Gaming

Essays on Algorithmic Culture

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Electronic Mediations, Volume 18

University of Minnesota Press
Minneapolis
London

Chapter 3 was originally published as "Social Realism in Gaming," *Game Studies* 4, no. 1 (November 2004). Chapter 4 was originally published as "Playing the Code: Allegories of Control in *Civilization*," *Radical Philosophy* 128 (November–December 2004). Reprinted with permission.

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Published by the University of Minnesota Press
111 Third Avenue South, Suite 290
Minneapolis, MN 55401-2520
http://www.upress.umn.edu

Library of Congress Cataloging-in-Publication Data

Galloway, Alexander R., 1974–
Gaming : essays on algorithmic culture / Alexander R. Galloway.
p. cm. — (Electronic mediations)
Includes bibliographical references and index.
ISBN-13: 978-0-8166-4850-4 (hc : alk. paper)
ISBN-10: 0-8166-4850-6 (hc : alk. paper)
ISBN-13: 978-0-8166-4851-1 (pb : alk. paper)
ISBN-10: 0-8166-4851-4 (pb : alk. paper)
1. Video games—Social aspects. 2. Video games—Philosophy.
I. Title. II. Series.
GV1469.34.S63G35 2006
794.8—dc22 2006003428

Printed in the United States of America on acid-free paper

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12 11 10 09 08 07 06 10 9 8 7 6 5 4 3 2 1

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Origins of the First-Person Shooter

The beginning of a medium is that historical moment when something ceases to represent itself. "The theater brings onto the rectangle of the stage, one after the other, a whole series of places that are foreign to one another," wrote Foucault in one of his infrequent forays into aesthetics. "Thus it is that the cinema is a very odd rectangular room, at the end of which, on a two-dimensional screen, one sees the projection of a three-dimensional space."[1] The movie theater is a complex intersection of seemingly incommensurate media environments: a three-dimensional space is used for viewing a two-dimensional plane that in turn represents the illusion of another three-dimensional space. Likewise today the cinema is butting up against another seemingly incommensurate medium, the video game. They are no less different as two dimensions are from three. Yet it is a cliché today to claim that movies are becoming more and more like video games. What exactly does such a claim mean? Today video games and film are influencing and incorporating each other in novel ways. Through a historical transformation that he calls the "automation of sight," Lev Manovich writes how the camera has adopted a more and

more machinic gaze with the passage into the digital.[2] One witnesses this transformation firsthand in the clinical, disembodied tracking shots in *Panic Room*, or in the digital effects of *The Matrix*, itself often criticized for looking too much like a video game.

But ignoring for a moment all the pizzazz of digital effects in movie-making, there exists a much simpler visual technique that one may use to examine how cinema and gaming are constituted as similar and dissimilar media formats: the use of the first-person subjective camera angle. I would like to explore this shift through the following proposition: In film, the subjective perspective is marginalized and used primarily to effect a sense of alienation, detachment, fear, or violence, while in games the subjective perspective is quite common and used to achieve an intuitive sense of motion and action in gameplay. This claim will most certainly rankle some readers, so I should first clarify a few things before continuing.

The Subjective Shot

Generally speaking, film technique involves the staging of action by characters and the recording of that action by elements of the film apparatus. Paul Willemen, in his essay "The Fourth Look," has described the various visual axes that exist in a typical filmic scenario: the camera's look, the audience's look, the intradiegetic look between characters, and the fourth look, "the look at the viewer" by an onscreen character.[3] In the classical Hollywood style, the first and second looks are often subordinated to the third. The fourth look is generally avoided, since it forces the viewer to confront his or her own voyeuristic position.[4] However, occasionally the strict separation of these four looks is not so carefully observed. Occasionally, two of the looks—the look of the camera and the look of a single character—merge together, so that the camera lens and the eyes of a character become one. This results in a rather extreme first-person point-of-view shot, where the camera pans and tracks as if it were mounted on the neck of a character. When the camera fuses with a character's body, the viewer sees *exactly* what the character sees, as if the camera "eye" were the same as the character "I." The camera merges with the character both visually and subjectively. In a sense, this type of

first-person shot is the spatial opposite of Willemen's fourth look. They are like two vectors, one pointing outward and one pointing inward. They constitute a grand axis that extends outward from the viewer's eyes, pierces the screen, enters the diegesis of the film, and backs out again. It is this grand axis that creates so much difficulty in cinema. The difficulty is so great that both types of shot are largely avoided, and when they are used, they signify a problematic form of vision (which I will describe later).

It is important to stress the difference between the subjective shot (when the camera shows what the actual eyes of a character would see) and the more general point-of-view (POV) shot. POV shots show approximately what a character would see. They show the perspective more or less from the character's vantage point. Yet subjective shots mean to show the exact physiological or emotional qualities of what a character would see. In other words, the POV shot tends to hóver abstractly in space at roughly the same diegetic location of a character. But the subjective shot very precisely positions itself inside the skull of that character. It is a question less of type than of degree.

The POV shot is most commonly illustrated by considering the shot/reverse-shot sequence in which a character is first shown looking at something, and then the camera swings in reverse to a POV shot to see what he or she was looking at. Correct eyeline matching is employed to create the illusion of a coherent visual space. The POV shot is nothing more than an approximation of a character's vision. It is not an exact re-creation of that vision, for it does not resemble human vision in any physiological or subjective sense. If it did, it would not be stationary but would flit and jostle around; it would be interrupted by blinking eyelids, blurrings, spots, tears, and so on. In conventional filmmaking, the POV shot always ignores the physiology of vision. What happens instead is a sort of surrogate point of view, a shot that has the same vector as the character's line of sight but in reality is more like a camera on a tripod rather than the character's true vision. The POV shot is an abstract shot, an iconographic substitute for the character's vision. It pretends to be from the character's *point* of view, from a perspective, not verily through his or her own eyes, with all the blinks, blurs, and jiggles—not to mention raw subjectivity—that that would entail.

Another usage is the "masked POV" shot, often used to represent binocular vision (or vision through a telescope, camera, or keyhole). This shot is easy to notice: the edge of the frame is obfuscated with a curved, black masking. The masking acts as visual proof that the audience is seeing exactly what the character is seeing through his or her own eyes. These shots are generally very short takes. They serve simply to offer some piece of visual evidence to the viewer. But their relationship to the subjective shot is flimsy at best, for the cinema's binocular shot doesn't accurately capture what it looks like to peer through binoculars—in human vision, the two lens images tend to overlap and fuse into a single circle. Moreover, because real human vision does not come in a tidy, rectangular aspect ratio, one never actually notices the blackness at the edge of the image. The sideways figure-eight masking is simply the best that cinema can muster to approximate what binocular vision looks like. Cinema's binocular shot, then, is a type of icon for binocular vision, not an honest-to-goodness substitute for it.

The collection of visible evidence is often crucial in films, and the POV shot is commonly used to present to the audience evidence necessary to the film's narrative. The binocular shot is almost always used to convey some sort of visual fact to the viewer. Letters, telegrams, and notes are similar, as in *Casablanca* when Ilsa's good-bye note is pasted flat on the screen for the audience to read and then yanked back into diegetic space by a dusting of heavy raindrops. These shots are a holdover from the intertitles of the silent era. They walk the line between being a POV shot and being a subjective shot. Films like Antonioni's *Blow-Up*, Hitchcock's *Rear Window*, or Greenaway's *The Draughtsman's Contract* all rely on the collection and analysis of visible evidence. Further, one might also consider films focusing on audio evidence, such as De Palma's *Blow Out* or Coppola's *The Conversation*, or the subjective evidence of memory, as in Kurosawa's *Rashomon*, or even the evidentiary gaze of video games like *Ico*. As Grace Kelly says at the narrative crossroads of *Rear Window*, "Tell me everything you saw... and what you think it means."

But certain critical observations, like this one written in passing by Fredric Jameson, complicate the discussion so far on the POV shot:

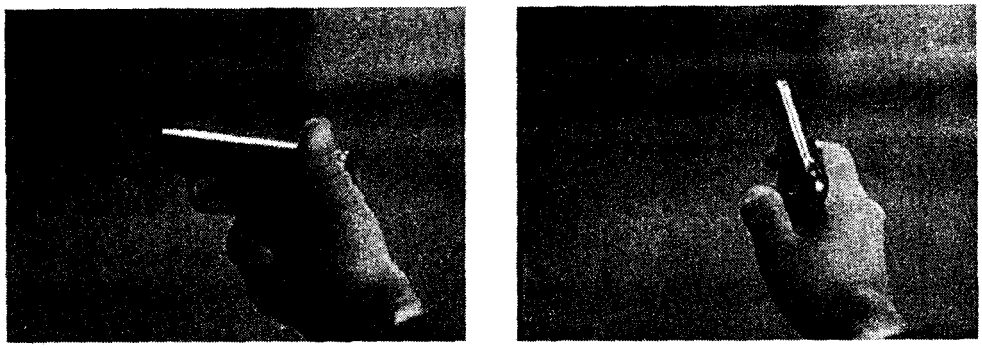
> "Point of view" in the strictest sense of seeing through a character's eyes—as in Delmar Daves's *Dark Passage* [1947] or Robert Montgomery's *The Lady in the Lake* [1946]—has been a very marginal narrative procedure indeed.[5]

Or as David Bordwell and his coauthors put it, very few films are dominated by a single character's perspective, much less a character's subjective perspective:

> If we take point-of-view to be an *optical* subjectivity, no classical film, not even the vaunted but misdescribed *Lady in the Lake* (1947), completely confines itself to what a character sees. If we regard a character's point-of-view as comprising what the character knows, we still find very few classical films that restrict themselves to this degree. . . . The classical film typically contains a few subjective point-of-view shots (usually of printed matter read by a character), but these are firmly anchored in an "objective" frame of reference.[6]

Let us consider in greater detail the type of POV shot that does pretend to emanate from the eyes of a particular character: the subjective shot. Like POV shots, subjective shots happen when two of the looks, the look of the camera and the look of a single character, merge together as one. Yet subjective shots are more extreme in their physiological mimicking of actual vision, for, as stated, they pretend to peer outward from the eyes of an actual character rather than simply to approximate a similar line of sight. Thus subjective shots are much more volatile. They pitch and lurch. They get blinded by light or go blurry. And within the diegesis, they elicit Willemen's "fourth look" often, as other characters address the camera directly (in an attempt to maintain the illusion that the camera is actually another character). As Jameson writes, subjective shots are marginal, and I can see two reasons why he would think so: they are materially marginalized in that they happen relatively infrequently within the apparatus of filmmaking, and they are aesthetically marginalized in that they represent only specific moods and situations.

As both Jameson and Bordwell suggest, Robert Montgomery's noir experiment *Lady in the Lake* is the most fully formed early example of the subjective shot.[7] In this film, the camera becomes one with the main character, Marlowe. Nearly every shot in the film is shot as if it



Lady in the Lake, directed by Robert Montgomery, 1947

were from the eyes of Marlowe. Thus the typical Hollywood conventions of shot/reverse shot, continuity editing, and so forth are shed to facilitate a new experimental convention, the merging of two "looks." The film attempts to move in real time—not true, we learn upon discovery of carefully hidden ellipses and cuts—but nevertheless, as Marlowe sees events in the world, the viewer sees them too. Images become evidence. (Indeed, the film eventually turns on a visual trick in which the viewer, as Marlowe, sees the cops approaching from a fire escape behind the crooked cop—a fact that the crooked cop is not willing to believe, since he is not privy to the special merging of looks afforded the viewer.)

Unfortunately the visual experiment of *Lady in the Lake* made identification problematic. Critics at the time called the subjective shot "gimmicky" and "flawed." Pascal Bonitzer called it "more tiring than fascinating."[8] (The early 1950s television cop show *The Plainclothesman* used the same conceit with slightly more success.) Each time Marlowe's body is also shown onscreen—in a mirror, when smoking, when crawling, being kissed, and so on—the illusion of the subjective shot is broken, and the viewer is reminded of the camera lens's failure to merge fully with Marlowe's own optics. The audience is thus trapped inside a sort of failed formal experiment, and the suturing together of the filmic apparatus begins to fray.

J. P. Telotte describes the detached, dreamlike quality of the film in which the viewer's avatar (Marlowe) both acts and sees itself acting:

> As the film opens, Marlowe is the sole object in the image field, as he comments upon the role of the detective. With our incarnation in his presence, through that pervasive subjective camera, he also becomes

> that which is, after a fashion, "lost" for most of the narrative and thus the object of our own searching throughout the film, although most obviously when that absence is underscored by the many acknowledgements of Marlowe's presence, such as the mirror reflections or the guns aimed at his off-screen perspective. That enigmatic detachment, of course, as we both act and see ourselves in action, again typifies the dream experience.[9]

The same sense of detachment, claustrophobia, and nonidentification pervades the first hour of *Dark Passage* in which the main character, played by Humphrey Bogart, moves and talks in the first person, not unlike the technique used in *Lady in the Lake*. But the subjective perspective is only a ploy in this film, as the taxi scene demonstrates with Bogart's face deliberately bathed in shadow. The first section of the film is a cinematic conceit for not showing Bogart's presurgery face, and in that sense it is better motivated by the narrative than was Montgomery's film. But the subjective shots end after the plastic surgery, and the film returns to the shot conventions of classical Hollywood. It seems that only a scalpel can rid this film of the subjective camera angle.

While *Lady in the Lake* and *Dark Passage* are fascinating examples, they are not indicative of the vast majority of subjective shots used in the cinema. Edward Branigan is authoritative in this area. He contrasts the POV shot with the subjective shot (which he terms the "perception" shot), claiming that one is characterized by relative clarity, while the other is characterized by difficulty:

> In the case of character *sight*, what is important is not so much that a character sees something, but that he experiences difficulty *in seeing*. What is revealed is not the external object of a glance nor an internal state of the character, but a condition of sight itself. This feature of character vision is exploited in the perception [i.e., subjective] structure which differs from the POV structure in one important respect: In POV there is no indication of a character's mental condition—the character is only "present"—whereas in the perception [i.e., subjective] shot a signifier of mental condition has been *added* to an optical POV.[10]

Thus, to facilitate a deeper analysis of the subjective shot, there are two general observations worth mentioning. First, while POV shots are ubiquitous, subjective shots are much less common in narrative

filmmaking. *Lady in the Lake* and *Dark Passage* notwithstanding, most narrative films don't include a single subjective shot, and in the films that do, there are generally only a handful of subjective shots used to achieve very specific results. Second, when a subjective shot is used, it generally signifies some type of negative vision. This is the "difficulty" that Branigan mentioned. It is sometimes an evil vision, or an inhuman one, or simply a moment of alienation or detachment within a character. Few other shot styles are as closely associated with such a specifically defined mood. Yes, there are exceptions to these rules: for example, there is nothing inhuman or evil about Peter O'Toole's director's-eye shot of a bitten apple near the beginning of *The Stunt Man*, but the image is too quick to render much cinematic affect; likewise the use of the first person for a Steadicam shot at the start of *Wild Things* does little more than forecast the twists and turns of the film as a whole. Yet I hope to point out in what follows the largely alienating qualities of the vast majority of subjective shots in use in mainstream narrative film.

Mental Affect

One of the most common uses of the subjective shot is to show the optical perspective of a drugged, drowsy, drunk, or otherwise intoxicated character.[11] Samuel Fuller used this type of subjective shot in the opening sequence of *The Naked Kiss*. Here Kelly (Constance Towers) repeatedly strikes her inebriated male opponent. The combat is filmed from the opponent's subjective viewpoint looking back at her, and he is beaten down in a drunken stupor. The use of the subjective camera in this sequence is quite violent and unsettling, meant to convey not only the character's drunkenness but also the attacker's vitriol. The courtroom scene in *Sullivan's Travels* uses the subjective perspective in a similar fashion. In this scene, John Sullivan (Joel McCrea) has suffered a head injury and is delirious. The camera is shot in the first-person perspective, using filters to blur and obfuscate the shot. The technique is designed to mimic the character's traumatized subjective sensations. The camera's visual confusion approximates his own physiological trauma. In *Black Narcissus*, to cite another example, at the moment when Sister Ruth succumbs to her earthly passions, the camera cuts to a subjective shot that glows bright red. Then the camera

Notorious, directed by Alfred Hitchcock, 1946

careens to the floor, and the screen eclipses to a wash of royal blue after she faints. Her physiological state, intoxicated with passion, is conveyed to the viewer using the subjective shot. In still another example, from Hitchcock's *Notorious*, after Alicia is gradually subdued by a forced diet of narcotics, the sequence switches to a subjective camera, warping and blurring to depict her visual delirium. A similar shot is used in Alicia's drunk-driving scene; only then liquor and windblown hair obscure her vision instead of poison. In *Spellbound*, Hitchcock does the same: J. B.'s subjective shot through a glass of milk (which is spiked with bromide) exists purely to cantilever the character's physiognomy from psychotic trance to drug-induced slumber.

Detachment or Distancing

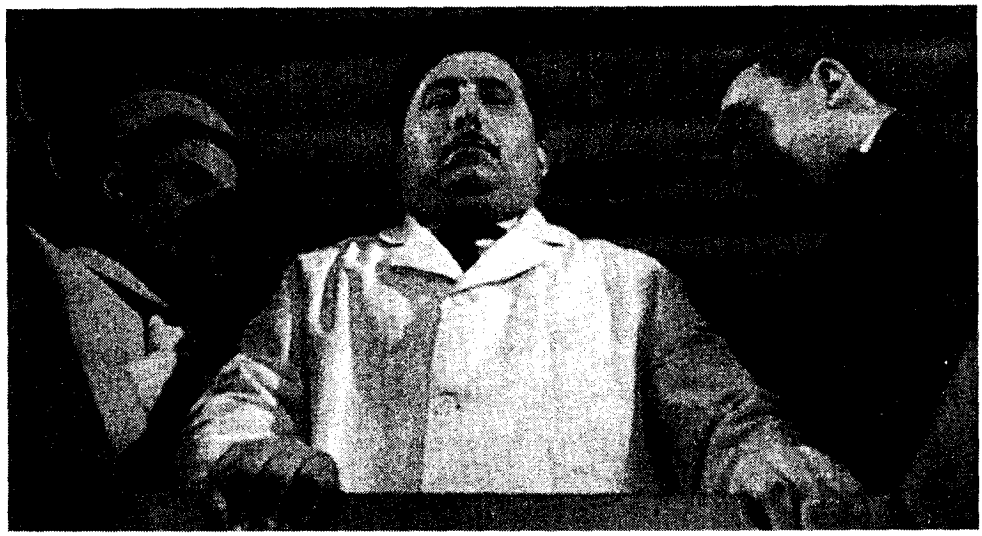
In the contemporary cinema, the film *Being John Malkovich* contains a wealth of subjective cinematography. Here the subjective shot does not repurpose the optical traits of intoxication but instead represents the feeling of disembodiment that would accompany leaving one's

own body and entering the head of another person. (The film mimics a similar technique from the final vignette in *Everything You Always Wanted to Know About Sex* but Were Afraid to Ask* where a romantic liaison is observed through the eyes of a surrogate host.) The subjective shot effects the distortions of identity that would follow from such a radical physiological transformation. In the film, subjective shots are denoted by a binocular-like black oval mask that obfuscates the corners of the frame. Additionally the frequent use of a wide-angle lens adds a sense of vertigo to the shot. Since the narrative of the film revolves around the art of puppetry, the subjective shot is no doubt used here as a type of formal allegory for the inability to control one's actions, for being at the mercy of someone else. Just as in the uncomfortable lack of identification with the bodily movements of Marlowe's character in *Lady in the Lake*, the viewer of *Being John Malkovich* is thrown into an uneasy rapport with the diegesis of the film, which, one assumes, is precisely the point. If the subjective shot inhibited audience identification in the earlier film, it is leveraged here exactly because of its ability to alienate the viewer. The film demonstrates, essentially, that being in the first-person perspective is the same as being a puppet: the viewer is impotent and helpless, subject to the physical and psychological whims of the puppeteer. The short flashback of Elijah (the chimp), also shot using the subjective camera, underscores this point. Like a puppet, the infantile, feeble-minded chimp has little agency in this sequence, and thus the subjective shot fits him well. Being Malkovich is like being Elijah, or so the film's visual grammar would have one believe.

Other films have also used the subjective shot to portray a feeling of detachment or distancing. *Thomas in Love*—like *Lady in the Lake*, shot entirely with subjective camera—effects a sense of detachment, both literally in the portrayal of the main character's agoraphobia and also aesthetically with the rampant use of video monitor imagery. In *The Graduate*, when Ben Braddock (Dustin Hoffman) is paraded before his parents' friends in full scuba gear, the first-person subjective perspective is used to represent his feelings of impotence and alienation. The film's audio track is distinctly affected at this moment, and the mise-en-scène gives way to muted underwater colorings. This is not a typical way of seeing but instead an oppressive, decentering

one. Likewise in *Risky Business* the subjective shot is used to emasculate the main character. It is used to show him at his point of least power, that is, when he is subject to the patronage of his parents. Some films carry this notion further. The opening shot of *The Insider* is a subjective shot masked by a gauze blindfold, designed to put the viewer in a state of uncertainty, even dread. When the son is hit by a car in *All about My Mother*, a subjective shot is used. Likewise Stanley Donen in *Charade* uses a subjective shot in the morgue scene near the film's beginning, placing the camera in the rather unnatural subjective viewpoint of a cadaver looking upward. The steel sarcophagus walls frame the shot on three sides, and this, coupled with a backward tracking movement, imparts a distinct sense of claustrophobia and helplessness to the viewer. Hitchcock has also used this mode effectively. In *Topaz*, when Juanita descends the stairway to confront the soldiers invading her residence, Hitchcock cuts to a quick, unsteady shot through her eyes to indicate that she is about to die. Then comes the most important shot of the film, a high overhead shot—a perspective perfected by Hitchcock, and one that no real human eye could ever attain—of her murdered body, the purple fabric of her dress flowing outward like a pool of blood. The two shots counterpoint each other: nothing but the alienating subjective shot on the stairs can prepare the viewer for the woeful murder shot. At that moment, Juanita's first-person vision is a dead vision. It invites dread and detachment into the scene.

What was detachment and alienation in *Topaz* was often flat-out terror in other Hitchcock films. In *The 39 Steps*, Hitchcock uses the subjective shot to transmit a sense of fear and foreboding when the news of Annabella's murder is first described aloud in the train compartment. In *Vertigo*, the famous filmic representation of acrophobia (a track-zoom shot looking straight down) is also a subjective shot. It is used to portray the intense fear and disorientation felt by someone suffering from vertigo. *The Blair Witch Project* does something similar, yet the fear of heights is replaced in this film by the fear of being lost. The film's interesting invention of a sort of "camcorder subjectivity," while not a subjective shot per se, nevertheless parallels the techniques of the subjective shot to heighten the sense of disorientation and fear.



Charade, directed by Stanley Donen, 1963

Criminals and Monsters

Thus far, I have considered how the subjective shot is used to represent the first-person perspective of relatively average characters. They might be intoxicated, frightened, or otherwise out of joint, yet these characters are still human beings. However, these examples are not indicative of the majority of subjective shots in the cinema. The largest number of subjective shots represent the vision of aliens, criminals, monsters, or characters deemed otherwise inhuman by the film's narrative. Thus it should come as no surprise that the horror genre uses this convention relatively often. From early science-fiction monster films like *It Came from Outer Space*, to pioneering horror films like *Psycho* or *Halloween*, to the more recent film *The Eye*, the first-person subjective shot is used to show what Carol Clover calls "predatory" or "assaultive" vision, that is, a sadistic way of seeing characterized by aggressive action, forward movement, and onscreen violence. "*Predatory gazing* through the agency of the first-person camera," writes Clover, "is part of the stock-in-trade of horror."[12] *The Silence of the Lambs* is a good example of this type of predatory vision. The serial killer Buffalo Bill (aka Jame Gumb) dons night-vision goggles in the finale, and his subsequent subjective shots are used to present to the viewer the optics of raw criminality. The films *Jaws* and *Alien* both

The Silence of the Lambs, directed by Jonathan Demme, 1991

use the subjective shot exclusively as the visual avatar for the killer monsters. In those films, the first-person perspective is a stalking, predatory vision, a killing vision. This way of seeing is also used often in slasher movies such as *Friday the 13th* (or, again, *Halloween*) to show the actual optical perspective of the killer. Brian De Palma, in *Casualties of War*, uses this perspective for a single scene in which an unknown assailant stalks another soldier and attempts to murder him with a grenade. De Palma used this technique again later in *Mission:*

Impossible, where the frequent use of first-person subjective shots during the first twenty minutes of the film is a sort of monstrous formal trauma that necessitates the systematic killing off of all of the film's leading characters, save one, before the film has even gotten under way. De Palma has used this technique before, too, as in the opening segment of *Blow Out*, where a knife-wielding murderer offers the viewer his own first-person perspective as a psychopath. As in *Lady in the Lake*, De Palma uses a mirror to show the audience a reflection of the first-person character looking at himself. In both films it is a peculiar moment. Since this way of seeing is so alienating in narrative filmmaking, viewers are not altogether comfortable looking in the first person, much less witnessing themselves in a mirror looking in the first person.

The intersection of the POV shot and the subjective shot is illustrated nicely by Hitchcock's *Rear Window*. As others have pointed out, the film overflows with POV shots, and indeed the entire narrative thrust of the film, along with its poetic import, revolves around the various layers of watching, being watched, seeing, and identifying.[13] So while POV shots are crucial in the film, subjective shots are also used in certain instances, as in the soft-focus filmic portrait of Kelly upon her entrance. The shot is neither predatory nor monstrous, but it does have a confusing, dreamlike quality, attesting to Jeffries's psychological state at the time. When the subjective shot does turn monstrous, in the climactic scene near the end of the film, it is used to illustrate the temporary blindness of the killer after each flashbulb burst. Blindness is depicted by using a bright red circle that overtakes the frame. This is literally the optical perspective of the salesman, a killer whose way of seeing at that moment is no less bloodthirsty than the shark camera in *Jaws* or the night-vision camera in *The Silence of the Lambs*. A simple POV shot would not go red, for it does not pretend to mimic actual vision. This shot *must* be a subjective shot, for the viewer is designed to see, in a physiological sense, exactly what the killer sees. There is nothing sinister about a POV shot (dozens of POV shots come and go during the film with little fanfare), but subjective shots signify something dark and murderous, and so when Hitchcock elects to use a subjective shot, he comes up with a formally affected image, emanating from the eyes of a murderer.

In this sense, it is easy to see how the subjective shot is a close cousin of the snuff film, connected as they are through the coupling of predatory vision and the impotence of the gaze. *Peeping Tom* probably illustrates this best, imbricating the necessarily impotent physical positioning of the viewer with the onscreen events through the use of the subjective shot. *The Eyes of Laura Mars* or the newer *Strange Days* do something similar. During one of *Strange Days*'s first-person frolics, Lenny (Ralph Fiennes) reveals himself in a mirror while maintaining the first-person perspective (with a cheat away allowed for Bigelow's camera to stay hidden). Faith (Juliette Lewis) asks, "You wanna watch? Or are you gonna do?" The question casts doubt on the ability of the subjective gaze to do anything. It casts doubt on the viewer as well as the audience, for both parties know that the subjective shots in the film are doomed to fail at *doing* and are instead resigned to an impotent form of camcorder playback sans joystick, which of course is the best the cinema can muster.

Computers

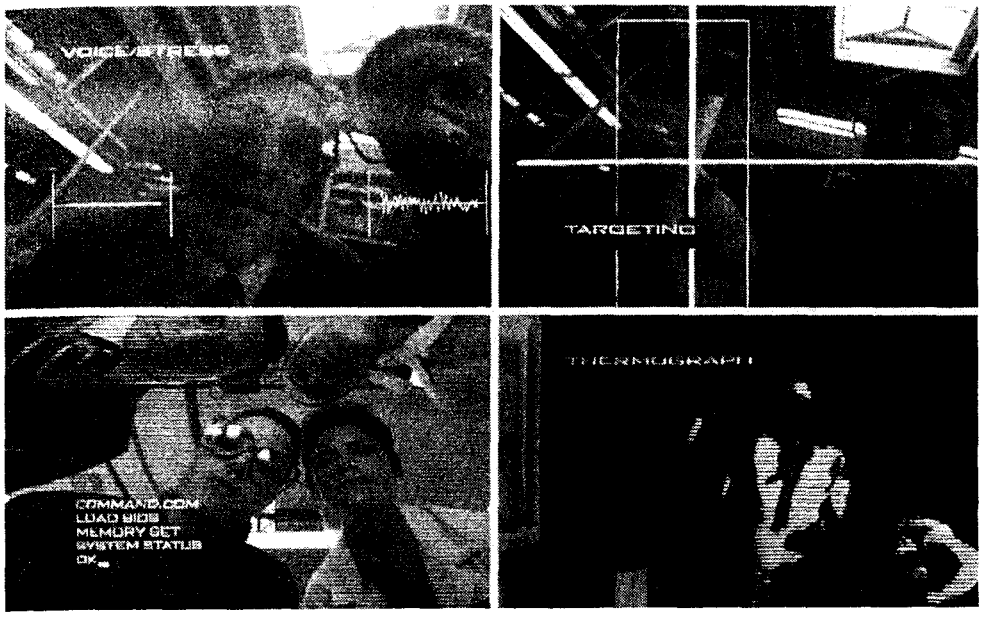
As discussed thus far, subjective shots are often paired with intoxicated humans and bloodthirsty monsters. But perhaps the most successful use of the subjective shot is when it is used to represent computerized, cybernetic, or machinic vision (or when, as in the case of "smart bomb" video targeting footage, it *is* machinic vision). In *The Terminator,* to underscore the computerized artificiality of his cyborg's visual cortex, James Cameron includes four shots where the Terminator's eyes and the camera lens merge. The first, after a violent shoot-out in the "TechNoir" nightclub, is seen as a degraded orange-on-black image. The Terminator's visual field is overlaid with target crosshairs and lines of computer data. The shot is short, uncoupling the camera's eye and the Terminator's "I" after only a few seconds. At three other moments in the film (the attack on the police precinct, the barking dog at Reese and Connor's motel hideout, and the penultimate tanker trunk scene), Cameron uses the same visual style to designate a merging of looks. Computer readouts, diagrams, graphics, flashing cursors, and scrolling texts are all used to give the Terminator's image a computer-like patina. (The patina overlay pops up in other films too, as in the case of the computer HAL in *2001*, whose digital vision is

deeply affected via the use of a wide-angle lens, or as in *Lost Highway*, where the dozen or so subjective shots that do exist are presented to the viewer via the lens of a security camera, thereby adopting the grainy, low-res image quality of amateur video. The video patina acts as a buffer to mediate the shock of the subjective shot.)

During the repairs scene in the cyborg's hotel hideout, the source of the Terminator's visual patina is revealed: he has robotic eyes, complete with lens, aperture, and recording mechanism. The Terminator's visual apparatus, then, is quite similar to the film's apparatus in which it is contained. Merging the two looks makes sense when it is machine on machine. It goes with the grain. Hence, when the Terminator is finally killed and his glowing red eye fades and dies, the film must also end, having finally lost its ability to merge the camera lens with the character eye.

Full of clear allusions to its cyborg sci-fi predecessor, *Robocop* perfects the art of mixing filmic looks begun in *The Terminator*. Willemen's fourth look is employed early in the film through the use of newscast footage and commercials. Robocop is a machine, but since his bodily core is human (resuscitated from Alex Murphy, the cop), the merging of film body and character body must be delicately navigated. Murphy must first be obliterated as a body—that is, *dehumanized*—before the viewer is allowed to see through his eyes. Obliteration comes in the form of firepower. His hand is blown off; he is pelted with dozens of rounds; and then he is shot through the head at point-blank range and left for dead. As he is taken to the hospital, the camera eye and Murphy's ego perspective merge for the first time. His eye is shown in close-up. But he dies, and the image dies too; the film goes dark for several seconds.

As the image wakes up, the movie camera *is* Robocop. Video is used rather than film, and the image is filtered to mimic Robocop's computerized vision: the vertical hold of the image is lost temporarily, static degrades the image, and text flickers across the screen. As a technician orders, "Bring in the LED!" the viewer witnesses a computerized grid superimposed over the frame. The same technician later kisses Robocop's visor, leaving a blurry red mark on the screen. (The visor kiss is more plausible here than the same kiss scene in *Lady in the Lake* simply because Robocop's visual apparatus already contains a



Robocop, directed by Paul Verhoeven, 1987

glass screen, the visor, whereas Marlowe's visual apparatus does not.) These are all instances of the subjective shot, and they all signify computer vision.

As the narrative of the film dwells on his rise in popularity as a law-enforcement machine, Robocop's subjective vision becomes more and more important to the film. In the hostage scene at City Hall, the conventional cinematography is interrupted by Robocop's "Thermograph" vision, a type of computer vision used to see through walls. Robocop's normal robotic vision is mediated further as heat-sensitive shapes are mixed with the already degraded video image.

John McTiernan's *Predator* uses a similar "thermographic" effect to designate the merging of the camera lens with the Predator's optics. At key moments in *Predator*, the viewer sees a colorized, heat-sensitive image that is meant to be the Predator's actual vision. In this sense, the formal rules of the subjective shot in *Predator* are quite similar to *Jaws* and *Alien*; only in McTiernan's film the monster's predatory vision is augmented by a computer.

What might appear here as a savvy demystification of the filmic apparatus in *Predator* or *Robocop* is in fact a reinscription of a sense of optical exactitude for the subjective positions of the two title characters. The viewer is not unsatisfied by seeing the visible, computer-

enhanced traces of Robocop's vision because these traces—the low-resolution video image, degraded with static and computer effects—reinforce the very fantasy of cyborg vision. Being cybernetic, then, provides a necessary alibi for the affect of the first-person perspective. After all, Robocop's vision (like the Terminator's) *is* robotic, while Marlowe's was nothing of the sort. *Lady in the Lake* fails not because it doesn't get it right but because it doesn't get it wrong enough. It tried to merge the camera body with a real, human body, a dubious proposition in the cinema, whereas in films like *Robocop* or *The Terminator* the camera merges with an *artificial* body, one that is more similar to the machinic apparatus of film itself, and likewise of digital media. An affinity based in prosthetics, mechanics, and visuality bonds the camera together with the figure of the cyborg eye. These films mark one aspect of the aesthetic transition from cinema to digital media and hence to video gaming.

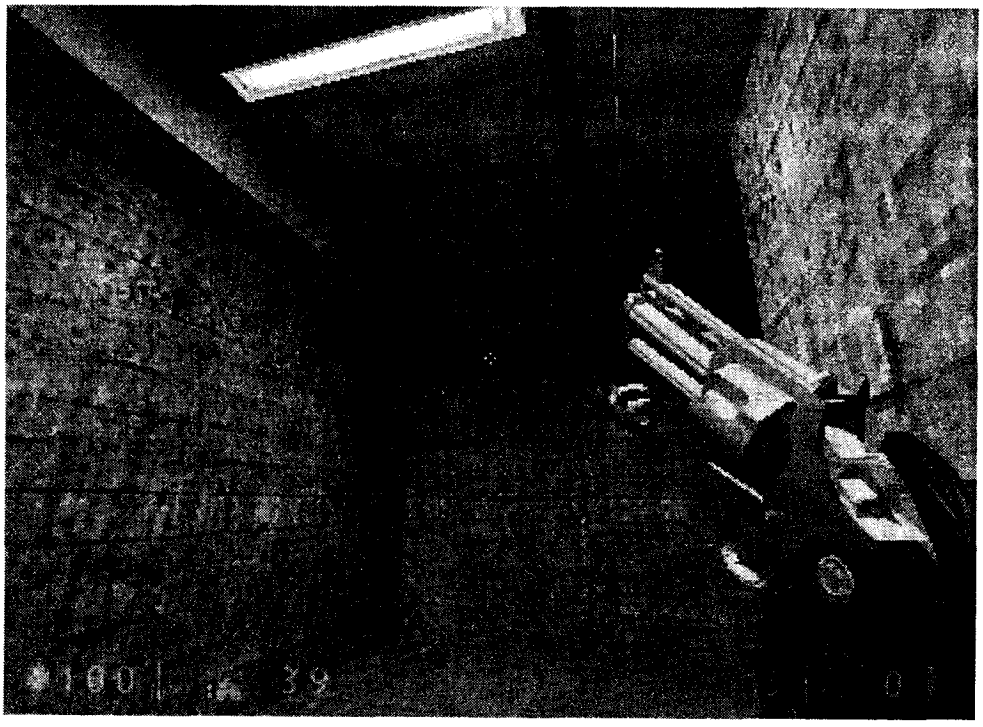
As these many examples illustrate, the first-person subjective perspective is used in film primarily to effect a sense of alienation, otherness, detachment, or fear. Further, more often than not, this type of shot is used to show the vision of criminals, monsters, or killer machines. This analysis shows that the merging of camera and character in the subjective shot is more successful if the character in question is marked as computerized in some way. The first-person subjective perspective must be instigated by a character who is already mediated through some type of informatic artifice. Necessary for this effect are all the traces of computer image processing: scan lines, data printouts, target crosshairs, the low resolution of video, feedback, and so on. In other words, a deviation from the classical model of representation is necessary via the use of technological manipulation of the image—a technological patina.

Action as Image

So far I have considered a specific and somewhat rare type of shot used in narrative filmmaking, the subjective shot. But let me make this discussion slightly more specific, first by making reference to a different medium altogether, the video game, and second by adding

Spellbound, directed by Alfred Hitchcock, 1945

another piece of visual iconography to the frame, a weapon. Video games are wildly diverse in their formal grammar, but in the specific gaming genre known as the first-person shooter (FPS), a gaming genre invented in the 1970s and perfected by Id Software in the early 1990s with games like *Wolfenstein 3D* and *Doom*, there are several formal conventions that appear over and over. First, FPS games are played in the subjective, or first-person, perspective and therefore are the visual progeny of subjective camera techniques in the cinema. But perhaps equally essential to the FPS genre is the player's *weapon*, which generally appears in the right foreground of the frame. While a more detailed analysis would certainly include other elements such as the heads-up display, for simplicity's sake let me claim that these two elements alone—a subjective camera perspective, coupled with a weapon in the foreground—constitute the kernel of the image in the FPS genre. (Let me also underscore that the analysis of gamic visuality in this section is relevant only to first-person, and to a certain extent third-person, shooter games. An entirely different theory of visuality would need to be developed for RTS games, turn-based



Half-Life, Valve Software, 1998

RPGs, and other genres, something I attempt, however tangentially, and admittedly [but deliberately] without much reference to the visual cortex at all, in chapter 4.)

Perhaps not surprisingly, even the precise visual idiom of the FPS video game appears decades before in the cinema. In 1925, for example, Buster Keaton used a prototypical FPS shot in the film *Go West*. As in *Jaws*, the perspective comes from the point of view of a predatory animal. In Keaton's case, the animal is a stampeding bull, and the bull's horns are the weapon that appears hovering in the foreground of the shot. While the shot is technically in a third-person (bovine) perspective—the camera is mounted on the head of the bull, not where its eyes would be—the generic conventions are all there: an affective ego perspective, with a weapon in the foreground. Other examples appear here and there in the early history of cinema.

So while video games are responsible for mainstreaming the FPS shot, it is clear that the shot itself was invented in the cinema. Twenty years after the Keaton film, Hitchcock presented a fully articulated FPS shot in the finale of his film *Spellbound*. Following a complex set of movements, the shot begins in FPS perspective as a gun is trained

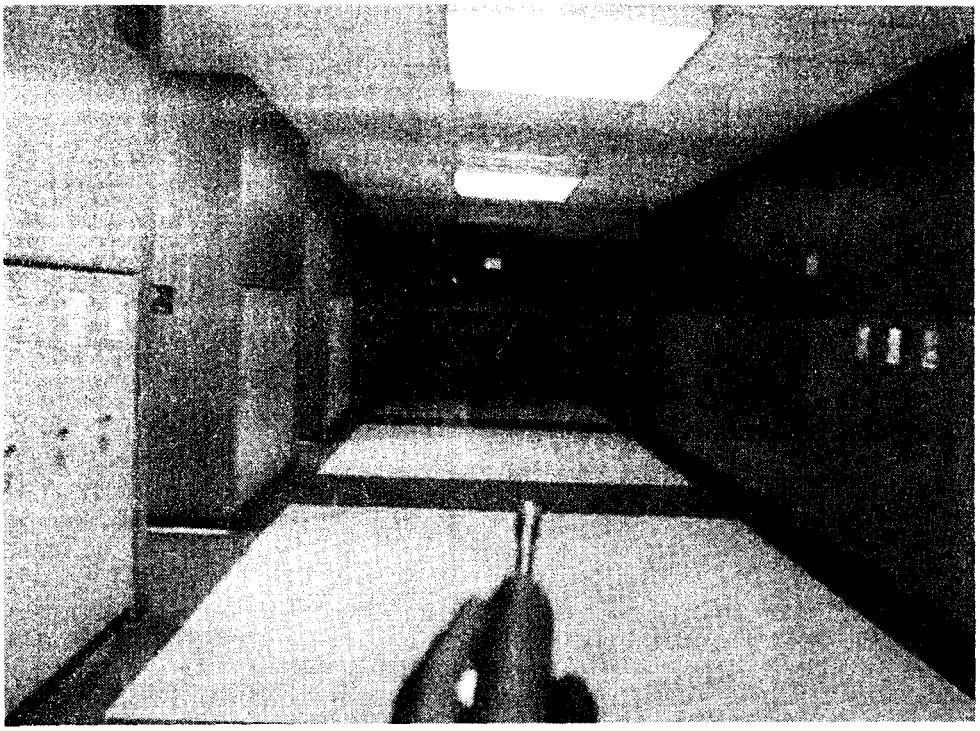
Go West, directed by Buster Keaton, 1925

on Constance Petersen (Ingrid Bergman). Then the gun is turned back onto the camera, and in a brutal reworking of Willemen's "fourth look," as well as an allusion to the famous final shot of *The Great Train Robbery*, the subjective character fires back at the subjective camera. It is suicide for the character and for the image (the masochism suggested by Clover). Hitchcock punctuates the bullet's explosion with a full-screen flash of red color in this otherwise black-and-white movie. Earlier, during the film's famous dream sequence, an enigmatic deck of cards serves as a prop in a second, much shorter, subjective shot. And in a brief flashback, when Anthony Edwardes (Gregory Peck) recalls how he killed his brother as a youth, another FPS shot is used to show the fatal accident. All three uses of the subjective shooter perspective serve to heighten specific emotions in the viewer: confusion during the dream sequence, trauma during the death sequence, and shock during the finale. The shots form a trio of grief: first affective, then expressive, and finally reflexive. In this sense, the FPS perspective is the visual pivot for all of Hitchcock's suspense in the film. And he would flirt with the FPS again in a later film, using an FPS shot in the duel at the end of *Topaz* (an alternate ending

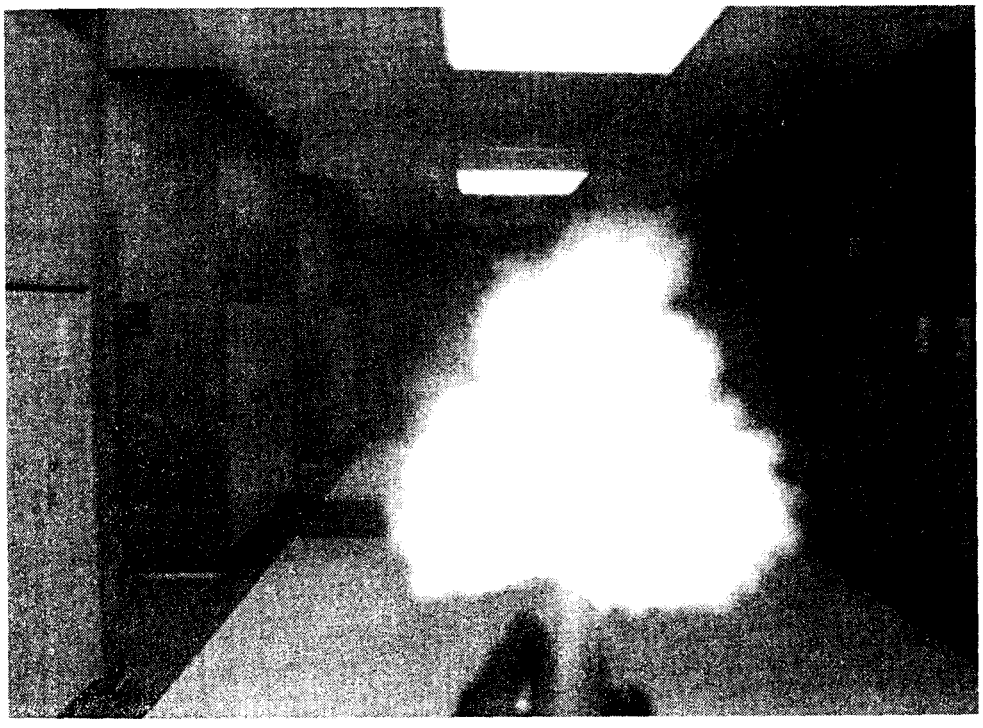
Topaz, directed by Alfred Hitchcock, 1969

that, due to preview audience dislike, was banished and replaced with milder fare in the theatrical release).

The real-time, over-the-shoulder tracking shots of Gus Van Sant's *Elephant* evoke third-person shooter games like *Max Payne*, a close cousin of the FPS. Then the film shifts into a proper FPS perspective at a few crucial moments to depict actual gun violence. Additionally, the film uses a boxy 1:33 frame shape, rather than the wide aspect ratio often used in feature films, to reference the boxy shape of television monitors and the console game systems that rely on them. That the 1999 Columbine massacre was blamed on such games remains present but unexamined in this taut, pensive film. Van Sant is clearly cognizant of the visual idiom of gaming, as illustrated in the campfire monologue on a fictional, *Civilization*-like game in his earlier film *Gerry*, a filmic landscape that reappears as a game called "GerryCount" played on a laptop in *Elephant*. "In *Elephant*, one of the killers is briefly playing a video game," explains Van Sant. "We couldn't get rights to *Doom* so we designed one ourselves that resembles *Gerry*, with two guys walking in a desert."[14] Additionally Van Sant used a first-person subjective shot during the penultimate sequence of his *Psycho* remake. While there is no expressed allusion to gaming, the quick shot illustrates the paralysis of the first person in film as Norman Bates reels inside of mental disorientation and confinement in the hands of the law and his mother's psychic grip. The shot is not in Hitchcock's



Elephant, directed by Gus Van Sant, 2003



Elephant

original, suggesting that our general regime of vision has changed subtly in the decades since the earlier film—decades coinciding exactly with the invention and development of video gaming as a medium.

A few dozen other FPS shots appear here and there in other films. My unscientific survey recorded the following instances: midway through *Goodfellas*, a gun is trained on Ray Liotta's character in a subjective shot as he lies in bed; an FPS shot appears at the forty-eight-minute mark of *High Plains Drifter*; *Aguirre: The Wrath of God* and *Damn the Defiant!* both have FPS shots, using a cannon as the foreground weapon; *Treasure Island* (1950) contains an FPS rifle shot; *What's Up, Doc?* contains an FPS pistol shot; *Magnum Force* contains a series of FPS pistol shots; the night-vision sequence at the end of *The Silence of the Lambs* also shifts into the idiom of the first-person shooter for a brief second as the killer draws a bead on his would-be victim.

Gamic Vision

We have seen how filmmaking predates and predicts certain visual styles that would later become central for first-person shooter video games. Yet game design is also influencing filmmaking in certain fundamental ways, as well as deviating from it. Neo's training scenes in *The Matrix* mimic the training levels that commonly appear at the opening of many games. These training levels can be incorporated into the narrative of the game *(Metroid Prime)* or disconnected from the narrative of the game *(Half-Life)*. They simply allow the gamer to become familiar with the controller and learn basic game rules. Neo must do the same before he plunges headlong into the Matrix for real. But beyond the transfection of gamic conventions into film *narrative*, there also exist several instances, in this movie and others, where specific formal innovations from games have migrated into the formal grammar of filmmaking. This could be called a *gamic cinema*.

The subjective shot is not just about seeing, as Steven Shaviro explains, but rather primarily about motion through space. He writes on the subjective shots in *Strange Days*:

> Events unfold in real time, in a single take, from a single point of view. These sequences are tactile, or haptic, more than they are

> visual. The subjective camera doesn't just look at a scene. It moves actively through space. It gets jostled, it stops and starts, it pans and tilts, it lurches forward and back. It follows the rhythms of the whole body, not just that of the eyes. This is a presubjective, affective and not cognitive, regime of vision.[15]

What video games teach cinema is that the camera can be subjective with regard to a specific character, as I have already discussed, but further *that the camera can be subjective with regard to computerized space*. If computers have a gaze of their own, it is this. Is "bullet time" in *The Matrix* a subjective shot? Certainly not, using the traditional definition of the subjective shot by Bordwell et al. But if one considers the "gaze" of the three-dimensional rendering technology itself as it captures and plots physical spaces in Euclidean geometry, which is nothing but an avatar for the first-person perspective of the viewer or gamer, then the answer is certainly yes. To this extent, I agree with Vivian Sobchack when she writes that "electronic presence has neither a point of view nor a visual situation, such as we experience, respectively, with the photograph and the cinema."[16] Or as Manovich claims: computerized visuality, while still a way of seeing, is no longer about *light* but is instead about space. The traditional cinematic POV has fallen away, and an electronic one has taken its place. In other words, shooter games (and the digital apparatus behind them) have expanded the definitional bounds of the subjective shot. The reason is that, with FPS games, the first-person subjective perspective is so omnipresent and so central to the grammar of the entire game that it essentially becomes coterminous with it. This is what Shaviro means by the term "affective regime of vision." FPS games use almost nothing else, and this regime of vision is seeping back into filmmaking as movies become more and more digital.

This point can be summarized in an initial claim: *gamic vision requires fully rendered, actionable space*. Traditional filmmaking almost never requires the construction of full spaces. Set designers and carpenters build only the portion of the set that will appear within the frame. Because a director has complete control over what does appear within the frame, this task is easy to accomplish. The camera positions are known in advance. Once the film is complete, no new camera positions will ever be included. (Even a film shot on location

will use a specific subset of the spatial environment. Only in special cases, as in the 360-degree pan shot at the start of *Cobra Verde* or in the twirling sets in films like *Lola Montes*, is a full landscape ever captured on film. But even then the spatial environment is *recorded*, not rendered, and can never be repenetrated, zoomed, moved, or re-initialized as is doable in a three-dimensional model.) The fascinating "100 cameras" video technique used by Lars von Trier in *Dancer in the Dark*, whereby dozens of small cameras are embedded in the shooting location to record, in parallel, an entire scene from all angles simultaneously, is an ingenious approximation of digital rendering; yet despite its unique polyvisuality, the technique remains essentially a throwback to older cinematic conventions of distinct shots sewn together via montage. By contrast, game design explicitly requires the construction of a complete space in advance that is then exhaustively explorable without montage. In a shooter, because the game designer cannot restrict the movement of the gamer, the complete play space must be rendered three-dimensionally in advance. The camera position in many games is not restricted. The player is the one who controls the camera position, by looking, by moving, by scrolling, and so on. Jay Bolter and Richard Grusin put the matter quite clearly when they contrast a film like *Lady in the Lake* with the game *Myst:*

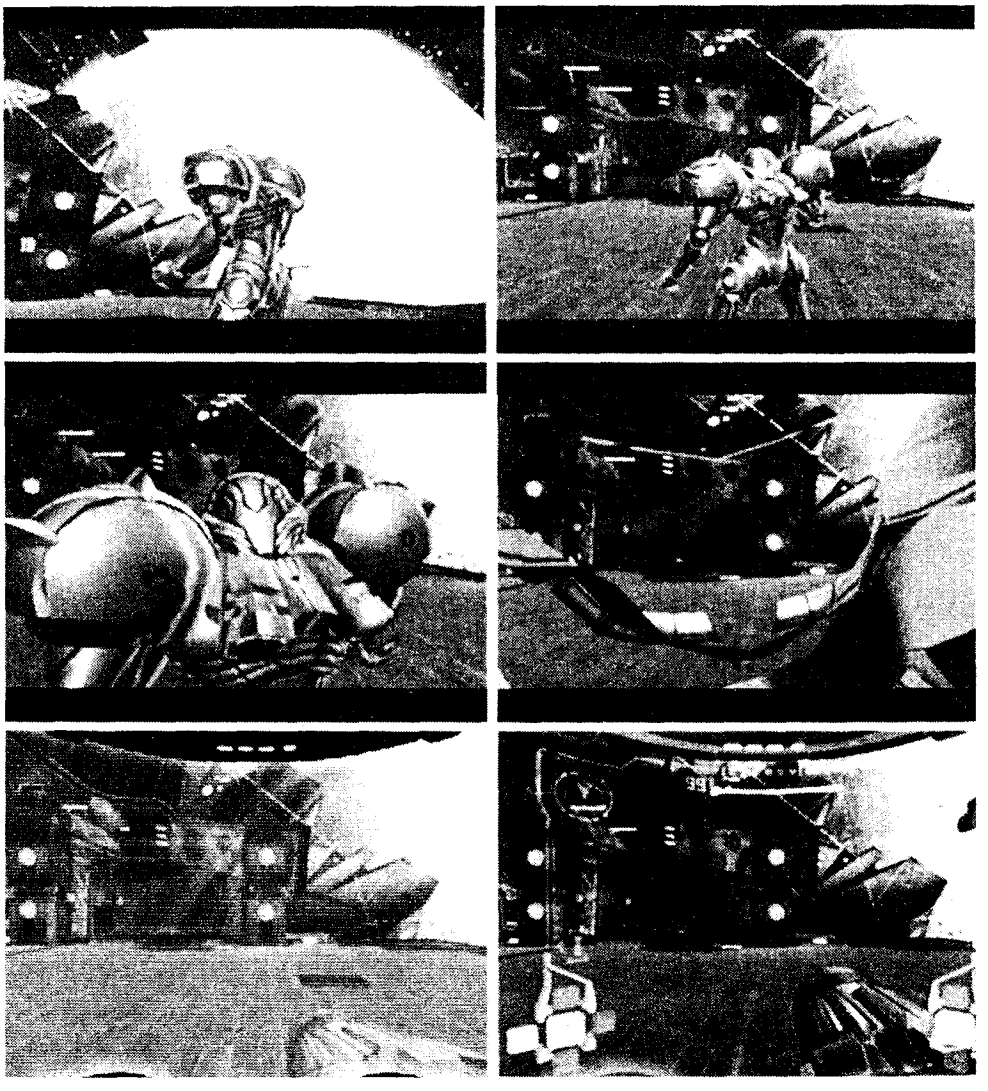
> *Myst* is an interactive detective film in which the player is cast in the role of detective. It is also a film "shot" entirely in the first person, in itself a remediation of the Hollywood style, where first-person point of view is used only sparingly—except in special cases, such as *Strange Days* recently and some film noir in the 1940s. . . . Like many of the other role-playing games, *Myst* is in effect claiming that it can succeed where film noir failed: that it can constitute the player as an active participant in the visual scene.[17]

So fifty years later, the failed experiment of *Lady in the Lake* has finally found some success, only it required the transmigration from one medium to another entirely.

A corollary of my previous claim about actionable space is that gaming *makes montage more and more superfluous*. The montage technique, perfected by the cinema, has diminished greatly in the aesthetic shift into the medium of gaming. The cinematic interludes that

appear as cut scenes in many games do indeed incorporate montage, but gameplay itself is mostly edit free. Counterexamples include cutting between various visual modes: opening the map in *World of Warcraft*; the use of a sniper rifle or night-vision goggles; cutting between different camera positions, as with looking in the rearview mirror in driving games like *True Crime*. A game like *Manhunt* uses montage, but only when it explicitly copies the conventions of video. So while there may exist montage between different modes of the game, there is little montage inside the distinct modes of gameplay. In this sense, the preponderance of continuous-shot filmmaking today *(Timecode, Russian Ark)* is essentially a sublimation of the absence of montage in digital poetics (i.e., not the increased availability of long-format recording techniques, as the technological determinists would lead one to believe). Game designers never had to stop and change reels (as Hitchcock had to in *Rope*), yet they still marginalized montage from the beginning, removing it from the core formal grammar of video games. Ingenious tricks are used instead, as in a game like *Metroid Prime*, where the transition from third person to first person is accomplished not with an edit but with a swooping fly-through shot where the camera, in third person, curves around to the rear of the player character and then tracks forward, swiftly passing through the back of the cranium to fuse instantly the first-person optics of the character with the first-person optics of the player. Tricks like this help attain a level of fluidity not seen in previous visual media like film or television. Abandoning montage creates the conditions of possibility for the first-person perspective in games. The lack of montage is necessary for the first-person way of seeing, even if the game itself is a side-scroller, or a top-view shooter, or otherwise *not* rendered in the first person. Where film montage is fractured and discontinuous, gameplay is fluid and continuous. Hence the gamic way of seeing is similar to human vision in ways that film, and television and video, for that matter, never were.

Following from the first two claims, one can observe that in gamic vision *time and space are mutable within the diegesis in ways unavailable before*. Games have the luxury of being able to exist outside real, optical time. Games pause, speed up, slow down, and restart often. But more than that, they can also transpire in moments of suspended



Metroid Prime, Retro Studios, 2002

time, as in turn-based role-playing games (RPGs) where the player plays (sets up actions, inspects statistics, rearranges character formations) solely during the *interstices* between other actions. Film has never had this luxury. Films are time based and must transpire through time in order to be played, to be experienced. Thus "bullet time" in *The Matrix* is one of those rare moments of cinematic illusion where the digital aesthetics of gaming actually penetrate and influence the aesthetic of the film. During bullet time, the time of the action is slowed or stopped, while the time of the film continues to proceed. As the film continues moving at speed, the action onscreen is artificially retarded into what Jameson calls "the great leaps and somersaults of

these henceforth supernatural bodies across space itself."[18] This is something that, traditionally, only video games (or any medium using computer-driven, three-dimensional models) have been able to do, not classical cinema. Thus it might make sense to think of bullet time as a brief moment of gamic cinema, a brief moment where the aesthetic of gaming moves in and takes over the film, only to disappear seconds later. Of course, the poetic irony of bullet time is that technologically it relies on an older medium, still photography, rather than a newer one; an amateur could reproduce the special effect using an arc of a few dozen still cameras, a film camera on each end of the arc, and a cutting suite. The use of a series of still-photographic cameras is merely the technological trick that produces the synchronic illusion of a three-dimensionally rendered physical space.

As in *The Matrix* series, the "virtual" is often used as a sort of narrative camouflage applied to films to explain why time and space have suddenly become so mutable. This is illustrated by the rash of films in recent years dwelling on the difference between the so-called real world and an imaginary world existing in parallel to it (*Fight Club*, *The Sixth Sense*, *The Others*, and so on). Quite often the plots turn on the inability to distinguish one from the other. Particularly striking examples include *Strange Days* and Tarsem Singh's singular effort *The Cell*. The techniques of digital cinema made it possible to realize more fully the aesthetic vision of virtuality, in ways that were more difficult in the past. With the preponderance of digital cinema techniques in Singh (and we can only assume in Bigelow as well), gamelike moments exist throughout both films. As discussed, the subjective shots in *Strange Days* are directly connected to FPS games. But *The Cell* goes the route of *The Matrix* instead, as illustrated in the "Pantheon dive" where Catherine falls downward through space and is arrested midair in a slow-motion, waterlike gesture. This approximates part of the visual technique in "bullet time," and it is a technique that has been repeated many times over in everything from car commercials to music videos.

A final claim is that the new influence of gaming *elevates the status of artificiality as an aesthetic*. Cronenberg's *eXistenZ*, which couldn't be more different from *The Matrix*, is remarkable for its ability to eschew computer graphics and digital processing, yet still capture some of

gaming's specific qualities. Unlike *The Matrix*, where the inclusion of gaming is accomplished via visual effects, Cronenberg's film alludes to gaming in its mise-en-scène, particularly in the film's staging of action and dialogue. The conceit of the film is that all the action transpires inside a game, which the viewer is led to believe is also titled "eXistenZ." But then one learns that this might also be a game-within-a-game with the real world somewhere yet outside of it, the discernment of which is not clear, leaving the film characters in some final spiral of psychosis. Yes, the narrative of the film is about gaming, but it is the stilted dialogue and deliberately affected filmmaking in *eXistenZ* that is gamelike. Turn-based games such as RPGs have a different way of pacing and presenting dialogue. The rhythm of language is unique in this type of game. Language is transactional. It is repeated in simple branching, or hypertextual, structures. Language is often more utilitarian than narrative oriented. Game interludes often exist to give clues to the players for what they must do next. Often these written or spoken clues are then excerpted and repeated as briefs or strategy notes for the gamers to consult as they play the level. In games, language is used to relay facts or to summarize scores and statistics. The language in *eXistenZ* follows a game logic for dialogue rather than a film logic. The stilted dialogue that permeates many of the scenes references the way that textual and spoken dialogue is delivered in games. The film often repeats canned dialogue, both within the diegesis of the "eXistenZ" game when incidental characters fall into holding patterns and must be addressed by name and prompted for their queues in the game to continue talking, but also outside the game (which might be a game too; one does not know), as when several characters repeat the phrase "eXistenZ by Antenna . . . eXistenZ by Antenna" in the same machinelike monotone. "These *eXistenZ* characters are parodies of computer generated characters," writes Eddo Stern. They follow "autistic conversational algorithms."[19]

To end, let me restate that the subjective optical perspective is one of the least common ways of seeing in narrative film. The subjective camera is largely marginalized in filmmaking and used primarily to effect a sense of alienated, disoriented, or predatory vision. Yet with

the advent of video games, a new set of possibilities were opened up for the subjective shot. In games the first-person perspective is not marginalized but instead is commonly used to achieve an intuitive sense of affective motion. It is but one of the many ways in which video games represent action. In other words, video games are the first mass media to effectively employ the first-person subjective perspective, whereas film uses it only for special occasions. Certainly some of the same violence of the filmic first person lingers, and hence many FPS games—*Quake*, *America's Army*, *Half-Life*, and on and on—involve large amounts of killing. But at the same time, many shooters, like *Metal Gear Solid* or *Thief*, require the player to *avoid* violence as much as confront it. Plus, game violence is just as common in non-first-person games. So I argue that it is the affective, active, mobile quality of the first-person perspective that is key for gaming, not its violence. Unlike film before it, in gaming there is no simple connection to be made between the first-person perspective and violent vision. What was predatory vision in the cinema is now simply "active" vision. As far as identification is concerned, film failed with the subjective shot, but where film failed, games succeed (due primarily to the fact that games have controllers and require player action). Where film uses the subjective shot to represent a problem with identification, games use the subjective shot to *create* identification. While film has thus far used the subjective shot as a corrective to break through and destroy certain stabilizing elements in the film apparatus, games use the subjective shot to facilitate an active subject position that enables and facilitates the gamic apparatus.