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Shadowed by Images: Rafael Lozano-Hemmer and the Art of Surveillance

It is clear that the world is purely parodic, in other words, that each thing seen is the parody of another, or is the same thing in a deceptive form.
—Georges Bataille, "The Solar Anus"[1]

WALKING INTO AN EMPTY ROOM the gaze of an enormous single eye on a screen detects and follows you (fig. 1). As you stop and stare back at this extreme close-up image, you examine the details—capillaries in the white of the eye; hair follicles on the surface of the skin; wrinkles; a myriad of blue, green, and brown pigmentation in the iris; and the speed and motion of a single blink. The eye, in return, tracks your movements with great accuracy, insisting on keeping contact until you turn away, peering at you even as you exit. While it maximizes all the features of the human eye, it behaves like a machine—one of those robotic closed-circuit television (CCTV) cameras that capture all gestures, features, and actions. Unlike the mechanism in the human eye that sends visual signals to the brain, this enormous eye is completely blind. It seems to detect and follow spectators, but its gaze is directed not by its own vision but by the input it receives from separate mechanisms of detection ("sightless vision" machines)[2] that drive its movements. The movement of this eye is the mere visualization of how this network of machines targets the spectator. It parodies the icon of the divine all-seeing eye, the eye of providence appearing on the back of an American dollar bill, the telescreen in Orwell's *1984*, or the gaze of the modern security state.

ABSTRACT This essay explores how the large-scale video-installation art of Rafael Lozano-Hemmer uses the illusion of confrontation, contact, and interactivity to create what many spectators describe as an uncanny experience. Like Freud's uncanny, Lozano-Hemmer's work undermines stable subject positions and thus the possibility of the specific symbolic meaning for the installation. The ungrounding of subjectivity does not necessarily point to the subjects' own absence or lack of wholeness, nor to its own possible obsolescence. Rather, it points to the disjuncture between recognizing and reacting to the fact that we are being followed (by images, interfaces, and tracking devices), and recognizing and reacting to the fact that these devices already anticipate our movements, desires, and trajectories. Lozano-Hemmer's work asks about how surveillance systems, global capital, and digital technologies have reconfigured notions of embodiment and public space, and of the public itself. / REPRESENTATIONS 111. Summer 2010
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FIGURE 1. Rafael Lozano-Hemmer, *Surface Tension*, Mexico City (2004). Photos by Antimodular Research, courtesy of the artist.

In your attempts to circumvent surveillance, you become aware of the fact that there are no clear lines dividing observer from observed, spectator from screen. As you, watching the eye watching you, may conceal your strategies of evasion, the eye uses the appearance of an omniscient gaze to conceal its blindness and the mechanisms of detection that drive its movements. It soon becomes apparent that the eye is not an anthropomorphic illustration of divine omnipresence or some Orwellian prototype for the hegemonic vision of the security state, for it can be tricked to close if you duck out of sight. At the same time, the more you react, the more your behavior looks suspicious to the machines that target you in the first place. This suspicion is contagious. Other spectators end up watching you as you watch them interact with the installation and, to escape the eye, some get down on the gallery floor, crawl on their knees, or run from one side of the gallery to the other. Resistance is futile, however, because it further engages the surveillance apparatus in a game of cat and mouse. But if you passively or indifferently accept being the subject of surveillance, you are targeted all the same. While you might feel singled out, you realize that this eye calls for a "you," not as an individual subject under suspicion, but as a participant. Without a participant, the eye closes and remains dormant, and yet when it targets "you" as a participant, it does so impersonally. It points to a gap between how individual spectators may feel about being watched, and how tracking devices "see."

This installation, *Surface Tension* (1992), was included in Rafael Lozano-Hemmer's solo exhibit in the Mexican Pavilion at the 2007 Venice Biennale

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and in five of his more recent interactive installations.[3] Each installation is unique in its approach to the tensions produced by new surveillance technologies: the tension between visibility and vision, anonymity and electronic monitoring; between security as a form of protection and as a form of preemption; function creep (using technology designed for one purpose for another) and creeping ignorance caused by manipulation of information (scanning and scrubbing information, brand placing, talking points, message disciplining).[4] These tensions are 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. Automated systems of surveillance—millions of CCTV cameras in bank machines, offices, schools, corporate and government buildings, at traffic lights, inside taxi cabs (in the United Kingdom)—do modify people's behavior. What it is hard to predict, however, is how to control, or even measure the effects of such modifications. It is the exploration of how new technologies simultaneously modify behavior by producing calculated if not mechanical interactions between humans and machines and unpredictable (but symmetrical) patterns, actions, and reactions that attracts me to Lozano-Hemmer's work.

These installations blur distinctions between human and nonhuman actions and interactions and therefore bypass the false dichotomies between technophilia and technophobia, power and resistance, art and science, technology and the human, surveillance and punishment. They neither celebrate the new media's potential to create innovative forms of interactivity and socially meaningful ways to reclaim public space nor claim to foster freedom of expression, whether that is human or nonhuman. Rather, Lozano-Hemmer makes us aware that neither surveillance systems nor the forms of expression that feed into (or off) them are either liberating or altogether constraining. Describable as a form of "shadow play," his installations make spectators aware not only of the fact that they are being watched by human and nonhuman audiences but also of their presence and role in activating the surveillance process. They do so in a way that confuses the voyeuristic, erotic relationship between performing for the camera, the paranoia of hypervisibility, and the relations of power instantiated in another's gaze.

Scanning *Under Scan*

Under Scan is a large-scale video installation designed for public space, featuring one thousand video portraits activated by the shadows of passersby. These video portraits of British locals recorded in Derby, Leicester, Lincoln, Northampton, and Nottingham were projected at night on the pavement of busy squares and pedestrian thoroughfares of these cities (and later on the gallery floor at the Venice Biennale in 2007 and at Trafalgar Square

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in 2008). By shining intense light down onto these squares, a custom-made tracking system detects and follows the shadows of the passersby and then projects a video portrait approximately within the contours of those shadows.

The computer randomly selects one out of a thousand videos of British Midland residents from diverse ethnic and economic backgrounds taken by nine local video artists (fig. 2). The people captured in the video portraits were allowed to express themselves in any way they desired. The only stipulation was that they begin the portrait by lying on their side as if asleep, and then turn to look directly at the camera. Each portrait is a short performance, involving a direct address to a potential spectator, varying in length from five seconds to several minutes. As Lozano-Hemmer describes it, "The piece was intended as a public takeover of a city by its inhabitants, linking high technology with strategies of self-representation, connective engagement and urban entitlement."[5]

Remarkably bright projectors, completely flooding public spaces in white light, create simultaneously the eerie effects of day-for-night photography and day-at-night (infrared nighttime) vision. It also produces enough contrast between the shadow of the passerby and the illuminated surface of

FIGURE 2. Still images from the video portraits taken for Rafael Lozano-Hemmer, *Under Scan*, which constitute his *Eye Contact* (2006). Photos by Antimodular Research, courtesy of the artist.

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public space to allow the video portraits to be projected within the contour of the shadows. To add to the eeriness of the installation, the extreme white light reveals the emptiness of these public squares, making it easy to detect even the smallest of movements. The stark lights *Under Scan* cast on passersby may be taken to symbolize the security state's dream of global surveillance, but they also undermine that dream. The lighting makes ordinary civilians appear like fugitives but does not function like a centrally located panoptical gaze. Lozano-Hemmer's motion-sensing system is not designed to program individuals to discipline themselves, nor does it work like the advertisement that announces a new shopping center by the use of searchlights. Instead of instilling fear or seducing the passersby, these lights enable the computerized tracking system to recognize the movement of individuals in order to create its own set of *indeterminate* relations with them.

The movements of passersby trigger a tracking system that relays information to one main computer that captures and traces their whereabouts and anticipates their trajectories (fig. 3). The system then aims fourteen

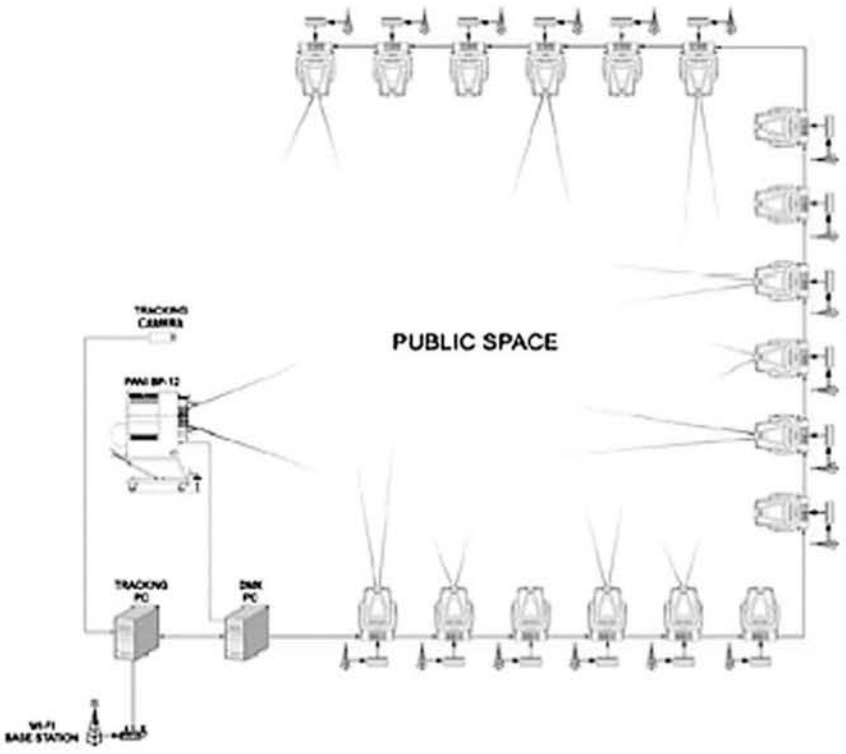

FIGURE 3. Diagram of the technology used in public performances of *Under Scan*. Photos by Antimodular Research, courtesy of the artist.

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robotically motorized pan-tilt projectors at locations where they are likely to encounter the shadows of pedestrians. But what happens at the point where the pedestrians are "met" by the system is neither capture nor control nor advertisement but the formation, in their shadows, of images of other people—images with which they may develop indeterminate relations. What is created is the possibility for an engagement that is neither rigidly controlled nor a social formation, such as organized political protests, rallies, parades, or other organized public events.

Acting *Under Scan*

As you walk into the piece your body becomes installed in the artwork. It is also transfigured from a material entity into a shadow—the shadow the body casts, or the projected images it triggers. It is the shadow before you that simultaneously frames the image of the sleeping doppelgänger and provides the condition of possibility for his or her image to appear. You do not simply uncover hidden images of others lying on the surface of the public square, for this image occupies your shadow (fig. 4). It is scaled to down to the size of

FIGURE 4. Image of passerby mimicking the video portrait. *Under Scan*, Nottingham, UK (2006). Photos by Antimodular Research, courtesy of the artist.

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your shadow and is keystone corrected, scaled, and scrubbed to compensate for geometric distortions. Suddenly you realize that your body causes these visual effects not as a free agent but rather as a subject of surveillance: your trajectory has been mapped out and gridded, you have been sized-up, even your perspective has been anticipated and matched with a ghostly image of another made to fit into your shadow. *Under Scan* exemplifies what Paul Virilio calls the militarization of vision, which in turn militarizes urban space, reducing vision and urban space to a field of tactical operations.[6]

The same surveillance technologies that read us as an index of potential criminal intent see us as potential consumers. The predatory nature of surveillance technologies is nicely illustrated in *Minority Report*'s images of advertisements that perform iris scans, address you by name, and seem to know your complete purchasing and, presumably, criminal history. Actual companies like Quividi, Motomedia, and TrueMedia have in fact developed what they call "intelligent video surveillance" and "automated audience measurements," some even using iris-scanning technologies. These "intelligent" surveillance devices also monitor facial responses and demographics—mapping who looks at what kind of advertising and for how long—with the sole purpose of producing interactive advertising that would appeal to each potential consumer by conforming to the profiles of individual pedestrians.

Under Scan was commissioned to upgrade the cultural profile of the East Midlands to attract "major new capital developments" to the area.[7] Its video portraits play with the ambiguous relationship between security and information systems, on the one hand, and the ambiguity of shadows or outlines of someone drawn on the ground (as the police would outline a victim of a brutal crime) and the advertisements you might see in nearby store windows to attract the attention of potential consumers, on the other. While not presented as victims of some unseen crime, these portraits appear to be more vulnerable than those in advertisements—all of the subjects are supine and projected on the ground. As such, they are also less readable than advertisements or forensic tracings; they are neither an index of some past event nor an icon of some possible (purchasable) future. The video portraits do not want to sell you anything, nor do they tell you anything about previous events; they are short animated sequences, beginning with the video persona held in a static position, turned away from the camera. As you pause to look, the portraits seem to come to life, turning to look straight at you. Your pause suggests your interest in engaging with the image, thus triggering its movement (fig. 5). At this point, the portraits make gestures toward you—some dance; others blow kisses; some confront you by mouthing words or pointing; others take your picture, disrobe, or entice you to join them; while some act as if they are trying to touch you.

It is the illusion of confrontation, contact, and engagement that seems to disturb audiences the most, creating what many participants describe as an

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FIGURE 5. Image of subject sleeping in the shadow of a passerby. *Under Scan*, Leicester, UK (2006). Photos by Antimodular Research, courtesy of the artist.

uncanny experience. Being coupled with an ephemeral double implies a form of intimacy, a form of seduction that reveals or promises to reveal something about you or about the other you that entices you to watch. Whereas the direct address of advertising and other mediated couplings (online dating services, webcam sexual performances) clearly point to an economy of desires, no explicit assemblage of desire is inscribed in these portraits. This encounter with a digital other is more performative than revealing. Even if you are conscious that these personae are performing for the sole purpose of exhibiting themselves to others, this mode of exhibition still upsets the anonymity you expect in public space, forcing you to perceive these desolate public spaces as a possible stage for acts of expression—the performance of encounter and virtual confrontations. Shadowed by an image cast uncannily within your own silhouette, you are also rendered vulnerable, becoming a moving target for impersonal and yet highly scripted acts of personalized exhibitionism. The relationship between you and the ghostly images of others in public space, surveillance technologies, urban renewal investments, and advertising points to the complex questions that *Under Scan* wants us to ask about how surveillance systems, global capital, and digital technologies have reconfigured notions of embodiment and public space, and of the public itself.

For as long as you stand to look at the portrait it will remain engaged, as if suspended, repeating actions at different speeds and maintaining the

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illusion of eye contact. Yet this seemingly personal interface is impersonal, not unlike the advertisement on the walls and in the windows of nearby stores. Far subtler than advertising, reality television, or webcams that spectacularize self-revelation as a media event, *Under Scan* questions whether such mediated acts of self-revealing can be distinguished from the spectacle of self-exposure. It points to the collapse of the personal into the impersonal and to the implosion of the sociological distinctions between private and public, voyeurism and exhibitionism, interception and display.

Under Scan further complicates this culture of display, since it does not offer participants the possibility of expressing or displaying themselves or of choosing what they want to see. Portraits appear at random and in different places, so it is impossible to predict where, when, and who would appear to a participant. But you always have the option of walking away, in which case the portrait will also lose interest in you and go back to sleep, fade, and disappear. Unlike webcam broadcasts or reality TV, where performers are indifferent to the presence and the gaze of individual viewers, *Under Scan* simulates an immediate interactive response to your bodily movements.

Every seven minutes the entire project suddenly stops and resets, revealing the tracking mechanism (fig. 6). At this point, when the fourteen different matrices on which the pedestrians are mapped and tracked are projected onto the ground, your interaction with your own shadow and with

FIGURE 6. Overhead image of the matrix in *Under Scan*, Lincoln, UK (2006). Photos by Antimodular Research, courtesy of the artist.

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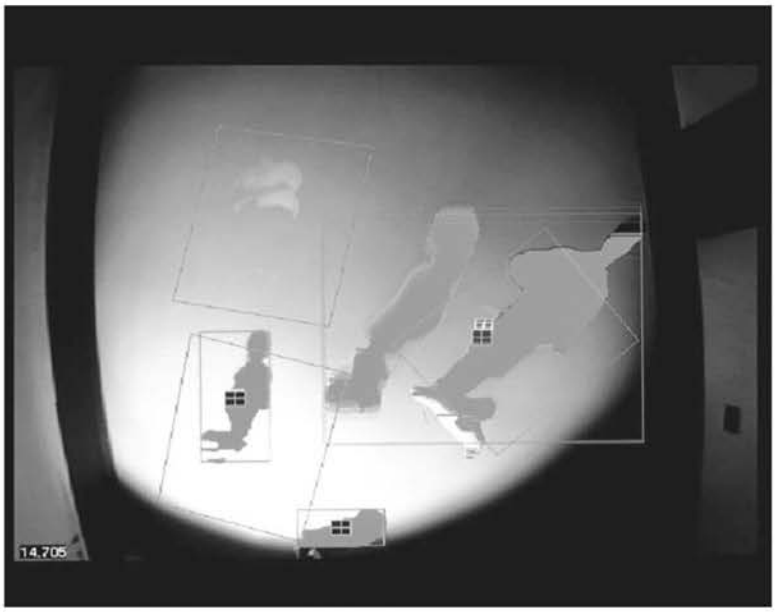

FIGURE 7. Screen revealing the tracking devices used in *Under Scan*, Venice Biennale (2007). Venice Biennale Photos by Antimodular Research, courtesy of the artist.

anonymous doubles (possible others, possible selves) is revealed as an interaction with shadowing devices. The joke, however, is not on you but on the surveillance technologies themselves, which Lozano-Hemmer uncovers in the same way they are supposed to detect suspects, flush out "sleeper cells," and bring terrorist conspiracies to light. The installation's matrices swirl around and finally converge in one large grid, where your individual shadow is replaced with a white line (indicating where the passerby is and where s/he is headed). Both the video portraits and the matrices point to the fact that you are caught in the act of watching and being watched. And yet, when you look at the projected image of the matrix, you see only a copy of the various grids used to map out your location and trajectory, signaling the transformation of a human image (the video portrait) into a nonhuman image (the matrix).

A small monitor shows how its tracing system interface works (fig. 7). You are framed by this image, not as a human but as a shadow, an index, a vector. As video portraits and network images are continually alternating, it is not clear whether it is the human figure that is translated into a data set or whether this complex data is made "user-friendly" through an interface that looks like a human image. *Under Scan* parodies the relational aesthetics of

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the Internet, where interface (the projection of figural images) simulates human interaction.

Many spectators of the piece, in fact, have likened their experience of seeing themselves in these various matrices to being placed within the mise-en-scène of a video game or a film like *Tron* or *The Matrix*. But it was the experience of feeling oneself as part of a network that garnered the most positive response from spectators. While being coupled to an image of another may produce a sense of anxiety, the nonhuman image of the spectator as a vector mapped onto a network created a sense of excitement. The spectators' preference for their self-image as a part of a random grouping of movements and trajectories over the image of an individual subject signals a shift in the assemblage of social desires—from organized individual engagement to disorganized spontaneous (yet random) connectivity. The "public" already recognizes itself as an assemblage in the image of a surveillance grid.

Lozano-Hemmer juxtaposes analogically expressed human images to images of digital tracking devices without privileging one type of image or mode of communication over the other. However, the digital image that the system creates of itself is turned into an analog image when projected on the ground. It is only the rhythm of alternating images that appears to expose the digital underneath the analog. There are, in fact, no real alternatives, only a switching of modes of representation. As Brian Massumi points out, "Lozano-Hemmer's work requires us to reassess our notions of the analog and the digital, of language and code, meaning and force, human and nonhuman communication."[8] By juxtaposing human with nonhuman images and forms of interaction, *Under Scan* suggests that digital modes of communication have already subsumed the relationship of the human to the nonhuman. Desire functions less as a set of object relations than as a series of temporary assemblages.

Shadowed by Imaging Systems

The recoding, archiving, and integration of the human (actions, interactions, and expressions) into the nonhuman (databases, surveillance systems, and code) can be understood as marking the passage from Michel Foucault's *Discipline and Punish*, a model of centralized surveillance used to discipline individuals and modify their behaviors, to Gilles Deleuze's "societies of control," where surveillance becomes decentralized, nonlocalizable relations, regulating flows of people, information, goods, and weapons.[9] Numerous studies continue to use this shift as a point of departure, declaring that in light of the decentralization of surveillance systems and various competing hierarchies of observation, Foucault's panopticon is both overused as an icon of the modern security state and outmoded as a model for power

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relations.[10] Surveillance studies theorists like David Lyon, Kevin Haggerty, and Richard Ericson agree that military and commercial security technologies have helped to bring about a shift in power, transforming the very structure of power from centralized institutions under the command and control of the nation-state to decentralized global networks, where power takes the form of alliances or the expansion of one's networks. This shift from what Foucault described in terms of the omnipresent gaze or all-seeing eye to what Haggerty and Ericson call a "surveillant assemblage" has vastly expanded the form and scope of surveillance technologies from radio-frequency identification (RFID), global positioning systems (GPS), geographic information systems (GIS), biometrics, facial-recognition software, cookies, and Dataveillance to the sheer fact that we may encounter three hundred different surveillance cameras on any given day.[11] Yet the fallibility and monopoly of such surveillance technologies by sovereign states or the temporary alliance of states and corporations demonstrates how both forms of power are now coexisting rather than competing for dominance.

However inefficient or monopolizing, surveillant assemblages have transformed immediate relations of power (observer and observed, guard and prisoner) into calculations of risk. They may not prevent criminal activity, but they still provide the means for controlling public space. Ironically, calculated risks—the probability of some criminal activity, violent outbreaks, and security failures of all sorts—are inscribed in the very model of preventive surveillance and preemptive actions.[12]

Surveillance under the guise of prevention "promotes suspicion to the dignified scientific rank of a calculus of probabilities. To be suspected, it is no longer necessary to manifest symptoms of dangerousness or abnormality, it is enough to display whatever characteristics the specialists responsible for the definition of preventative policy have constituted as risk factors."[13] Such surveillance technologies no longer target individual actions or suspects, but monitor patterns of behavior, gestures, and facial expressions like the software recently developed at the University of Texas to analyze gestures and movements of people in public space. However, this software (primarily designed for public surveillance and airport security) does not stop at tracking human actions and interactions; it also interprets them as positive, neutral, or negative.[14] It produces its own semantics for human action and bodily gestures, replacing the triadic relationship of subject-verb-object with "agent-motion-target."

In his 2005 work *Subtitled Public* Lozano-Hemmer explores the politics of such profiling systems: how they establish correspondences between individuals and the dangers tracking devices are imputed to represent. Visitors entering a dark and empty exhibition space are detected and tracked by a computerized infrared surveillance system that projects an English, French,

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or Spanish word (conjugated in the third person singular, like *sabe*, *gratifica*, and *anota*) onto their bodies. These words continue to be projected on the visitors as they move through the installation. Similar to political, racial, gender, and class-based profiling or to "name-calling," the projected verb sticks, affecting the way the labeled ones act and perceive themselves. The only way visitors can get rid of their "subtitle" or label is by passing it off onto someone else by touching that person—a gesture that recalls propaganda tactics like scapegoating or passing blame and responsibility up or down a chain of command. There is no spectacularization here. Identification is not presented as having any deep meaning, though it may temporarily affect the visitor's behavior. Not only is the naming random but it can also be passed off or exchanged. This may cause some visitors to reflect on the arbitrariness of projecting a name or image onto oneself or onto others, but it may also facilitate expediency—passing off names and images onto others in exchange for more desirable or socially acceptable ones. The initial act of naming may be arbitrary, but the passing of names from one to another is personal.

Subtitled Public interacts with current discourses about social paranoia. Its digital technologies produce effects of difference that are in fact algorithms operating on distributed networks. In *Subtitled Public* everyone is targeted equally, but everyone is labeled differently with a verb conjugated in the third person. There is no essential relation between individuals and verbs, but relations emerge. The very visible act of projection inverts the mode of the panopticon, which relies on the secret collection of data and building a file. The verb that first appears as an indifferent observation, made by some unseen source, is not meant to accuse or command you to act (since it is not imperative nor can it always be read by the person on whom it is projected). Instead, it is meant to be read by a third party, another observer who is also observed by you (fig. 8).

No one is singled out—everyone is equally subtitled, and verbs are randomly distributed—and yet, not all verbs are equal. Some are more loaded than others and, when associated with particular individuals (old, young, male, female, short, tall, fat, thin), verbs produce different effects. Most people seem to be happy with "knows" or "sings," but verbs like "lies" or "kills" are incriminating and take on a different meaning depending on whether they are assigned to government officials or to children. Verbs like "cuckolds" or "masturbates" (which happened to be assigned to one Mexican government official) might make their target want to pass them off onto others. *Subtitled Public* does not reveal any internal truths about individual subjects but demonstrates the transition from the dynamics of subject-object-verb to agent-motion-target—producing what Alexander Galloway calls "subjectless patterning."[15] Words are not used to identify individual subjects, or to give them meaning: they illustrate how individuals are targeted and transformed

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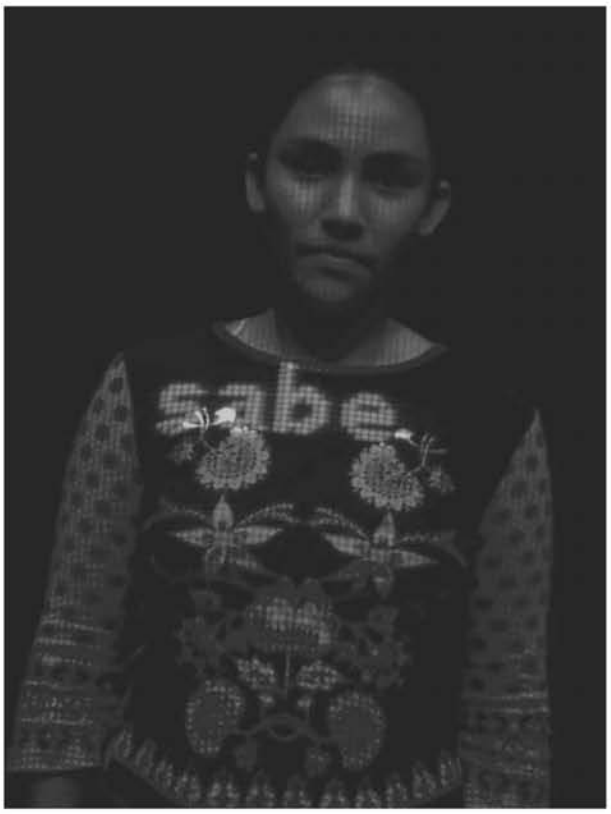

FIGURE 8. Image from Rafael Lozano-Hemmer, *Subtitled Public/Público Subtitulado*, Sala de Arte Público Siqueieros, Mexico City (2005). Photos by Antimodular Research, courtesy of the artist.

into assemblages of meaning that fall apart and come together with each change in words and groups of individuals.

The shift from individual subjects to population flows, agent-motion-targets, and risk management further complicates conceptions of human agency, public space, and political action. According to Galloway and Eugene Thacker, the new regime of control "has less to do with individually empowered human subjects . . . than with manifold modes of individuation that arrange and remix both human and nonhuman elements."[16] Networks have ceased to be centralized and have become more distributed, but the ancient dream of absolute sovereignty still haunts the discourse of command and control.[17] In the simultaneously paranoid and euphoric dream of global surveillance, individual agent-targets are always caught in the act of escape, but they are also seen as potential targets of opportunity for marketers in the new information economy. The surveillance systems of the society of control are designed to affect and modulate behavior, through either fear or seduction.

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We can be activated to consume as well as to respond to the Department of Homeland Security's new color-coded terror alert system.[18]

On this account, individuals have been replaced by Deleuze and Félix Guattari's "dividuals." "Dividuals" are discrete entities but do not amount to individual subjects—they constitute "material to be controlled" and "markets" to be exploited. As they put it, "Man is no longer enclosed, but man is in debt."[19] Unlike the individual Foucault described as an effect of power relations, these new "coded figures" cannot be reliably paired with any action or effect because they are constantly dividing and transforming into data, samples, and markets. Capital runs on modulation—flow, equivalency, metonymy, and product placing—but Lozano-Hemmer's artwork gives visibility to the inequalities, discrepancies, and remainders inscribed in urban environments and within our own sense of embodiment. It discloses the inherent violence and fallibility of mechanisms of control. The strategy is not to make yet more connections across the social spectrum—connections are always being made, unmade, and remade anyway—but to alert us to the mechanisms of control in which we are already embedded.

"Decentralized and distributed models of control move away from anthropomorphic models of sovereignty."[20] Such discrete and microscopic calculations have come to require digital networks to manage them, necessitating, in turn, human and nonhuman interfacing. According to Massumi, once "integrated into the network, the human occupies a gap in the relay. . . . From the network's point of view, the human will is an interrupter. It is an irruption of transductive indeterminacy at its very heart."[21] This does not mean that we can expect to reclaim the privileged position of human agency or the discourse of the public as a place and force of dissent. Rather, it suggests that forms of dissent must change from anthropomorphic acts (like taking over public space, finding one's political voice, speaking out against oppression) to new forms of technopolitics—Galloway's "alternative algorithms," Wendy Chun's "vulnerability in communication technologies," and Brian Rotman's "virtual ghosts."[22]

Code exists without image, center, or body, indifferent to the boundaries of individuals and their institutions. Code is made up of individual bits of information, but its power lies in its immaterial properties: its transitivity, its ability to connect, network, relate, relay, and transform. The power of control lies in its very modulation: a process of decoding and deterritorializing that Massumi sees as "ready to catalyze into a potentialization-and-containment in a new space; ready for recoding/recodification and reterritorialization."[23] As movement becomes both a threat and an expression of desire, what Massumi calls "ultimate capture" is no longer about controlling expression or disciplining the body, but about movement itself.[24]

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Gridding the Public

It is difficult to place Lozano-Hemmer in one specific category of art practice, since his work employs aspects of performance and digital installation as well as site-specific and interactive pieces. He defines it as "relational architecture" and "relation-specific art," distinguishing it from "site-specific," "virtual," and "relational aesthetics."[25] His local interventions explore and expose topographical relationships, creating temporary groupings that allow the public to experience themselves as connected to both public space and other people. Lozano-Hemmer's work also responds to the fact that public space and public relations have already been territorialized by various commercial, political, and military regimes: "The urban environment no longer represents the citizens, it represents capital."[26] Urbanism itself is just another mode of appropriating public space by capitalism's information economy, and a way of continually "refashioning space into its own setting."[27]

Lozano-Hemmer's "relational architecture" does not claim to liberate the consumer-citizen from social controls in some endless free-floating modulation, but reminds us instead of the visible and invisible architectures that are already in place around us. His architecture is open to unexpected surprises that have the potential to disrupt capital and its flows. It is only in relation to such networks that we continue to produce subjects, identity politics, and repeated acts of subjectification. The point is not to condemn one position or identity in favor of another—to declare victims and victimizers or to return to the bounded individual of disciplinary societies—but to visualize and animate how positions, bodies, and identities are themselves in flux, activated, deformed, and transmuted by the flows of capital, media, surveillance, and information technologies.

Partly in response to large-scale privatization, gentrification, and "urban renewal" projects, there have been attempts to reconceptualize what "public" means—to distinguish the "public" as an idea from the "public sphere" as a set of political relations. The abstraction of the "public" as the subject of liberal democracy has often been used to produce a virtual (fictive) consensus about a common identity in the absence of public feedback. It is not clear, however, what "feedback" might mean within the framework provided by *Under Scan*, where human agency does not seem to have much to do with the work's own power to activate or modulate us affectively. For instance, after we activate the video portraits, we can only choose to ignore, interact with, or turn away from them. The surveillance devices can instead trace our trajectories, disguise their own presence through decoy images (the video portraits), make their presence known, and make our movements known to others around us. Public reactions are not coordinated. Some people respond respectfully to the

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video portraits, walk gingerly around them, or try to communicate with them, while others jump on the images, or insult them. At the same time, pedestrians are related—excessively so—by the surveillance technologies and their own awareness of being watched by each other and by those devices. Both *Under Scan* and *Subtitled Public* create rather complicated forms of relationality as series of assemblages—one person and another, man and machine, machines and machines.

For instance, when the surveillance grids are revealed, the passersby suddenly find themselves grappling with a series of uncertainties—are they framed or activated? Spectators or actors? Observers or observed? *Under Scan* reflects on and produces these uncertainties. The images of supine others function as doubles for the pedestrians' own shadows, but they also dissolve into images of the pedestrians. These self-images, however, are digital, not figural. As the spectators' movements are anticipated by the surveillance system's tracking of their shadows (an image of some virtual future), what the passersby see before them is only a prerecorded image transmitted from some unknown context and location, and from an undetermined past.

The appearance of ghostly images of local citizens cannot be attributed to a lack of political voice, since the very projection of these images can be seen as a political act on public space. At the same time, these polemical references to the takeover of public space are reduced to "surface effects known to consumers as interfaces."[28] As images have become interfaces that structure interactions, our relationship to them becomes one of mediation. The video portraits become surface effects that literally appear on the surface of public spaces as an effect of surveillance technologies. As interfaces, however, the video portraits point to the mediation and separation of human relations from digital technologies, and to the recoding of such relations in the form of anthropomorphic figures.[29] This mediation, in turn, reduces the symbolic meaning of collective politics to "surface effects" of indices (actual public images) that are also virtual images (potential public images), as well as simulations of public interaction (video portraits that react to pedestrians).

Neither Body nor Machine

As a surface effect of a simulated social contact, these video portraits function as what Deleuze and Guattari call "facialization"—a machinic operation that produces a relationship or interface between signification and subjectivity. The portraits give a face to complicated sets of relations, thus organizing and subjectivizing surveillance systems. At the same time, by presenting surveillance as a form of voyeurism, Lozano-Hemmer intimates that the video portraits cover up the aporia between a sense of embodiment

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and the production of "significance and subjectification" by producing "a single substance of expression"—the interface.[30] The interface implies that the body and its relations are subsumed by the image of a face.

This is not a simple replacement of the body with the image of the face. Facialization works as a synecdoche allowing any part of the body or any type of surface effect to stand in for the whole organism or, in this case, global surveillance systems. "In facialization the role of the face is not as a model or an image, but as an overcoding of all the decoded or fractured parts" of the body and the body politic produced by their relations with surveillance technologies, institutional structures, and global capital.[31] Facialization is a process of codifying "dividuals" into preconceived—interpellated—subjects so as to control them.

By seeming to respond to the attention the pedestrians pay them, the projected interface of the video personae appear to mimic the actions of the passersby. Interface doubles as a social encounter, but there is nothing intrapersonal in this encounter. Interaction is limited to the prerecorded image of the video portrait. Eventually, the passersby realize that the video portraits are not directly addressing them, but are only simulating a direct address to a possible public. It is when the interface suddenly changes from a human computer interface to the self-image of the pedestrians as data flows that it exposes interface as an assemblage of problematic relationships—the actual to the virtual, surface effects to affective modulation, real politics to its simulation. In doing so, it reveals that "there is something absolutely inhuman about the [inter]face."[32] Like Freud's uncanny, Lozano-Hemmer's work undermines stable subject positions and thus the possibility of the installation having specific symbolic meaning. The ungrounding of subjectivity does not necessarily point to the subjects' own absence or lack of wholeness (Freud, Jacques Lacan), nor to its own possible obsolescence (its being reduced, as Friedrich Kittler argues, to a surface effect or an affective gesture in some disembodied mechanical world).[33] It rather "marks the spot where what is (there) and what is not—presence and absence, coming and going—can no longer be clearly distinguished."[34]

Under Scan gives presence to the shadows. It marks the absence of the image of the spectator (who casts the shadow) by installing previously captured images within the space of the shadow's anticipated movement. The role of the shadow does not, however, negate the body's positivity. As Mark Hansen points out, the shadow functions as an interface "which can achieve agency within the informationally energized space of the installation solely because and insofar as it disembodies the individuated body."[35] The shadow as the site of presence and absence, coming and going, is also an affective (double) image that produces and reproduces continuous feedback loops. We see a disjuncture between recognizing and reacting to the fact that we

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are being followed (by images, interfaces, and tracking devices) and recognizing and reacting to the fact that these devices already anticipate our movements, desires, and trajectories. These video portraits mark the experience and consciousness of an event that is available not through lived experience but through recordings.[36] They miniaturize the proliferation of alien memories that are constantly being reproduced in the media, projected onto public places as monuments and advertisements.

Like alien memories, interfaces in Lozano-Hemmer's installations are points of contact neither between the human and the nonhuman nor between memory and false memory. Nor are they extensions of the self in some distorted form—conventional types of doppelgänger. They are, instead, thoroughly generalized and generalizing images that mimic a desire to be seen. Interface, however, can only be an indirect form of confrontation, an encounter between two virtual or potential subjects. Even when video portraits wave hello to their potential spectators, dance, hold up signs, assume postures, or mouth words, their address is just as virtual as the response they receive by pedestrians—an interaction based on no actual feedback. Unlike television, which does not allow for an immediate interactive response, *Under Scan* provides a potential address and potential response. But it is this potentiality or virtuality that makes each gesture appear to be only a performance—a conscious staging of self-expression for visual consumption. Interface organizes interactions and code anticipates movements, but what emerges out of such interactive performances is "the singularity of the theatrical event" that haunts and taunts our virtual constructions of self-identity and sociopolitical representation.[37] Lozano-Hemmer does not reify subject positions, but turns the public image into theater, revealing "the public" as a repeatable, staged gesture. This sense of embodiment is not a subjective feeling or response but rather a sense of transitory groupings and momentary assemblages of desire.

Embodiment on the Move

Lozano-Hemmer challenges us to rethink the relationship of individuals (or "dividuals") to the collective (or the virtual public) in an age where such relations are mediated by interfaces cast as conduits for interactivities. His work does not reveal a machine behind the human, or the machine as some cyborgian extension or hybrid human. It rather archives and projects human expressions designed to be an uncanny spectacle of free-floating communication. As our experiences and emotions become digitally archivable, the archive appears less and less real. Images and sounds are becoming more realistic, but the notion of reality is becoming increasingly confused with its aesthetic form—real*ism*. The "real," as in reality

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TV or webcam broadcasts, provides live feed that is uncut, uncensored, or unplugged and yet is still plugged in. The simultaneous archiving and digitizing of what we take to be reality reduces reality to the form in which data is encoded.[38]

Lozano-Hemmer reminds us that our reactions, interactions, and playful engagement with surveillance technologies are not necessarily subordinated to preprogramming. If we are to find any weapons against all this shadow play they are not likely to be found in conventional notions of human agency or the retaking of public space through public protest. Possible new weapons may be found in the proliferation of responses, relations, interactions, indeterminate or plainly dubious activities, and the doubling and redoubling of bodily images and gestures that produce new groupings, new constructive forces. This is, admittedly, a strategy of extreme risk.

Notes

1. Georges Bataille, *Visions of Excess* (Minneapolis, 1985), 5.
2. Paul Virilio, *The Vision Machine*, trans. Julie Rose (Bloomington, 1994). Virilio warns of a "'vision machine' in the near future, a machine that would be capable not only of recognizing the contours of shapes, but also of completely interpreting the visual field, of staging a complex environment close-up or at a distance." Such a machine creates "the possibility of achieving *sightless vision* whereby the video camera would be controlled by a computer. The computer would be responsible for the machine's—rather than the televiewer's—capacity to analyse the ambient environment and automatically interpret the meaning of events. Such technology would be used in industrial production and stock control; in military robotics, too, perhaps" (59).
3. Mexican-Canadian artist Rafael Lozano-Hemmer is most known for his large-scale public artworks such as *Pulse Park*, which was recently installed in New York City's Madison Square Park (2008). Other such works include *Body Movies*, installed in Quebec City, Hong Kong, Duisburg, and Rotterdam; and *Vectorial Elevation*, installed in Dublin, Lyon, Pittsburgh, Madrid, Tokyo, and Mérida. For more information on these works see http://www.lozano-hemmer.com/english/projects.htm. Lozano-Hemmer's work brings sophisticated digital technologies to public space, allowing pedestrians to interact with his pieces and to contribute by performing with them. His work is an attempt to rethink the relationship of the public to public space, public actions, and engagement and provokes participants to think about how various digital technologies are used to monitor themselves as well as urban spaces. In addition to *Tensión Superficial*, the works shown at the Venice Biennale were *Frequency and Volume* (2003), *Under Scan* (2005), *Pulse Room* (2006), and *Wavefunction* (2007). Lozano-Hemmer decided to show *Tensión Superficial* because some of the same issues the piece illustrated about the first Gulf War were being repeated in the current wars in Iraq and Afghanistan. See his June 14,

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2007, talk at the Tate Modern at: http://www.tate.org.uk/onlineevents/webcasts/rafael_lozano_hemmer_artists_talk/default.jsp.

4. See David Lyon's *Surveillance Studies: An Overview* (Cambridge, 2007), where he argues about the ambiguity of vision, which he equates to surveillance systems and their double function of providing security, and visibility, which is a metaphor for both knowledge and social processes. See Wendy Chun's *Control and Freedom* (Cambridge, MA, 2006), where she questions how new media communications are used as tools of liberation or control. She points out that the Internet enables users with anonymous communications at the same time it builds in various types of surveillance, from Echelon's control networks to corporate "cookies."

   See Alexander Galloway and Eugene Thacker, *The Exploit* (Minneapolis, 2007). They define security as: "being held in place, being integrated and immobile, being supported by redundant networks of checks and backups. . . . Security is precisely the challenge of managing a network of technologies, biologies, and relations between them. Security can be defined simply, as the most efficient management of life (not necessarily the absence of danger or some concept of personal safety)" (75).

   See Langdon Winner's *Autonomous Technology: Technics Out of Control as a Theme in Human Thought* (Cambridge, 1977). A "function creep" is when technology or a process that has been designed for one particular purpose is used to serve another purpose, fulfilling a practice it was never intended to perform.
5. Rafael Lozano-Hemmer, *Subsculptures: Un dialogue entre José Luis Barrios et Rafael Lozano-Hemmer* (Geneva, 2005), 9.
6. Militarized visions and spaces are not the sole property of the military, the government, or the police; they share information, technologies, and tactics with corporate mechanisms of measurement and control. The profound collusion of government security and surveillance systems with corporations only further facilitates both commercial and urban control and regulation. For a discussion on the collusion of government and private corporations see Lawerence Lessing's *Code: And Other Laws of Cyberspace* (New York, 1999), 6–8.
7. See http://www.artscouncil.org.uk/pressnews/event_detail.php?id=63&browse=archive; accessed April 2008.
8. Brian Massumi, "Flash in Japan: Brian Massumi on Rafael Lozano-Hemmer's *Amodal Suspension*," *Artforum*, November 2003, 37.
9. See Michel Foucault's *Surveiller et punir: Naissance de la prison* (Paris, 1975), where he argues that, unlike the show of force or direct bodily punishment under the ancien régime, modern institutions like the prison, the school, and the hospital disciplined individual bodies, training the body to reproduce efficient gestures and conform to the apparatus of production. Gilles Deleuze, "Notes on Societies of Control," *October* 59 (1992). Here Deleuze sees the emergence of assemblages of power that utilize technology that has shifted away from disciplining individuals to monitoring populations in the form of statistics, data flows, and data doubles.
10. In "Tear Down the Walls: On Demolishing the Panopticon," in *Theorizing Surveillance*, ed. David Lyon (Portland, OR, 2006), 23–45, Kevin Haggerty points out: "The sheer number of works that invoke the panopticon is overwhelming," as are the offshoots he lists: "omnicon," "ban-opticon," "global panopticon," "panspectron," "myopic panopticon," "fractal panopticon," "industrial panopticon,"

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"urban panopticon," "pedagopticon," "polyopticon," "synopticon," "panoptic discourse," "social panopticism." In *Surveillance Society: Monitoring Everyday Life* (Buckingham, 2001), David Lyon argues that "within surveillance societies power seems to flow along a variety of channels. No central watchtower dominates the social landscape, and few people feel contained, let alone controlled, by surveillance regimes. Most of the time, most people comply cheerfully with requests to show their identification, or acknowledge that they divulge personal data to companies, believing that the benefits are greater than the costs" (7). He suggests there is a social participation ("a social orchestration") in surveillance. Following Deleuze, Kevin Haggerty and Richard Ericson redefine surveillance as a rhizomatic assemblage of power that functions more like Foucault's notion of governmentality than like the panopticon; "The Surveillant Assemblage," *British Journal of Sociology* 51, no. 4 (2000): 605–22.

11. Robert Castel, "From Dangerousness to Risk," in *The Foucault Effect: Studies in Governmentality*, ed. Graham Burchell, Colin Gordon, and Peter Miller (Chicago, 1991), 288.
12. Despite the fact that CCTV cameras are designed to preempt and, therefore, modify criminal behavior, senior police commissioners in the UK have had to admit that the presence of billions of pounds worth of surveillance cameras has actually done little to prevent or even solve crimes. See Owen Bowcott, "CCTV boom has failed to slash crime, say police," *Guardian*, May 6, 2008, http://www.guardian.co.uk/uk/2008/may/06/ukcrime1, and "CCTV boom 'failing to cut crime,'" *BBC*, http://news.bbc.co.uk/1/hi/uk/7384843.stm, both of which quote Chief Inspector Mick Newell of the London Metropolitan Police saying that CCTV is an "utter fiasco" and that "only 3 percent of crimes were solved by CCTV. There's no fear of CCTV. Why don't people fear it? [They think] the cameras are not working"; and Deputy Chief Constable of Cheshire Police, Graeme Gerrard, the ACPO (Association of Chief of Police Officers) lead on CCTV, who admits that "the CCTV network in the UK has been built up in a piecemeal way, driven by local authorities and the private sector more than by the police."
13. Castel, "From Dangerousness to Risk," 288.
14. See Sangho Park, and J. K. Aggarwal, "A Hierarchical Bayesian Network for Event Recognition of Human Actions and Interactions," *Multimedia Systems*, Special Issue on Video Surveillance 10, no. 2 (2004): 164–79.
15. See chap. 1 of Alexander Galloway's *Protocol: How Control Exists After Decentralization* (Cambridge, MA, 2004).
16. Alexander Galloway and Eugene Thacker, "Protocol, Control, and Networks," *Grey Room* 17 (Fall 2004): 10.
17. See 5–16 of Galloway, *Protocol: How Control Exists After Decentralization* for a description of centralized, decentralized, and distributed networks.
18. See Brian Massumi's "Fear (the Spectrum Said)," *Positions* 13 (2005): 31–48. Writing on the culture of fear produced by the Department of Homeland Security's color-coded alerts, Massumi argues that "the alerts presented no form, ideological or ideational and, remaining vague as to the source, nature, and location of the threat, bore precious little content. They were signals without signification. All they distinctly offered was an activation contour: a variation in intensity of feeling over time. They addressed not subjects' cognition, but rather bodies' irritability. Perceptual cues were being used to activate direct bodily

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responsiveness rather than reproduce a form or transmit definite content" (32).

19. Gilles Deleuze, "Notes on Societies of Control," *October* 59 (1992): 6.
20. Michel Foucault, *The History of Sexuality,* vol. 1, *An Introduction* (New York, 1999), 140.
21. Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC, 2002), 130.
22. See Galloway's *Protocol: How Control Exists After Decentralization* (Cambridge, MA, 2006), Wendy Chun's *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* (Cambridge, MA, 2008), and Brian Rotman's *Becoming Outside Ourselves: The Alphabet, Ghosts, and the Distributed Human Being* (Durham, NC, 2008).
23. Massumi, *Parables for the Virtual,* 88.
24. Foucault, *History of Sexuality: An Introduction,* 138–40. See also Gilles Deleuze, *Foucault* (Minneapolis, 1986).
25. Lozano-Hemmer's notion of "relational aesthetics" should not be confused with Nicolas Bourriaud's "relational aesthetics."
26. Lozano-Hemmer, *Subsculptures,* 11.
27. Guy Debord, "The Organization of Territory," in *The Society of the Spectacle,* trans. Ken Knabb (New York, 1983), §169.
28. Friedrich Kittler, *Gramophone, Film, Typewriter,* trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, 1999), 1.
29. Anna Munster, *Materializing New Media: Embodiment in Information Aesthetics* (Hanover, NH, 2006), 47.
30. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis, 1987), 181.
31. *Ibid,* 170–71. 32. *Ibid,* 170.
33. See the introduction to Kittler, *Gramophone, Film, Typewriter.*
34. Samuel Weber, "Uncanny Thinking," in *The Legend of Freud* (Stanford, 2000), 20.
35. Mark Hansen, *Bodies in Code* (New York, 2006), 101–2.
36. They function as what Bernard Steigler calls "tertiary memory"; *Technics and Time, I: The Fault of Epimetheus,* trans. George Collins and Richard Beardsworth (Stanford, 1998), 246–70.
37. Samuel Weber, *Theatricality as Medium* (New York, 2005), 7–9.
38. Aden Evens, "Concerning the Digital," *Differences* 14, no. 2 (2005): 49–77, 56.

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