

# Smile! You're on Camera

## An Exploration of the Social Consciousness of Surveillance, and its role in Rafael Lozano-Hemmer's public installation *UnderScan*

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It is 2005, and as the sun sets over a public walkway at the Brayford University Campus in Lincoln, the space is co-opted by something new. Something seemingly impossible. Bright lights shine down onto the pavement, casting dense, hard shadows onto the ground from everyone occupying the space. Within that shadow, an image appears. Another person. They move about and inhabit the space of the shadow as if they were trapped within. In a beautiful exhibition of the scientific method, people experiment with their shadows.

*“Do they adapt to where I am?” “Do they match my shape?” “How long will they stay?”*

It is 2005 and *Under Scan* by Rafael Lozano-Hemmer has just made its first official debut as a digital interactive installation, the first of 7 separate iterations of the piece. Along with its unique usage of projection and geographies, *Under Scan* presents an intriguing perspective regarding the social consciousness (and connotation) of public surveillance. Within the technology employed by *Under Scan*, there lies a fundamental usage of surveillance cameras to track the movements and gestures of participants. Participants in the installation (unlike their pre-recorded counterparts) never have the opportunity to explicitly consent to the recording of

the presence, nor the tracking of their bodies. This lack of consent, while innocent in the context of *Under Scan*, presents the question of whether or not members of a society *can* explicitly consent to surveillance as both a governmental and individual practice.

Before discussing how *Under Scan* specifically interacts with the core principles of surveillance, it is worth examining this work on a technical level, to look “behind the curtain” per se; and gain an understanding of the marriage of technology and philosophy that is being utilized by Lozano-Hemmer.

One of the first important aspects of *Under Scan* that is easily noticed on a surface level is the scale. The work spans a relatively large area when examined in the world of “Digital Interactive Installation”. When compared to works such as Camille Utterback’s *Text Rain*, and the similarly programmed *Snow Fall* by Italian collective FUSE\* Studio, the physical scale of *Under Scan* is quite staggering. In total, the work covers between 500 and 2000 square meters of public space (dependent on which iteration of the installation is being examined) (Lozano-Hemmer 2007, 11), all of which is to be considered “Active Space” in the context of the installation (meaning space that viewers are able to physically interact with the Installation). The specific sites that were chosen were done so carefully, though with a technical mindset rather than a conceptual one. When transforming a public space into a work of art, the space carries conceptual/social connotations that continue on to inform parts of the piece. This is seen commonly in public installations (specifically digital/projection based work), such as the *Tijuana Projection* and the *Hiroshima Projection*, both by public installation artist Krzysztof Wodiczko.

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<sup>1</sup> Lozano-Hemmer, Rafael, and Rafael Lozano-Hemmer And David Hill. *Under Scan*. emda & Antimodular, 2007.

*This publication is Rafael Lozano-Hemmer’s official report on the production, presentation, and reception of Under Scan. This includes a plethora of technical information, and a very insightful view into the general production philosophy.*

While Lozano-Hemmer is traditionally attuned to social memory attached to public space (Lozano-Hemmer 2007, 2), the presence of social memory is seemingly absent from the conceptual end of *Under Scan*, with Lozano-Hemmer instead opting for a more utilitarian approach to site selection (Mounajjed 2007, 28-30)<sup>2</sup>.

After taking in the space that the installation physically occupies, the next realization that viewers might have is that *Under Scan* uses an extremely complex marriage of light and light sensing technology. The projectors used in the installation clock in at over 220,000 total lumens, which are paired with an array of surveillance cameras that track the movements (and gestures) of participants in the space. These projectors, when paired with the tracking cameras, project a video pulled from a pre-recorded library that roughly fits the shape of the shadow of a single (or group of) participant(s). For months prior to the first unveiling of the full installation, Lozano-Hemmer and a production crew gathered participants to be a part of this video library. Participants were filmed from a birds-eye-view while they performed their part on the floor looking up. During these performances, Lozano-Hemmer gave very little thematic direction. Participants were given only “Start facing away from the camera, and end facing towards the camera” (Vanagan 2009, 86-87). In doing this, the nature of the performances is extremely varied, ranging from playful to melancholy. After the videos were recorded, each of them were analyzed and categorized for their general shape and fit. This information was loaded into a database, which when accessed by the surveillance cameras, allowed *Under Scan* to perform the technological feat of transforming a participant’s shadow into something else entirely.

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<sup>2</sup> Mounajjed, Nadja. “Interview with Rafael Lozano-Hemmer.” *Under Scan*, exhibition catalog, 2005-2006, pages 28-41. East Midlands Development Agency, England

*This interview with RLH provides additional insight into how RLH viewed the participation with the exhibition, as well as his views of the work after it had debuted. While also containing some technical information, this interview delves into the conceptual thinking of RLH after the first exhibition.*

Every seven minutes, the installation uncovers its veneer and shows the wireframe foundation on which the tracking works. Grids bounce to and fro, projected onto the space, giving participants a “behind the scenes” idea of what is happening under the hood of *Under Scan*. While this decision does impact the mystery of the installation, taking away part of the inaccessible appeal of the piece, it does have a positive impact on the general attitude towards interacting with the installation. Although the initial idea for the technical break was to “break the game of representation” (Mounajjed 2007, 28), many participants that experienced this phenomenon actually preferred it to the actual functioning of the installation.

Rafael Lozano-Hemmer attributes this to the inherent power that the video portraits contain. Many of the portraits contain an element of direct address with the participant, which can evoke a defensive reaction in many viewers. Unlike the static portraits present in Lozano-Hemmer’s 2001 work *Body Movies* in which the portraits served as an unmoving tableau void of any agency, the movement and identity in the video portraits of *Under Scan* led some participants to find them “frightening or perverse” (Mounajjed 2007, 28). The relief from this seemingly inescapable interaction (within the bounds of the installation) during the Brecht-ian sequence break led the participants to adopt a feeling of self-awareness, to relate to each other as inhabitants of a common circumstance (Mounajjed 2007, 30).

The final technical aspect of *Under Scan* that is important to analyze for a fundamental understanding is the usage of video portraiture as *the* transcendent medium for the installation. Without the video portraits, there is no *Under Scan*. In a previous work by Lozano-Hemmer titled *Body Movies*, participants could reveal still candid portraits by using their own shadow. While the installation was successful, Lozano-Hemmer found the portraits to be lacking. They lacked agency, they lacked action (Mounajjed 2007, 33). During the production of *Under Scan*,

this idea of agency was a priority. Subjects were given very little direction, as mentioned above, but were asked to ensure they made eye contact with the camera at least once. This intentional usage of the gaze gave the video images an inherent power over the viewer. This relationship of watching whilst simultaneously being watched became a central tenant to the interaction in *Under Scan*. As Lozano-Hemmer states, “this piece is, in a way, about loneliness” (Mounajjed 2007, 33). This sense of loneliness gives the act of observation (and the act of being observed) a certain emphasis. Many of the video portraits presented in the installation demonstrate a desire to communicate in some way. Some use simple sign language, some use written messages, some even speak slowly to allow the participant to make an attempt at lip reading. The attempt at human communication builds a sort of bridge between the video portraits and the participants, elevating them from a static projection to a seemingly conscious entity. Of course the video portraits are pre-recorded so any attempt at two-way communication is inherently failed, but this failure to communicate reinforces the loneliness present in *Under Scan*. Participants are faced with a moving image of someone desperately trying to communicate with them, and when their human nature produces a desire to communicate back, the result is fruitless. The portrait gazes directly into the eyes of the participant, creating a “moment of shared subjectivity” (Reid 2003, 171), but there is no way for the participant to reciprocate their experience back to the portrait. The experience is a one-sided interaction.

### ***A Brief Survey of Surveillance in the Social Consciousness***

Now that a groundwork for the physical technology present in *Under Scan* has been laid, it is pertinent to explore the socio-political connotations of the usage of this technology;

specifically referring to the usage of Surveillance, and the implied consent of installation in a public space.

Surveillance, as a social concept, comes with a heavy connotative toll, regardless of the context in which it is used. Thoughts of “*Big Government*™”, of Orwellian telescreens, of Edward Snowden and the NSA, and of Intelligence agencies around the world. Procedural crime-drama entertainment uses the concept (or a loose interpretation at best) as a “silver bullet” of sorts while the quirky team of law enforcement specialists work together to solve the week’s particularly tough case. Viewers watch interpersonal drama unfold via surveillance cam POVs on Reality TV serials such as *Big Brother* or *Love Island*. However, what many individuals perceive as surveillance doesn’t even begin to scratch the surface of what the practice entails. In a sense, the surveillance of a society begins with the issuing of a birth certificate, logging an individual into the system, where they can be monitored and referenced for reasons yet unknown to them, though that is not where the focus of this investigation will lie.

Video Surveillance in particular has grown substantially over the past 25 years. As the advent of digital technology grew, so did the use of digital surveillance (Wilson 2014, 23)<sup>3</sup>. Once digital CCTV cameras were widely accessible, any corporate location that could afford the initial costs had them installed; then when digital storage became commonplace in the mid-2000s, the financial barrier to entry lowered significantly. Independent store owners began implementing rudimentary surveillance systems in small shops. With this explosion of digital surveillance also came a social *expectation* of being surveilled when in a public space; and so the market grew for

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<sup>3</sup> Wilson, Dean. (2014). *Eyes Everywhere: The Global Growth of Camera Surveillance*. Policing and Society.

*This book details the global development of public surveillance, focusing primarily on the public/government end of the spectrum. While the book goes into detail about large leaps in Public Surveillance such as the Patriot Act, it leaves something to be desired when concerning the history of individual practices of surveillance (ie: in-home cameras, etc.)*

the *illusion* of surveillance (fake cameras with blinking LEDs, false ceiling camera units, etc.) and the exploitation of the *Watching-Eye Effect* (Dear 2019, 269). Today, it is difficult to enter into a public building and *not* be greeted by a fisheye-distorted video feed of yourself. Though people are repeatedly informed of their status of being constantly surveilled, seemingly nothing has stopped the advent of video surveillance from rooting itself in modern society

From this, the question might be raised: “What does this have to do with *Under Scan*?”, which is, at this point, a valid line of questioning. In order to provide an answer, however, one must dive deeper into the social connotations of surveillance, and apply these findings to the playful use of it in *Under Scan*. Much of the aforementioned instances of surveillance were focused on the use of the technology at a private or corporate level, but arguably the most prevalent use of surveillance as a concept takes place at a public level. National acts of surveillance take place on a significantly larger scale than that of the standard corporate surveillance. While there is a nigh endless list of ways national governments surveil their citizens, for the purposes of brevity, this exploration will only include that of public video surveillance.

Public video surveillance as a governmental practice can be traced back to at least the early 1960s, if not earlier. London Transport installed public surveillance cameras in the subway system as a way of monitoring public behavior, and “bolstering public safety” (Wilson 2014, 34). “Public Safety” would go on to become a buzzword that paved the way for every major government to begin establishing public video surveillance in high-traffic areas. In the early 70s, the city of New York began installing surveillance cameras in “problem areas” (which “coincidentally” lined up with areas with high concentrations of POC and low-income neighborhoods) as the city began taking a “harsher stance on crime” (read: harsher stance on

Black Panthers) (Goldstein, 2016). While on the surface each of these instances may seem innocent, when observed together as a trend it becomes clear that the mass adoption of video surveillance by government agencies has led to a modern society in which one physically *cannot* escape the gaze of surveillance (Wilson 2014, 34). In George Orwell's *1984*, one of the most widely cited arguments *against* mass governmental surveillance, there comes a point where the main character must hide within his own home from the surveillance cameras within. The feeling toward surveillance that Orwell elicits are, at their core, negative and critical (Whitehead 2019). When observing the current state of public surveillance systems, and comparing them to the overt exaggerated systems in place in Oceania; it is easy to pick out the similarities. However, the public feelings toward surveillance in *1984* (being generally negative and/or critical), directly contrast with the feelings toward the adoption of mass surveillance that has taken place in modern society (being generally apathetic disinterested) (Madden 2015, 3). This is a result of a massive capitalist/nationalist propaganda machine, targeted specifically at the social integration of surveillance as a normal part of life (ACLU, 2003). There is no need to rebel against surveillance, because it will always be there. There is no use in trying to escape the eye, it will always see you. "*Big Brother is watching you*"(Orwell 1949, 19). This capitalist propaganda machine largely operates subtly. In 2020, a study from social safety hub "*Safety.com*" stated that the average American is recorded by security cameras around 238 times a week (Melore 2020, 1). However, in cursory searches for the original source of this study, it appears that what was the social safety hub of "*Safety.com*", which published studies exposing the increasingly concerning wide reach of public surveillance is now branded as "*CNET*": a site dedicated to modern economics, including serving as a buyer's guide to in-home surveillance systems. These guides include placement tips for your in-home surveillance to achieve the widest coverage, networking



solutions to integrate the cameras into your smart-home, and which specific corporations sell cameras that will provide the clearest video feed for your in-home surveillance system (CNET).

## ***Under Scan, and Self-Awareness***

When Rafael Lozano-Hemmer installed *Under Scan* in a public space for the first time, he consciously (or unconsciously) carried all of these social connotations of surveillance with him. In doing so, Lozano-Hemmer leans into this propaganda machine, claiming “Look! Surveillance systems can be fun! Look how playful this installation is!” While this reading is one that eschews the significance of the video portraits present in *Under Scan*, the work itself cannot escape the juxtaposition of advanced public surveillance systems and the playful nature of the installation. However, according to Lozano-Hemmer, this juxtaposition is intentional; a social commentary of sorts about the normalization of surveillance, illustrated by the “view behind the curtain” of how exactly the surveillance systems are operating every seven minutes. In much of Lozano-Hemmer’s earlier works, he juxtaposes surveillance in similar ways. In his 1993 work *Surface Tension*, Lozano-Hemmer utilizes a controllable video of a human eye that tracks viewers in space in which it is housed. Either displayed on a mounted television, or projected on a screen/wall, the “all seeing eye” of *Surface Tension* always appears larger than life. *Surface Tension* is perhaps the most explicit example of Lozano-Hemmer’s long standing relationship with the concept of surveillance, and his exploration into the technology that drives it. However, this raises questions of Lozano-Hemmer’s interaction with the aforementioned propaganda machine, as well as his unconscious support for it.

In the examination of *Surface Tension*, it becomes clear that Lozano-Hemmer is addressing the propaganda machine as just that; a *machine*. Surveillance, in the public consciousness, is often associated with images of a Wizard of Oz-esque “Man Behind The Curtain”, or a security guard seated in front of a wall of CRT screens. However in the context of contemporary surveillance, most surveillance happens (ironically) un-surveilled. Surveillance as a practice and technology has become nigh fully automated. This becomes extremely clear when examining the technology present in *Surface Tension*. Very soon after occupying the space, viewers realize that the machine surveilling you can be tricked. The technology lapses in its omnipotence as participants duck out of sight or move too quickly for the computer to process their positioning (Ravetto-Biagioli 2010, 122)<sup>4</sup>. This realization is not done in a vacuum, however. In order to test the boundaries of the technology, participants must react in increasing intensity to the gaze of the Orwellian eye. To the surveillance technology, this increased reaction looks suspicious and leads to further tracking. The further tracking leads to more intense reactions, and these two facets of the installation continue to push against each other in a never ending game resembling a predator and its prey; until the participant in question either escapes the gaze or gives up and accepts the state of being surveilled. Regardless of the “winner” of this game, the outcome is the same: *The participant is at some point being surveilled by the installation, regardless of their acceptance of it or rebellion against it*. Applying this same logic to *Under Scan* results in a similar conceptual contradiction. Within the active area of the installation, viewers take on a different relationship with the act of being observed. Surveillance

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<sup>4</sup> Kriss Ravetto-Biagioli; Shadowed by Images: Rafael Lozano-Hemmer and the Art of Surveillance. *Representations* 1 August 2010; 111 (1)

*This essay actually bears a similar conceptual base to the very one it is being cited in. While Ravetto-Biagioli has an excellent grasp on the push/pull of surveillance and its use in RLH's work, it does leave something on the table when thinking about the social history of surveillance. It does bring questions of Humanism to the discussion, which is an intriguing development when thinking about Under Scan and its focus on agency. This also gives some of the most revealing writing about Surface Tension, which is often overlooked when compared to Body Movies or Under Scan.*

cameras, other viewers, and the video portraits themselves, all present a potential observer of viewers in the space, rendering each individual viewer in an exceedingly vulnerable position.

While it is valid to question Lozano-Hemmer's exact position in the context of public surveillance, one cannot do that without questioning the very nature of self-awareness as well. Is Lozano-Hemmer truly critical of mass public surveillance? What does it mean to be *truly critical* of something? How can one criticize or comment on something without unconsciously furthering its integration into the society they are creating it within? These are necessary lines of questioning when deconstructing the nature of self-awareness and its byproducts. In *Surface Tension*, Lozano-Hemmer presents a personally critical view of surveillance by way of making the audience explicitly aware and uncomfortable with the constant presence of third-party observation. Lozano-Hemmer calls attention to the often overlooked surveillance of our everyday lives. However, Lozano-Hemmer is also creating a false sense of this attention. While viewers become acutely aware of their person being observed and tracked by the technology of *Surface Tension*, how many of those same viewers turned equal attention to the industrial CCTV present in the same room? In a way, Lozano-Hemmer creates a red herring of surveillance. "Look at me surveilling you, so you will ignore the others surveilling you". This same idea is present in *Under Scan*. Participants in the installation are acutely aware of the surveillance that they are being subjected to by *Under Scan*, but they may remain unconscious to the public surveillance that was there long before the work went up, and will remain long after it is dismantled. The thematic contrast between *Surface Tension* and *Under Scan* lies in the interaction with the world of mass public surveillance. Both works bring an eye to the surveillance of public space; *Surface Tension* does so with an overt criticism while *Under Scan* does so through the exploitation of apathy. However, the very creation of these works serves to

further the social integration of surveillance. This tension, according to Kriss Ravetto-Biagioli “[is] brought to the surface but not resolved as the piece simultaneously *explores and exploits* many of the various ethical and political problems surrounding the issue of surveillance” (Ravetto-Biagioli 2010, 123)<sup>5</sup>. The very usage of surveillance technology in an installation serves as a normalization of the very technology it is trying to bring critical awareness. While this contradictory nature of self-awareness can be applied to *Under Scan*, it is pertinent to establish that while the piece does further the social integration and normalization of surveillance, that does not fully negate the inherent commentary of surveillance technology that is present in the “break” that the installation takes every seven minutes. In fact, participants were often more engaged with this break than with the actual than they were with the interactive video portraits (Mounajjed 2007, 30). Although it is easy to point at self-aware work and speak at length as to why the usage of certain technologies (even in a critical manner) are actually propping up the social integration of those same technologies, one must acknowledge these social integrations with a wider lens, a larger context. While yes, *Under Scan* is inadvertently assisting the normalization of surveillance technology, it must be acknowledged that surveillance technology would still be socially integrated to its current extent whether *Under Scan* was created or not. Understanding this idea is crucial to commenting on self-aware media such as *Under Scan* and *Surface Tension*.

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<sup>5</sup> Kriss Ravetto-Biagioli; Shadowed by Images: Rafael Lozano-Hemmer and the Art of Surveillance. Representations 1 August 2010; 111 (1)

*This specific phrase “Exploring and Exploiting” is perhaps the most accurate summation of this entire essay. While RLH does an excellent job at utilizing the technology of surveillance in fun, playful ways, doing so does further exploit the idea of public surveillance. This specific phrase is specifically used in regards to Surface Tension, but the idea stands as relevant for perhaps RLH’s entire body of work.*

## ***Under Scan, Social Consent, Video, and Their Relationship with Surveillance***

As a public interactive digital installation, *Under Scan* stands out as one of the most ambitious, complex, and well produced works in the medium. Its use of motion and gesture tracking, projection mapping, light management, and physical fabrication shows an extreme mastery of their respective fields by each part of the production team. The Video Portraits are well produced and well directed, the projection mapping is as advanced as 2007 would allow, and the marriage of hardware and software was flexible enough to be moved to seven different locations (a feat in and of itself).

In the creation of *Under Scan*, Lozano-Hemmer comments on the social normalization of surveillance technology, while also aiming to give the public a “sense of ownership” over a shared space (Lozano-Hemmer in Vanagan 2009, 86). In doing so, Lozano-Hemmer unavoidably assumes general consent from the public who enter the square, even those who simply walk through the installation without meaningfully interacting with it. This implied consent is consistent in all forms of surveillance, from *Surface Tension*, to public traffic cameras, to CCTV installed in a corner bodega; with most featuring the ever present “Smile! You’re on Camera” sign that not only assumes your consent to being recorded while you are present in the space, but also teases you about your lack of control over the recording of your person. While *Under Scan* doesn’t apply this consent in any malicious way (actually, quite the opposite), the very concept presents a concerning view of both consent and agency of your image in the public eye. According to RecordingLaw.com, there are a plethora of legal statutes concerning the privacy of audio recordings, phone conversation, and private conversations held in public, but relatively

few concerning the usage of video (Recording Law 2020). As of December 2022, 13 states have extensive laws considering the consent of both parties in cases of audio recordings. However, in all of those states, a video recorded in public can bypass any of those laws with the caveat “that [the] video does not capture the audio or subject of the conversation, and the people are speaking in a public place.” Video, like audio, is prohibited in “areas of expected privacy”, but is not restricted in public the same way audio recordings are (Flood 2014, 159). This lapse in legal framework serves as both the very vehicle that allows works like *Under Scan* to be presented to the public, but also shows a glaring hole in the legal system. Perhaps government entities have already addressed this hole by allowing it to persist, and pave the way for a society fully under the watch of some public (or private) surveillance system.

## **Conclusion**

In short, *Under Scan* presents both an extremely compelling social view of play in a public space, while also exploiting society’s progressive acceptance (or apathy) toward public surveillance. Rafael Lozano-Hemmer is an artist that is acutely aware of the social consciousness in relation to surveillance, and while he does an extensive amount of work commenting on it, that does not necessarily save him from aiding in the social normalization of the technology he is using. This follows a trend present in many self aware commentaries, such as Hito Steyerly’s AI driven video installation *Social Sim*, Nicholas Cage’s 2022 film “The Unbearable Weight of Massive Talent”, and a plethora of others. Each of these works presents their own unique paradox concerning self awareness and commentary, and while their self awareness causes a fundamental conflict in nature of their commentary, that does not necessarily detract (or add) from their other qualities as pieces of media.

As a social concept, public surveillance has been present in some public sense since the mid-60s. Technology often grows and develops faster than legal bodies can properly adjust for it, so as the bourgeois desire for public surveillance grew, there was little to impede the exponential growth of publicly installed CCTV. With this technological boom of video recording surveillance, the social consciousness and connotation did not necessarily follow what many thought would be the expected path. Rather than heavily negative connotations and social resistance, the advent of public video surveillance was largely met with apathy and disconnection.

While *Under Scan* may carry conflicting messages about surveillance and its integration in modern society, it also aims to eschew these heavy concepts in lieu of a focus on the forms of play that are present in public. At its core, the installation is playful. The video portraits directly address the participants, the participants gesture and engage in what could be called a performance to manipulate their shadows, and every seven minutes the veneer gives way to show the inner workings of the technology being used. Participants in the public installations of *Under Scan* transform from being total strangers to being part of an “in group”, a community formed by simply *being* in that space and time. At the end of the day, interactive installations all aim to engage people, and give them a sense of purpose, even if only for a brief moment. In that regard, *Under Scan* accomplished its goal, and continued to do so for years after its initialization.

## CITATIONS

- American Civil Liberties Union. "Seeking Truth From Justice: PATRIOT Propaganda - The Justice," n.d.  
<https://www.aclu.org/report/seeking-truth-justice-patriot-propaganda-justice-departments-campaign-mislead-public-about>.
- Chris Reid (2003) The revision of the gaze — the art of Anna Flatten, *Journal of Australian Studies*, 27:76, 169-179, DOI: 10.1080/14443050309387835
- Crisp, V., Gonring, G. Menotti, and Jasper, R. C., eds. *Besides the Screen : Moving Images Through Distribution, Promotion and Curation*. London: Palgrave Macmillan UK, 2015. Accessed December 13, 2022. ProQuest Ebook Central.
- Flood, Brian. *Wealth Exposed: Insurance Planning for High Net Worth Individuals and Their Advisors*. Wiley, 2013.
- Goldstein, Joseph. "Old New York Police Surveillance Is Found, Forcing Big Brother Out of Hiding." *The New York Times*, June 17, 2016.  
<https://www.nytimes.com/2016/06/17/nyregion/old-new-york-police-surveillance-is-found-forcing-big-brother-out-of-hiding.html>.
- Keith Dear, Kevin Dutton, Elaine Fox, Do 'watching eyes' influence antisocial behavior? A systematic review & meta-analysis, *Evolution and Human Behavior*, Volume 40, Issue 3, 2019, Pages 269-280, ISSN 1090-5138,
- Kriss Ravetto-Biagioli; *Shadowed by Images: Rafael Lozano-Hemmer and the Art of Surveillance*. *Representations* 1 August 2010; 111 (1): 121–143.
- Lozano-Hemmer, Rafael. "Relational Architecture," January 15, 2015.  
<http://variants.artbase.rhizome.org/Q4070/fear/relarc.html>.
- Lozano-Hemmer, Rafael, and Rafael Lozano-Hemmer And David Hill. *Under Scan*. eMDA & Antimodular, 2007.
- Madden, Mary, and Lee Rainie. "Americans' Attitudes About Privacy, Security and Surveillance." *Pew Research Center: Internet, Science & Tech*, August 17, 2020.  
<https://www.pewresearch.org/internet/2015/05/20/americans-attitudes-about-privacy-security-and-surveillance/>.
- Melore, Chris. "Average American Recorded by Security Cameras 238 Times Each Week." *Study Finds*, September 24, 2020.  
<https://studyfinds.org/americans-security-cameras-study/>.
- Mounajjed, Nadja. "Interview with Rafael Lozano-Hemmer." *Under Scan*, exhibition catalog, 2005-2006, pages 28-41. East Midlands Development Agency, England
- Recording Law. "All Party (Two Party) Consent States - List and Details," September 18, 2022.  
<https://recordinglaw.com/party-two-party-consent-states/>.
- River Cities' Reader. "The Omnipresent Surveillance State: Orwell's 1984 Is No Longer Fiction," June 11, 2019.
- Vanagan, Dea. "Rafael Lozano-Hemmer." *Canadian Art* Vol. 26 (April 2009): 86–87.
- Wilson, Dean. (2014). *Eyes Everywhere: The Global Growth of Camera Surveillance*. *Policing and Society*. 24. 10.1080/10439463.2013.802789