SMART CITIES AND THE POLITICS OF URBAN SURVEILLANCE

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Smart cities and the politics of urban surveillance

If you do not want to visit Scheveningen, be it because it is rainy, too far, or just because you are no fan of crowds, you can still experience it. The sea, the harbor, the boulevard – anyone with access to a screen and internet can live vicariously through several integrated live webcams looking out over the city's tourist hotspots (found at http://www.scheveningenlive.nl/). From the "surf camera" aimed at one of the piers, to the "boulevard" webcam looking out over, indeed, the Scheveningen boulevard. Looking out through these easily accessed cameras, you can spot the comings and goings of Scheveningen's tourists and residents walking down the street: a woman comforting her crying toddler, two teenage boys nearly getting into fisticuffs, or the city's patrolling covid-guards. You look out over a piece of public space, with no-one on the other side of the camera's lens being any the wiser.

This scenario might sound amusing, a fairly simple way of using surveillance technologies to (presumably) draw in more tourists. However, there is more to this story than appears at first glance. More than a simple marketing trick, this use of cameras to watch a "public space" illustrates a curious interaction between those watching, the mediating camera surveillance technologies, and the mostly unaware people on the streets.

On the one hand, there are the "watchers", who vary from ordinary people looking at the Scheveningen boulevard through the public webcams, to police and security searching the streets for suspicious persons, to the advanced AI systems seen more and more in smart cities to assess threats to public safety (Townsend 2013, Lisdorf 2020). It is commonly accepted that the first two categories, consisting of people, have their own opinions and biases in their observations.

But the AI systems are not unbiased, either. In fact, they cannot be. These technologies are biased in their very creation, reflecting and even reinforcing society's racism or sexism. The more homogeneous the engineering team behind the AI, the more likely it is that a given prediction error will occur. A lack of diversity can create a unconscious introduction of bias in algorithmic AI systems (Wiggers, 2020). Hence, when a computer "looks" at things, visual cues like a beard or jawline, or even skintone, are often used to "see" a person's gender or race. At the same time, racial or ethnic attributes are not always so easily distinguished; thus making it hard for a computer to "see" how a person should be classified in these categories. (Becerra-

Riera et al., p. 1161). This can lead to misunderstandings and unnecessary precaution and doubt for specific populations, which have been and continue to be victims of racial animosity and hostility. This effect might be unintentional but still deserves due consideration in the current transformations of the urban landscape and the public sphere. Just think of the "cultural melting pot" that defines many city populations, where people of all shapes and cultures work and live together. Even in your own neighborhood. And in smart cities, AI systems try to classify and surveil all these different people for security and marketing reasons. Security and surveillance are two staples of the modern smart city (Lisdorf, 2020).

The effects of surveillance on the public space, especially in the age of smart cities, have been studied extensively in academia (Zimmer, 2011; Badidi & Maheswaran, 2018; Lisdorf, 2020). Artists, too, have engaged with this security vs privacy and public surveillance for a long time, including projects such as Excavating AI. Another project of interest is (UN)just Peace, an architecture tour, which explores The Hague's urban identity in conjunction with the United Nations' supranational political project. Artists engaging with surveillance near-inevitably end up facing a type of artistic voyeurism, also. Surveillance and voyeurism feed into each other, and can be seen as similar, ambivalent phenomena of "watching and being watched". In both cases, the watched parties might be unaware they are being looked at. And in both surveillance and voyeurism, the "watchers" behind the camera are biased. Be it an AI system classifying humans that walk across the Scheveningen boulevard or artists looking at those same humans to find inspiration for their pieces; voyeurs and surveillance systems both look for things that are "out of the ordinary", special, or something to be excited about.

Surveillance technologies and Smart Cities

According to the European Commission, "a smart city is a place where traditional networks and services are made more efficient with the use of digital and telecommunication technologies for the benefit of its inhabitants and business". In other words, information and communication technologies (ICTs) are embedded in a city and advertised to help economic development and make for more efficient management (Le-Dang & Le-Ngoc, 2018). On the other hand, a smart city can easily be envisioned as a space that can be constantly monitored, managed, and regulated under the banner of public safety and security (Townsend, 2013). From bioluminescent plants that could replace city park lights to more effective surveillance, smart cities are continuously evolving. The "smartness" of a smart city can be a good thing economically and developmentally, but we cannot forget the regulatory effects of cameras on

every corner (Badidi & Maheswaran, 2018; Lisdorf, 2020). Horror stories that come to mind are Bentham's panopticon, technocracies, Orwell's *1984*, webcam surveillance for at-home office workers to keep an eye on their productivity, voyeurs behind the camera, and widening inequalities across the board (Kitchin, 2014; Lisdorf 2020).

Jonathan Olley - Gold Five Zero (Borucki Sanger) British Army Watchtower, 1997. Who are they watching for?

Despite these fictional and real-life dystopian stories, it is important to keep in mind that there exists a large gap between the visionary ideas of what makes a smart city, and the realization of these ideas. Are we being watched? Most definitely, as being watched is not some new 21st-century phenomena. Are we being judged? That depends on the kind of surveillance, on the "watchers" behind the camera.

Over the past two decades, "smart cities" gained traction in academia, business, government and urban planning, reshaping the inner workings of city administration and urban economic development (Kitchin, 2014; Le-Dang & Le-Ngoc, 2018). Where smart cities are often, and rightfully, advocated as creating new technologies and visions that allow them to move towards a more sustainable, prosperous, resilient future (Lisdorf, 2020) there is still a lack of critical reflection on the wider implications of urban development rooted firmly in technology.

Shizuka Yokomizo - Stranger No. 1, 1998. Who is watching who?

Digital surveillance technologies and Cultural Biases

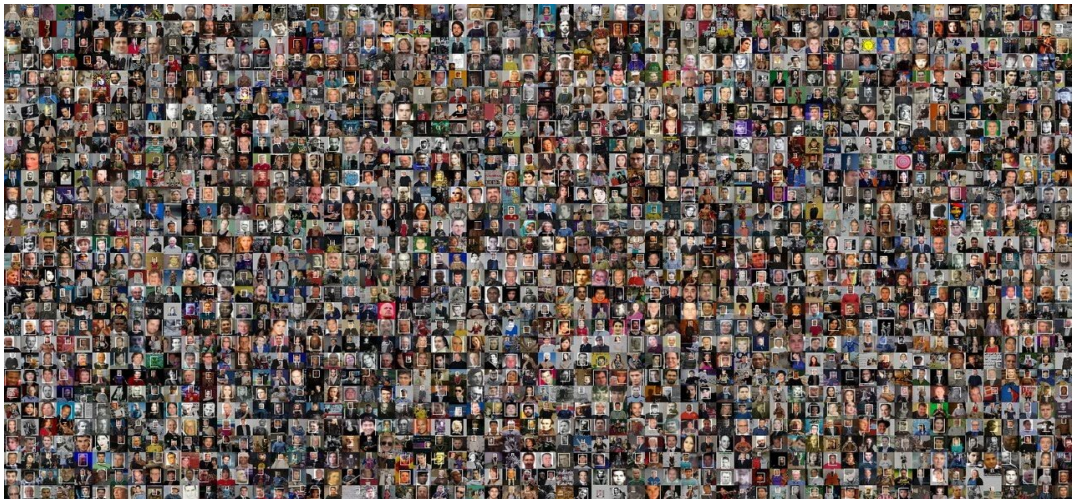
Historically, surveillance took shape in the form of guardsmen and later police patrols, but it was also paper based, consisting of records and files. Print based surveillance could be extensive and the information collected had to be manually collected, stored and maintained, which could be a very laborious endeavor. The development of CCTV cameras represents a technological shift from print to visual surveillance, which thereafter would be omnipresent, long-lasting and based on images, rather than language. While a lot has changed when it comes to technological advancements in surveillance, the prime justifications for public surveillance systems have always been, and possibly continue to be, crime reduction and public safety (Surette, 2005).

As taken from an exhibition guide of the Tate Modern Museum in the UK: “Derived from the French word ‘*surveiller*’, meaning ‘to keep watch’ or ‘to watch over’, the surveillance camera has been used to police borders, to assist war-time reconnaissance, to gain advantage over political enemies or simply to gather information”. “Surveillance technologies” as we use it here refers to any and all technologically mediated watching, be it AI systems, cameras, or alternative methods of security registration such as biometric analyses.

> "Biometrics" is a technique which uses physiological or behavioural characteristics to recognize individuals. A number of biometric characteristics have been developed and widely studied, which includes palm-print, face, fingerprint, voice, iris and many more. With continuous technological advancements, an increasing number of real-world applications have gained benefit from it, some of which include border and access control, identification of criminals, video surveillance, forensics, and detailed customer profiling, including others (Mani et al., p. 570)

In academic circles, there has been more research on profiling, focused on regular police controls, conducted mainly in Western countries with a particular attention to police-race relations. The increased use of the so-called 'proactive profiling strategies' in policing and surveillance has led to a powerful debate regarding the legitimacy of such practices. However, profiling in surveillance is also applied by organizations operating in different fields, and within different contexts and countries (Dekkers, 2019). One example is the surveillance of Muslim women in public spaces. A research conducted by Saher Salod on Muslim American citizens, and especially Muslim American women, showed that when wearing a hijab, women or people wearing a hijab were more subjected to a "watchful eye" (2018, p. 77), or the *gaze* of their fellow citizens, regardless of their skintone. Foucault addresses the idea of the *gaze* as a powerful tool of control and discipline used by people in power; a closer look into this idea provides an awareness of power dynamics within a community or the society (Selod, 2018). In this research, Hijab-wearing citizens were intimidated by their white counterparts and were being constantly aware that they are being surveilled for any possible illegal activity (2018, p. 80). Similarly, when studying CCTV-room personnel at Schiphol Airport, Webster (2012) noticed that their suspicions were triggered -among other reasons- by reason of prejudice. For example, when seeing black male youth, or suspicion based generally on age, clothing or religious signifiers, gender or race (2012, pp. 68-69). In a world where Islamophobia seems to be on the rise, a hijab equates Islam and Islam equates terror, even in a seemingly "tolerant" country such as the Netherlands. Tolerant does not mean accepting, and we can clearly see this with the rise of populist thinking and rhetoric.

EXCAVATING AI **https://excavating.ai/**



MS CELEB dataset, Excavating AI, ImageNet. So many faces, so many categories. In which one would you fit?

The project "Excavating AI, The Politics of Images in Machine Learning training sets" by Kate Crawford and Trevor Paglen, indeed underlines how AI technology is not as straightforward and unbiased as it appears on the surface. The databases of images that 'train' AI systems to recognize objects contain not only objects, but also people. The Excavating AI shows that there is something "wrong with the picture" - especially in how people are labelled. When a picture is labelled, certain social politics come into play - and these same politics are then reflected in the training of AI systems. And these training sets are central to how AI operates and interprets the world it *sees*.

The automated interpretation of imagery is an inherently socio-political project based on existing social institutions and divides. Imagery in itself is not unbiased, and decidedly complex: a single image can have multiple potential meanings (literal, symbolic, contradictory). Images do not describe themselves, and thus have descriptions or *labels* attached, depending on the cultural context of an image and open to continuous reinterpretation. The project "Excavating AI" attempts to show that rather than objective, scientific conclusions, AI computers reflect politics, ideology, prejudice, and subjectivity.

Gender politics are also prevalent in AI training. In the larger "Person" category (with 2,833 sub-categories) people are divided based on gender, race, nationality, job, wealth, behavior, and even morality. There are categories labelled "bad person", "drug addict", "convict", "schizophrenic", as well as racist slurs (n***er) and misogynistic terminology (b*ll-buster). As ImageNet's primary purpose is that of identifying objects, not people, people are categorized as if they were objects. Clearly, this categorization is highly problematic, and it is not limited to ImageNet. In many sources on the inner workings and categorization processes of AI

training, there is a simple binary "gender" category of male/female, and a racial categorization of five classes: White, Black, Asian, Indian, or "Others" (excavating.ai site).

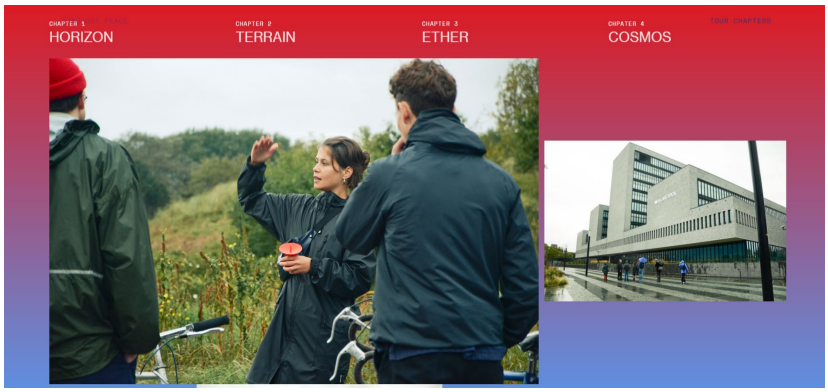
Bolshevik

The image on the side is taken directly from Excavating AI's "Labeled Images", and titled "Bolshevik". The Bolsheviks being a Soviet faction, it makes no sense for the image to show the former U.S. President Barack Obama, nor does it make sense to show Nazi imagery. The AI labelling process likely drew on similar images with "red flags" and "army uniforms" – showcasing clearly that AI categorization can lead to problematic, even nonsensical results.

The art project itself, "ImageNet Roulette", and its exhibition went viral, calling attention to the damaging ways people are categorized. It comprises over 300,000 photographs of human faces, largely drawn from ImageNet - combined with their many, many labels. Despite these shortcomings in categorizing, many AI surveillance systems use ImageNet and other such databases to "learn" how to categorize people on the street.

We cannot assume that smart cities are inherently inclusive, as the systems that surveil these cities, may themselves reflect racist, sexist and cultural biases.

(UN)just Peace



Screenshot of (UN)just Peace website. https://www.unjustpeace.eu/HOME

The (UN)just Peace project is an architecture tour organized by Stroom Den Haag which explores The Hague as a "battlefield" (https://www.unjustpeace.eu/HOME). The Hague's identity is closely related to the United Nations' supranational political project and through its buildings, it is materializing the development of certain western values that are integral for its identity. These are internationalism, democracy and justice. The 'smart city' of The Hague can illustrate how a city can use surveillance technology for governance. While The Hague is considered a city of peace, it is closely related to the economy of war. Surveillance technology is also applied in broader societal protection projects, such as war strategies, which can be seen as a threat to societal cohesion and wellbeing. Through this tour, the artists want to elucidate the fact that the core aim of the city's administrators is "total militarization perpetuated by the propaganda of security" (https://www.unjustpeace.eu/HOME).

The International Criminal Court premises, (UN)just Peace, Stroom, Den Haag. Picture: Jannes Linders, courtesy of Stroom Den Haag

The tour is divided into four chapters, Horizon, Terrain, Ether and Cosmos. The first chapter, the Horizon, refers to the aspiration of expanding the edges of a territory, while at the same time distinguishing the space of "the other". The new symbolic architecture of Justice performs as a missile; both architecture and arms reduce a walking subject into a point on a visual plane. The second chapter consists of a tour around the International Criminal Court and a

conversation around the Aculeus LG, a submetric induction laser guided rocket. Whilst Stroom's four-part walking tour relies heavily on targeted geography, each person walking is considered a potential threat by surveillance cameras around the very city they walk through. This threat assessment is something artists engage with, asking questions such as: Is the landscape able to target, surveil, and shoot us at any moment without notice?

Art(ists) and Voyeurs in the Public Space

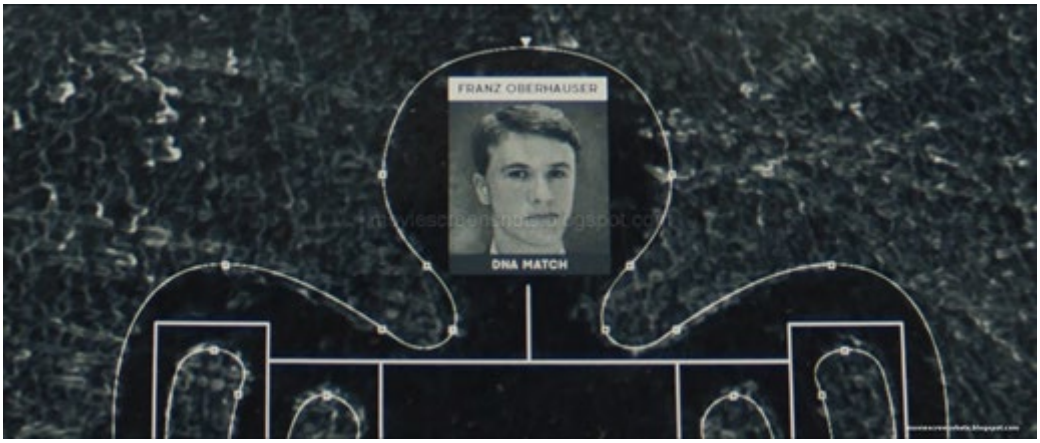
Crucially, surveillance shows that the lines between that which is "public" and that which is "private" blur. "People watching" is no longer limited to sitting out on a terrace, watching people go by who can watch you in turn. "People watching" is now also digitally mediated through the use of surveillance technologies, and no longer a two-way street. This new form of watching – the people on screen unaware, the audience enthralled – can be considered a type of technological voyeurism. An example of this was mentioned in the introduction: when people are watching through the Scheveningen webcams, the people you are watching have no idea you are doing so.

What is voyeurism?

Voyeurism, or "taking delight in extended gazing" (McKay, 2013), is not necessarily a sexual or evil thing. Surveillance can even be fun when experienced as such, distancing itself from the panoptic, "unhealthy" views on video surveillance that are strongly connected to images of fear and control (Perampalam, 2014). This positive attitude is illustrated most tellingly by the cinema or movie experience. The last time you went to the cinema, you sat watching the (staged) intimacy of others' lives from a panoptic, all-encompassing view that gives way to plot twists and excitement - and there is nothing wrong with that (as many of us have been unable to visit cinemas, think also of streaming services such as Netflix or Hulu)!

It is not quite the same as surveillance cameras on the streets seeking criminal activity, but the increasing presence of voyeurism in our visual culture as a whole certainly impacts our attitudes towards the watchers (and of being watched). The masses are watched, but they also become the "watchers". The abundance of surveillance technologies in our lives also highlight the increasing exposure of people's intimate lives (such as through social media). Voyeurism and surveillance go hand-in-hand in our audiovisual landscapes in an uneasy coexistence depending on for example social backgrounds (the poor are more often observed, the rich more often the

observers) and personality – not everyone would like to see, nor would everyone want to be exposed (Perampalam, 2014).



In many modern spy movies like James Bond: Spectre (2015) surveillance and biometrics are used as plot devices. Source: https://moviescreenshots.blogspot.com/2016/05/james-bond-spectre-2015-part-1.html

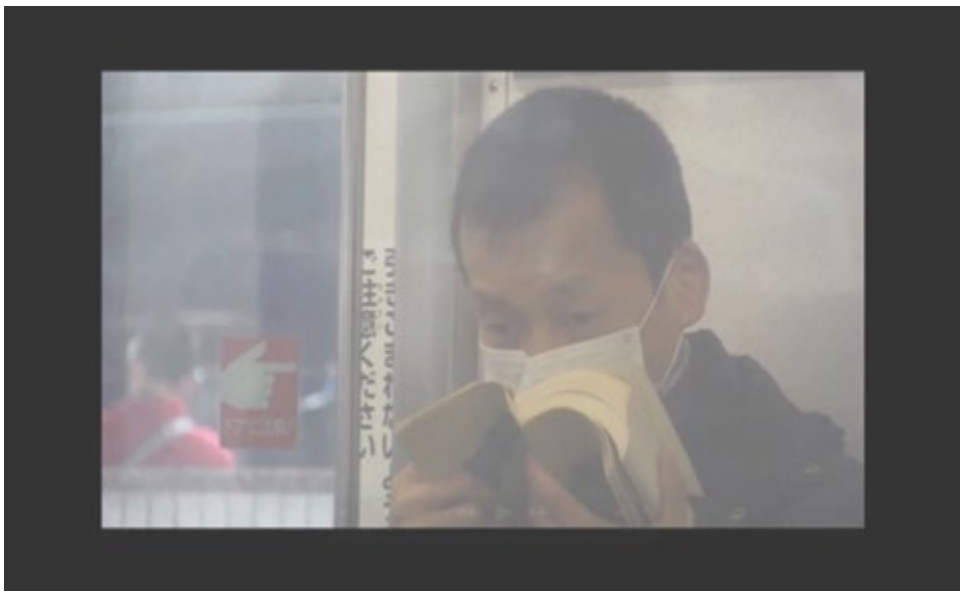
The society in which we live is not only, as has been argued by Michel Foucault (1995), a "surveillance society" where technologies enable new forms of social control. The few surveillance agents do not only watch the masses – or the people walking down the street, or even you, if you are seated on a public park bench whilst reading this essay. We also exist in a mass media society of celebrity scandals, internet "influencers", and our phones are mined for data to give us targeted advertisements. In short, our society is also one "where the many watch the few" (Perampalam, 2014, p. 219). Consequently, several artists have adopted this dual meaning of surveillance-as-control and surveillance-as-titillating.

Artists and Voyeurs

With the advent of modern surveillance technology, visual capture is possible on a bigger scale than ever (McKay, 2013, Lindorf 2020). We all (assumably) constantly carry a phone with a camera in our pocket when we leave the house.

Artists who engage with the eroding boundary between public and private sometimes find themselves struggling with the ethical and personal sides of their art, uneasy and unsure about where the limits are (McKay, 2013). "In the era of inescapable surveillance technologies change the way we perceive ourselves… through modified forms of framing, focus and perspective" (2013, p. 351). In her work *Covert*, Carolyn McKay portrays (edited) footage of unsuspecting strangers, filmed from behind glass on her 2011 trip to Japan. The work includes four high-definition looped videos, such as "Man Reading" which portrayed a masked man on

a train absorbed in his book. Power is exercised over the subject: McKay controls through the video and makes the surveilled man return to the station after his train departs, over and over again until she “finally allows his train to depart” (p. 340) as the scene fades to black (2014).



A snapshot of “Man Reading” taken in 2012, taken from McKay (2014).

In later reflections on her work, McKay questions if she is “some kind of voyeur” (2014, p. 335). She posits that it is implicit in artistic and creative practice that these challenge conventions and push boundaries, including those of surveillance. The role of an artist, it can be said, includes subverting or resisting the social order. Artists often challenge the dominant discourses and points of view – also in public spaces. This allows them to raise awareness of social transformations, and challenge what is “normal” (McKay, 2014).

But there are lines to draw between “artistic prerogative” and “voyeurs” in the negative sense. McKay does not think she can be considered a “voyeur”, as there are those more voyeuristic than she. As example, she takes Kohei Yoshiyuki’s series of photographs, *The Park* (1979).

In The Park (1979)

Surveillance technologies can also enable voyeuristic practices in the form of non-consensual eroticism, and, as mentioned previously, social control. Kohei Yoshiyuki, working as a commercial photographer in Tokyo, created a series of photographs that to most would be uncomfortable breaches of privacy: couples having sex in a public park at night, with other observers watching them. Titled "The Park" and made in the 1970s, this work explores not just the nightlife in the aforementioned public park, but dances with the concepts of "privacy" and

"voyeurism", and how private so-called "private moments" can be in public spaces. It addresses sexual freedom and fetish, but also privacy and surveillance. In times where the internet and massive online databases like Google and Facebook make personal privacy a contested issue, this can be both uncomfortable and recognizable. Consider that as far back as 2010, Mark Zuckerberg, founder of Facebook, claimed that privacy is no longer a social norm or expectation (Johnson, 2010). Such statements, and art projects like *The Park*, show a disregard for privacy that other voyeuristic artists like McKay draw the line at. But where are the lines for what is acceptable, and for what is private? When is it art, when is it voyeurism? In a similar vein, to what extend can we resign to a lack of privacy, for the sake of our security?

A large number of films and series that use surveillance cameras to find crime suspects, McKay's *Covert* and Yoshiyuki's *The Park* show that indeed, voyeuristic practices in every sense can be enabled by surveillance technologies. Surveillance and voyeurism have become commonplace in contemporary society, and have changed not only the ways in which we are seeing (or how AI is taught to see) but also has made us more accepting, or at least resigned, to how we are being seen. The complex ethical and cultural discourses around surveillance are further called into question by matters of consent and the proliferation of surveillance technologies on the street (McKay, 2014). Whether we are comfortable or uncomfortable being watched, technological voyeurism has become an integral part of public spaces (from people-watching through the Scheveningen tourist cameras to watching strangers on the cinema screen) and culture (from social media to artistic projects engaging with this gaze). The masses are watched, but they have also become the watchers themselves. Surveillance and voyeurism are closely linked in the ways that they shape our visual culture, and shape what we consider an "acceptable" amount of "being watched" when out in public. The artistic, voyeuristic and surveilling *gazes* are all looking for the same: that which is unusual, or exciting. In this, privacy should be re-negotiated, keeping in mind the uptake of voyeurism in our visual culture leaving "being watched" unavoidable.

Artists on Surveillance: Re-negotiating Privacy

With the fragile boundaries between what is public and what is private eroding, it is of key importance to carefully negotiate what we consider "privacy". Where do we draw the lines in the sand, as McKay for example does when claiming Yoshiyuki goes too far?

Smart cities have the capacity and unintended effect of reinforcing the social and cultural ideas held by the watchers (the people who make the system, watch the security cams, and the AI that learns from databases and uses these to also watch) and the watched (the people who are being observed, such as those walking down the street are watched by security cameras). Artists have engaged with this security vs privacy and public surveillance for a long time, including Excavating AI – examples of where this happens can be drawn from public camera projects such as the Scheveningen cameras. Three main effects of digital surveillance on the public space we have observed are as follows:

1. Digital surveillance in both human and AI control tends to mimic and reinforce existing cultural and racial biases, which is illustrated by projects such as Excavating AI.

2. A second effect is that surveillance technologies open up new inroads for voyeurs, and contribute to an entirely new visual culture wherein the few watch the many, but the many also watch the few. This is illustrated and commented upon by artists such as McKay and Yoshiyuki.

3. The third effect is that the easy access and proliferation of surveillance in our aptly named "surveillance society" has made people both more concerned for their privacy and simultaneously more accepting of being seen. "We" (the masses) become the Watchers, blurring the lines between private and public spaces more and more through the application of digital surveillance technologies.

Security and data collection are the leading excuses to increase surveillance everywhere, including in "smart city" The Hague and in Scheveningen. Surveillance technologies have proven major contributors to contemporary urban design where privacy is the one thing that appears unsustainable. The long-standing arguments between whether we should prioritize privacy or security has now moved into the public eye and public spaces, but that which is supposed to keep all citizens safe is also biased against several minorities amongst those citizens. The bias inherent in people is also inherent in the Watchers – and thus inherent in surveillance – and thus inherent in what we can consider "security". What we see as "security measures" are in fact biased against racial minorities, and subjective.

Artistic interventions can make us more aware of the discourses surrounding privacy and security in urban spaces. It can allow us to interact with Watchers and make us aware of our own dual positions as Watcher and Watched. By raising such awareness of our own position and the role of surveillance (and cameras) in public spaces, it becomes an active element that allows people to shape their opinions on such surveillance and that can help us to re-negotiate privacy in an urban world where "security" is the word of the day.

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