

# The Haunting of the Automated Gaze: Artistic Explorations of Machine Vision in

## *Modern Escape* - a video installation by Hanne Nielsen and Birgit Johnsen

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Only the Lighthouse beam entered the rooms for a moment, sent its sudden stare over bed and wall in the darkness of winter, looked with equanimity at the thistle and the swallow, the rat and the straw.

Virginia Woolf, *To the Lighthouse*

Danish artist duo Hanne Nielsen & Birgit Johnsen's immersive video installation *Modern Escape* (2018) recreates a modern Western home pervaded by surveillance technologies and the automated vision of a robotic vacuum cleaner. The main conceptual idea of the work is *the automated gaze*, and with few exceptions, all the scenes in the video are filmed without a human behind the camera. As a result, the installation evokes the haunted atmosphere of a home penetrated by the gaze of the machines, opening strange and awkward vantage points of the interior. Throughout *Modern Escape*, the automated gaze records the inside of the home from multiple angles and from four strictly determined levels, simultaneously orienting and disorienting the viewer. This artistic strategy creates seemingly random images, ranging from the low floor angle of the robotic vacuum cleaner and a mid-height angle capturing a woman at knee-height to a drone view from above. Spectators do not get the full view nor any sense of a cohesive narrative, resulting in a sense of discomfort inside the installation space. Whose gaze is this? What is being seen?<sup>i</sup>

*Darkness. White noise. The gaze moves along a floor; the reflection of a robotic vacuum cleaner passes by the shiny surface of a mirrored pedestal. It is the vantage point of the robot. The screen is overwritten by a grid map, the floor plan created by the smart vacuum cleaner as it is moving. Mapping. Searching. Suddenly, the lamp to my right turns on. Danish Design, just like the one inside the video living room. A woman is looking through the blinds of a modern home, glass windows as walls. Now the perspective is higher, slowly circling around. Flickering TV images and news, a second woman watching TV, a voice reporting on the building of a border wall. Images of barbed wire.*

*Shift to mid-height. Everything is tasteful. A woman, an expensive armchair, her knees, her skin, her upper body, her head cut off by the frame, a cat lounging on a footstool. I recognize it as a generic Scandinavian upper-middle class home. The automated gaze passes the woman in the chair; a voice on the news uttering “elsewhere.” The TV comes into sight; images from a refugee tent camp, earth, white tents, greenery, and people. The gaze is continuing its round. Shiny surfaces, glass, steel. Those who are kept out.*

*Drone point of view from above: dark mirroring pillars in an empty space. A review of Lighthouse comes into view, AI smart surveillance for the home. The steady work of the vacuum robot, cleaning. A piling up of white plastic canisters, bags of sand or flour, and large stacks of tin cans inside the apartment; bright shiny silver-colored cans. What is going on? Who is behind this? Events and vantage points blend into a distorted, confusing plotline. Now the home is almost filled up with canisters, cans, bags, and thermal blankets. Barricaded.<sup>ii</sup>*

Hanne Nielsen & Birgit Johnsen has collaborated since 1993 and are among the leading exponents of video and media art in Denmark. Artistic explorations of the media, themes, and aesthetics of the automated gaze and surveillance have been present from an early stage of their collaborative practice, which can be seen in works such as *Grenåvej* (1995), *Installations in Urban Space* (2004), and *Replay* (2004). Lately, topics of war, migration, and security have moved to the center of Nielsen and Johnsen’s artistic practice with the works *Drifting* (2014), *Defense Against the Unpredictable* (2014), *Camp Kitchen* (2014), *Modern Escape* (2018) and *At the Fence* (2019).

The video installation *Modern Escape* consists of a large projection on screen with a one-channel color video with sound, foregrounded by a podium with a robotic vacuum cleaner kept inside a grid structure of magnetic tape (fig. 1). To the right of the screen stands a Verner Panton Panthella floor lamp (a popular classic of Danish Design). The filmic installation itself is 21 minutes, organized in an array of fragmented scenes which alternates between resembling a home, an art space, and something in-between a laboratory and a storage space for cans, canisters, and thermal blankets, recalling humanitarian aid.

The opening scene starts from a low angle by the floor, accompanied by the loud noise of a robotic vacuum cleaner. Next, the vacuum cleaner moves along on the floor. Soon it is overwritten by a “pacman grid,” which is the floor plan created by the AI enabled vacuum cleaner.



Fig. 1. Installation view of Nielsen and Johnsen, *Modern Escape*. Photograph by Anders Sune Berg. All images courtesy of the artists.

There is an electric fan. The interior on the screen is hard to place at first: there are large, mirrored pedestals, art, and the reflection of the robot (fig. 2). We see a woman standing in front of a window looking out, another woman sitting in an armchair in front of the TV, a cat, and a dog. This sums up the cast and mode of action in the work overall. The artists themselves perform the two women in the work, embodying the passivity of the privileged Western middle class, recorded by the automated gaze of the machines.

Fragmented glimpses of uncanny parallel narratives interrupt the “main” story: a feeling of paranoia materializes in a scene showing a woman dressed in aluminum foil peering out across the street with a small circular mirror. Outside, a man in a white protective suit peers back out from his window. This anxious mood intensifies in a later glimpse of two figures also wearing protective suits (fig. 3).

## Haunting

The automated gaze in *Modern Escape* is a haunted gaze. Through it, the artwork suggests a deep entanglement of war, national security, surveillance, and the networked technologies of the Western middle-class home. Simply put, haunting is something sensed in our surroundings. According to sociologist and feminist scholar Avery Gordon, it is a matter of shadowy manifestations of past or present wrongs, which



Fig. 2. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

emerges as affective encounters, uncanny experiences where unresolved or repressed social violence—the traces of “modernity’s violence and wounds”—are felt in the present.<sup>iii</sup> Haunting, moreover, draws attention to injustices in which we are still involved. Here, the notion of haunting is employed to cast new light on machine vision and surveillance. Generally, surveillance is not equally distributed; rather it reinforced inequality, racialization, and marginalization. Seen through the lens of haunting, *Modern Escape* brings forth the more or less subtly felt and consciously recognized power relations and violence of war which haunts the surveillance technologies of everyday life—no matter how smoothly and seemingly innocent they integrate into the home. What mediates and co-creates the haunting in *Modern Escape* is the automated vision of the surveillance gaze and the robotic vacuum cleaner’s mapping and surveying technologies, both embedded in an inheritance of militarism, imperatives for control, and oppressive power relations.

The entanglement of surveillance, war, border control, and the networked technologies of consumers in the Global North is established through the work’s formal and thematic structure of mapping and tracking practices. As an organizing principle, this effectively articulates a connection between consumer technologies such as the GPS-enabled smart vacuum cleaner equipped with intelligent sensors for charting the home, the facial and object recognition technology of home surveillance systems, and the state and military mapping and tracking practices of which these technologies simultaneously are heirs and further

inform. Through the haunting qualities of the automated gaze, *Modern Escape* effectively establishes the sticky entanglement between privileged consumers and structures of domination and offers the spectator a bodily and affective recognition of their own implication.

### **The Installation as Bodily Experience**

*Modern Escape* evokes a haunted atmosphere, an eerie yet unlocalizable feeling that something is not quite right within the Western home. This is achieved through strategies which address the bodies and affective involvement of spectators inside the dark installation space. First, a sinister soundscape indicates the affective tone of the work. The cold white noise of the vacuum cleaner hits the ears, together with the steady mechanic rhythm of its expanding floor plan as the robot is mapping its surroundings. The rotating camera makes an unnerving electric noise. The soundscape is further layered with a polyphony of voices from the constant stream of global news, speaking of migration and the building of border walls, national security, tent camps, surveillance technologies, and gender equality. We hear the TV speaking of “those who have little shelter in these flimsy tents” and “more suffering for those already displaced.” The reported news stories ground the work in our contemporary time and its politics.

In addition, the spatial fluidity of the installation of the work creates confusion in terms of where the artwork starts and ends. The installation is immersive. The floor lamp in front of the screen switches on and off, recalling domestic smart technologies. The robotic vacuum cleaner on the podium suddenly starts moving. Thus, the living room on the screen pours forth spatially into the gallery. The placement of “twin” objects in the installation space reflects the objects seen on the screen and creates a spatial extension of the surveillance home, which implicates visitors by addressing their embodied experience of the environment. This adds a borderlessness to the spectator’s experience. Simultaneously, the flickering news stories from the TV inside the video living room take over the main installation screen, further dissolving the boundaries between the living room on the screen and the gallery space.

These artistic strategies effectively address the viewer as a literal presence in space, a participant, and an accomplice.

A feeling of paranoia is reinforced in *Modern Escape* through the evolving barricade of the home and short glimpses of figures in protective suits and thermal blankets. While spectators might have been

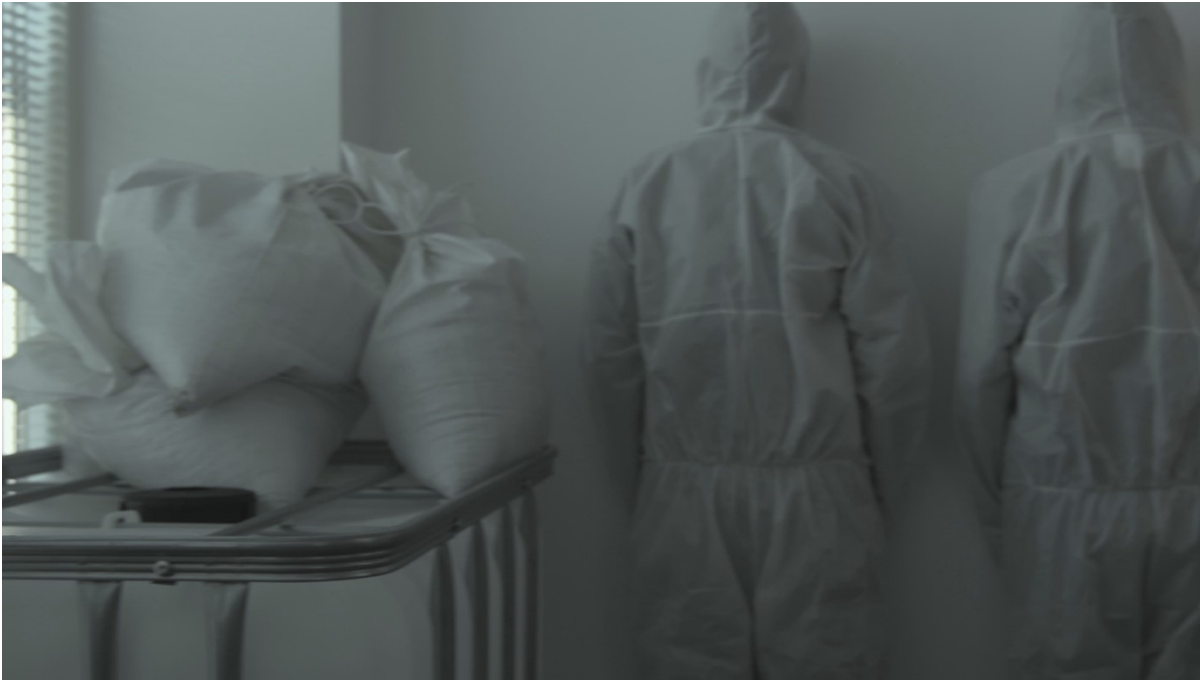


Fig. 3. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

familiar with the white protective anti-virus suits from, for example, news reports from the 2014–16 Ebola outbreak in West Africa when the work was first exhibited in 2018, viewers of *Modern Escape* during and after the 2020–present COVID-19 pandemic are bound to bring further associations to the work, as social distancing, home quarantines, hoarding of food, and “prepping” for the worst became a mass activity.

Against this backdrop, the artwork exhibits an uncanny foreshadowing of what was to come.

Concurrently, the binary opposition between outside world and inside home, them and us, danger and safety, is obscured. This same artistic strategy was employed in Nielsen and Johnsen’s closely affiliated work *Camp Kitchen* (2014) which is a single screen filmic installation where the boundaries between the Western home and the battlefield of ‘elsewhere’ dissolves. The screen shows two women chopping vegetables, periodically interrupted by helicopters and war literally entering the home through the news stream, which leads to violent reactions in the kitchen, before the peace and quiet of a protected Western life is again re-established. *Camp Kitchen* is structured around the same dissolution of the binaries of inside/outside, home and world as *Modern Escape*, where home is no longer a shelter but rather penetrated by the violence of the world. Both works employ the artistic strategy of defamiliarization, which is a political strategy, aiming for change. And in both works the artists themselves perform, as part of a feminist practice.

By combining war with domestic settings, both works moreover nod to Martha Rosler's series of photo-collages, *House Beautiful: Bringing the War Home* (1967–72), but despite the similarities in Nielsen and Johnsen's two works, an important difference remains. While there is action in *Camp Kitchen*, the living room of *Modern Escape* is characterized by passivity and withdrawal from the world. The many borders and walls emerging globally as seen on the news are paralleled by the increasing barricading taking place inside the home. But still the world seeps in, suggesting that there is no escape from our complicity in structures of inequality and violence.

In this way, *Modern Escape* places the spectator in a position close to what literature scholar Michael Rothberg has termed "the implicated subject"—i.e., the notion that while we may not be directly responsible for historical and contemporary injustices, we may nevertheless inhabit positions where we benefit from and indirectly contribute to structures and systems of injustice.<sup>iv</sup>

### **The Automated Surveillance Gaze**

Nielsen and Johnsen work conceptually, and the idea behind the work is usually their starting point. As noted, the main conceptual idea of *Modern Escape* is *the automated gaze*, and the self-imposed rule of the work was to film most of the scenes without a human behind the camera. This is achieved by filming with a GoPro Hero camera mounted either to the robotic vacuum cleaner or to a turntable attached to the ceiling with double-sided tape, while the mid-range angles are filmed by a professional camera placed on turntables.



Fig. 4. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

The work can be inscribed into a range of artistic explorations of how machines “see” the world, in the tradition after Soviet filmmaker Dziga Vertov’s *The Man with a Movie Camera* (1929), Canadian visual artist and filmmaker Michael Snow’s *Wavelength* (1967) and *La Région Centrale* (1971), and the contemporary Iranian-German artist Harun Farocki’s *Eye/Machine* trilogy (2001–3).

Overall, the image quality of the work is high and crisp, rather than pixelated and blurry—which sets it apart from the typical CCTV artworks of the 2000s and moves it into the drone era, thus updating the way we have come to understand surveillance imagery as a cultural trope. The cold and faded color scheme of the work contributes to a detached, cold atmosphere, which is further established by the circumstance that there are no relations and no eye contact between the women in the work and the spectator. We are looking in from the outside. The humans in the work are passive, captured by the steady mapping of the automatic gaze.

Throughout, *Modern Escape* exhibits a strong tension between technologies and logics of mapping, security, borders, and surveillance on the one hand, and narrative labyrinths, blind spots, distortions, mirrors, and shiny impenetrable surfaces on the other. Accordingly, the desire to map, to see, to surveil, and to know is turned inside out and distorted.

The artwork directly addresses the notion of the smart surveillance home and the link between networked consumer technologies and the military-industrial complex through appropriated imagery of an actual AI-enabled interactive surveillance system called *Lighthouse*. *Lighthouse* existed on the US market for approximately a year and a half, from its launch on May 11, 2017, to December 2018, and was at the forefront in introducing features such as computer vision and facial and object recognition technologies into the home. The founders of the company came with backgrounds from the field of computer vision, and the press release launching the surveillance system on the market highlighted the association between *Lighthouse* and the military industrial complex as a major selling point, noting how “Lighthouse uses deep learning and 3D sensing technology developed as part of the DARPA Grand Challenge to introduce an unprecedented level of awareness within the home while you’re away.”

The association between a home surveillance system and DARPA—the U.S. Defence Advanced Research Projects Agency—’s desires for new strategic opportunities attests to the coming together of the

logics of national security, paranoia, and the intimate sphere. In fact, a range of the surveillance technologies embedded in everyday life originates in, or is funded by, the military sphere, as is the case with Global Positioning systems (GPS), close-circuit television (CCTV) cameras, locative media, the Internet, drones, and facial recognition technologies.

Today, there is a mutually informative relationship between the military industrial complex and the private tech companies of Silicon Valley, and, by extension, the consumers of everyday technologies, which leaves a sticky sense of complicity lingering in the networked environment. Particularly regarding machine vision and image recognition software, some of the most advanced systems are developed by private tech companies, which have access to vast amounts of users' data upon which to train their technologies.<sup>v</sup>



Fig. 5. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

In the artwork, the *Lighthouse* smart surveillance assistant enters through the flat screen TV in the living room, displaying images of an AI enabled camera sending a light out to circle and measure the space—a glare. The color scheme and sleek design of *Lighthouse* seamlessly integrate with the modern home of the work.

### Mapping, Searching, Recognizing

The vague sense of paranoia that *Modern Escape* conveys to the viewer can furthermore be ascribed to the formal exploration of machine vision as decoupled from human agency and the lack of control regarding

what is “seen” and why. Who is the creator of these images? Who is the recipient? The act of watching is an interpretative action. However, this is no longer a privileged human activity. As artist and theorist Hito Steyerl notes, “contemporary perception is machinic to a large degree. The spectrum of human vision only covers a tiny part of it. Electric charges, radio waves, light pulses encoded by machines for machines are zipping by at slightly subluminal speed”.<sup>vi</sup> How does this shape what is “seen”?



Fig. 6. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

The decoupling from human agency and human vision contributes to another uncomfortable feeling created by *Modern Escape*, which is a vague sense of a loss of control and agency. We are seen, recognized, or known by something which does not possess human capacities, such as emotional connection. This lack of emotional connection is emphasized by the overall lack of eye contact in the artwork.

The work also explores questions related to perspective through the deliberately inserted perspective from above, which alludes to the twenty-first century “eye in the sky,” the remote vision of the drone or satellite. On a formal level, this marks a shift from the older filmic trope of mimicking the angles from surveillance cameras mounted in the corner of a room. Nielsen and Johnsen explain that “surveillance cameras used to be installed in the corners of a room and employing that filmic angle in a video or film will easily associate to surveillance. Today’s satellite and geomap image perspectives are a direct angle from above, and we very deliberately installed the cameras to achieve these angles”.<sup>vii</sup>

Historically, the aerial perspective's association to warfare traces back to the prominent nineteenth-century photographer Nadar, who, when he took the first aerial photograph from a hot air balloon in Paris in 1855, "immediately grasped the future benefit of photography to warmakers".<sup>viii</sup> Practices of aerial photography and aerial surveillance greatly advanced during World War I, and the new views from above afforded military officers the means to locate troop movements, artillery, and the trenches at a glance.<sup>ix</sup> Hence, a synthesis between the surveillant and the military gaze takes place, or perhaps rather a militarization of the surveillance gaze.

In the current era, yet another new way of seeing is conditioned. It is the disembodied and remote-controlled gaze from above. This reorientation of the surveillance gaze from above is enabled by new technologies such as the satellite or drone and Google map views. As Steyerl argues, the linear perspective as we know it from traditional art history is increasingly replaced by the aerial perspective, as new technologies of surveillance, tracking, and targeting emphasize and normalize the god's-eye view from above.<sup>x</sup> This shift in perspective is intimately linked to the age of remote warfare and brings on a detached, observant gaze enabled by new technologies which is inherently militaristic.



Fig. 7. Installation view of Nielsen and Johnsen, *Modern Escape*. Photograph by Anders Sune Berg. All images courtesy of the artists.

In *Modern Escape*, the association between the ordinary everyday object of the robotic vacuum cleaner and the military industrial complex is established right away, in the opening scene where the shape of the vacuum cleaner's path planner overlaying the image resembles a helicopter, a well-known trope of war in visual culture (fig. 2). The path planner overwrites the video in three places, "eating" itself into the image, as the robot is searching, charting, and mapping the home, effectively blurring the boundaries between the commonplace vacuum cleaner and the technologies of reconnaissance, tracking, and tracing.

Another blurring of boundaries appears when the TV shows a geomap image of a city, a satellite view which is soon overlaid by the grid of the vacuum cleaner. The scene alludes to aerial reconnaissance and computer vision technologies, and the green square further overlaying the geomap is familiar from object and facial recognition applications from, e.g., smart phones and social media apps (fig. 7).

### **The Haunted House**

In *Modern Escape*, we are haunted by something we are involved in. The entanglements between everyday technologies and practices of surveillance, national security, the military-industrial complex, and the current recast colonial binarism comes to the fore through the estranged home, the haunted house. Sigmund Freud proposed that the category of sensations or feelings of the fearful and frightening belonging to the uncanny (*das Unheimliche*) is a matter of "that species of the frightening that goes back to what was once well known and had long been familiar".<sup>xi</sup> The etymological connection between haunting and home can be traced back



Fig. 8. Still from Nielsen and Johnsen, *Modern Escape*. All images courtesy of the artists.

to one origin of the English word *haunt* which derives from the Old Norse *heimta*: “to bring home,” or “to lead home”.<sup>xii</sup>

In *Modern Escape*, the warfare and suffering “elsewhere” are brought back to the affluent Western home as a troubling reminder of modernity’s inheritance of violence and wounds as well as current politics of exploitation. The old Norse *heimta* include a second meaning, which is “a claim” or “what one has to demand”. This second meaning opens up a sense of inescapability that someone might come to collect their due share, and it is this repressed knowledge, our lingering complicity in past and present social wrongs, which contribute to the paranoia and sense of haunting in *Modern Escape*. As an affective experience, the artwork induces an atmosphere of surveillance haunted by the violence and power relations in which we are implicated, yet which are often kept out of sight. According to Avery Gordon, haunting describes “those singular and yet repetitive instances when home becomes unfamiliar, when your bearings on the world lose direction, when the over-and-done-with comes alive, when what’s been in your blind field comes into view”.<sup>xiii</sup> *Modern Escape* achieves exactly this. The work calls forth the connection between the Western middle class and what is kept out—out of the home, out of the privileged Global North, and out of the collective Western consciousness. It displays the close entanglements between our everyday networked technologies and those of war and the increasing efforts needed to barricade the home as well as the Western world. In the work, a layer of suggested complicity is added as the spectator suddenly becomes aware of her own watching presence when the lamp turns on and the automatic vacuum cleaner starts moving close by. In this way, the work questions the notion of the technologically-connected surveillance home and the spatial tensions between inside and outside, home and world, work and spectator.

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- <sup>ii</sup> The opening vignette and the following analysis are based on my visits to the solo exhibit *REVISIT: HANNE NIELSEN & BIRGIT JOHNSEN* at Overgaden Institute for Contemporary Art, Copenhagen, Denmark.
- <sup>iii</sup> Gordon, Avery. *Ghostly Matters: Hauntings and the Sociological Imagination*. University of Minnesota Press, 2008, p. 25.
- <sup>iv</sup> Rothberg, Michael. *The Implicated Subject: Beyond Victims and Perpetrators*. Stanford UP, 2019.
- <sup>v</sup> Michel, Arthur Holland. *Eyes in the Sky: The Secret Rise of Gorgon Stare and How It Will Watch Us All*. Houghton Mifflin Harcourt, 2019.
- <sup>vi</sup> Steyerl, Hito. *Duty-Free Art: Art in the Age of Planetary Civil War*. Verso, 2017, p. 47.
- <sup>vii</sup> Nielsen, Hanne, and Birgit Johnsen. Personal interview. Aarhus, Denmark, 19 Oct. 2019.
- <sup>viii</sup> Sontag, Susan. *On Photography*. Penguin Books Limited, 1979, p. 176.
- <sup>ix</sup> Haffner, Jeanne. *The View from Above: The Science of Social Space*. MIT Press, 2013.
- <sup>x</sup> Steyerl, Hito. "In Free Fall: A Thought Experiment on Vertical Perspective." *e-flux Journal*, no. 24, April 2011, pp. 1–11.
- <sup>xi</sup> Freud, Sigmund. "The Uncanny." 1919. Translated by David McLintock, Penguin Books, 2003, p.124.
- <sup>xii</sup> *Online Etymology Dictionary; Merriam-Webster*; Heggstad, Leiv, Finn Hødnebo, and Erik Simensen, eds. *Norrøn Ordbok*. Det Norske Samlaget, 1975.
- <sup>xiii</sup> *Ghostly Matters*, p. 2.