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CHAPTER 5

Playing at Being Psychoanalysis and the Avatar

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Christian Metz, writing of the psychodynamic effects at work in cinema reception, observes that film is like the "primordial mirror"-the original instance in which subjects are constituted through identification with their own image-in every way but one. Although on the cinema screen "everything may come to be projected, there is one thing and one thing only that is never reflected in it: the spectator's own body."¹ Because processes of identification are clearly involved in film viewing, and yet the cinema screen fails to "offer the spectator its *own* body with which to identify as an object,"²

Metz is forced to distinguish between primary (ongoing) and secondary (intermittent) identifications with, respectively, the camera that records a given scene and the human actors that appear within the field of vision.

But the application of psychoanalytic theory to technological mediations of identity is surely both simplified-in one obvious sense-and complicated in unexpected ways when it comes to figures that appear on screen in place of, indeed as direct *extensions* of, the spectator: sites of continuous identification within a diegesis.³ The video game avatar, presented as a human player's double, merges spectatorship and participation in ways that fundamentally transform both activities. Yet film theory, particularly the psychoanalytic turn popularized by the journal *Screen* in the 1970s, offers one productive way to understand the processes of subjectivization from which video games derive their considerable hold on our eyes, thumbs, and wallets.

The recourse to film theory also seems logical given the accelerating convergence between video games and certain movie genres—science fiction, action, and horror—notably in the registers of thematics (similar storylines and dramatic exigencies), aesthetics (lighting, camera angles, and conventions of *mise-en-scène*, as well as the use of narrative space and nondiegetic music), and visual traces of the cinematic apparatus itself (the simulation of lens flares and motion blur, for example). Video games *remediate* cinema; that is, they demonstrate the propensity of emerging media forms to pattern themselves on the characteristic behaviors and tendencies of their predecessors.⁴ That video games are starting to resemble movies more than they do "real life" suggests that games, as a cultural form, are produced and consumed in phenomenological accord with preexisting technologies of representation. At the same time, video games plainly rework the formulas of cinema-and spectatorship-in ways that demand addressing.

The traditional first-person shooter (FPS) organizes its user interface around a software-simulated "camera" that, in the game's representational system, serves double duty as a body situated within the diegesis. The avatar's navigation of "contested spaces"⁵ and its often violent interactions with other avatars (either human- or computer-controlled) generate the narrative strategic pleasures of the video game experience. But the crucial relationship in many games—both contemporary standards like the *Quake* series (1996-1999) and its ancestors from the 1960s and 1970s such as *Spacewar!*, *Space Invaders*, and *Battlezone*—is not between avatar and environment or even between protagonist and antagonist, but between the human player and the image of him- or herself encountered onscreen.

Often collapsed in discussions of virtual reality (VR) to a transparent, one-to-one correspondence, players actually exist with their avatars in an unstable dialectic whose essential heterogeneity should not be elided. Players experience games through the exclusive intermediary of another—the avatar—the "eyes," "ears," and "body" of which are components of a complex technological and psychological apparatus. Just as one does not unproblematically equate a glove with the hand inside it, we should not presume the subjectivity produced by video games or other implementations of VR to transparently correspond to, and thus substitute for, the player's own (although it is precisely this presumption that appears necessary to secure and maintain a sense of immersion in "cyberspace"). To blur the distinction between players and their game-generated subjectivities is to bypass pressing questions of ideological mystification and positioning inherent to interactive technologies of the imaginary.⁶

Jacques Lacan's account of the mirror stage constitutes an entry point to this investigation of the ways in which video games "reflect" players back to themselves. NN7hereas first-person shooters remain the clearest example

of the suturing effects of interactive technologies, it is helpful to consider how avatars first came into being as a defining component of such technologies, long before the advent of hardware and software required for the simulation of embodiment in three-dimensional spaces. This abbreviated history therefore touches on key moments of avatarial "evolution" (in games such as *Spacewar!*, *Space Invaders*, *Pac-Man*, *Battlezone*, *Myst*, and *Quake*) *in order to build a case that models of identification and discursive address derived from film theory sharpen our understanding of video games as powerful interpellative systems with profound implications for subjects-and subjectivity-in densely mediated societies.*

As described by Lacan⁷ and elaborated by Samuel Weber,⁸ the mirror stage occurs in human infants between the ages of six and eighteen months, when they first encounter and respond to their own reflection as an aspect of themselves. Unlike other animals, which rapidly lose interest in mirrored surfaces, the human infant seems engrossed, and commences a kind of gleeful experimentation:

A series of gestures ... in which he experiences in play the relation between the movements assumed in the image and the reflected environment, and between this virtual complex and the reality it reduplicates-the child's own body, and the persons or things, around him.⁹

Lacan stresses two important aspects of this "jubilant assumption" of the image. First, it precipitates the "I" or ego within a symbolic matrix, producing for the child a perception of itself as observing individual and sign in a differential series of signs. Second, it is a *taking-place* (in that phrase's full meaning) in which the infant, at that point mostly helpless and unable to control its body, responds to the attraction of unity, wholeness, and power promised by the reflected form. For Lacan, this move is at heart a mistake or misrecognition, permanently dividing one from oneself as sign and referent are divided:

The important point is that this form situates the agency of the ego, before its social determination, in a fictional direction, which will always remain irreducible for the individual alone, or rather, which will only rejoin the coming- into-being (*le devenir*) of the subject asymptotically, whatever the success of the dialectical syntheses by which he must resolve as I his discordance with his own reality.¹⁰

The ego formed through identification with a reflection or representation of itself is thus forever split, rendered incomplete by the very distinction that enables self- recognition. The subject that comes into being stands in sharp contrast to the Renaissance category of the unitary self. a stable, autonomous individual, capable of accessing all truth through reason and possessing "a human essence that remains untouched by historical or

cultural circumstances."¹¹ Indeed, the split subject goes through life alienated from itself and its needs, endlessly seeking in external resources the "lost object" (*objet petit a*) from which it was initially severed—an object that "derives its value from its identification with some missing component of the subject's self, whether that loss is seen as primordial, as the result of a bodily organization, or as the consequence of some other division."¹²

In his reading of Lacan, Weber emphasizes the fundamentally *aggressive* nature of the child's assumption of the image: "The ego comes to be by taking the place of the imaginary other."¹³ The roles of *self* and *other* take on a paradoxical or mutually contradictory quality; each contests its counterpart's privileged wholeness even as it depends on the counterpart to confirm those qualities. The reflected image must be recognizably related to the physical body in order to maintain the image's fascination—a requirement that may necessitate willful misrecognition. "The ego is thus initially constituted through the child's identification with an image whose otherness is precisely overlooked in the observation of similarity."¹⁴ Yet in order for the image to function as a projective ideal, it must ultimately resist or thwart that similarity: "Despite the effort to ignore it ... such alterity can never be entirely effaced, since it is what permits the identification to take place."¹⁵

The formation of identity through dialectical synthesis, then, conceives subjectivity as a tense, oscillatory motion toward and away from the other: a process in which first originating consciousness and then idealized reflection are alternately embraced and rejected. Furthermore, this "fictional" aspect of the ego is not just an originary instance—the installation of an "I" remaining stable thereafter—but a gesture of maintenance, opening notes of a discordant melody that will play throughout the subject's life.

The *stade du miroir* is thereby defined not primarily as a genetic moment, but rather as a *phase* and as a turning-point or trope, destined to be repeated incessantly, in accordance with a schema whose moments are inadequacy, anticipation, and defensive armoring, and whose result is an identity that is not so much *alienated* as *alienating*, caught up in "the inexhaustible squaring of its own vicious circle of ego-confirmations."¹⁶

The video game avatar would seem to meet the criteria of Lacan's *objet petit a*. Appearing on screen in place of the player, the avatar does double duty as self and other, symbol and index. As *self*, its behavior is tied to the player's through an interface (keyboard, mouse, joystick): its literal motion, as well as its figurative triumphs and defeats, result from the player's actions. At the same time, avatars are unequivocally *other*. Both limited and freed by difference from the player, they can accomplish more than the player alone; they are supernatural ambassadors of agency.

But most significant (and often overlooked thanks to the event's ubiquity), avatars differ from us through their ability to *live, die, and live again*. Their bodies dissolve in radioactive slime or explode into a mist of blood and bone fragments, only to reappear, unscathed, at the click of a mouse. In terms of extradiegetic frame—the apparatus of software, operating system, and computer hardware—avatars are "killed" and "resurrected" with the flick of a power switch or the selection of a QUIT command on the File menu.¹⁷ Rapid-fire representations of violence and death in video games, and the formal mechanisms by which avatars can be paused, erased, or restarted, are necessary moments in a cycle of symbolic rebirth: a staging, *within* technology, of the player's own "vicious circle of ego-confirmation."

In a specifically agential sense, avatars reduplicate and render in visible form their players' actions—they complete an arc of desire. This relationship is evident from the outset of video games in the linkage of players with avatars of spaceships, tanks, even ping-pong paddles. The emergence in recent games of simulated first-person perspectives, graphically sophisticated bodies, and camera movement suggesting corporeal presence underscores an obsessive concern with the avatar's function as acting stand-in for the player.

But the long history of video games also makes clear that there is no perfectly "reflective" avatar, that is, one that resembles the player visually and (in the fashion of a real mirror) seems to gaze back on him or her.¹⁸ If the avatar is a reflection, its correspondence to embodied reality consists of a mapping not of *appearance* but of *control*. Somewhat in the manner of a customer in an appliance store, who, catching sight of himself on a wall of monitors, waves his arms—"a series of gestures ... in which he experiences in play the relation between the movements assumed in the image and the reflected environment"—players pleasurably experiment with the surprising, often counterintuitive articulation between their manipulation of the interface and the avatar's obedient responses. If anything, such pleasures seem amplified by the uncanny difference between reality and reflection: an alterity enabling players both to embrace the avatar as an ideal and to reject it as an inferior other.

The avatar is not simply a means of access to desired outcomes, but an end in itself—a desired and resented lost object, existing in endless cycles of renunciation and reclamation. Willingly inverting self-other distinctions, players invest an acted-on object with the characteristics of an acting subject. That status is then rescinded in moments of avatarial rupture to prove the object's fundamental alterity and confirm, through contrast, the player's (fictive) ego unity. The contradictions opened up by this figure enhance, not detract, from gameplay, which consists—at least in part—of toying with unstable categories of identity, presence, and subjectivity.

Contradictions in self-image opened by the avatar must be reconciled as part of the game's process. This reconciliation-the collapse of belief structures necessary to the assumption of an idealized other-takes the symptomatic form of the avatar's destruction: its fragmentation by shotgun blast or consumption by zombie. Graphic portrayals of dismemberment and death, the wounded bodies notoriously common to video games, are a mandatory punctuation to the out-of-body experience. The animated *grand guignol* shores up players' wholeness, working out in technological form our aggressive response to our reflected images, our constitutive others.²⁰

Refining Our Reflections: An Avatarial History

If the release in 1992 of the first-person shooter *Wolfenstein 3D*-a game that popularized the genre's signature over-the-gun viewpoint-marked the moment at which avatarial operations matured into a formal system, the roots of avatarial fascination extend back more than forty years, to early experiments in recreational computer programming. Before we turn to an examination of the suturing and misrecognition that subtend interactive technologies of the imaginary, it may be helpful to consider how the onscreen "other" has developed over time, for avatars are shaped as much by players' psychological needs as by advances in computer hardware and software. Our search for and rejection of digital ego ideals-a search that, like desire itself, is without end-has worked in combination with technological, economic, and aesthetic factors to refine avatarial look and behavior, embroidering a diversity of game "surfaces" atop a fundamental relationship of reflection and rejection.

This very diversity renders any taxonomy of the avatar provisional at best. Therefore, my intent in delving into history is neither to recapitulate video games' development in detailed sequence, nor to represent every genre. The games discussed later in this essay mark significant junctures in avatarial operations: the first appearance, in *Spacewar!* of avatars in the form of player-controlled icons; the shift during the dominant years of the arcade from avatars coded as mechanical to avatars coded as organic; and the ultimate emergence, with the FPS and its relatives, of realistic human(oid) avatars whose troubled relationship to players' bodies becomes the game's primary concern-and primary source of pleasure. Crucial to this evolution is the avatar's gradual but relentless acquisition of "liveliness." In appearance, movement, and character, avatars have ever more clearly come to mimic their players, developing personality, individuality, and an ability to act within the (virtual) world-as must any infant on its way to maturity.

It is also important to note the increasing *subjectivization* of video games: a move from the God's-eye perspective utilized in early games to perspectival

rendering that simulates three- dimensionality, first as static scenery, then as fluidly navigable space. Avatarial operations flow from two elements that interdepend in various ways. First is the foregrounding of an onscreen body, visible in whole or in part. Second is the conceit of an offscreen but assumed body constituted through the gaze of a mobile, player- controlled camera. Differing articulations between camera-body and avatar-body lead to different, though related, modes of play and subject effects. In every case, the intent-to produce a sense of diegetic embodiment-announces itself from the dawn of video game history.

In May 1962, at the annual MIT Open House, the hackers fed the paper tape with twenty-seven pages worth of PDP-1 assembly language code into the machine, set up an extra display screen-actually a giant oscilloscope-and ran Spacewar! all day to a public that drifted in and could not believe what they saw. The sight of it-a science-fiction game written by students and controlled by a computer was so much on the verge of fantasy that no one dared predict that an entire genre of entertainment would be spawned from it.²¹

Retold with little variation across many different folk histories of the computer, the creation of Spacewar! has come to be viewed with a reverence befitting the Book of Genesis. Indeed, the first video game was seminal in several respects. As a "hack" of unprecedented popularity-a program whose original code, written by Steve Russell, J. M. Graetz, and others, was distributed to and modified by students and faculty at the Massachusetts Institute of Technology-Spacewar! exemplifies the steps by which avatarial operations-and the narrative- strategic context on which they depend-first came into being and continue to operate today. Russell, along with Alan Kotok, AI theorist Marvin Minsky, and other programmers, had developed numerous display hacks: elegant or visually impressive graphics routines. Russell, however, envisioned a more active role and rewards for the user. Building on his love of the pulp space operas published by E. E. "Doc" Smith,²² he wanted Spacewar! to absorb the user in an *experiential simulation*. Russell "let his imagination construct the thrill of roaring across space in a white rocket ship ... and wondered if that same excitement could be captured while sitting behind the console of the PDP-1."²³ Russell produced what amounted to the first avatar: an onscreen blip subject to user control, accelerating and changing direction based on toggle-switch settings. Eventually these points of light would evolve into icons of rocket ships, which, set against a starry background, engaged in warfare. Suggestive of a human ensconced within a mechanical shell, the rocket-ship imagery of the first avatars harkened to the external reality of the player seated at the terminal, hands on the controls.

Spacewar! established a set of elements vital to avatarial operations 'n most video games that followed:

1. Player identification with an onscreen avatar.
2. Player control of avatar through a physical interface.
3. Player-avatar's engagement with narrative -strategic constraints organizing the onscreen diegesis in terms of its (simulated) physical laws and semiotic content-the "meaning" of the game's sounds and imagery-that constitute rules or conditions of possibility governing play.
4. Imposition of extradiegetic constraints further shaping play (for example, timer, music, scorekeeping and other elements perceptible to the player but presumably not by the entity represented by the avatar; an instance of this in the relatively austere *Spacewar!* would be the software function that ended a game when one player "died").
5. Frequent breakdown and reestablishment of avatarial identification through destruction of avatar, starting or ending of individual games and tournaments, and ultimately the act *of* leaving or returning to the physical apparatus of the computer.

This final trait, at once the most common and least discussed dynamic of gameplay, is central to the *repetition* from which video games, perhaps more than any other medium, take their structure. Systematic rupture of the agential and identificatory linkage between players and avatars is a defining characteristic, suggesting that the mirror-image's loss is as vital as its acquisition. As I will discuss later in this essay, repetition is central to another aspect of psychoanalytic theory: the game of *fort / da* in which an object that "stands in" for a lost and desired other is repeatedly tossed away, retrieved, and tossed again. Sigmund Freud²⁴ observed that his grandson, disconsolate at being left alone by his mother, used *fort / da* to substitute an arbitrary object-a spool-for his absent caregiver, and to bring that caregiver under (symbolic) control. But this mastery, as Silverman points out, is ambiguous:

The game through which he masters the trauma of her departures, however, proves the vehicle through which that trauma returns, now in a guise which will prove much more significant for his future history. The child puts himself in an active relation to his mother's disappearances by throwing away and then recovering the toy which is her symbolic representative, while uttering the words "fore" ("gone") and "da" ("there"). In so doing, he employs language for the first time as a differential system, and so stages the trauma of his own disappearance. His ostensible mastery is consequently based upon a radical self-loss, and upon his subordination to the order of discourse.²⁵

Repetition aside, the other elements listed above characterize (with minor modifications) our engagement with computer operating systems as

standardized in the WIMP (Windows-Icon-Menu-Pointer) interface developed at Xerox PARC and adopted by Apple Macintosh and Microsoft Windows. As real-time processes, video games demand continuous involvement. Players' hands are always at the joystick, mouse, or keyboard, performing actions immediately reflected in the onscreen behavior of avatars. This behavior in turn creates new exigencies to which players respond. Video games from their birth depended on a particularly *reactive* programming paradigm, one that updated screen content moment to moment in response to user input.

This mode of activity, where "what happens on a computer matches the frame of reference in which human beings are actually working,"²⁶ inaugurated a different way of thinking the human-computer agential circuit, and influenced future development of both hardware (toward processing power for improved graphic responsiveness) and software (toward icon-based operating systems and applications organized by visual and spatial metaphor). *Spacewar!* was the first of many games that

repurposed the mainframe and the mini[computer] as well as the desktop computer, with an implicit suggestion that gaming, or at least an immediately responsive, graphical interface, is what computing should really be about.... There was a vast difference between this graphic behavior and the operations of a traditional computer, which manipulated symbols and presented its results only in rows of alphanumeric characters on the screen or on perforated printer paper. The game suggested new formal and cultural purposes for digital technology.²⁷

Through gaming, then, the concepts of *avatar* and *interface* became linked; part of what users seek from computers is continual response to their own actions—a *reflection* of personal agency made available onscreen for reclamation as surplus pleasure. Russell and the other *Spacewar!* programmers were among the first to bind human agency to discrete graphical bodies on the computer screen. Furthermore, the situation of those bodies within a systematic context limited, and thus helped define, their activity and purpose.²⁸ As an early avatars mirror, *Spacewar!* shared with its descendants—video games as well as nonrecreational applications such as word processors and web browsers—an apparatus that directed user agency and subjectivity, creating a spectatorial/participatory relationship with onscreen traces of self.

Although rendered in text, Will Crowther and Don Wood's *Adventure* (1972–1977) marks an important movement toward the immersive mechanisms of later video games. Its themes of puzzle-solving, treasure-hunting, and interaction with fictional characters within a rule-bound otherworldly environment—as well as its branching structure of decision nodes navigated by the player—set the model for contemporary games such as *Myst* (1993) and *Half-Life* (1998). *Adventure's* interface invited players to imagine

themselves as the observing/participating "I" in an unfolding narrative and brought to gameplay a sensation of first-person experience. Produced through textual collaboration between player and program, *Adventure's* hybrid player-avatar epitomized the simultaneous splitting/suturing at the heart of video games.

Adventure powerfully conveyed a sense of depth generated by players' exploration of fictive territory—a territory populated by creatures and objects that could be interacted with and manipulated systematically. *Adventure's diegesis was described in textual passages, to which the player responded with typed commands.*²⁹

Computer: YOU ARE STANDING AT THE END OF A ROAD
BEFORE A SMALL BRICK BUILDING. AROUND YOU IS A
FOREST. A SMALL STREAM FLOWS OUT OF THE BUILDING
AND DOWN A GULLY.

Player (typing): GO SOUTH.

Computer: YOU ARE IN A VALLEY IN THE FOREST BESIDE A
STREAM TUMBLING ALONG A ROCKY BED.³⁰

The sense of embodiment produced by *Adventure's* exchanges prompts the question of who and where the player "is" within the diegesis. Mile screen output was usually phrased in second person ("YOU ARE IN A MAZE OF TWISTY PASSAGES, ALL ALIKE"), the grammar of the interface required imperative interjections from the player (GO EAST, EXAMINE CARPET, and so on), commands presumably addressed to an implied intermediary body: a textual avatar. In one sense, this differs only slightly from the procedure that vision-based games use to map players' positions. For example, a subroutine might generate the sign - o f- the-player at a particular set of screen coordinates ("YOU ARE OUTSIDE A HOUSE"); the player then nudges the joystick ("GO EAST"); a subroutine reads the signal from the input device and redraws the sign -of-the -player an inch to the left ("YOU ARE INSIDE A HOUSE").

This breakdown reveals a shared workload between player and computer: a halved (or doubled) agency undercutting the apparent unity that encourages imaginary investment in avatarial bodies and perspectives. As I will argue later, the discursive gaps opened in *Adventure's* interface—and, by extension, any interface—seem to beckon us as unique individuals. Imagining ourselves as the addressee of the computer screen's discourse, the "I" misrecognizing itself in the computer's "YOU," is part of video games' lure, as programmer Roberta Williams discovered in her first encounter with *Adventure* more than a decade after the game appeared:

From the moment [she] tentatively poked GO EAST she was totally and irrevocably hooked... She would be up until four in the morning, trying to figure out how to get around the damn snake to get to the giant clams. And then she

would sit up in bed thinking, *What didn't I do? What else could I have done? Why couldn't I open that stupid clam? What's in it.*³¹

In his analysis of the sim (simulation) game genre, Ted Friedman locates within the human-machine collaboration a cybernetic circuit "in which the line demarcating the end of the player's consciousness and the beginning of the computer's world blurs,"³² This blurring constitutes an effacement of self, in that agency is simultaneously diluted by being transferred to a mechanical other, and amplified in resulting onscreen behavior. Construction of an office building, slaying of a monster, casting a magic spell: these achievements are only experientially possible (for the meager price of a mouse click) within the game diegesis. Friedman labels this "strange sense of self-dissolution"³³ both a denial of one's own material existence and a seductive generator of new perspectives: effectively a cyborg consciousness that identifies with the computer.³⁴

The 1970s saw the rise of arcades as popular entertainment venues in the United States and Japan. During a decade that began with the placement of the first dedicated cabinet or arcade machines in bars and pinball parlors and the subsequent founding of Atari by Nolan Bushnell in 1972, video games and the social contexts in which they were played underwent rapid change, with corresponding alterations of both diegetic and avatarial content. *PONG* (a hit when released in 1972) sold players brief sessions of head-to-head combat for a quarter a turn. Because of limitations of integrated-circuit technology-the first game to use a dedicated microprocessor, Midway's *Gun Fight*, didn't appear until 1975-single-player games were rare; technology and aesthetic trends had yet to reach the point where a "machine enemy" could take on individuals.

One exception was *Breakout*, an Atari product designed for solo play. *Breakout* was essentially *PONG* turned on its side; a paddle at the bottom of the screen deflected a bouncing ball into rows of bricks hovering above. Like *PONG*, *Breakout* offered little in the way of embodiment; yet its rudimentary interface held a certain fascination, as David Sudnow attests:

The *Breakout* hand doesn't move a paddle freely among all facets of bodily space and surroundings. It encircles the knob, to be sure, but all actions transmit back and forth between the mere surface of things. I look down and watch my fingers quickly adjusting the control, the shot made to happen with superrapid, flexible-looking motion. But it's as if the fullness of things, and of myself, has been strangely halved. I could even say that I wasn't so much interfaced on screen as I was "interpictured" there.³⁵

The lack of a computer-controlled other changed in 1978, when Midway unveiled its version of Taito's *Space Invaders*. Refashioning the bricks of *Breakout* into rows of insectoid or skull-like aliens ("invaders" of a formerly

Safe recreational “space”), the game imbued computer-controlled avatars with militaristic malevolence. Players steered a gun platform—an armed version of PONG’s paddle—from side to side, firing up at the descending aliens. It is difficult to say whether the gun’s blunt utility as a representation of self, the leering faces of the invaders, or some combination of both) were responsible for the game’s hold on the public imagination, but something certainly spoke to audiences; only a year after its introduction, there were 350,000 *Space Invaders* cabinets worldwide, 55,000 in the United States alone.³⁶ In addition, the game’s popularity spurred sales of Atari’s VCS 2600, a console system designed to be hooked to a television, bringing *Space Invaders* into the home—a second invasion, this time of domestic, and to that point uncomputerized, space.

The game’s aliens, with their oversized heads, small legs, and disproportionately large faces, were, for the player, plainly “not-I,” but in another sense they were the player-avatar inverted—in the spatial coordinates of the screen as well as the flipped ethical map of their destructive agency. *Space Invaders*’ introduction of nonhuman others restructured screen identity, disarticulating avatarial forms from material bodies and shifting the mode of consumption from two-player dyads to solitary space. Although the aliens always began the game moving in collective lockstep, each was potentially capable of surviving as an individual to the end, racing across the screen and dropping bombs. This implacable purposefulness modeled for players an ideally tireless, ever accelerating style of play—which the computer, of course, always finally won. At the same time, there was pleasure in defeat by *Space Invaders* and similar games structured around ever-faster enemies: surrender to the inevitable as opposing forces finally reached overwhelming intensity. *Missile Command* (1980), an Atari game in which players defended cities against nuclear assault, was capable of prompting euphoria as the mushroom clouds bloomed.³⁷

You knew that you were gonna die, that you were within seconds of everything going black.... You’re dying. You’re dead. And then you get to watch all the pretty explosions. And after the fireworks display, you get to press the restart button, and you’re alive again, until the next collision with your own mortality. You’re not just playing with colored light. You’re playing with the concept of death.³⁸

This aspect of gameplay—the simulated experience of death and resurrection—is a key function of the avatar, one that would become more explicit as avatarial forms metamorphosed from the crosshairs, spaceships, and missile bases of the late 1970s to the “living” bodies of the early 1980s.

The commercial space of the arcade—whose darkened interiors were raucous with robotic sounds and strobe-lit by video explosions—was like a

Large-scale, physical analog of video games themselves. Indeed, many games that appeared between 1978 and 1984 shared thematic elements that could be taken as ironic commentary on the arcade environment: *Asteroids*, *Defender*, *Centipede*, *Missile Command*, *Galaxian*, *Star Castle*, *Tempest*, *Qix*, and *Zaxxon* all featured claustrophobic diegeses filled with deadly obstacles in constant motion. Player-avatars had to maneuver safely through this maze of shifting spatial relationships, a task not unlike that faced by individuals in a crowded arcade.

The threat in most of these games was impersonal, often automated assault. In *Asteroids*, the danger was posed by a colliding field of rocks, though flying saucers intermittently appeared to fire upon the player. *Centipede's* eponymous peril was a segmented insect that, vivisected by the player's weapon, would merely continue its attack on separate fronts. Against such tireless synthetic threats, a player was only as good as his or her gun; indeed, collapsed by avatarial synecdoche, a player-avatar was the gun.

This began to change with the arrival of Namco's *Pac-Man* (1980), which dispensed with mechanistic signs of gun and spaceship, embodying players instead as a round yellow "voracious dot."³⁹ The avatar's organic status was marked by its color as well as by its only feature, a gaping mouth whose obvious function was as consumptive orifice. Rather than spitting dots, Pac-Man—the game's title designated the avatarial protagonist rather than the villain to be defeated—endlessly absorbed them, a reversal in thematic focus from anal expulsion to oral incorporation.

Before this epoch-making game, the player controlled spaceships, gun turrets, or other mechanical devices. Suddenly, though, the player of *Pac-Man* controlled a *being*: an animated, eating thing. The game's designer, Toru Iwatani, says that he got the idea for Pac-Man's form after eating a slice of pizza, and seeing the shape that was left.⁴⁰

The Pac-Man avatar semiotically collapsed *subject* (a thing that eats) with *object* (a thing that is eaten) to constitute a closed circuit of desire. Equally important, the body acquired its signification through a missing part ("the shape that was left"); Pac-Man was recognizable as Pac-Man because of what was excluded from its form. This pie-slice absence also structured Pac-Man's agency within the game, its ceaseless voracity. Like the player for whom it stood in, Pac-Man was never at rest within its infinite progression of mazes, consuming dots—his own *objets a*, frail reflections, perhaps, of an eternally missing slice.

Atari's *Battlezone* (1980), while not the first video game to shift camera position from an elevated, omniscient viewpoint to a gaze located at eye level—sports and racing games had experimented with this throughout the 1970s—did originate first-person perspective. *Battlezone* situated the player

behind the controls of a tank capable of movement, allowing players to change their perspective at will by driving through an environment rendered in green vector wireframes. The game thus created a dual sense of enclosure: immersing players not only in an artificial world (a desert patrolled by enemy tanks and hunter-killer satellites), but in an artificial vehicle capable of free navigation.

Battlezone's graphic conceit would be repeatedly copied, adapted, and refined by its descendants, culminating in the FPS. By locating players at the still center of a world that seems to pirouette around them, subjective-viewpoint displays blend enclosure and embodiment, implying the existence of a body-logically and physiologically associated with the presence of eyes and cars at a specific set of coordinates-as it simultaneously feeds players sensoryimagery of created environments. The shift *Battlezone* signaled is like the introduction of perspective in post-Renaissance painting, which gave

landscapes their formal focus in the human figures in them. The paired techniques involve the creation of a dreamscape, and the provision of figures for identification that call the viewer to enter fictive space, changing with their movements, inviting their co-authorship. They are fundamentally navigable.⁴¹

An *Adventure*-like meander over deserted islands in multiple "ages," *Myst* (1993) substituted ray-traced scenes of near-photographic quality for the descriptive textual passages of its predecessor. Yet, *Myst* emulated *Adventure* in fundamental ways, including a puzzle format, absence of explicit instructions, and an emphasis on spatial exploration over linear plot development. In addition to the still frames that parceled out the island topography, *Myst used ambient sound effects to deepen the player's sense of immersion: wind whistling through trees, waves washing up on shore, and mechanical objects that whirred and clicked. The game also made use of nondiegetic music, the equivalent of a movie soundtrack, to build suspense or indicate proximity to clues.*⁴²

just as *Myst* formally combined old and new media-"three-dimensional, static graphics with text, digital video, and sound to refashion illusionistic painting, film, and, somewhat surprisingly, the book as well"⁴³-its diegesis involved the superimposition of two sets of events. The first, an Oedipal struggle⁴⁴ between a father and two sons, was over before the game even began: buried in the past, this conflict drove the second, contemporary sequence of the player's point-and-click search for clues, the successful assembly of which rendered the fragmented back story comprehensible, solving the mystery. The subject position offered to players was that of private detective in a "whodunit,"⁴⁵ ironically gesturing toward the subjective point-of-view (POV) experiments of film *noir* that presented the detective as scientist/voyeur.⁴⁶

Most striking to many was the eerie sense of stillness and solitude produced by *Myst's* interface, which lacked visible avatarial forms. Players moved through the diegesis as though watching a slide show, clicking at the borders of each image to choose where they would go next. The only mark of this control onscreen was a cursor in the shape of a pointing hand. Omitting representations of the body in favor of a single, stylized point of control, *Myst's* interface epitomized the "tourist mouse" aesthetic⁴⁷ in which access to the computer's imaginary takes the form of a restless search for "an impossibly pristine discovery"⁴⁸ -the pursuit of an object to fill an essential lack.

The cursor as perpetual tourist meanders through a landscape which is always foreign, in which it seeks perpetually a home that it will recognize less by identification than by an impossible welcome which its denizens will give it.... The impossibility of this quest derives from the tourist's fate: always to be seeking to arrive, not "here," but "there."⁴⁹

For some, *Myst's* appeal was less in its puzzles than in its ability to transport players to a detailed environment; the game was "a grand exercise in virtual tourism,"⁵⁰ At the same time, technological limitations made both an onscreen body and fluid navigation unfeasible; other subjective-viewpoint games of the period, like *Wolfenstein 3D* (1992), could not approach the rich level of detail offered by *Myst*. The avatarial point of presence consisted of *Myst's* relatively inflexible camera, an apparatus that produced a corresponding sense of ghostliness for the player. Able to observe with relative freedom and work small-scale effects on the environment-opening books, turning knobs, pressing buttons-players were nonetheless barred from the (illusory) corporeality afforded by avatars in later games. The result was a diegesis in which the player could not die and was at risk of little more than frustration.

Id Software, responsible for the archetypal "shoot-'em-up"s *Wolfenstein 3D* and *Doom*, refined the FPS formula further with the launch of the *Quake* series in 1996. Incorporating both a single-player mode and multiplayer or deathmatch scenarios, *Quake* emphasized the avatar's physical boundaries and tolerances, subjecting it to near-continuous assault from environmental forces. The multiple diegeses of *Quake*-a game now in its third official iteration, not including expansion packages or countless player-created levels-have successively stripped away the trappings of narrative, leaving only a plot based on the protection and loss of bodily integrity. *Quake III: Arena* (1999) was geared solely around deathmatch battles, with an option for solo players to train against bots: artificially intelligent avatars.

The *Quake* avatar, represented on screen by a gun-holding hand, could be customized through the use of "skins" to have different appearances ill the virtual environment of networked play. Players cloaked themselves as

men, women, cyborgs, demons, and cartoon characters, and other guises, suggesting that, in the contemporary FPS, visibility is the first order of interaction. Avatars both *see* and are *seen*; as seer, players

are called on to conduct an ongoing surveillance. They are assigned explicitly or implicitly the role of security guards, whose simple task is to shoot anything that appears threatening. Because the ultimate threat is that the enemy will destroy the equilibrium of the system and eventually halt the game by destroying the player himself, the player must constantly scan the visual field and direct his fire appropriately.⁵¹

An inverse logic, of course, applies to the body as *seen*-the avatarial extension that enables players' presence within the game also places them at the focus of the other's destructive surveillance. Constituted through a routinized, ceaseless hunt with violence an inevitable endpoint, the player avatar bears authority's gaze even as he or she is disciplined by it.

Yet, in *Quake* and its ilk, the avatar's visual attributes were overshadowed by its somatic character, a "material" vulnerability conveyed through multiple codes of representation. Players heard their own avatars' footfalls and breathing. Collision detection bounced avatars off walls and forced them into crouching or crawling positions to enter tight spaces. Forces of gravity prevented avatars from jumping too high, and made falls from a sufficient distance lethal. Impact wounds were signaled by a shaking of the camera coupled with the sound effect of a groan or gasp, and a corresponding loss of health points (replenished by running over "medkits," white crates iconically labeled with a red cross). As avatarial damage mounted, players watched their own blood spray; "death" was signified by a toppling of the avatarial camera, which lay motionless-but still feeding visual and auditory information to the screen-until reborn with a mouse click.

As this brief survey shows, video games have evolved toward ever more complex simulations of corporeal immersion, subsuming economic, social, and technological determinants under an overarching goal: to confront players with detailed and lifelike "doubles." As the avatar took on character, history, and presence within increasingly detailed story worlds, the coded representation of sensory immersion epitomized by the FPS brought video games into dialogue with the dominant representational system of Hollywood filmmaking. In multiple ways—from the simulation of first-person perspective to the illusory wholeness that editing conventions offer the spectator-video games and movies invite comparison.

The Speaking Mirror: Video Games and Cinema

If the pleasures of the video game stem as much from avatarial "reflection" as from narrative and strategic engagement with its diegesis, then spectatorship is clearly central to the form. As we play we also watch ourselves play; video

games are by turns, and even simultaneously, participatory and spectatorial. Thus it is more accurate, or at least more inclusive, to speak of the avatarial relation: a "structure of seeing" in which the subject, acting on its desire to see itself as other, pursues its reflection in the imaginary like a cat chasing its tail.

The study of cinema has been informed in multiple ways by psychoanalytic insight into the role played by vision-looking as well as being looked at-in the inscription of sexual difference and power.⁵² In addition, much attention has been given to the ways in which the material apparatus of camera/projector and stylistic devices of editing and narrative operate, with varying degrees of effectiveness, to produce a coherent space of reception for the viewing subject.⁵³ In order to analyze related effects on subjectivity in video games, I touch on two aspects of film theory. First, the use of subjective POV to create a newly participatory role for the spectator; and second, the concept of interpellation and its function, within discourse, in constructing apparently unified subject positions.

In any application to one medium of theory developed for another, care must be taken to distinguish the codes organizing each. The FPS borrows certain aspects of cinematic storytelling, most explicitly the tracking POV shot, but makes little use, at least while players are controlling the avatar, of editing or montage in a traditional sense.⁵⁴ Rarely, for example, do conventional video games rely extensively on shot- reverse- shot constructions, which counterpose two images-a viewed object, person, or scene and a corresponding image of a viewing subject-to create for spectators the illusion of a contiguous space which they inhabit as an invisible presence. Crucial to the account of suture advanced by Jean-Pierre Oudart and Daniel Dayan,⁵⁵ the subject position created through shot- reverse- shot is replaced in the FPS by a camera simulated through software rendering of three-dimensional spaces. Individual control over this camera's behavior-its ability to tilt, pan, track, even climb ladders and descend staircases at the behest of the player-literalizes the conceit of an embodied diegetic participant that cinema, because of its material technologies, can only imply. The FPS's direct (visual) address, updated in real time, presents one ongoing and unbroken half of the shot-reverse- shot construction, enabling a snug fit between the player and his or her game-produced subjectivity.

As an example of film's failure to convincingly assert the embodiment that avatars routinely generate, it is instructive to consider Robert Montgomery's film noir experiment *Lady in the Lake* (1947), which exemplifies the costs of truly subjective narration. *Lady in the Lake* takes as its narrative and formal task the construction of a seamless subjective and embodied POV. As private eye Philip Marlowe, actor-director Robert Montgomery makes only desultory appearances on screen, directly addressing the audience to introduce the story and provide updates on its progress, or appearing

as a reflection in the many mirrors sprinkled throughout the film's locations. The majority of his role, however, is "performed" by a camera whose diegetically situated look we are meant to adopt as at once Marlowe's and our own.

What follows is an experience that audiences and critics found more exasperating than engrossing. Some rejected the story as "an insipid anecdote that would not have required any innovation to be developed adequately,"⁵⁶ but most criticized the subjective camera itself as an awkward gimmick, the technological limitations of which nullified its ability to substitute for a novelistic "I."

There is therefore a misinterpretation here which fails to understand that it is not at the place of the subject that the camera operates, but at the place of the Other... We cannot identify with someone whose face is always hidden from us. And if we cannot identify ourselves, we cannot share the anxieties of the character. In a thriller this can become rather annoying.⁵⁷

Underlying many reactions of the time, however, is an acknowledgment that subjective narration through the simulation of first-person presence is a desirable goal, even a workable one if the technique were appropriately modified-by taking into account, for example, that the human eye discards extraneous detail when looking at an image, or that our attentiveness to scenic elements is determined as much by affective interest as by optical properties. This suggests an implicit endorsement of narrative immersion and embodiment as a pleasurable frontier for the spectator; indeed, some critical rhetoric prefigures the current hyperbole surrounding video games and other interactive technologies of the imaginary:

The subjective camera can explore subtleties of experience hitherto unimaginable as film content. As the new technique can clearly express almost any facet of everyday human experience, its development should presage a new type of psychological film in which the camera will reveal the human mind, not superficially, but honestly in terms of image and sound ... permitting the audience to see a human being both as others see him and as he sees himself.⁵⁸

Hyperbolic dreams of "psychological film" aside, Montgomery's failed attempt to subjectivize cinema bears examining, for it points the way toward a broader agenda of particularized embodiment realized more than forty years later in the FPS. While *Lady in the Lake's* first-person camera amounted to little more than tiresome artifice, its later mobilization in video games attests to the technique's effectiveness when transferred to a medium offering greater interactivity.

According to Lacan, the ego produced through identification with an image attains its entry into language and meaning at the price of determination/domination by the governing symbolic order. Social theorists,

notably Louis Althusser,⁵⁹ have linked this alienation and the psychic misrecognition on which it is based to ideological forces that reproduce themselves through naturalization in discourse and self-image. For Althusser, subjectivity is shaped, even generated, by social institutions and processes, acting through systems of signification that supply individuals with their identifications.

In the 1970s, cinema came under investigation as one of the social technologies included in Althusser's account of the ideological state apparatus (ISA). This critique studied cinema as a signifying system that produces specific ideological effects by positioning its spectators as the understood subjects of screen discourse. The constructed quality of this discourse, in turn, is made invisible through the same effects—for example, shot-reverse-shot constructions, discussed above, are central to the suture by which spectators are "stitched into" the signifying chain through edits that articulate a plenitude of observed space to an observing character. This onscreen figure, presented as author/owner of the gaze, serves also as identificatory site for the spectator willing

to become absent to itself by permitting a fictional character to "stand in" for it, or by allowing a particular point of view to define what it sees. The operation of suture is successful at the moment that the viewing subject says, "Yes, that's me," or "That's what I see."⁶⁰

Suture's coercive effects consist precisely in "persuading the viewer to accept certain cinematic images as an accurate reflection of his or her subjectivity ... it does this *transparently* (i.e. it conceals the apparatuses of enunciation)."⁶¹

While the frustrations of extended first-person POV in cinema have been noted, fewer pitfalls occur in video games that operate according to a similar code of signification. The game apparatus—a software engine that renders three-dimensional spaces from an embodied perspective, directed in real time by players through a physical interface—achieves what the cinematic apparatus cannot: a sense of literal presence, and a newly participatory role, for the viewer. Yet the question of ideological positioning is as pertinent to this new medium as it is to cinema. More so, in fact, because of video games' amplified effect on subjectivity and corresponding elision of authorship. The film spectator's role as an implied observer of narrative events—an "absent one" flickering ghostlike through the diegesis, positioned anew from shot to shot—is concretized in the video game imaginary through the figure of the avatar, a "present one" standing in for the player, who chooses the path of the camera-body with apparent freedom. The disavowal necessary to gameplay is like the "Yes, that's what I see" of successful cinematic suture, but further: it is "Yes, that's what I do."

Interfaces, then, are ideological. They work to remove themselves from awareness, seeking transparency--or at least unobtrusiveness--as they channel agency into new forms. Whatever the aesthetic by which a given interface has been designed, the computer's interactive address produces an additional, *anesthetic* effect, threatening mystification for the user. Moreover, interfaces are discursive, in that their signifying elements are organized around a continuous hailing of the human beings who use them--a beckoning spatial representation marked by the cursor, the startup beep, the avatarial gun. This is the uncanny power of what we might call *speaking technologies*: the perception, produced even through mundane interaction, that we are the subject of their address, that we have been recognized. Joseph Weizenbaum's ELIZA (1966), written to simulate psychotherapeutic discourse by parroting back typed input in interrogative form, also provoked enthusiastic responses from its users:

Weizenbaum thought that ELIZA's easily identifiable limitations would discourage people from wanting to engage with it. But he was wrong. Even people who knew and understood that ELIZA could not know or understand wanted to confide in the program. Some even wanted to be alone with it.⁶²

Recognition-by-interface situates the user within a software-driven signifying chain, a discourse full of gaps that invite participation. To sit at a computer and handle mouse and keyboard is to be physically positioned; to misrecognize oneself as the addressee of the screen's discourse is to be interpellated as a subject. Under this model, the FPS becomes an extreme form of subject positioning, a scenario of continuous suture.

But the model described above runs a risk in postulating a completely deterministic system, the smooth functioning of which precludes any space of negotiation. This does not square with most people's experience of computers in general or video games in particular. Interactions with computers are complicated by the interruptions of everyday life, hardware and software failure, and an affective user response ranging from joyful transport to seething rage. In addition, the discourse of the screen is itself a collage of different hails that compete for recognition and attention: multitasking operating systems "window" applications so that users move jarringly among word-processing documents, games of Solitaire, and the World Wide Web. In this sense, the computer screen is more closely related to television than to movies.⁶³

Subjective-viewpoint video games, however, do resemble cinematic address, in the specialized ways described above. Where, then, is the space of resistance in the video game? The answer is in the relationship between player and avatar--a relationship that, because of the intersubjective mechanisms on which it is predicated, is an always-already "contested space." In

addition to games' preferred meanings, players derive pleasure from avatars' instability. On the most basic level, avatars enable players to think through questions of agency and existence, exploring in fantasy form aspects of their own materiality.

If the mirror stage initiates a lifelong split between self-as-observer and self-as-observed, and the video game exploits this structure, then, in some sense, we already exist in an avatars' relation to ourselves. Our experience of the world itself is based on equal parts participation and spectatorship; we are certainly here, acting, but we do so in a constant tension between the illusory unity of self that our observing consciousness delivers to us, and the fragmented multiplicity of a self riddled with unbridgeable gaps. Egos are founded on the assumption of wholeness, a wholeness misperceived in the form of a symbolic other. The other that functions retroactively to bestow authenticity on the self could be described as a living avatar.

Movement back and forth across the border separating self from other might therefore be considered a kind of liminal play: an attempt to isolate and capture (fleetingly) the oscillatory motion of consciousness by which we are sutured into this reality. As argued above, video games seem to enact the *fort / da* game. If our unity is itself a misrecognition, then the video game, for all its chaotic cartoonishness, may constitute a small square of contemplative space: a laboratory, quiet and orderly by comparison with the complexity of the real world, in which we toy with subjectivity, play with being.

As small-scale implementations of VR and other interactive technologies of the imaginary, video games seem to offer the potential for profound redefinitions of body, mind, and spirit. In theory, avatars need not be hampered by any semblance of physicality—not even a unitary, ground-level perspective. They need not pretend to tire as they struggle uphill, need never "die." Yet, the avatar's structuring metaphor, source of its believability and, perhaps, its fascination for users, is the very vulnerability that attends embodied existence. We create avatars to leave our bodies behind, yet take the body with us in the form of codes and assumptions about what does and does not constitute a legitimate interface with reality—virtual or otherwise.

Why should experiential simulations be limited in this way? Why should any tics of corporeality, any perverse obsessions or "slips of the tongue," interrupt the carefully engineered flow of virtual fantasy? The answer, I have argued, can be found in the origin of subjectivity itself—in the moment of mistaken recognition that ties self-consciousness to an idealized representation of self and launches a lifelong struggle for guarantees of authenticity. If, as Lacan argues, we win our experience of wholeness through the establishment early in life of a permanent divide, then our extension through technological networks becomes both possible yet restrictively conditional. If we already understand our bodies to be in some sense "escapable," then

the magical projections of telephone line, movie screen, and computer-generated battlefield flower before us as spaces into which we can nimbly step-then step back as suddenly, without suffering any consequences save, perhaps, the memories left by a vivid dream.

But if our extension through various media is predicated on the body as root metaphor, then the body becomes an inescapable aspect of fantasized experience. Images of self demand recognition through identification. Yet, once established, this identification must be demolished, so that players can remember where and who they "really" are-and the cycle can begin again.

That the total control promised by the avatar has not been fully exploited is a positive sign: an indication that engagement with interactive technologies of the imaginary will be limited in ways specific to embodied human existence and discursively determined subjectivity. It suggests further that the ideological potential of immersive interfaces is doomed to operate in contention, forever breaking its own flow by violating the seamless suture between its technologically produced perspective and our own. The ambivalence that marks our experience of ourselves will continue to manifest itself in the rules, images, and interactions produced through technologies of the imaginary. The worlds we create-and the avatarial bodies through which we experience them-seem destined to mirror not only our wholeness, but our lack of it.

Notes

1. Christian Metz, *The Imaginary Signifier.- Psychoanalysis and the Cinema*, trans. Celia Britton, Annwyl Williams, Ben Brewster, and Alfred Guzzetti (Bloomington: Indiana University Press, 1982),45.
2. Elizabeth Cowie, *Representing the Woman: Cinema and Psychoanalysis* (Minneapolis: University of Minneapolis Press, 1997), 99.
3. *Diegesis*, from the Greek term for "recounted story," is conventionally employed in film theory to refer to the "total world of the story action" (David Bordwell and Kristin Thompson, *Film Art*, 6th ed., New York: McGraw-Hill, 2001, 61). I use it here to designate the narrative strategic space of any given video game-a virtual environment determined by unique rules, limits, goals, and "history," and additionally designed for the staging and display of agency and identity.
4. In introducing the concept of remediation, Bolter and Grusin emphasize the hybrid, dialectical nature of media appropriation:

The new medium can remediate by trying to absorb the older medium entirely, so that the discontinuities between the two are minimized. The very act of remediation, however, ensures that the older medium cannot be entirely effaced; the new medium remains dependent on the older one in acknowledged or unacknowledged ways (Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* [Cambridge, MA: MIT Press, 2000], 47).
5. Arguing that video games are as much about architectural, sculptural, and other "spatial" properties as they are about narrative or cinematic pleasures, Jenkins and Squire remind us that

If games tell stories, they do so by organizing spatial features. If games stage combat, then players learn to scan their environments for competitive advantages. Game designers create immersive worlds and relationships among objects that enable dynamic experiences (Henry Jenkins and Kurt Squire, "The Art of contested Spaces," in *Game On: The History and Culture of Video Games*, ed. Lucien King [New York: Universe, 2002], 65).

6. Here and throughout, I use the term "imaginary" in the Lacanian sense, to denote the realm of subjective experiences formed and maintained through identification, dualism, and equality. In Kaja Silverman's words, the imaginary order
 - precedes the symbolic order, which introduces the subject to language and Oedipal triangulation, but continues to coexist with it afterward. The two registers complement each other, the symbolic establishing the differences which are such an essential part of cultural existence, and the imaginary making it possible to discover correspondences and homologies (Kaja Silverman, *The Subject of Semiotics* [New York: Oxford University Press, 1983], 157).
7. Jacques Lacan, "The Mirror Stage as Formative of the Function of the I as Revealed in Psychoanalytic Experience," in *Ecrits*, trans. Alan Sheridan (New York: W.W. Norton, 1977), 1-7.
8. Samuel Weber, *Return to Freud: Jacques Lacan's Dislocation of psychoanalysis*, trans. Michael Levine (New York, NY: Cambridge University Press, 1991).
9. Lacan, "The Mirror Stage," 1.
10. Lacan, "The Mirror Stage," 2.
11. Silverman, *The Subject of semiotics*, 126.
12. Discussing the ways in which external entities—the mother's breast, the feces, the gaze of another—take on erotic significance for the developing child, Silverman observes that "[t]here will be many such objects in the life of the subject. Lacan refers to them as '*objets petit a*,' which is an abbreviation for the more complete formula '*objets petit autre*.' This rubric designates objects which are not clearly distinguished from the self and which are not fully grasped as other (*autre*)" Silverman, *The Subject of semiotics*, 156.
13. Weber, *Return to Freud*, 14.
14. Weber, *Return to Freud*, 14.
15. Weber, *Return to Freud*, 14.
16. Weber, *Return to Freud*, 14.
17. Another version of this occurs when loading a saved game, which, in effect, obliterates the current avatar in order to substitute an earlier version.
18. One way to consider such "reflective relationships" in third-person games such as the *Tomb Raider* series (1996-present), in which a "chase camera" follows the avatar but rarely reveals its face, is by analogy to a two-mirror system. Positioning a hand mirror so that its reflection is visible in a larger mirror, I can, for example, glimpse the back of my own head: the image is still recognizable as me, yet I do not return my own gaze.
19. Lacan, "The Mirror Stage," 1.
20. In her analysis of historical trauma and the death drive, Silverman identifies the subject's repetitive (symbolic) staging of its own destruction as a particularly *male* syndrome; one that, furthermore, even the father of psychoanalysis could not bring himself to confront:
 - Masculinity is particularly vulnerable to the unbinding effects of the death drive because of its ideological alignment with mastery. The normative male ego is necessarily fortified against any knowledge of the void upon which it rests, and—as its insistence upon an unimpaired bodily "envelope" would suggest—fiercely protective of its coherence. Yet the repetition through which psychic mastery is established exists in such an intimate relation with the repetition through which it is jeopardized that Freud shows himself unable to distinguish clearly between them.... Disintegration constantly haunts the subject's attempts to effect a psychic synthesis." (Kaja Silverman, *Male Subjectivity at the Margins* [New York: Routledge, 1992], (1.)

- Levy, *Hackers*, 46.
23. Levy, *Hackers*, 47.
 24. Sigmund Freud, *Beyond the Pleasure Principle* (New York: Bantam Books, 1959).
 25. Silverman, *Male Subjectivity at the Margins*, 61-62.
 26. Levy, *Hackers*, 61.
 27. Bolter and Grusin, *Remediation*, 90.
 28. The Spacewar! diegesis-derived from the preexisting media form of printed science fiction—also foreshadowed the metaphoric borrowings of WIMP operating systems, which take their shape from preexisting material technologies of desktops, folders, trash cans, and so on.
 29. Levy equates this line-by-line exploration of a fantasy world with programming itself, suggesting that the original players were able to achieve partial metaphorical contiguity between their actual lives and their experiences as avatars within the domain of *Adventure*. A similar parallel might be drawn between *Spacewar!*'s battling vessels and its hacker combatants, whose social and professional lives were characterized by highly competitive struggles to demonstrate flamboyant programming abilities.
 30. Quoted in Levy, *Hackers*, 132.
 31. Quoted in Levy, *Hackers*, 295.
 32. Ted Friedman, "Civilization and Its Discontents: Simulation, Subjectivity, and Space," in On a Silver Platter: *CD-ROMS and the Promises of a New Technology*, ed. Greg M. Smith (New York: New York University Press, 1999), 137.
 33. Friedman, "Civilization and Its Discontents," 136.
 34. Friedman, "Civilization and Its Discontents," 138.
 35. David Sudnow, *Pilgrim In The Microworld* (New York: Warner, 1983), 66.
 36. Scott Cohen, Zap: *The Rise and Fall of Atari* (New York: McGraw, 1984), 78.
 37. *Missile Command* had its start in a Rand Corporation simulation of ICBM air-defense management, the goal of which was to determine how quickly human controllers would be overwhelmed (J. C. Herz, *Joystick Nation: How Video Games Ate Our Quarters, Won Our Hearts, and Rewired Our Minds* [Boston: Little, Brown, 1997], 216).
 38. J. C. Herz, *Joystick Nation: How Video Games Ate Our Quarters, Won Our Hearts, and Rewired Our Minds*, 64.
 39. Marsha Kinder, *Playing with Power in Movies, Television, and Video Games: From Muppet Babies to Teenage Mutant Ninja Turtles* (Berkeley: University of California Press, 1991), 106.
 40. Steven Poole, *Trigger Happy: Videogames and the Entertainment Revolution* (New York: Arcade, 2000), 148.
 41. Scan Cubitt, *Digital Aesthetics* (London: Sage, 1998), 75.
 42. Janet H. Murray, *Hamlet on the Holodeck: The Future of narrative in cyberspace* (Cambridge, MA: MIT Press, 1997), 53.
 43. Bolter and Grusin, *Remediation*, 94.
 44. Kinder notes in video games a tendency toward Oedipal narratives "in which male heroes have traditionally grown into manhood and replaced father figures, and on myths ... in which little guys beat giants" (Kinder, *Playing With Power*, 105); she sees this as a uses-and-gratifications strategy whereby "the games can help boys deal with their rebellious anger against patriarchal authority" (Kinder, *Playing With Power*, 104).
 45. Herz, *Joystick Nation*, 150.
 46. "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 ... 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" (Bolter and Grusin, *Remediation*, 97).
 47. Cubitt, *Digital Aesthetics*, 85.
 48. Cubitt, *Digital Aesthetics*, 90.
 49. Cubitt, *Digital Aesthetics*, 90.
 50. Herz, *Joystick Nation*, 151.
 51. Bolter and Grusin, *Remediation*, 93.
 52. The touchstone in this body of work remains Laura Mulvey's "Visual Pleasure and Narrative Cinema" (*Visual and Other Pleasures* [Bloomington: Indiana University Press, 1989],

- 14-26), which first articulated the connection between cinematic representation and the phallogocentric imaginary.
53. See, for example, Jean-Louis Baudry, "Ideological Effects of the Basic Cinematic Apparatus," 531-542, and Jean-Luc Comolli and Jean Narboni, "Cinema/ Ideology/Criticism," 22-30, both in *Movies and Methods, Vol. 2*, ed. Bill Nichols (Berkeley: University of California Press, 1985).
 54. By contrast, video games often insert "Cut-scenes" intended for viewing, not playing. At these moments, the game cues players (typically by shifting to a "letterboxed" mode with black bars at screen top and bottom) to remove their hands from the controls and simply watch information that advances the game's narrative. During cut-scenes, conventional codes of cinema reassert themselves; viewing competencies developed through movies (and, arguably, television and graphic novels) guide players in the proper interpretation of "unembodied" visual grammar such as shot- reverse-shot, dissolves, zooms, fade-ins and fade-outs, and so on.
 55. Daniel Dayan, "The Tutor-Code of classical Cinema," in *Movies and Methods, Vol. 1*, ed. Bill Nichols (Berkeley: University of California Press, 1976), 438-450. See also David Bordwell, *Narration in the Fiction Film* (Madison: University of Wisconsin Press, 1985), 110.
 56. Lillo L. Moreno, "Subjective Cinema: And the Problem of Film in the First Person," *Quarterly of film, Radio, and Television* 7 (1953): 349
 57. Pascal Bonitzer, "Partial Vision: Film and the Labyrinth. Trans. Fabrice Ziolkowski. *Wide Angle* 4, No. 4 (1981): 58.
 58. Joseph P. Brinton 111) "Subjective Camera or Subjective Audience?" *Hollywood Quarterly* 2 (1947):365.
 59. Louis Althusser, "Ideology and Ideological State Apparatuses (Notes toward an Investigation);" in *Mapping Ideology*, ed. Slavoj Zizek (London: Verso, 1994), 100-140.
 60. Silverman, *The Subject of Semiotics*, 205.
 61. Silverman, *The Subject of Semiotics*, 215.
 62. Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon and Schuster, 1995), 105.
 63. Computers share with television a technological base-the CRT display-as well as domestic and professional spaces of consumption that stand in sharp contrast to the collective, uninterrupted viewing environment of theater-based cinema.

