“Cinematography of Devices”: Harun Farocki’s Eye/Machine Trilogy

Martin Blumenthal-Barby

German Studies Review, Volume 38, Number 2, May 2015, pp. 329-351 (Article)

Published by Johns Hopkins University Press

DOI: 10.1353/gsr.2015.0086

For additional information about this article

http://muse.jhu.edu/journals/gsr/summary/v038/38.2.blumenthal-barby.html
“Cinematography of Devices”:
Harun Farocki’s *Eye/Machine* Trilogy

Martin Blumenthal-Barby

Harun Farocki’s 2001–2003 installation *Eye/Machine* tackles issues of surveillance surrounding the “intelligent” weapon systems deployed in the 1990/91 Gulf War. Farocki is especially interested in the image processing systems behind these weapons, their operational images that are both generated by machines and read by machines—images that require neither human creators nor human spectators. The article examines how Farocki turns these images into aesthetic artifacts even though they were never meant to be seen. Concomitantly, it interrogates our own status as spectators and explores how we can avoid complicity with the imagistic logic of war that Farocki confronts.

And it came to pass, as they fled from before Israel, and were in the going down to Bethhoron, that the Lord cast down great stones from heaven upon them unto Azekah, and they died: they were more which died with hailstones than they whom the children of Israel slew with the sword.

—Joshua 10:11

Harun Farocki’s 2001–2003 *Eye/Machine* trilogy explores the visual material of “machines operating intelligently,” of devices into which “cameras are implanted...as eyes.”1 Among the recurring examples of these “eye machines” in his installation are the remotely controlled missiles used during the 1990/91 Gulf War, which produced images that were later broadcast to television audiences. The novelty of these images lies in the fact that they were not originally intended to be seen by humans but rather were supposed to function as an interface in the context of algorithmically controlled guidance processes. These images were meant to ensure the efficacy of a designated operation, which is why Farocki dubs them “operational images.” He
characterizes them as nonentertaining, noninstructive, devoid of plasticity and lacking intention, and he employs the phrase “cinematography of devices”—a conception that constitutes the tacit center of the highly fragmented and seemingly unsystematic *Eye/Machine* installation. Farocki theorizes this “cinematography of devices” based on a large range of examples situated in both the military and the civil domain. What unites the many cases he discusses is the fading importance of the human as referential center in favor of “intelligent machines” that render decisions autonomously.

By illustrating the military application of eye machines and their destructive potential, the question of Farocki’s complicity with the ominous logic of war emerges. Specifically, it seems disturbing that *Eye/Machine* again and again appears to lend itself as vehicle to the very logic of modern warfare that Farocki purports to critique yet appears simply to document by linking large quantities of “found footage,” footage that remains uncommented on and uncritiqued. This predicament is all the more striking given that the possibility of a voice-over commentary (and its concomitant potential for critical intervention) remains unrealized—in contrast, for instance, to Farocki’s essay film *Images of the World and Inscription of War* (1989), where many of *Eye/Machine*’s claims appear to be rooted. And yet, upon close scrutiny one cannot but notice certain aesthetic strategies that Farocki, in perhaps less tangible ways, employs to complicate the ostensible logic of the eye machine and that do, we shall see, allow Farocki to assume a distinctly ethical stance. His techniques include, for example, the relentless repetition of certain sequences, which evoke image loops that unsettle the asserted progressiveness of weapons advertised in the armaments industry’s promotional videos. Farocki seems to contrast the cinematography of devices he explicitly discusses with his own, highly idiosyncratic cinematography in order to challenge and undercut the former. What complicates matters is that the very aesthetic thrust of the installation engages spectators intimately, precipitating an intense mode of spectatorship that figuratively calls into question the increasing distancing made possible by eye machines. As Farocki’s spectators, we are relentlessly drawn into the semanticizing traction of his installation and find ourselves in ever closer proximity to his material. This mode of spectatorship seems to “disprove” the asserted distanciation of modern warfare, thus undercutting the complicity with the high-tech “war at a distance” that the installation at first seems to invite.

“Intelligent Weapons”

*Eye/Machine I* begins with a series of images taken from a reconnaissance plane, possibly a drone. At the center of the frame we see crosshairs, through the crosshairs the bright explosion of a projectile, and with this the intertitle, “Images like these could be seen in 1991—of the war against Iraq.” What follows is another image, again documenting the detonation of a missile, with the intertitle, “Shots taken from the air, the crosshairs in the center.” And there follows still another sequence
of images, crosshairs at the center and the explosion of a projectile. Following these detonations of projectiles and the verification of their impact, we witness the flight of missiles equipped with a camera, which allows us to experience their trajectory visually (Figure 1).

These “Images from flying projectiles,” in the words of an intertitle, cease at the moment of impact. According to Farocki’s essay accompanying the installation, they are “phantom images”:

During the 1920s in the U.S., film recordings taken from a position that a human cannot normally occupy were called *phantom shots*; for example, shots from a camera that had been hung under a train. In narrative film images taken from a position of a person are referred to as subjective. We can interpret the film that takes up the perspective of the bomb as a *phantom-subjective image*. The film footage from a camera that is plunging towards its target, a suicidal camera, stays in our mind. This perspective was new and it offered us an image of something about which we had only limited knowledge until the cruise missiles of the 1980s appeared.²

What Farocki sees as fundamentally “new” in these images is their generation not by humans but by machines—“eye machines,” as he calls them, or “vision machines,” as Paul Virilio describes them.³ As such they prefigure a type of image that Farocki

![Figure 1. “A camera that is plunging towards its target, a suicidal camera” (Eye/Machine, 2001–3, dir. Harun Farocki)](image-url)
calls the “operational image” and that assumes a central status in his installation. These images are notable for the absence not only of an author or a creator but also of a reader or spectator.

In the third part of Eye/Machine Farocki explores in great detail these operational images, which are not meant to be viewed but merely to function. We look at a missile simulator and follow the flight of a projectile from its own perspective. We see analog images of landscapes, trees, buildings, and entire villages, and we witness how the “intelligent weapon” analyzes those images: how green, yellow, blue, and red lines are gradually drawn in the images, that is, how the images are “read” by the eye machine (Figure 2).

With this comes the intertitle: “The missile search-head reads the images. Image processing presents itself. Route markers are stored, roads, crossings, bridges, power lines. Lines are highlighted in colour to check whether they are part of a stored image.” Farocki defines such “operational images” as ones “that do not represent an object, but rather are part of an operation,” such as that of guiding an “intelligent missile.” He elaborates: “The key to ‘intelligent weapons’ is image processing. Images of the terrain it is to traverse are stored in a rocket. During its flight, it photographs the terrain below and compares the two images, the goal image and the actual image, as it were.” The process behind the functionality of “intelligent weapons” is thus one

![Figure 2. Images of landscapes being read by an eye machine (Eye/Machine, 2001–3, dir. Harun Farocki)](image)
of comparison between the images saved in the missile’s “memory” (an idealized representation of strategically relevant landscapes) and a real-time recording of that very landscape (which is systematically scanned for similarities and congruities to the ideal-typical model saved in the missile’s image bank).

The paradoxical notion of an act of “sightless vision” emerges here: the machine recognizes and tracks target objects, which is why Farocki describes the operating principle of these “seeing bombs” as “recognition and object tracking” (Erkennen und Verfolgen, as the German single track version based on the installation is called). Yet at the same time, these eye machines do not “see” in the sense of an open perceptual process; instead they read the world based on a preconceived stored model of “world.” The reading of “world” here implies no more and no less than the algorithmically processed comparison of landscape images with ideal-typical geographical information. Undoubtedly, this new generation of intelligent machines distinguishes itself from the machines of the past, which performed their tasks blindly, monotonously and mechanically. The eye machines at issue are, as an intertitle states, “performing their tasks no longer repetitiously or blindly but rather independently, autonomously.” According to a Russian proverb, “The bullet is a blind idiot,” and in a German soldier’s song it correspondingly says, “Nun ade lieb Luise, wisch ab Dein Gesicht / Eine jede Kugel die trifft ja nicht” (“Go on, Luise, wipe your face, my darling, / Not every bullet hits its target”). In contrast to these obsolete experiential truths of warfare, Farocki argues, “The images from the warhead of the missiles of 1991, together with the expression ‘intelligent weapons,’ are so distressing, or so gripping, precisely because the bullets are not blind any more . . . The pattern of recognition [Erkennen] and object tracking [Verfolgen] of ‘seeing’ bombs threatens with infallibility.” In some sense Farocki’s installation from the early 2000s can be considered an update of Virilio’s prognoses from the late 1980s. However, while Virilio regards the “logistics of perception” as the center of his considerations, Farocki understands himself as a scholar of images. It is thus that he turns his attention persistently to those “images without spectator” that he calls “operational images,” images that are entirely absorbed by their functionality and whose peculiarity Virilio anticipated when he spoke of “images created by the machine for the machine, instrumental virtual images.” Virilio deemed these images “equivalent” to what “a foreigner’s mental pictures . . . represent: an enigma.” Farocki evokes the enigmatic qualities of these operational images when he, in the third part of Eye/Machine, attributes to them a “beauty” that is “not calculated.” He adds that “the U.S. military command has surpassed us all in the art of showing something that comes close to the ‘optical unconscious.’” We encounter this “uncalculated beauty” (and its invocation of the “optical unconscious”) recurrently in Eye/Machine in the form of operational images, which in their bright blue, red, green, and yellow color patterns echo the abstract works of contemporary digital artists.
Operational Images

In his investigation into operational images, Farocki approaches the “cinematography of devices” primarily through comparison with other image types, such as promotional images, propaganda images, instructional images, and trick film images. Before delving into Farocki’s comparison between operational images and other image types, we shall follow him for a moment in his characterization of operational images in order to develop a better grasp of their conceptually singular status as well as their rhetorical enactment within *Eye/Machine*. If one traces the attributes that Farocki employs in relation to operational images throughout the three parts of his installation, one arrives at a sizable catalogue. In the first part of the installation, for instance, Farocki states that “these images [lack] plasticity”—that they “fail to grip,” thus alluding to the affectless, noninvolving, noninterpellating quality of operational images. In the first part of *Eye/Machine* we further learn that these images are “devoid of social intent: they are not for edification, they are not for contemplation.” Here Farocki alludes to a central attribute of operational images, according to which (as an intertitle says in the installation’s third part) they “are not really intended for human eyes.” This quality, according to which operational images are “not really” intended for human eyes but for machine eyes, fundamentally distinguishes them (or, more generally, the “cinematography of devices” that Farocki is concerned with here) from other image types that figure throughout the installation.

At several points, Farocki contrasts operational images with a promotional video by Texas Instruments, a company known for, among other things, its manufacturing of precision-guided weapon systems. The video, dramatically underscored by Wagner’s “The Ride of the Valkyries,” suggests that the enormous economic costs of aerial bombing can be cut by the use of computer-guided bombs and laser-guided weapons. In contrast to operational images, these promotional images, as an intertitle explains, are “meant to threaten and to entertain.” They unmistakably target a spectator who needs to be convinced that the use of large quantities of missiles can be reduced by the use of sophisticated weapons guidance systems. The film revolves around the cost analysis of war (“A... film with economic arguments”) and on that basis pursues decidedly promotional goals.

Another type of image Farocki contrasts with operational images is the instructional film. In part three of the installation we see a German film from 1942 that elaborates on the technology behind the V–1 flying bomb, which in certain ways prefigured contemporary cruise missiles. In addition to analog footage, it employs a sequence of animated images illustrating how the V–1 is to cross the English Channel and target London. Although it is addressed to war technicians and thus pursues (in contrast to, say, propaganda films) a very specific informational purpose, this 1942 film, to Farocki’s surprise, “shows a shimmering sea”—“in the middle of a war, an effort was made to create such visual appeal!” It might appear that Farocki’s meditation on
animated films has rather little to do with the calculated efficacy of operational images to be found in intelligent missiles. Nonetheless, a striking correlation presents itself here in terms of their respective imagistic logic, that conceptual register with which Farocki is ultimately concerned. This becomes apparent as Farocki illustrates through his missile footage how the 1991 Gulf war had less to do with the advanced technology of particular weapons than with a decidedly “new policy on images (Bilderpolitik).”\textsuperscript{17} According to an intertitle: “During the flight the operator can use the infra-red camera mounted in the missile head and freely movable to observe the terrain and possibly discover other targets.” Notably, the “terrain” subjected to aerial reconnaissance is already an idealized version of an actual landscape (Figure 3).

Against the backdrop of the “symbolic assimilation” at issue,\textsuperscript{18} Farocki problematizes the alignment of the actual with the nominal. This precipitates fundamental consequences for modern warfare, succinctly delineated by cultural theorist Klaus Theleweit, on whom Farocki here relies:

The computerized images of war extinguish the difference between simulated and real events, the difference between historical time and technically/electronically simulated time. It becomes potentially impossible to decide whether something occurs and what occurs and whether it occurs at the same time we see it. The people who died in Iraq in real time underneath filming bombs were already being treated by the machinery like simulated people. The military censorship decided

Figure 3. “Computerized warfare” (Eye/Machine, 2001–3, dir. Harun Farocki)
no less than to show us only this kind, wherever possible. What this means is both abolishing the “authentic image” (the famous image with its “dog tag” indicating time and location around its neck) and abolishing the eyes as the organ that bears witness to history.19

Returning to our initial question, what radically distinguishes the operational image from other types thus is not only the tendentious absence of a human spectator as “witness” of history but also the evaporation of the image as “authentic” evidence. Computer-generated images are “integral” to military operations such as the guiding of missiles and,20 hence, not suitable witnesses to human lives and human deaths. Yet they are distributed precisely as such. Here, then, one of the central axioms of the “cinematography of devices” solidifies: it relies on a conception of reality that systematically denies the impure reality of life, of war.21 Indeed, this disavowal is the very basis for the efficacy of operational images. Images that purport to document war are from the outset aligned with the pure, postulated reality of computerized warfare insofar as they originate in war’s procedural logic. What, in brief, presents itself as an inherent constituent of the “cinematography of devices” is no less than the displacement of the “human” variable.

The Distanciation of Modern Warfare

If one seeks to account for the displacement of the human in modern warfare as evoked by Farocki, one must consider an additional category pivotal to modern warfare and perhaps modern life, namely distance.22 With respect to the guided missiles (Fern-lenkwaffen) that German war technicians experimented with in the early 1940s and that assumed such a crucial role in our perception of the 1991 Gulf War, Farocki notes that

In 1991, during the coalition forces’ war against Iraq, images could be seen in the public sphere that were taken by cameras in the heads of projectiles. Taken by filming bombs, suicide cameras that drop onto their target. . . . The cameras were built into the projectiles so as to be able to steer them from a distance. The objective was to avoid enemy fire. In this way, the enemy is disconnected.23

The tendency described here to avoid danger by keeping distance is, according to Eye/Machine, of pivotal importance in modern warfare and explains the diverse technologies of modern “area surveillance through seismic, acoustic and radar sensors, radio direction-sounding, monitoring opponents’ communications as well as the use of jamming to suppress all these techniques.”24 In other words, it explains the increasing significance of control and communication technologies in war, which solely serve the purpose of generating a precise, detailed, intimate “picture” of the activities of
the adversary without actually being close to that adversary. Farocki is aware how much modern warfare relies on surveillance techniques “with combatants incorporating new ways to visualize, track and target the enemy, while struggling to remaining unseen themselves.” And he appropriately comments on the consequences of this development when he writes: “Today, kilotonnage and penetration are less important than the so-called C3I cycle which has come to encircle our world. C3I refers to Command, Control, Communications and Intelligence—and means global and tactical early warning systems.”

With this move toward a “war at a distance” (as Farocki calls the English single track film based on the *Eye/Machine* installation) we are confronted not only with technical questions but, above all, with ethical ones. These are questions regarding the capacity for empathy and the possibility of assuming responsibility for occurrences far beyond one’s own sphere. This moral conundrum is, of course, one that drone pilots face on a day-to-day basis when they determine life and death without being close to their adversaries or civilian victims; they cannot face their enemy or witness the demise of those whom they engage. What characterizes modern warfare in general and operational images, upon which it increasingly relies, in particular, is this “essentializing effect,” the systematic disavowal of incidental factors, including civilian victims, and other forms of “collateral damage.” According to a production statement on *Eye/Machine*, “Many operational images show coloured guidance lines, intended to portray the work of recognition. The lines tell us emphatically what is all-important in these images, and just as emphatically what is of no importance at all. Superfluous reality is denied—a constant denial provoking opposition.”

Farocki explains further:

> The operational war images from the Gulf War of 1991 that do not show any people are paradoxical. Despite the censorship, the pictures were more than propaganda attempting to silence the sum total of perhaps 200,000 dead. They were, perhaps above all, in the spirit of a utopia of war, a utopia that doesn’t reckon with encountering people, accepting them only somewhat disdainfully as victims.

Against this backdrop it is hardly surprising that *Eye/Machine* does not depict any humans. We see how bridges are bombed and how missiles explode as they hit tanks, but the computer-generated images with streets and stores and buildings show no people. Humans, it seems, do not exist on these fields of battle.

In the light of these images Farocki shows us again and again, one can only wonder to what degree the filmmaker maintains a critical distance from the material he discusses. “It is true that operational images conjure up the image of a cleanly led war,” he writes. “The television spectators were supposed to appreciate the war technicians and to sympathize with the technology of war through the images of
aerial photographs.”32 While Farocki is aware of the viewer’s collusion in the logic of war when watching such images, he nevertheless provides no critical commentary that would help us position ourselves ethically. On one hand, Farocki argues that the images of war we see are frequently aerial surveillance shots taken from a distance that keeps the inevitable human victims that wars produce off the screen—a form of censorship that, according to Farocki, is intended by the military to sanitize precisely along these lines. On the other hand, in the context of his own artistic appropriation and negotiation of the “war at a distance,” Farocki shows us these very images recurrently without adding any significant explicatory commentary. Given that he decidedly selects images that do not seek to document war but rather epitomize a particular perspective—that of the aggressor and his “seeing” weapons technology—does Farocki become a pawn in the hands of those he purports to criticize? Does he, wittingly or unwittingly, perpetuate the very logic of war that he claims to scrutinize?

**Farocki’s Complicity**

Farocki’s complicity (the significance of which will become apparent in the subsequent pages) seems most obvious if one considers that the material upon which he draws consists almost exclusively of “found footage.” What does it mean to tell the story of modern high tech warfare if the only idiom available is that of its foremost enactor, namely the US military? As Farocki explained in 2010, “When we began this project at the start of 2000, our subject was pretty remote. That changed with 9/11. Accessing military sources also became more difficult. . . . At first, when the USA entered the war in 2001, the military press offices sent out routine rejection letters.”33 At the same time Farocki stresses that “the arms industry needs intelligent weapons journalism as they want to sell the system; they need all the publicity they can get. . . . In a sense we became the military’s accomplices.”34 With these comments in mind, Farocki’s complicity—which he himself substantiates—imposes itself even more forcefully if one puts the installation *Eye/Machine* into dialogue with the earlier essay film *Images of the World and Inscription of War*. In thematic terms, *Eye/Machine* presents an extrapolation of *Images*, specifically with respect to questions of surveillance. The larger topic of surveillance manifests itself in *Images*, for instance, through face identification. Farocki illustrates this theme by drawing on Marc Garanger’s book *Femmes Algeriennes 1960*, which depicts Algerian women who are about to receive identity cards and who are photographed for the first time in their life without a veil.35 This form of surveillance over the population advanced dramatically with the Bertillonage anthropometric policing methods in the late nineteenth century36 and again with the introduction of biometric passports in the early twenty-first century.37 Surveillance technologies figure in *Images* also in other contexts such as the automobile industry, where they enable the control and regulation of assembly processes. The most emphatic treatment of surveillance in *Images* surely emanates from Farocki’s
discussion of aerial reconnaissance (“Aufklärung”), which he turns into an incessant theme of his film. Elaborating on the historical vicissitudes of aerial reconnaissance, Farocki remarks: “Reconnaissance of enemy territory by means of photographs taken from airplanes was already in use during World War I. And even before there were airplanes, balloons and rockets carrying cameras aloft and even carrier pigeons were outfitted with small cameras.” These diverse manifestations of surveillance in *Images* can be contrasted with those from the installation *Eye/Machine*—including aerial reconnaissance through drones, guidance technologies in “intelligent missiles” and civilian applications of robotic systems based on image recognition software. But if one compares surveillance technologies problematized in *Images* with those in *Eye/Machine*, the crucial difference lies in the transition from visual to nonvisual modes of surveillance. These nonvisual modes of surveillance are typically subsumed under the notion of “dataveillance” and pertain to a sphere of data processing no longer contingent on techniques of visualization.

Even though *Eye/Machine* may well be described as a thematic elaboration on and update of *Images*, especially with respect to the issue of surveillance, the form of the essay film differs radically from the form of the installation. It is here that the impression of Farocki’s presumed complicity coalesces, for it seems that the filmmaker Farocki mobilizes no notable authority or critical authoriality that would allow him to counter the operational image production of the eye machines. For example, the essay film *Images* is permeated with a voiceover guiding us through the film, a female voice that appears particularly present if contrasted with the male director whose hands surge to the fore time and again. Moreover, the installation *Eye/Machine* has nothing that would resemble *Images*’ defamiliarizing soundtrack, with its fragmented mélange of portions of Bach’s *English Suites* and Beethoven’s *Razumovsky Quartets*. Also, the fact that *Eye/Machine* is intended for the museum space implies that in all likelihood the installation will directly compete with other exhibit pieces for the spectator’s attention. The critical force of *Images* seems to be missing or suspended in *Eye/Machine*. Indeed, *Eye/Machine*, this “found footage” installation, appears to be all that Farocki discovered as characteristic of operational surveillance images: lacking in “plasticity” and “grip,” “devoid of social intent,” and not meant for “edification” or “contemplation.” These characteristics of operational images do not derogate their efficacy as operational images. Yet insofar as they enter the installation as “found footage,” they tend to work against Farocki’s authorial stance and against our spectatorial involvement. In contrast to authorial intervention or spectatorial mobilization, Farocki seems to make his work available as an “unmanned” vehicle for the kind of modern warfare and its respective “policy on images” that he claims to interrogate and to critique.

Given that Farocki’s treatment revolves around—and indeed seems to enter into an ominous liaison with—the presentational registers of the images he discusses,
it might be fruitful to explore the mode of presentation and general status of a few of the images he decides to show more closely. For instance, we encounter in *Eye/Machine II* (in addition to numerous examples of operational images) a military pilot of the German Bundeswehr in a flight simulator. We follow the strikingly apathetic elaborations on sundry technological details of this pilot, who in the course of the simulated flight is attacked by an enemy combatant and responds by deploying flares: “their glow is meant to lure [the] opponent’s missile search heads—diverting them from the aircraft,” the pilot explains. The scene’s decidedly low emotive temperature is symptomatic of a failure throughout the installation to interpellate the spectator. It thus hardly comes as a surprise when the bomber pilot utters phlegmatically: “I’ve been downed. That is, my defensive measures failed to counter the missile’s targeting.” No doubt, the pilot’s indifference can be traced back both to this being a simulated flight and to the general displacement of the human in modern-day computerized wars “at a distance.” Yet given the apparent absence of an intervening voice or an ethical stance, this affective void—marked by an obsession with the technical aspects of the operation—seems indicative of Farocki’s complicity with the business of killing and its portentous logic.

This suspicion of authorial complicity also presents itself when Farocki shows us images of a simulated “minimally invasive surgery” and then, oddly, juxtaposes them with those of a reconnaissance drone. As there is “no need to open the patient’s abdominal wall” in the case of the medical procedure, so there is “no need to invade foreign space in order to collect data” in the case of military intelligence, intertitles suggest. While the analogy between medical procedure (surgery) and military procedure (war), between the human body and national body, ostensibly evokes the well-documented transfer of knowledge between the military and the civil domain, the performative and specifically ethical question emerging is how far this analogy really carries. How compelling is the metaphor of modern wars’ “surgical” precision really? It is a question that Farocki raises while leaving it to the armaments industry’s promotional videos to provide their unambiguous answers.

The issue of complicity continues to pursue Farocki through his relationship to his film-mechanical equipment—an oblique allegorization of the man-machine nexus talked about. However, this performative dynamic of an authorial complicity emerges much more forcefully against the backdrop of the numerous moments in *Eye/Machine* where one image track focuses on an eye machine, while the other adopts the gaze of the eye machine itself, that is, evokes the perspective through the machine eye. It seems safe to say that the process of comparison performed by the image recognition software in eye machines reverberates with the process of comparison precipitated by Farocki’s split screen installation; the artistic procedure of soft montage originates in “the logic of the material.” This correspondence and indeed intensification of what is
represented by its mode of presentation carries even further: in some instances the
depiction of an intelligent missile in one image track is supplemented by crosshairs
in the other, which enable the navigation of that missile. What comes into being at
the point where the two image frames intersect is, figuratively, yet another cross-
hairs, Farocki’s crosshairs, if you will, as overlap at the center of the split screen. This invokes his involvement in the dynamics of “recognition and object tracking” (Erkennen und Verfolgen)—his enactment of the “war at a distance.”

Farocki’s Voice

In spite of these indications of Farocki’s complicity with modern war-at-a-distance, one cannot help but notice a number of presentational strategies that disrupt the logic of the eye machine so prevalent in the installation and that, against all odds, give Farocki a voice after all. Yet how does this voice come into being or, less ambiguously, how does Farocki negotiate his putative complicity with regard to the precarious material? Undoubtedly, Farocki resists the problematized operational eye machine logic by employing strategies that are primarily situated on the aesthetic level and that specifically emanate from his technique of “soft montage.” If one asks how exactly the technique of soft montage generates its force, it is worthwhile to probe an early sequence from Eye/Machine I (that Farocki himself comments on as well). We see a man in the left image track who pushes small metal pieces into a punch press, a procedure that Farocki shows in slow motion. In the right track we see a red guided missile, first in a long shot, then in a medium shot, recorded, it seems, from a plane flying next to the missile. The entire spectacle is shot against the picturesque backdrop of a green forest (Figure 4).

“Both images are from my double projection Auge/Maschine (Eye/Machine, 2001),” Farocki writes. He goes on:

There is succession as well as simultaneity in a double projection, the relationship of an image to the one that follows as well as the one beside it; a relationship to the preceding as well as to the concurrent one. Imagine three double bonds jumping back and forth between the six carbon atoms of a benzene ring; I envisage the same ambiguity in the relationship of an element in an image track to the one succeeding or accompanying it.

What Farocki describes here in many ways revolves around the notion of “ambiguity.” This ambiguity results from the host of cross references brought about (as in traditional single track projections) through “succession,” that is, on a temporal level. The distinctly complicating force of a double projection, however, additionally results from the cross references brought about through “simultaneity,” that is, on a spatial
level. If we delve into our example from Eye/Machine I, it seems safe to say that the “soft montage” at play conjures up various dichotomies: the civil work sphere on the left track versus the military operation on the right track; the force of production on the left track versus the force of destruction on the right track; the retrospective example of industrial progress (the human operated die-cutter) on the left track versus the prospective example of military-technological progress (“intelligent,” i.e., autonomously navigating weapons) on the right track, figuratively echoed by the slow motion on the left track versus the fast-paced missile on the right track. These simultaneous moments of montage based on visual concurrencies are complicated by successive correspondences. We, for example, read an intertitle stating: “Industrial production abolishes manual work,” which moments later is supplemented by a second one that reads: “and also visual work.” “Just as the robots in factories first used manual laborers as their model until they outperformed them and rendered them obsolete, these sensory automatons are supposed to replace the work of the human eye,” Farocki tells us. He notes that “when Eye/Machine was first exhibited at the Zentrum für Medienkunst [Center for Art and Media] in Karlsruhe, I barely had eyes for anything but the connection that I had intended,” namely the link between the abolition of manual and visual work as a result of technological advancement. Yet the thrust of the soft montage consists precisely in the myriad interpretative avenues that present themselves to the spectator, if only as potentialities. While the relation
between the worker at the die-cutter and the guided missile is intended to testify to a certain analogy (the abolition of manual work/of perceptual work through automation). Farocki’s particular arrangement of the material is geared to their performative oppositioning (civil/military, production/destruction, past/future) and, as such, also evokes considerable dissimilarity. And of course, the semantic exuberance of the soft montage in general and of our example in particular does not stop here.

Farocki’s juxtaposition of the “1949 Swiss film that rationalizes production” and the “promotional video for the Atlas guided missile” is preceded by a piece of differently inflected found footage. We look through the eye of a surveillance camera stationed in the living quarters of an elderly person, see the surveillance images being analyzed by automatic recognition software, operational images that yellow-frame the old man. Moments later the man falls to the ground, and the “intelligent” surveillance camera, through a red blinking frame, promptly signals the emergency to a control operator. The application of intelligent scene monitoring programs in the civil world (on the left image track) is now put into dialogue with a concurrent intertitle (on the right image track) that reads: “The war soon became forgotten.” This seemingly unrelated commentary refers to the earlier footage of intelligent missiles from the 1991 Iraq War and, proleptically, to the subsequent material on the Atlas guided missile. The point here is that Farocki, by dint of his sophisticated montage practice, tells an additional story to the one asserted—a story that belies the visual idiom of his found footage. By depicting the “fallen” man lying on the ground, he invokes the human losses that are so strangely absent from the promotional video of the Atlas guided missile and thereby calls his own collusion into question.

Yet the aesthetic technique of soft montage does not only rely on succession and simultaneity within a given sequence but indeed comes to fruition among the three parts of an installation like Eye/Machine. As Farocki notes, “in the case of Eye/Machine, before you sit down and narrow your gaze, you see that the images on the left-hand track of part one and on the right-hand track of part three are the same, and that certain pictorial motifs occur in different contexts. . . . That too—the relation of different works to each other—is a soft montage.” The overall effect of such soft montage that encompasses all three parts of the Eye/Machine trilogy is at least twofold: First, the emergence of particular images in completely different contexts destabilizes their putative meaning and breaks them out of ideologically congealed discourses. If “repetition” is a rhetorical device for emphasis and mnemonic reinforcement, then Farocki’s metaleptic repetition of identical images at different points throughout the installation achieves their embedding in a polyvalent web of meaning, which, as regards Farocki’s alleged collusion, undercuts any unequivocal complicit intention. Beyond that, and here we encounter yet another effect of this broad implementation of soft montage, Farocki unceasingly installs, disrupts and eventually revisits narrative strands, thereby generating performative image loops. These image loops figuratively
undercut the conception of technological advancement toward a fully automatized world (invoked, for example, by the promotional video about the laser-guided bomb “Paveway”) and, more generally, present teleological notions of progress (such as that of “surgical wars” propagated by the arms industry) as problematic.53

The question of how Farocki eludes the danger of complicity is, it seems, not one that can be addressed in general terms since it is inextricably linked to his particular aesthetic strategies. It is a question that directs our attention to Farocki’s play with the technique of soft montage, to his split screen cinematography, which appears to epitomize his response to the “cinematography of devices.” The question of how Farocki eludes the danger of complicity is, more specifically, one that (beyond a simply dualistic juxtaposition of the two image tracks) can only be conceived with an eye to Farocki’s concrete ways of relating the two image tracks to each other. And of course this sheds light on the conception of the eye machine itself, which precisely cannot be grasped in the dichotomist terms of “eye” vs. “machine” or “human” vs. “technology” but is instead closely tied to singularly configured instances. Importantly, in contrast to the algorithmically guided image processing of autonomously operating eye machines, Farocki’s play with images remains contingent on human imagination, on human creativity and, in the most rudimentary sense, on the human eye. As such, it gestures in the opposite direction of operational images, which work to replace the human eye, thereby exemplifying instances of “images without spectator.”54 Indeed, Farocki’s decision to show us operational images (that is, images that are not intended for human eyes) can be interpreted as a performative act against any moral entanglement—as Farocki’s way of undermining the logic of operational images (employed in intelligent weapon systems, and so on)—as his attempt to break free of the shackles of artistic complicity with his subject matter and the violence it so frequently involves. Farocki asserts that “the Gulf Wars have changed the status of images, because images are no longer just a means for entertainment or education. They are tools.”55 Extrapolating from this statement, one could argue that Farocki does everything to de-tool these images and turn them into something they were never meant to be, namely art. Farocki carries operational images, which are not meant for human eyes, into the museum space, where their very purpose is to be seen by people and contemplated.56 He elicits that very mode of reception whose absence he deems characteristic of operational images.57 Farocki (or his narrator double) indicates this difference in the most inconspicuous of ways, namely by inserting a red slash into the title of Eye/Machine I and Eye/Machine II (as we know it from operational images) in contrast to the white slash he inserts into the title of Eye/Machine III.

We have asked how Farocki positions himself in light of the complicity he seems to be caught up in, and it seems indeed that in line with the colored (red) lines familiar from the algorithmic image processing of eye machines, Farocki mimics this machinic aesthetics in the title of Eye/Machine I and Eye/Machine II yet undoes it in
the title of *Eye/Machine III* by replacing the red slash with his own plain white slash, thereby figuratively undermining the eye machine’s algorithmic logicality. In doing so, Farocki gestures against the eye machine’s regime on behalf of himself—the filmmaker, the artist, the human. And of course, our spectatorial involvement gestures in the same direction, for only an intensely imaginative reading can derive meaning from Farocki’s art, can, more precisely, enter into a creative and productive dialogue with his art. Thus, on one hand we are presented with Farocki’s figurative resistance to the operational logic of the eye machines; Farocki perhaps cannot undo his entanglement in the eye machines’ operational logic, but he can lean himself against it, unsettle it, and contaminate it in the course of its idiosyncratic presentation. On the other hand, it becomes apparent how much the installation hinges upon our extremely close reading. We are ultimately confronted with our own potential complicity and the possibility of overcoming it. To what extent does the intensely engaged engagement with the text required from us as spectators run counter to what the installation is crucially about, namely the “war at a distance”?

**Spectatorial Complicity**

This question presents itself forcefully if one ponders those numerous moments in the installation where one half of the split screen shows us an eye machine (i.e., civil applications such as a robot in a production plant or military applications such as a smart weapon) while the other side leads us to look *through* the eye of that very eye machine. Whereas the moral component may appear less prevalent in the case of civil applications such as industrial guidance systems, in the case of military applications, specifically as we gaze through the eye of an intelligent missile, the question indeed arises of how much we are implicated or figuratively partake in this missile operation. For we do not simply look at the missile; we *enact* its “line of sight” (Figure 5). This impression of our complicity is exacerbated as the machine eye’s gaze that we are led to assume is guided by crosshairs, which are enacted at the point where the two image tracks overlap at the center of the screen. The crosshairs shift from the missile’s line of sight into the center of Farocki’s cinematic frame, turning us into targeters or figurative aggressors (Figure 6).

Against this backdrop the installation’s title, *Eye/Machine*, lends itself to further interpretation insofar as the slash in the installation’s title echoes the point of intersection between the two screens, which, in turn, signifies the crosshairs confronting us throughout our “readerly mission,” thus reminding us emphatically of our spectatorial complicity. Yet such an analysis relies on an utterly intensive, meticulous, close reading, which figuratively calls into question the increasing distance evoked by eye machines. Our moral involvement, one might say, gestures in the opposite direction of the one evoked by eye machines. On the one hand, the thrust of the eye machines aims for ever greater distance and, in the military context we are primarily concerned
Figure 5. Left: machine eye / right: machine eye’s gaze (Eye/Machine, 2001–3, dir. Harun Farocki)

Figure 6. Missile’s “line of sight” and the question of spectatorial complicity (Eye/Machine, 2001–3, dir. Harun Farocki)
with here, seeks to observe and engage the enemy from afar—via drones, intelligent missiles, and seismic, acoustic, and radar surveillance systems. On the other hand, our own reading gestures in a very different direction of intensely engrained scrutiny, thereby unsettling the distantiating logic of the “war at a distance” that *Eye/Machine* is all about. While *Eye/Machine* is an installation about sightless vision, the performative response it precipitates is one of intense spectatorial sight. It is this performative paradox, provoked, no doubt, by the installation’s complex split screen aesthetics, that challenges and complicates everything we thought this work to be about, yet it is one that allows us to work against our complicit involvement in the ominous logic of modern-day eye machines.

Notes
7. Quoted in Farocki, “Phantom Images,” 16, translation modified. The translation of this essay by Brian Poole is based on the German version of Farocki’s “Der Krieg findet immer einen Ausweg,” *Cinema* 50 (2005): 21–32. Unless indicated, all quotations from this essay are based on Poole’s English translation.
10. See Bildwelten des Wissens: Bilder ohne Betrachter, ed. Horst Bredekamp et al. (Berlin: Akademie Verlag, 2006).
13. Different critics have drawn attention to the correspondence between operational images, as problematized by Farocki, and Benjamin’s notion of the “optical unconscious,” which, in Esther Leslie’s words, “suggests that film itself, the cinematic strip, the processes of montage, could outstrip the intentions of the filmmaker. Film presents, in a sense, its own unconscious to the audience. This unconscious is comprised of chance details, moments when the images and activity recorded performs in unanticipated ways or is perceived in ways unattainable by the unassisted eye.” See her “Documents of Revolution, Incompetence and Resistance,” *Film International* 10 (2004): 37. See also Hal Foster, “Vision Quest: The Cinema of Harun Farocki” *Artforum International* 43, no. 3 (2004): 160; Christa Blüminger, “Memory and Montage: On the Installation Counter-Music,” in *Harun Farocki: Against What? Against Whom?*, ed. Antje Ehmann and Kodwo Eshun (London: Koenig, 2009), 104.
14. I am thinking here, for example, of Wade Guyton, Martin M. Wattenberg, or Katherine E. Nash.
15. The intertitles in the German version of *Eye Machine I* state that operational images are “Nicht zum Bedenken,” which the English-language print translates as “Not for reflection” but which, perhaps more appropriately, will be translated here as “Not for contemplation.”
21. See also Farocki, “Information about Technological Devices Used to Get Images of Various Situations Like War,” 197.
28. War at a Distance, DVD, directed by Harun Farocki (Chicago: Video Data Bank, 2003).
31. Farocki, “Phantom Images,” 21, translation modified. “Efforts to control the visual and narrative dimension of war delimit public discourse by establishing and disposing the sensuous parameters
of reality itself—including what can be seen and what can be heard,” Judith Butler argues. “Under conditions of war waging, personhood is itself cast as a kind of instrumentality, by turns useful or dispensable. . . . We think of persons as reacting to war in various ways, but communicable reactions to war also variably constitute and de-constitute personhood within the field of war.” Judith Butler, Frames of War: When is Life Grievable? (New York: Verso, 2010), xi–xii. See also William John Thomas Mitchell, Cloning Terror: The War of Images, 9/11 to the Present (Chicago: The University of Chicago Press, 2011).

34. Farocki, “Gespräch,” 212, emphasis mine.
36. Johann Gottlieb Fichte noted as early as 1796 that “the chief principle of a well-regulated police state is this: That each citizen shall be at all times and places . . . recognized as this or that particular person. No one must remain unknown to the police. This can be attained with certainty only in the following manner. Each one must carry a pass with him, signed by his immediate government official, in which his person is accurately described. . . . No person should be received at any place who cannot thus make known by his pass his last place of residence and his name.” “Grundlage des Naturrechts nach Principien der Wissenschaftslehre,” in Werke (Leipzig 1924), 3: 295; quoted in Valentin Groebner, Who Are You? Identification, Deception, and Surveillance in Early Modern Europe (New York: Zone Books, 2007), 229. On Bertillon’s anthropometric approach, see, among others, Jonathan Finn, Capturing the Criminal Image: From Mug Shot to Surveillance Society (Minneapolis: University of Minnesota Press, 2009), 23–30; Clive Norris and Gary Armstrong, The Maximum Surveillance Society: The Rise of CCTV (Oxford: Berg, 1999), 13–20; Martine Kauszynski, “Republican Identity: Bertillonage as Government Technique,” in Documenting Identity: The Development of State Practices in the Modern World, ed. Jane Caplan and John Torpey (Princeton, NJ: Princeton University Press, 2001), 123–138.
39. On the transition from imagistic to digital registers of meaning, see also Farocki’s 1986 film As you See (Wie man sieht).
40. For an insightful discussion of the “essay film” and its definitional impasses, see Volker Pantenburg, Film als Theorie. Bildforschung bei Harun Farocki und Jean-Luc Godard (Bielefeld: transcript, 2006), 143–163.
42. See Farocki, “Gespräch,” 214.
It is along these lines that Peter Sloterdijk writes: “When violence is depicted, a process of communicating violence through signs begins. The first sharing of violence happens through its representation—it could also be said through the imitation of violence in the other, the meaningful setting. Therefore, there can be no such thing as a neutral representation of violence, no innocent reminder of it, no harmless reproduction in pictures of stories. Wherever it is quoted and depicted, it itself comes into play as a quoting force demanding pictures. Its narrator is always its accomplice, its chronicler is involved in the game, its critic is its partner, its painter its delegate. The person who imparts the matter participates in it, and thereby creates a sharing of violence. To a certain extent, a picture of it cuts raw and absolute violence into two parts, namely into itself in its pre-symbolic or pre-media existence, and its reflection in the image, a reflection that from now on and in future can be interpreted equivocally as still itself or, indeed, also as its counterpart. The image of violence can operate and be read . . . as its continuation and duplication, virtually as if the pictures were the minions of the principle.” “Gewalt-Erscheinung. Über heftige Bilder in den Medien der Massendemokratie,” in M-ARS: Kunst und Krieg, ed. Peter Weibel and Günther Holler-Schuster (Ostfildern: Hatje Cantz, 2003), 225–226; translated after “Without Suspension,” in Serious Games: War—Media—Art (Darmstadt: Mathildenhöhe, 2011), 187.

My reading is based here on the single track print of Eye/Machine. The film can also be shown on two separate monitors, in which case the two tracks or, more specifically, their respective image frames would not overlap. Cf. also Nora M. Alter’s nuanced article “Addressing the Global in Recent Nonfiction Film Production,” in The Cosmopolitan Screen: German Cinema and the Global Imaginary, 1945 to the Present, ed. Stephan K. Schindler and Lutz Koepnick (Ann Arbor: University of Michigan Press, 2007), here especially 261–266. My thanks to an anonymous reviewer for this reference.


Farocki, “Gespräch,” 207.

Farocki notes that “in the three parts of Eye/Machine, I use and reuse many images: Some images from the first part reappear in number two, and some from number two in number three. I try not to have a linear, deductive argument but rather these quite short, poemlike concepts—what Walter Benjamin called the Gedankenbild, or the ‘idea-image.’” Harun Farocki and Tim Griffin, “Viewfinder: Interview with Harun Farocki,” Artforum 43.3 (2004): 163. Correspondingly, Jan Verwoert writes with regard to “the production span” of the Eye/Machine trilogy: “instead of investing three years into one film with the claim to exhaust its topic, Farocki has taken the time to compile one film each year from 2001 to 2003. Each single film is therefore purposefully (and perceptibly so when you watch it) proposed as one more preliminary step in the exploration of its topic. This procedure underscores the impossibility of a conclusive account just as much as it testifies to the need to continuously push the critique further.” See Jan Verwoert, “Production Pattern Associations: On the Work of Harun Farocki,” Afterall: A Journal of Art, Context, and Enquiry 11 (2005): 68.


Farocki and Griffin, “Viewfinder: Interview with Harun Farocki,” 162.

See Michael Cowan, “Rethinking the City Symphony after the Age of Industry: Harun Farocki
and the ‘City Film.’” *Intermédialités: Histoire et théorie des arts, des lettres et des techniques* 11 (2008): 85. Cowan, in his analysis of Farocki’s installation *Counter-Music*, correspondingly remarks, “While the installation doesn’t try to humanize operative images, it does recontextualize those images for a less instrumental mode of looking. Not unlike Farocki’s practice of slowing down moving images through the use of drawings, photographs and stills in his essay films, *Gegen-Musik* takes the surveillance images it borrows out of their enforced circulation,” making them available to the contemplative museum visitor “now placed physically before a crossroads of intersecting video projections or monitors” (85).

57. See esp. *Eye/Machine I* and *Eye/Machine III*.

58. The slash so elegantly hidden in the *Eye/Machine* trilogy’s title of course raises various questions. In a trenchant piece on “the cinema of Harun Farocki,” Hal Foster ponders whether “the slash signifies a split between eye and machine (as often in *Images of the World*) or a new elision of the two, or somehow both—a split that has produced an elision? The slash also evokes the old division between body and mind: Farocki seems to imply that ‘the eye/machine problem’ is to our age what ‘the mind/body problem’ was to thought after Descartes, with ramifications that here, too, far outstrip the philosophical.” “Vision Quest: The Cinema of Harun Farocki,” 160. In a slightly different vein one could ask if the antipodes “eye” and “machine” or, respectively, human and technology, can be conceived separately at all, or if they are not inevitably tied to one another. On this question, see, among others, Oliver Müller, *Zwischen Mensch und Maschine: Vom Glück und Unglück des Homo faber* (Berlin: Suhrkamp, 2010).

59. Virilio writes: “In the old days aiming was called perceptive faith. The line between the eyepiece and the notch was called the line of faith. Why? Because you only squeeze the trigger when you believe you’ll hit the target. Nowadays they call it the ‘line of sight,’ . . . since it is obviously what it is. . . . The ‘line of faith’ referred to a tool, so the proof of faith was in my squeezing the trigger at the moment I believed I would hit the target; but this was only a belief. Whereas perception machines are linked to faith in perception. Faith in perception is really a key notion, connoting religious faith. To believe in God is to believe what you see. Faith, belief, and vision are the basis for philosophical questions: since I saw it, I believe in it.” See Paul Virilio and Sylvère Lothringer, *Pure War* (New York: Semiotext(e), 2008), 233. See also Virilio, *The Vision Machine*, 13.