdienst) she built up trust, transforming her role from artist to agent. She surveilled the workings of the AIVD to create the project 'Authority to Remove'. The documents of this work were put on display at an exhibition 'Article 12' at Stroom gallery⁹², but some were confiscated by the AIVD. After Magid protested, the Dutch government agreed to return the work on conditions that it would be shown only once at the Tate Modern in 2010 but never again^{93, 94, 95}. Another work entitled I can Burn your face comprises a neon sign reading 'to burn a face'. This was phrase used within the AIVD meaning to expose a source.

Magid's work tests the boundaries of what aspects of surveillance material is permitted to be shown. She also reveals the inner working of professional 'surveillance workers' in the intelligence service arena.

Laura Poitras uses film, Jill Magid's uses of documentation, Ai Wei-Wei works in sculpture and installations to describe aspects of surveillance. Before working on the theme of surveillance Ai Wei-Wei

⁹² https://www.stroom.nl/activiteiten/tentoonstelling.php?t_id=6430733

⁹³ <http://www.becomingtarden.net/>

⁹⁴ <https://www.tate.org.uk/whats-on/tate-modern/exhibition/level-2-gallery-jill-magid>

⁹⁵ <http://www.jillmagid.com/exhibitions/authority-to-remove-tate-modern-london-2>

was already under surveillance being himself as a person of interest to the Chinese government. He responded in his work with many examples, including 'Surveillance Camera Blocker'⁹⁶, 'Surveillance Camera' (2010)⁹⁷, 'Surveillance Camera with Marble Stand' (2015), 'WeiweiCam' (2012) and 'S.A.C.R.E.D.' (2011-2013)⁹⁸, where he depicted scenes of his incarceration. Although Weiwei has not worked with technology as a medium, he has worked with sculpture to convey our relationship with being surveilled. Wei-Wei works in traditional media, communicating his concerns about surveillance without using modern materials and techniques. Other artists use video, digital and techniques used in surveillance whereas Wei-Wei expresses himself using materials not associated with surveillance such as sculpture. Wei-Wei relates his own personal accounts of being the object of surveillance which has become a defining aspect of his work.

It can be seen that new technological advances prompt new avenues of creativity. For example the use of Google Earth (GE), has been used by artists to create work such as Postcards from Google Earth by Clement Valla⁹⁹ and Jenny Odell's Waterslide Configurations and 'Land

⁹⁶ <https://www.designboom.com/art/ai-weiwei-surveillance-camera-blocker/>

⁹⁷ <https://www.royalacademy.org.uk/exhibition/ai-weiwei>

⁹⁸ <https://www.lissongallery.com/artists/ai-weiwei>

⁹⁹ <http://www.postcards-from-google-earth.com/>

Marks'¹⁰⁰. However, these examples have perhaps have not adequately confronted concerns over privacy, perhaps choosing simply to make pretty images.

Google Streetview, (another means of sucking in data) has been used with more critical observation of the corporate invasion of privacy. Michael Wolf's collection of intimate snapshots of people stumbling, kissing and other personal events entitled Interface challenges and questions the invasion of our private spaces by uninvited corporate interests.¹⁰¹

In 2008 Robin Hewlett and Ben Kinsley initiated the first ever artistic use of Streetview, collaborating with the Google technical team and a group of residents in Pittsburgh to make 'A Street with a View'. Although this work was innovative, it lacks any critique of the uninvited gaze by Google. Michael Wolf's 'Fuck You' (2011) focuses on people on the ground reacting to the intrusion of the Google Street car.¹⁰² This artwork is a collection of images, people showing their distaste of the Google camera-equipped cars invading their neighbourhoods.

By contrast Michael Wolf expresses concerns of citizens subjected to unauthorised intrusion into the public space. This contrasts the corporate approved messages with the artist's view of the Google Streetview project.

¹⁰⁰ <http://www.jennyodell.com/projects.html>

¹⁰¹ <http://photomichaelwolf.com/#interface/5>

¹⁰² <http://photomichaelwolf.com/#fuck-you/1> (2011)

Surveillance using Technology as the Medium

The artist that displays for me, the greatest understanding of the technology of surveillance is Julian Oliver. He combines an excellent understanding of the use of technology with a thoughtful and challenging approach in his work. Recognising the rapid onward march of technology and its relation to politics, he tests the edges of what is legal and permitted in his quest to clarify the technological borders we encounter.

Oliver and his collaborator Danja Vasiliev have together produce The Critical Engineering Manifesto¹⁰³ which sets out the DNA of Julian Oliver's creative focus. His work sets out to challenge people. For example, performative work such as 'Men in Grey'; two men with briefcases walk along a city street, enter a café with specially equipped briefcases. A screen mounted on the side of the briefcases, personal chats were displayed and eSpeak used to vocalise the text messages. This piece made in 2012 is now outdated. Much of the data over Wi-Fi in 2014 transmitted over Wi-Fi was not encrypted. It will be much harder to create such a performance in 2019. Oliver's work is playful, but with a serious message. For example, an ambitious project entitled Newstweak (2011).¹⁰⁴ intercepted Wi-Fi traffic and altered web pages in such a way to modify text and create satirical fake versions of the original pages. Much of the work is network-

¹⁰³ <https://criticalengineering.org/>

¹⁰⁴ <https://julianoliver.com/output/category/projects>

related. For example, 'Transparency Grenade'¹⁰⁵ (2012-14), - is a beautifully crafted transparent hand grenade with a small computer inside. If the pin is pulled, data traffic is captured, mined and passed on for display to another server. Julian Oliver works have been widely acclaimed, in part due to the skilful presentation of his work and his collaboration with others to elevate his presentation of ideas in an extremely polished way.

Other works by Oliver (by no means all) relevant to surveillance include: The Beacon Frame (2013), Vending Private Nation (2018), The Deep Sweep (2015), Stealth Cell Tower (2016), No Network (2013), Cover Me (2015) and Border Bumping (2012),

¹⁰⁵ <https://transparencygrenade.com/>

conclusion

The rapid development of AI (machine learning as a part of this) has led to a headlong race between continents, notably China and the U.S. This ultimately may determine the survival or destruction of our human race. The convergence of artificial intelligence and big data, the ubiquity of handheld devices and the proliferation of the internet of things all have provided big players with an asymmetric advantage over the population. The eager willingness to exchange personal privacy for convenience has already shown undesirable outcomes. Can the same innovations in techno-surveillance be used to protect us and build trust, or is the outcome an unbearable prospect? There are definite advantages to being watched, with the objective to protect us from 'black swan' events as proposed by Nick Bostrom. The popular assumption that all surveillance omits the benefits of monitoring bad actors and preventing bad events. The advent of nuanced and more sophisticated means of protecting the environment ultimately may be the only way to save us from ourselves. An example of this is maintaining a ledger and protecting us from global warming and extinction of endangered plants and animal species with the blockchain¹⁰⁶. The representation of surveillance and its many forms in art serves to forewarn us, alerting us to what we are becoming, for artists still have a challenge to articulate this rapid onslaught of surveillance capitalism, outside of capitalism and better understand its results..

¹⁰⁶ <https://futurethinkers.org/blockchain-environment-climate-change/>

This is a new challenge for artists to represent the panspectric surveillance capitalism encroachment into our way of life.

For my own part, I am constructing an installation of old-style domestic intercoms, refashioned into devices which connect out into our Panspectric world. The multiple telephones with small screen and hidden cameras will be a platform in the gallery interact, monitor visitors, the intercoms repurposed to represent a newer iteration of the surveillance-woven world we now inhabit.

Appendix

Artefact for Submission

I have elected to show another iteration of my piece "6 intercoms" which I showed at the 'work in progress May Popup exhibition' in New Cross. The many challenges of confronting the rapid emergence of digital surveillance is hard to convey using a 4-inch monochrome screen and loudspeaker(s). The six intercoms were mounted around the gallery space and each one showed a different exploration of the theme of surveillance.

The video clip shows the intercom now includes an amplifier,² cameras (not one as before), an HC-SR04 ¹⁰⁷ultrasonic proximity detector and a second Raspberry Pi model A all mounted inside the intercom.

The more recently developed intercom incorporates facial recognition, OpenCV and the use of Twitter API (search term = 'surveillance'), the use of Espeak ¹⁰⁸application to convert text to voice, clips from CCTV and 'Dragonfly Eyes' a film excerpt by Bing Xu's film using found CCTV footage.

Simultaneously, a second camera runs MotionEyeOS which sends live CCTV feed to a single IP address. The IP address is

¹⁰⁷ <https://www.sparkfun.com/products/13959>

¹⁰⁸ <http://espeak.sourceforge.net/>

displayed on a separate laptop in the video, any mobile phone or installed intercom could use the feed if required,

The exhibition in May featured 6 intercoms, all modified with a Raspberry Pi in each:

1. Video clips switched between DDR propaganda film and East German test card (when handset is returned to cradle).

2. Twitter API with 20 surveillance related search terms

3. Data derived from British government stop and search data API

4. FR24 rest API software running with software radio attachment to show real-time aircraft movements.

5. Face recognition using OpenCV pointing camera at the visitor.

6. Dragonfly Eyes movie clips with CCTV of a Japanese deserted beach (when handset on cradle).

Further development of the intercoms will include:

- Face-swapping using python and dlib, OpenCV libraries and further exploration into facial recognition.

- Use of low-power cameras connected to ESP32 microprocessor
- servo-operated face trackers

a. For the video showing exhibits of the May 2019 work in progress Popup:

<https://vimeo.com/347925248>

password: Helen

b. For the video showing the new incarnation of the intercom is found at:

<https://vimeo.com/347925524>

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2019

Taryn Simon An American Index of the Hidden and Unfamiliar (2007)
Whitney Museum

i <https://github.com/ccrisan/motioneyeos/releases>