

Programmed Moves: Race and Embodiment in Fighting and Dancing Videogames

by

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Abstract

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Programmed Moves examines the intertwined history and transnational circulation of two major videogame genres, martial arts fighting games and rhythm dancing games. Fighting and dancing games both emerge from Asia, and they both foreground the body. They strip down bodily movement into elemental actions like stepping, kicking, leaping, and tapping, and make these the form and content of the game. I argue that fighting and dancing games point to a key dynamic in videogame play: the programming of the body into the algorithmic logic of the game, a logic that increasingly organizes the informatic structure of everyday work and leisure in a globally interconnected information economy. Games make bodily habituation to new forms of digital technology both intelligible and pleasurable by investing players in familiar racial, sexual, and national identifications.

Programmed Moves explores how the bodily mastery cultivated in fighting and dancing videogames relies on and reproduces figurations of gendered and racialized technological mastery. The first half focuses on fighting games, beginning with how the earliest martial arts videogames emerge in the 1980s with the rise of Japan as a global economic power and game industry giant. I proceed in the next chapter to examine how videogames featuring transnational kung fu star Bruce Lee ambivalently figure Asian/Asian-American masculinity. In the second half of my dissertation, the focus shifts to dancing games. I critique how dance games that discard traditional game controllers in favor of full-body interfaces propel players into racialized physical motion. I end by showing how mobile, touchscreen rhythm games for the iPhone both recall and disavow the Chinese female factory laborers who touch each device before it is offered up for western consumption. My investigation of how racial difference becomes embodied in gameplay goes beyond critiques of racial stereotypes to understand how videogames produce politically urgent racial formations through actions and processes rather than just images. *Programmed Moves* thus points to the connections between technological and racial coding in videogames.

For Ben

Contents

| | |
|---|-----|
| Acknowledgments | iii |
| Introduction | iv |
| 1 Mastering Moves in Early Martial Arts Videogames | 1 |
| 2 Playing Bruce Lee | 30 |
| 3 This Is Not a Dance | 60 |
| 4 Nimble Hands, “Digital” Labor, and the Rhythms of Touchscreen Gameplay | 80 |
| Conclusion | 98 |
| Notes | 103 |
| Bibliography | 118 |

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Introduction

Writing in 1974, film scholar Stuart Kaminsky linked fighting and dancing when he called martial arts cinema a “ballet of violence.” For Kaminsky, the fighting in kung fu films was comparable to the dancing in musicals because both combat sequences and musical numbers dispense with editing and narrative in order to focus on the raw spectacle of bodily movement. The primary appeal of both martial arts film and musical is the fighter or dancer’s kinetic virtuosity, what Kaminsky calls the “myth of skill” embodied in the “agility and grace of the performer.” This arouses a bodily identification in the spectator “that is so strong that the myth persists often into the private life of the viewer,” who goes on to practice the cinematic performer’s infectious moves on street corners and at home. Kaminsky’s references to African-American youth adopting the kung fu moves of Asian film star Bruce Lee and to white Hollywood stars like Fred Astaire performing dance numbers in yellowface and blackface point to the volatile cross-racial identifications activated by fighting and dancing bodies onscreen. Fight scenes and dance scenes in cinema make the hyperbolically “superhuman” abilities of racialized bodies in motion visible and desirable.¹

Videogames operationalize this “myth of skill” by allowing players to directly control the movements of the fighting and dancing bodies onscreen, transposing the skills of the dancer and fighter onto their own, and the computer’s, technical abilities. As in cinema, fighting and dancing in videogames foreground the prowess of racialized bodies in motion. But whereas the presence of the cinematic apparatus is suppressed in Bruce Lee and Fred Astaire films in order to focus the spectator’s attention on the “authentic” body of the performer, the presence of the computational apparatus in fighting and dancing videogames is actively called out as the co-producer of the sensational onscreen moves, both in the sense that the bodies on the screen are computationally rendered graphics rather than live bodies captured on film, and in the way that the player must skillfully operate the game controller in accordance with the game program in order to execute these moves.

Insofar as cinema’s bodily responses seem to be involuntarily jerked out of spectators, cinematic bodies seem to act on us, forcing us into a visceral response. Videogames, on the other hand, while perhaps driven by the compulsion to imitate what is seen on cinema screens, are understood as equipping players to achieve bodily mastery. Players cultivate control over their bodies as they learn to master the moves required to succeed in the game. Fighting and dancing videogames train players to move with an agility and grace that directly equates the movements onscreen with the movements of the player, revealing at once the choreographic power of digital technology and the technicity of bodily movement. Identification with the computer technology itself becomes inserted into the play of cross-racial identifications, so that performing as an Asian fighter or black dancer is also performing as an Asian fighting machine or a black dancing machine, and racialized styles of movement register as routines which can be programmed, transferred, acquired, and executed.

Programmed Moves examines the intertwined history and transnational circulation of two major videogame genres, martial arts fighting games and rhythm dancing games, as they have emerged in relation to but significantly distinct from

cinematic genres. It argues that fighting games and dancing games are fundamentally linked by their translation of bodily movement into computer algorithm, so that the mastery of bodily movement exemplified by the martial arts and by dance becomes translated into technical mastery of the game program. Like all videogames, these games create a cybernetic circuit between player and computer. They require players to program their movements according to the structures of the game algorithm. But fighting and dancing games, with their virtuosic flying kick attacks and frenetically gyrating players, specifically foreground bodies, both onscreen and off, as the agent and instrument of this informatic technical proficiency. They strip down bodily movement into elemental actions like stepping, kicking, leaping, and tapping, and they make these both the form and content of the game. Fighting and dancing videogames position the player's body as "in control" of the game machine *and* subject that body to discipline and control through the technological interpenetration of the player's body with the algorithmic rhythms of the game machine. At the same time, the racialized bodies in these game genres operate as guarantors of authenticity against the dissimulations of computer-mediated experience. Fighting and dancing videogames show us the extent to which the pleasures of videogame play are founded on a bodily absorption of the increasingly informatic structure of our everyday lives. And they make bodily habituation to new forms of information technology pleasurable by enlisting familiar racial fantasies and desires while at the same time reconfiguring race and technology in relation to each other.

The "peak flow" state of being so immersed in gameplay that we internalize its patterns and "become" the machine is experienced by players as both omnipotent control over the game and absolute submission to its logic. Writing before the advent of computerized games, Marshall McLuhan gets at this sense of contested agency between human and technology in his discussion of the "mechanical rigors" of a game's rules and procedures: "A game is a machine that can get into action only if the players consent to become puppets for a time."² This powerful dynamic duplicates the dynamics of racial performance, in which performers both submit to and gain control over the bodies of a racial other through mimetic contact. As Eric Lott has argued in his examination of blackface minstrelsy in the nineteenth century, racial performance is characterized by the ambivalent play between "love" and "theft"—allowing whites to embody the desirable role of the racial other while at the same time appropriating blackness in order to both punish it and manage against its temptations.³ *Programmed Moves* explores how the striving for bodily mastery in fighting and dancing videogames, which takes the form of performing as a desired racial other and jettisoning racial otherness, relies on and reproduces forms of racialized bodily mastery.

An important critique of prevailing new media theory is that it partitions off race from theories of technology, as if race is something to be added in later, *after* the primary project of specifying new media's forms and structures. An important critique of race studies approaches to studying videogames is that they treat games as a narrative representational medium continuous with cinema and television, ignoring the competitive, algorithmic mechanics of the videogame. My investigation of how racial difference becomes embodied in gameplay goes beyond critiques of racial stereotypes to understand how videogames produce politically urgent racial formations through actions and processes rather than just images. I take up the call by Lisa Nakamura and Peter Chow-White for a more technologically informed understanding of racial formation:

Users don't just consume images of race when they play videogames, interact with software, and program: instead, they perform them. While it still matters if your avatar can or cannot look like you, the ability to compose digital identities extends beyond what can be seen on the screen, and we must attend to how race operates as a set of parameters and affordances, ideological activities, and programmed codes.⁴

In an effort to think through new media theory with race theory, I will explore the ways that race is embedded in the formative structures of videogame mechanics and co-created between players and game technologies. As videogames are both eclipsing and absorbing cinema and television as the dominant form of popular media, it is becoming more crucial to examine how videogames make meaning, and in particular, how they produce intensely pleasurable relationships to digital technology by configuring certain racialized and gendered relationships to that technology. We must examine the entire cybernetic system organized by the videogame: the player before the screen, the game controller that connects the player and the game machine, and the game machine, both hardware and software, that processes the player's controller movements and produces onscreen moving images (as well as sounds and sometimes physical vibrations) in response. The integrated flow between human and intelligent, responsive machine is crucial to the player's experience of the videogame, and this is what prompts Helen Kennedy and Patrick Crogan to call for a new videogame studies founded on "encountering the game less as static object of study and more like the contingent, performative production of gamer, hardware, and software entities in 'collusion' with each other."⁵ In other words, rather than conceiving of computer game technology as an inert tool that we wield control over, we should consider game technologies as co-constitutive co-agents that work in a constant interrelational negotiation. This consideration of the mutual and dynamic relationship between the technological and the human also allows us to see race as emerging from these relations.

It is the imperative to move beyond the representational, towards the sociotechnological forms that racialization takes through videogames, that governs my focus on the uneven emergence of martial arts games and rhythm dance games alongside particular platforms or computer technologies at specific historical moments of economic and cultural uncertainty, rather than on their maturation and refinement as major contemporary videogame genres on well-established platforms. This is because the dominant narrative of the videogame industry defines the leading edge of videogames through the photorealistic quality of their graphics, cementing a popular understanding of games as a primarily representational medium. Mainstream media, and media scholars as well, often pay attention to videogames, and to race in videogames, only when they reach a certain level of cinematic representation that makes them legible as objects of visual analysis. Thus seminal fighting games like *Street Fighter II* (1991) and *Mortal Kombat* (1992) became the sensational subjects of moral panic in the early 1990s due to their photorealistically graphic depictions of orientalized violence, and the newest incarnations of the popular dance game *Just Dance* (2014) are organized around capturing and disseminating dance videos that depict multicultural, global utopia. Film and new media

scholars Anna Everett and S. Craig Watkins have argued that “whereas the ethnically marked features of Mario, the Italian plumber were...relatively innocuous,” later games like *Grand Theft Auto: Vice City* “benefit from enhanced technology and software that portrays the markers of race and ethnicity—skin color, gestures, voice, music, and setting—in a much more explicitly and powerful manner.” In other words, Everett and Watkins recognize race in videogames only insofar as “technological changes have opened the way for upgraded representational depictions.”⁶ This focus on visual representation in videogames as inherently more sophisticated and therefore more racially legible as it “upgrades” toward the photorealistic verisimilitude made possible by next-generation game consoles reiterates the game industry’s narrative of technological progress based on beefier graphic processing and higher image resolutions, and permits us to dismiss non-photorealistic games as not bearing racial meaning.

While the photorealist racial representations of contemporary fighting games and rhythm dance games are certainly worth further study, my focus here is on the earliest emergence of these genres and the particular moments in their evolution when they are still struggling with fundamental questions of gameplay, player control, and racial legibility rather than simply striving to improve their high-power graphics capabilities. I do not aim to provide a comprehensive genre history of martial arts and rhythm dance games, but rather to interrogate specific games that appear through specific cultural, political, and economic conditions.

Chapter Overviews

Chapter 1, “Mastering Moves in Early Martial Arts Videogames” examines the first martial arts fighting videogames *Karate Champ*, *Karateka*, and *Kung-Fu Master*, all released in 1984, in relationship to the kung-fu movie craze of the previous decade and to the rise of Japan as a threatening global economic and technological power. I argue that the transmutation of kung fu action from cinema to videogame still foregrounds the highly-disciplined Asian male body, but one that is now feared and desired for its innate technological proficiency.

Chapter 2, “Playing Bruce Lee,” turns from the broader landscape of martial arts cinema and videogames to focus on a specific figure of Asian/Asian-American masculinity, Bruce Lee. The chapter examines the uneven afterlives of Bruce Lee in digital form by tracing his reincarnations in videogames from the Atari game *Bruce Lee* (1984) through the Xbox game *Bruce Lee: Quest of the Dragon* (2002). Animated by the desire to “be Bruce Lee,” these videogames allow players to resurrect and inhabit the body of Bruce Lee by re-animating the cinematic traces of his body in digital form, and putting this digitized body and its movements under the control of the game player. I argue that the gameplay in these videogames is structured by these competing cinematic and gamic desires to see Lee’s body reproduced in full motion and to fully control his bodily motions.

The second half of the dissertation shifts the focus from fighting games to dancing games. Chapter 3, “This Is Not a Dance,” examines the emergence of dance simulation games that discard joysticks and game controllers in favor of non-traditional gaming interfaces that propel players into physical motion, with a focus on *Dance Dance*

Revolution (1999), to show how racial and sexual identifications shape the encounter between human body and digital technology. The final chapter, “Nimble Hands, ‘Digital’ Labor, and the Rhythms of Touchscreen Gameplay,” examines the popular genre of rhythm games played on mobile touch devices that translate dance moves into finger taps and swipes. These games foreground the condensation of expressive bodily movements into the micro-movements of an agile, disembodied hand interacting with a fetishized technological device. I analyze the hit game app *Tap Tap Revenge* (2008) in the context of the infamous “iPhone Girl,” the Chinese Foxconn worker whose photos were inadvertently left on an iPhone she worked to assemble, and then globally distributed online as an uneasy reminder of the nimble fingers that touch each device before it reaches western consumers. I argue that these hand-held rhythm games articulate the globally racialized dynamic between work and play.

By soliciting player actions that are technologically mediated yet racially coded, videogames offer an important window into how racial identities are transmuted by and made expressible through the ostensibly impersonal, abstract, dispersed non-presence of computer software. Videogames configure relationships to technological others that shape and are shaped by relationships to racial others. The flow between human and machine activated by videogame play is not a dry and neutral exchange of ones and zeros, but charged through with racial fantasies and desires. Playing a videogame allows us to pleurably engage in the struggle over bodily control and agency in our relations to digital technology in ways that prompt us to reconsider how we understand the dynamics of assimilation, exclusion, and control in racial relations as well.

Chapter 1

Mastering Moves in Early Martial Arts Videogames

For two years Ransom had been putting nearly all of his energy and time into karate. . . Ransom believed that he would become a different person, better somehow, if he kept training. Without actually cataloguing imagined benefits, he felt that the discipline would tone all of his being. It was a way of knowing himself.”

—Jay McInerney, *Ransom* (1985)

The computer is a magic box. It’s a tool. It’s an art form. It’s the ultimate martial art.

—Les Solomon, quoted in Steven Levy, *Hackers: Heroes of the Computer Revolution* (1984)

In 1984, Asian bodies appeared on U.S. videogame screens for the first time, karate punching and kung-fu kicking under the command of players wielding keyboards and joysticks. The release of the bestselling fighting games *Karate Champ*, *Karateka*, *Kung-Fu Master*, and *Bruce Lee* introduced martial arts to a computer game world previously dominated by outer space themes, and launched a now canonical videogame genre.¹ Martial arts videogames shifted the focus of gameplay from high-tech warfare using spaceships and missiles to unarmed combat using fists and feet. At the same time that these hand-to-hand fighting games were dominating arcades and home computers, the specter of Asian and Asian-American expertise in science and technology outpacing that of white Americans dominated news media and popular culture representations. In the 1980s, fear of Japan’s rising economic power, fascination with Asian-American academic success, and uncertainty about the new high-tech information economy coalesced in the concept of “techno-orientalism”—the association of Asia with ruthless rationalism, economic modernity, and technologies of the future.

This chapter examines how Asians and Asian Americans became visible in computer gaming within this confluence of techno-oriental discourse. Through the incongruous low/high-tech interplay between ancient Asian bodily practices and modern computer simulations of those practices, martial arts videogames highlight how and why Asia is so often conflated with high technology and futurity. And they reveal how unfamiliar encounters between humans and new technology are negotiated through historical encounters between white Americans and their racial others. In these martial arts videogames, the aggressiveness and economy of Asian bodily style figured in the martial arts becomes mapped to the “inherent” Asian affinity for computer technology, setting the stage for today’s hacker lexicon of “code ninjas” and “code fu” that analogizes programming skills to martial arts skills.

Pixelating Race

The lush photorealism of contemporary game animation has absorbed so many of the visual conventions of cinema that it is often hard to remember that games are played, not just viewed. Martial arts videogames like *Karate Champ*, *Karateka*, *Kung Fu Master*, and *Bruce Lee* are clearly influenced by the “kung fu craze” of the 1970s, in which U.S. audiences flocked to urban theaters to experience the kinetic energy of hastily dubbed martial arts films imported from Hong Kong. But videogames are not films, so it is important to think about videogames not only as representations, but also as actions. As game scholar Espen Aarseth reminds us, “Games are both object and process; they can’t be read as texts, or listened to as music, they must be played.”² The pixelated forms and tinny sounds of 1980s fighting games developed for 8-bit systems might seem primitive compared to the richly textured 3D worlds of contemporary videogames, in which racial phenotypes are rendered in intricate, photorealistic detail.³ Yet the attractions of movement in these early games are still produced through powerful racial fantasies of the Asian/Asian American male martial arts body. Precisely because these early videogames strip down the visual representation of race to its most abstract, iconic markers, these games allow us to see how race is made legible not only through facial features and skin tones, but also through *how bodies move*. Mediated by the computer game’s screen-and-controller interface, fighting moves become cybernetic—generated by, solicited by, and translated through the computer’s algorithmic processes. On the computer, kung fu’s balletic leaps through the air become programs that can be executed through the informatic act of detecting patterns and executing button/joystick combinations at a precise time and in an exact sequence in response to those patterns.

The low-resolution, non-illusionistic games of the early 1980s, in which figures are abstractions made up of blocky pixels and in which animated movements are broken down into discrete sprite-based actions, make it very clear that examining only the visual representational systems of these games can not fully account for their racial meanings. As Ian Bogost points out, “in procedural media like videogames...image is subordinate to process.”⁴ Early games require us to think about games not just as representational systems, but what Ian Bogost calls procedural systems—images that are “constructed, selected, or sequenced in code.”⁵ In fact, computer games in the 1980s were often referred to as “programs” rather than today’s image-centric designation “video games.” The allures of “Asianness” in these early games are located not just in the characters, backgrounds, and story within the videogames, but in the abstract system of rules driving both the visual representations onscreen and the player actions in relationship to those representations that players learn to master. Racial coding emerges from technological coding. In fact, game players at the time frequently described fighting games in terms of their graphical realism, as “lifelike,” “smooth and picturesque,” and “realistically depicted.”⁶ This is a realism produced not by cinematic photo-illusionism, but by a fluidity of feedback between player and game, where tight coordination between movements by the player and movements by the game create a sense of experiencing “real” action. By attending not only to the racially stereotyped images we see on the screen, but also to the racialized forms of action or styles of movement that players are required to master in synchronicity with the game program, we can begin to understand how game players invest abstract computer animations with racialized subjectivity.

By examining the earliest fighting videogames, we see how game play based on mastering moves is never just about a technical synchrony between computer algorithm and bodily reflex. Rather, it includes racial performance—in the form of embodying perfect, computer-accurate movement that developed in these now canonical videogame genres. The mastery of movement so central to these games is sustained by racial fantasies of embodying an Asian/Asian American bodily style that possesses a unique affinity for technology. Martial arts training seems to make possible an alignment between mind and body—a grace of movement, discipline, and focus—that is essential to the new computer culture. An influential manifesto for hacker culture originally published in 1983 proclaimed martial arts to be the ultimate hacker exercise because “Hacker sports are almost always primarily self-competitive ones involving concentration, stamina, and micromotor skills.”⁷ The mediation of martial arts through computer game play activates a desire for specifically racialized forms of technical proficiency and expertise. Mastering intricate kung fu moves promises aggressive, graceful control over the complexities of technology. It is crucial to avoid a teleological conception of these early martial arts videogames as primitive precursors to today’s more fully developed, technologically advanced, and aesthetically sophisticated genre of fighting games. Understanding the earliest martial arts videogames in the context of their own times requires attending to the specific, socio-cultural moment from which they emerged.

From Bare Fists to High Scores

All kung fu movie fans are familiar with the inevitable moment in a Bruce Lee film when, with a quick jerk, he sheds his shirt and exposes his exquisitely chiseled bare torso. Chuck Norris’s reminiscence speaks to this frisson of awe and pleasure, “Bruce took off his T-shirt, and I marveled as I always did every time I saw his physique. He had muscles on muscles.”⁸ Yet the tight, compact muscles of Bruce Lee’s body are markedly different from the massive, beefy ones typical of his 1970s film opponents and of American action heroes of the 1980s. In films such as *Conan the Barbarian* (1982), *Terminator* (1982), and *Commando* (1985), Arnold Schwarzenegger’s already hulking body is further bulked up by his gigantic swords and guns. Lee’s body, in contrast, is unarmed, lithe and efficient, trimmed down to what is essential. While the bloated bodies of white, western he-men lumber through fights relying on brute force, Lee’s comparatively small body is quick, agile and, as James Coburn described, “absolutely toned and tuned to whatever it was he was doing and totally functional.”⁹ Bruce Lee’s kung fu prowess is founded on an aesthetic of austerity, in which the body is rigorously optimized to produce maximum power and with minimal waste of movement and energy. This condensation of bodily force is crystallized in Lee’s legendary “one-inch-punch,” in which he could floor a larger opponent with the micro-movement of a punch delivered from a one-inch range.¹⁰

Many scholars assert that the muscular Asian male bodies obsessively displayed in the 1970s explosion of martial arts films operated as sites of resistance to Western technology. The raw physicality of the martial arts hero’s skin and muscle reflects the anti-high-technology discourse of the martial arts film narrative, where the “bare fists” of

the Asian resistance fighter, who has no material resources outside of his body, heroically challenges the hyper-technologized forces of western imperialism. Stripped down to its basic form of bodies in combat, kung fu functions as a rebuke to the wielding of technology by dominant oppressive forces. As Yvonne Tasker observes, the bodies of kung fu heroes are their “ultimate, and often their only, weapon.”¹¹ Tasker further points out that martial arts superstar Bruce Lee eschewed cinematic tricks such as rapid editing, wirework, and the use of trampolines in favor of real bodies performing real, possibly dangerous moves and stunts.¹² Jachinson Chan reads this “bare fists” style of un-aided physical force and cinematic realism in the context of the Vietnam War: “At a time of anti-war sentiments, it may have been refreshing to witness an Asian hero who uses his own body to resist the technological advancements of the West.”¹³ Technology in this context was associated with the machinery of war. Vijay Prashad asserts that Bruce Lee’s bare feet and fists were identified with the anti-imperialist struggle of the Vietnamese against the superior technological sophistication of “B-52s, Agent Orange, fleets of destroyers, nuclear bombs, the entire military-industrial powerhouse of the United States.”¹⁴ The popularity of martial arts films with disenfranchised black youth points to the cross-racial correspondences between battles against state-sponsored racism in U.S. cities and battles against U.S. imperialism in Vietnam. Amy Abugo Ongiri argues that African-American men identified with the potential for resistance offered by Bruce Lee’s films in particular: “The bare fists of the kung fu hero visually represent the possibility of resistance even in the zero-sum moment of material resources.”¹⁵ As were the Vietnamese peasant guerillas fighting the U.S. military juggernaut, the African-American fans of 1970s martial arts cinema were similarly positioned on the other side of the technological divide by their lack of access to technology resources.

But what happens to this raw and deft physicality when it gets translated from martial arts cinema to martial arts videogames? What happens to the radical meanings of kung fu when it shifts from the context of the United States’ engagement in the Vietnam War in the early 1970s to its engagement with Japanese economic expansion and imported Asian technical labor in the 1980s? And what happens to the figure of the Asian martial arts fighter when it shifts from the context of Asian as gook to Asian American as model minority? Between the 1970s and the 1980s, the Asian/Asian-American male in the national imaginary undergoes a transition from the bare-fist resistance fighter of Vietnam and kung fu cinema, to Japanese corporate technology experts and Asian-American whiz kids.

Yellow Peril, Model Minority, and Techno-Orientalism

Fear of Japanese economic expansion and technological development reached a frenzy in the U.S. in the 1980s. The inroads made by Japanese corporations into the American auto and electronics industries and the buyout of important American cultural symbols such as Columbia Pictures and Rockefeller Center by Japanese corporations were construed as no less than a “yellow peril” invasion and provoked a wave of national anxiety about the superior performance of Japanese workers, Japanese managers, Japanese industrial planning, and, in particular, Japanese high technology. Morley and Robins use the term “techno-orientalism” to articulate the period’s burgeoning

association of Japan with high technology: “Japan has become synonymous with the technologies of the future—with screens, networks, cybernetics, robotics, artificial intelligence, simulation...Japan is the future, and it is a future that seems to be transcending and displacing western modernity.”¹⁶ Unlike the large-scale industrial technologies wielded by the U.S. military against Asia in WWII and the Vietnam War, these new technologies are miniaturized, invisible, and insidiously threaten to blur the boundaries between human and non-human. If the west’s exclusive claim to modernity over the ancient, pre-modern east is founded on its technological supremacy, Japan’s ability to appropriate, enhance, and reproduce western technology threatens to undermine the very basis of western identity.

While the Japanese were accused of being robotic, conformist copycats who “often feel it is better to mimic or borrow than originate,” they were also admired for possessing “a tradition of discipline and an unsurpassed work ethic” that Americans hoped to revive within themselves through imitation.¹⁷ The hostility toward as well as fascination with Japan’s economic and technological success is reflected in Japan-bashing news media that warned against “The Danger From Japan” and decried the onslaught of “Silicon Samurai” at the same time they pondered, “If Japan Can, Why Can’t We?”¹⁸ Pop songs such as “Turning Japanese” (1980) and “Mr. Roboto” (1983), films such as *Gung Ho* (1986) and *Black Rain* (1989), and cyberpunk fictions such as *Blade Runner* (1982) and *Neuromancer* (1984) all figure Japan, and thereby Asia, as the sign of a mechanized future in which the white western male subject is in danger of being thoroughly eclipsed—unless he submits himself to orientalizing.¹⁹ Morley and Robins articulate the necessary disintegration of the rational, unique, autonomous human subject of western enlightenment: “The Japanese are unfeeling aliens; they are cyborgs and replicants. But there is also the sense that these mutants...are now better adapted to survive in the future.”²⁰ In a modern update to the yellow peril fear of Asian hordes taking over western civilization that dates back to Ghengis Khan, the infinitely reproducible hordes of Japanese robots threaten to supplant American individualism and ingenuity at the same time that they embody an ideal adaptation to technological modernity.

The domestic parallel to the yellow peril rhetoric of Japan’s perceived economic and technological aggression from without is the ascendancy of the Asian American model minority within. The model minority stereotype casts Asian Americans as exemplars of American success, whose reverence for learning, hard work, thrift and self-reliance has allowed them to smoothly assimilate into mainstream American culture and serves as a rebuke to their less successful and more politically volatile African American and Latino counterparts. But as Colleen Lye asserts, “yellow peril and model minority are best understood as two aspects of the same, long-running racial form, a form whose most salient feature, whether it has been made the basis for exclusion or assimilation, is the trope of economic efficiency.” The association of the Asian/Asian American with “superlative technical efficiency” in both yellow peril and model minority discourses points to a fear of the alienating, dehumanizing effects of modernity and its attendant technologies.²¹ In the 1980s, model minority discourse became closely intertwined with techno-orientalist discourse to produce the figure of the Asian nerd—an overachieving braniac possessing a natural affinity for science and technology. A *Time* cover story on “Those Asian American Whiz Kids” articulates this shift in the perception of Asian

Americans: “‘Years ago,’ complains Virginia Kee, a high school teacher in New York’s Chinatown, ‘they used to think you were Fu Manchu or Charlie Chan. Then they thought you must own a laundry or restaurant. Now they think all we know how to do is sit in front of a computer.’”²² News media throughout the 1980s devoted special coverage to the achievements of Asian Americans in math, science, and engineering. A writer in *Fortune* attributed Asian success to their “higher average IQs,” even claiming that “there is abundant evidence, furthermore, that Oriental children in the U.S. and abroad have a special gift for spatial and mathematical thinking.”²³

The capacity for technological modernity that seems inherent to the Asian/Asian American “super minority” also made them ideal workers for the new information economy in which the United States was struggling to stay competitive. As the traditional “smokestack industries” that had made the U.S. a global power gave way to “surging high-technology companies,” the nation turned to Asian immigrant workers to fill a void in skilled technical labor.²⁴ The passage of the 1965 Immigration Act reversed the previous bans on immigration from Asia and coincided with the introduction of the Sputnik program, the growth of a new generation of high technology industries, increasing demand for technical labor, and a shortage of skilled workers in the U.S. As a demographer quoted in the 1985 *Time* article subtitled “A Wave of Arrivals from the Far East Enriches the Country’s Talent Pool” attests, Asian immigrants were prized as model workers: “The Asians are the most highly skilled of any immigrant group our country has ever had.”²⁵ Yet these desirable technical skills also served to render Asian workers automatons whose frightening efficiency threatened to supersede American ingenuity, and therefore needed to be managed and contained. Roli Varma argues that the new influx of highly educated and technically skilled Asian immigrants into the U.S. labor pool remain exploited as “high-tech coolies” unsuited to leadership roles and points out that “Asian immigrants are seen as good at ‘programmed decisions’ (e.g. routine repetitive decisions that are learned in advance)... Consequently, Asian immigrants are viewed to be mimetic rather than original and are taken to be suited for carrying out other peoples’ orders and ideas.”²⁶

As this conflation of “Asian” and “programmed” reveals, the twin contempt and admiration for Asian/Asian American technical proficiency and its potential assimilation into American culture corresponds to an ambivalent response to the new technologies themselves. Both Asians and the technologies they so expertly manipulate are alien to legitimate American/human identity. The transformation of a national economy based on agriculture and manufacturing to one based in high technologies threatened to make humans, and thereby authentic American culture, obsolete. A 1983 *Time* magazine cover story on “The New Economy” features an illustration of a smoke-belching factory being wheeled away to the trash heap by a cheerful robot whose body is a computer terminal. The article itself continues this narrative of traditional manufacturing industries being displaced by high technologies: “The computer and the robot are already beginning to replace the simpler mental functions of blue-and white-collar workers.” Only through “massive re-training” can America’s “weak, inefficient” domestic industries become “leaner, more productive,” “flexible and efficient,” and “responsive.”²⁷



Figure 1.1. *Time* cover story, “Those Asian-American Whiz Kids” (August 31, 1987).



Figure 1.2. *Time* cover story, “The New Economy” (May 30, 1983).

This urgent project to shore up an ailing, over-bloated national body brings us back to a discussion of the martial arts. For Asian martial arts promised to whip the

national body into shape. Through rigorous, systematic training, the paunchy national body could be toned into a taut, nimble, and efficient body with the power to “fight back” against foreign and domestic incursions and regain its global dominance. As Sylvia Chong asserts, “In the kung fu craze the American body is orientalized by learning the ‘secret’ technologies of the Asian body and using those technologies to transform itself into an object that can no longer be violated.”²⁸ Moreover, the expressiveness and grace of martial arts movement is a potential antidote to the dehumanizing effects of these technologies because they cast economy of motion as elegant rather than robotic. Bruce Lee’s compact, exquisitely optimized body, which was positioned in opposition to western technological might in 1970s kung fu cinema, transforms in the 1980s into a model for the new micro, responsive, and efficient technologies of the techno-oriental future. The *National Review*’s peevish dismissal of both martial arts and high technology nevertheless points to the orientalized body that connects them: “Karate has become as popular as high tech. In fact, that’s what it is: the body electric rewired for microminiature reaction: jogging made subvicious and Eastern.”²⁹

The anxieties of submitting the national body to oriental technologies were contained by the strident rhetoric of self-mastery that this submission affords. Knowledge of Asia and Asians was instrumentalized to secure knowledge of the self, rejuvenation of the self, and cultivation of the self. So it is within the historical context of techno-orientalist Japan Panic, Model Minority, and New Economy discourses that the martial arts in the U.S. transformed from the last-ditch retaliation of oppressed minorities, to a mainstay of national self-improvement. Martial arts moved from the ghetto to the suburb, where it taught kids the concentration they needed to excel in school, executives the resoluteness they needed to broker deals, women the grace they needed to be beautiful, and couples the spiritual harmony they needed to remain happily married.³⁰ Kung fu was no longer associated with the potentially explosive violence of an African-American underclass, but became a way to reinforce normative white “family values.” The mainstream blockbuster *The Karate Kid* (1984) is a narrative of upward mobility, in which learning karate allows the white male protagonist to achieve the social status he deserves within his middle class suburb.

Firmly installed in the world of the white middle class, kung fu became a form of yuppie self-defense, alongside burglar alarms, security cameras, stun guns, and mace. Chong argues that the fanatical perfecting of the body that characterized the spread of martial arts into mainstream American culture “is the apotheosis of Western individuality, and it is mobilized to protect the rights and property of that body.”³¹ In a profile of the newly-opened “Executive Self-Defense Center” in New York City, the business magazine *Fortune* highlighted the use of martial arts to defend self and property from dangerous underclass criminals: “Worried about what lurks outside after a late night at the office? For a six-month fee of \$1,200, sure to keep out the riffraff, the club offers one-on-one training in simple, practical methods to neutralize assailants.”³² As nunchaku were adopted by police departments in numerous cities across the country, the martial arts became a technology of police authority. A report that “police find that the weapon delivers maximum control with minimal effort”³³ echoes the association of the martial arts with mastery and efficiency, but here as an instrument of law and order. The anti-authoritarian, radical associations of Asian martial arts dissolved when nunchaku became,

like the baton, a symbol of police brutality, as when they were controversially wielded by police against abortion protesters in San Diego in 1989.³⁴

Why did mainstream America embrace the “old technology” of Asian martial arts at the very moment when Asia was becoming increasingly associated with high technology? The pre-industrial bodily practice of martial arts and its master-apprentice system would seem to be antithetical to the disembodied information technologies that serve global capitalism. Yet it is precisely because the demands of modernity—rapacious capitalism and soulless, disembodied technology—have gained a new, particularly menacing edge in Asian form, that America turned to the ancient wellsprings of Asian civilization and culture for renewal. Martial arts promises to resolve the west’s mind-body dichotomy that has reached an alarming extreme in the immaterial technologies of computers and electronics. Yet, as Sylvia Chong points out, the martial arts body cultivated in the U.S. is “no longer simply a naturalized body standing outside of...technology, but is fully penetrated with technology from within.”³⁵

Rather than grafting technology to the human body in the manner of the cyborgs and replicants of techno-orientalist imagery, the martial arts cultivate the body as a technology. The martial arts body is a form of technology in itself. Therefore the potential of the martial arts to enhance individual capacities, to lead to a transformative self-knowledge, and to master the body also confers enhancement, transformation, and mastery of technology. Stephen Teo reminds us that the Chinese term “kung fu” was originally a general term for any technique acquired through disciplined effort: “Though ‘kung fu’ is generically used today to denote the martial arts, its literal meaning is the level of skill and finesse of technique that one has attained in any endeavour, not just the martial arts. Kung fu emphasizes skill achievable through training and practice.”³⁶ In this framework, kung fu resembles the ancient Greek root of technology, *techne*, a skill or practice. This is what allows Kwai-Cheung Lo to view kung fu as technology: “It is the human body that has been turned into a fighting machine – probably the only technology that is invented, developed and manipulated by Chinese in modern times.”³⁷ Yet Lo’s focus on the instrumental use of the martial arts body as “a fighting machine” fails to register Aristotle’s sense of the intimate connections between *techne*, *episteme* (knowledge) and *poesis* (artistic creation) that Heidegger argues have been lost in the modern understanding of technology.³⁸ The martial arts as *techne* affords a relationship to technology that focuses on its disclosive, generative, creative capacities rather than its dehumanizing, autonomizing effects.

In the martial arts videogame, the *techne* of martial arts converges with the technology of computation. The body perfected by martial arts videogame play is well-adapted to the techno-orientalist future of “screens, networks, cybernetics, robotics, artificial intelligence, simulation”—not as a dehumanized robot, but as an optimized, finely tuned master of videogame technique. Early martial arts fighting games, many of them developed by Japanese technology corporations whose efficiency and industrial productivity American companies were struggling to emulate, figure martial arts mastery as a form of technological mastery. Significantly, their emergence coincides with the sudden 1983 collapse of the previously booming domestic videogame industry. In particular, the abrupt fall of the once dominant American videogame company Atari cleared the way for Japanese videogame companies to gain prominence and to usher in the genre of martial arts fighting games. By the mid-1980s, Japan became the center of

videogame production.³⁹ Martial arts mastery in videogame form requires the body to become cybernetically fused with the algorithmically driven machine. To “become Asian” and thereby gain access to Asian technological potency requires the player to “become machine,” to program his/her reflexes according to the logic and rhythms of the computer.

The transmutation of kung fu action from cinema to videogame still foregrounds the highly disciplined Asian male body, but one that is now desired for its innate technological proficiency. In the process of translating flying fists, bare skin, muscles, sweat, and blood from cinema to videogame, these early fighting games distill and recodify martial arts bodily mastery as the mastery of algorithmic movement. But at the same time, by insistently focusing on hand-to-hand combat between barefoot and bare-fisted figures unaided by weapons, martial arts videogames erase the presence of technological modernity from the in-game world. While they program player’s bodies in accordance with the rhythms of the game’s program and controls, they at the same time naturalize technology as instinctive, intuitive, and rooted in an authentic experience of the body. Thus martial arts videogames resolve the contradiction between two pervasive stereotypes—the Asian kung fu fighter and the Asian computer nerd—by re-casting mastery of computer technology as mastery of bodily movement. The mind-body separation and disembodiment created by inhuman and inhumane computer technology is resolved by martial arts, in which technology is absorbed into the body and becomes part of the body in an act of willful self-discipline. The efficiency of the body is repurposed in the 1980s context for a more nimble, efficient economy.

Nerd Bodies

In contrast to the overt muscular display of the masculine martial arts body, the computer nerd’s body is undeveloped and weak, as if all of its physical power has been drained into the electronics to which he is so obsessively attached. Unlike the gravity-defying leaps and bone-cracking kicks and punches of Bruce Lee’s forceful and highly mobile martial arts body, the nerd body is characterized by immobility—hunched over a desk or pecking at a computer keyboard. The nerd body is dematerialized and consequently demasculinized by its affiliation with the electric pulses and disembodied code of the computer. As Ron Eglash discusses, the abstract technologies associated with nerd identity are directly opposed to the brute physicality of normative masculinity:

Being a “real man” is to claim one’s physiology in muscle and testosterone; male-associated technologies tend to involve physical labor (lawnmowers and power drills), subduing nature through force (trucks and tractors), and physical violence (tanks and guns). More masculine technologies tend to be seen as concrete, massive, and having direct physical effects. The more abstract artifice of science does not seem nearly so testosterone-drenched; it is easy to see how the artificial spaces of mathematics and computing can be framed in opposition to manly identity.⁴⁰

Although the martial arts body splits boards and skulls in the manner of normative masculinity, the binary between the Asian martial arts body and the Asian nerd body is not absolute. Both work hard and lead ascetic existences. Both signify technical expertise and virtuosity—the nerd a “whiz” at math and science, the martial artist a “master” at kung fu. In addition, although martial arts promise to unite mind and body, for Americans this means elevating the body to the level of the mind. An essay by tai-chi instructor Don Ethan Miller published in *The Atlantic Monthly* points to this metaphysical dimension of the martial arts body: “The acquisition of physical skills is but a secondary outgrowth of one’s psychological or spiritual development...All movements should be directed by the mind, rather than by external muscular force. Meditation in action; action in meditation.”⁴¹ The martial arts fulfill the fantasy of mastering the body through the mind, a fantasy that is similar to the techno-fantasy of transcending the body through pure computational power, but that frames the fantasy in the rhetoric of reconciliation rather than disdain.

The “gadget-minded genius”⁴² played by Jonathan Ke Quan in the film *The Goonies* (Richard Donner, 1985) is both the consummate 1980s Asian nerd and its less threatening foil.⁴³ Like the other members of the Goonies gang, Data is a societal misfit, marked as an outsider by his Asianness and geeky obsession with technological gadgets. His nickname reinforces the Asian nerd’s affinity for abstract calculations over concrete physicality, and literalizes what Wendy Chun identifies as a key feature of techno-orientalism, “the reduction of the other to data.”⁴⁴ Data seems to be the antithesis of the 1970s martial arts master exemplified by Bruce Lee. Whereas Bruce Lee’s characters are fierce and deadly members of China’s exploited underclass, Data is a lovable pre-teen living in an American suburb. Whereas Bruce Lee’s films display every line and ripple of his naked torso, Data’s body is concealed by a large backpack and voluminous jacket stuffed with electronics. The profusion of technological devices that erupt from Data’s clothing obscure his actual body and act as substitutions for it. When Data is attacked by one of the villains, a mechanical boxing glove springs from his chest at the push of a button, a far cry from the hand-to-hand combat of a Bruce Lee film. Whereas the martial arts body is interpenetrated with technology from within through the work of bodily self-discipline, the nerd body is fused with technology from without, overtly marked as a human/machine hybrid.

Yet in the case of Data, this is an imperfect fusion, as the spasmodic malfunctions of his numerous contraptions suggest that Data’s technological inventions overreach his physical ability to control them. Data is ultimately characterized by the comical failure of his technologies rather than his mastery over them. As an Asian American nerd whose affinity for and expertise in technology is humorously impractical and unreliable, Data manages the threatening connotations of the disciplined and hardworking Asian American technical genius. He reassures America that the Asian nerd body can never be that of a “real man” because it fails to manifest its expertise in technical data into physical effects.

Although Data is rendered ridiculous by his misbehaving devices, he is also made more sympathetic, a regular human being rather than the relentlessly perfect robot figured in the anti-Japanese and model-minority discourse of the period. Less powerful and more likable than the glowering and aggressive kung fu masters of Bruce Lee films, Data the Asian nerd reflects the domesticated, “friendly” side of the “egghead/wimp” vs. “kung fu

master/ninja/samurai” dichotomy of stereotypes mapped by Richard Fung.⁴⁵ In contrast to the defiant anti-imperialist fighter of the 1970s kung fu films, Data is the assimilated model minority who fights for the survival of small-town American values. Yet the fact that his capacity for technological expertise is matched by his capacity for technological disaster suggests a potential for dangerous insubordination and unpredictable affects. In Data, as in videogame play, we see that the possibility that the tools that we attach to ourselves have a life of their own, that giving ourselves and our bodies over to computational machines subjects us to a radical contingency more powerful and transformative than the purposes for which we originally designed them.



Figure 1.3. Data’s malfunctioning technology: *The Goonies* (1985).

The Pleasures of Assimilation

A key category that emerges in early videogame criticism, and becomes increasingly relevant due to the tight linkage created between the game mechanics and the player’s body, is the concept of responsiveness. Control over and absorption into the game is expressed as seamless control over movement. Game reviewers at the time responded most critically not to a game’s graphics, audio, rules, or mechanics, but to the sensation of seamless responsiveness created by the game’s hit detection (when I strike the other fighter, the hit registers accurately) and control responsiveness (when I execute the controls to duck, run backwards into position, and perform a flying kick, my actions render the expected result). Thus games are made or broken depending on how well they respond seamlessly to the player’s movement of the controller. If the player experiences a gap between his/her bodily actions on the controller and the game’s actions onscreen,

then the player becomes alienated from the game. He/she no longer feels connected to the game or immersed in its actions, and no longer feels that his/her actions have an effect in the game world.

It is this *responsiveness*, the tight phenomenological circuit between the player's physical act of jerking the controller or hitting a key on the keyboard and an immediate and relevant response onscreen, that makes the onscreen body feel like an extension of the player's body, like the tip of the blind man's cane in Merleau-Ponty's famous example is as sensitive and integrated into his body as the tip of his finger. Writing about how the human body fuses with its tools and instruments, Merleau-Ponty observes, "To get used to a hat, a car or a stick is to be transplanted into them, or conversely, to incorporate them into the bulk of our own body."⁴⁶ Thus, although videogame mastery is often framed as mastery of the body onscreen, this mastery is conferred by assimilating into the machine's particular cues and rhythms, incorporating the machine into the body, introjecting its logic into the player's bodily responses, training the body to synchronize perfectly with the game algorithm. Sianne Ngai also points to the potential for gameplay to program the human player, breaking down his/her movement into discrete, programmable parts, "The human agent anthropomorphizes the puppet, as we would expect, but the puppet also mechanizes the human, breaking his organic unity into so many functional parts: pressing toe, stretching hand, commanding voice."⁴⁷ The nonliving entity that is animated in turn automatizes its animator.

This fusion between player and game obliterates the distinction between human subject and technological object, the ability to understand technology as a tool that we pick up and put down at will and that submits to our forces and intentions. The player becomes less an agent acting on the game and more an extension of the computer program. As Ted Friedman observes,

This helps explain the strange sense of self-dissolution created by computer games, the way in which games 'suck you in.' The pleasure of computer games is in entering into a computer-like mental state: in responding as automatically as the computer, processing information as effortlessly, replacing sentient cognition with the blank hum of computation.⁴⁸

This ambivalent relationship between self and other, mastery and submission that structures videogame play corresponds to the assimilation of Asians into the U.S. national body as figured in the martial arts. White Americans must assimilate the effortlessly inhabited movement styles of Asian martial arts, as conflated with Asian technological expertise, in order to compete in the global economy. Incorporating the algorithmic other of the computer game into the body in order to become a more powerful martial arts game player is analogous to the assimilation of Asian Americans into the U.S. national body in order to fortify the nation. The liveness, strategic restraint, and bold attacks of Japanese corporations are mapped to the mechanics of the martial arts videogame. Inverting the accusation that Asians are unoriginal copycats who imitate American assets and then exceed them, Americans must imitate Asians. As Wendy Chun observes, "East Asian spaces, cultures, and peoples represent the cutting edge of information technologies. The ensuing logic is that as we in the West grow more entrenched in the

visual economy of the so-called information society, we grow to resemble our counterparts in the East.”⁴⁹ Becoming a martial arts expert, like becoming a technology expert, requires becoming Asian enough to compete on the global market where Asia threatens to dominate.

The Martial Arts Techno-Body: *Karate Champ*

The martial arts fighting game *Karate Champ* was released in 1984 by the Japanese videogame company Data East, touching off a “kung fu mania” in the arcade world. The immensely popular original arcade version was subsequently ported to the Apple II, Commodore 64 and Nintendo Entertainment System, and spawned a direct sequel as well as many imitators.⁵⁰ Playing with two joysticks, one in each hand, you control a karate fighter competing in series of timed, one-on-one matches against a computer-controlled opponent.⁵¹ Your goal is to move up from fights in your dojo to the national championships. The first matches takes place in a traditional martial arts dojo with a judge occupying the top of the screen and the two fighters in karate uniforms facing off against each other in the center of the screen. Your fighter is suited in white and the computer-controlled fighter is in red. They are shown from a side perspective and move back and forth along a single horizontal axis. The same composition is repeated in the national championships, but in a modern stadium with a referee replacing the judge.

When one fighter strikes two full hits against the other, the defeated fighter onscreen either falls flat on his back or crumples to the ground in fetal position while the judge calls out “Winner!” through an early speech synthesizer. A bonus round in which you strike flying targets, break boards, or knock out a charging bull follows. The game then begins again with another match, advancing through twelve levels in which the AI opponent grows progressively faster and more formidable. Risk-taking and speed are important, as high-risk moves register more powerful hits than easy ones and quick kills are rewarded with bonus points. *Karate Champ* originated the basic structure of the “one-on-one” or “versus” fighting game epitomized by the subsequent hit game *Street Fighter II*. Although you advance to more difficult levels by beating each successive computer-controlled opponent, each match is identical to the last and there is no culminating goal, just a steady increase in speed and skill until the game abruptly ends after twenty-four matches.

Karate Champ, like other early fighting games, foregrounds direct confrontation between the player and the computer. The red fighter on the screen represents not just an opponent on a neutral playing field, but the entire videogame itself: the interrelated system of the game cabinet and hardware, the onscreen images, the sound, the game controllers, and the game software, all of which are enlisted to challenge the player. The contest between player and intelligent machine is further complicated by the game’s distinct racial markers. *Karate Champ* is marked as Asian, specifically Japanese, by the martial arts theme, the calligraphic brush stroke font of its title, the tatami mats and bonsai trees positioned in the background of the dojo, and the black hair and traditional karate uniforms of the fighters. Furthermore, the videogame’s status as a Japanese import carried additional resonance in the midst of the mid-1980s game industry crash. Anti-Japanese political rhetoric increasingly figured Japan as a brutal economic competitor

against whom the U.S. must fight back. In the context of this Japan Panic, the computer game *Karate Champ* becomes the site of confrontation between the U.S. and a dangerous racial other that is both feared and desired for its mastery of economic and technological modernity.

Don Ihde registers the self-challenging otherness of the in-game competitor: “There is the sense of interacting with something other than me, the technological competitor. In competition there is a kind of dialogue or exchange. It is the quasi-animation, the quasi-otherness of the technology that fascinates and challenges. I must beat the machine, or it will beat me.”⁵² Yet, for Ted Friedman, a sense of intimate attunement is necessarily forged by this competitive exchange: “This confrontation between player and AI, however, masks a deeper level of collaboration. The computer...is not only your adversary, but also your ally. In addition to controlling your rivals, it processes the rules of the game...It runs the universe which you inhabit when you play the game. ‘Thinking like the computer’ means thinking along with the computer, becoming an extension of the computer’s processes.”⁵³ In *Karate Champ*, the encounter with the alien technological other is mapped to the encounter with the alien racial other. Playing *Karate Champ* foregrounds the tension between absorbing Japanese technical expertise into the U.S. national body and beating the Japanese at their own game.

The practice round of the game mirrors the training stage central to martial arts film narratives, where the player is initiated into the heretofore unknown realm of Japanese discipline and technical/physical conditioning. Players execute the moves commanded by the game, imitating the computer-controlled opponent who demonstrates each move. The shift from the traditional Japanese dojo setting to the national championships, in which a U.S. flag is prominently centered at the top of the screen, reveals the nationalist stakes of the fight. To compete in the U.S. and garner national pride paradoxically requires becoming Japanese, assimilating the moves of the racial other. In contrast to many subsequent martial arts fighting games, the combat takes place in the neatly symmetrical and cleanly demarcated space of an official match, not a rowdy and chaotic street brawl. The side-perspective view of the match remains static, the background changes minimally between rounds, and the computer-controlled opponent gets more difficult to defeat in each successive round but remains visually identical. Also unlike other martial arts games, the fighting itself is resolutely stripped down, with no superfluous gestures or sounds, no weapons, no excessive displays of violence, and, because all the available moves are laid out in a grid printed on the cabinet, no special trick moves. Whereas the glistening bare chests, palpable grunts and thuds, and athletic feats of 1970s martial arts films foreground the sensuous physicality of the Asian male body, the pixelated, primary-colored, cartoon-like graphics of *Karate Champ* foreground computer-rendered action in and of itself. The austerity and order of the game space and the rational logic of each fighting move seems to reflect the mysterious qualities of Japanese efficiency and rigor that allowed Japan to threaten U.S. economic and technological hegemony.



Figure 1.4. Dojo level in *Karate Champ*.

Karate Champ's extremely unusual double-joystick, no-button configuration requires simultaneous joystick manipulation to execute even the simplest of kicks. Players use precise joystick combinations such as holding both joysticks up simultaneously, or holding the left joystick up and the right joystick down, that result in a range of specific moves such as Forward Jump, Jumping Side Kick, and Squatting Reverse Lunge Punch, each with their distinct qualities and strategic possibilities. Although relatively simple compared to the complicated maneuvers of later fighting games such as *Street Fighter II*, the combinations of joystick orientations needed to win each match required the player to assimilate into muscle memory an unprecedented collection of programmed moves. Alex Galloway argues that videogames require the operator to "play the algorithm," to kinetically absorb the algorithmic structures of the game." As Galloway observes, "Intricate combinations of buttons must be executed with precise timing to accomplish something in the game. Indeed, games...hinge on the operator's ability to motor-memorize button combinations for specific moves."⁵⁴ Through a repetition-based process of trial and error, supplemented by tips circulated among players, *Karate Champ* players figure out the game algorithm—what attacks have what effects on what computer-controlled opponents, at what time and in what order—and learn to deftly execute the appropriate moves in order to win. An avid 1980s arcade game player describes the process of conditioning the expert player's body to the game algorithm:

Players had become so good, so fast, that they had internalized the patterns being executed by the machine. The marathon players were simply predicting correctly what the game’s next move would be. It still required an inordinate amount of reflex skill, but the important thing was seeing the patterns, reading the series of logic trees the machine was using to simulate intelligence and then feeding it the correct signals to confuse that logic. They had taken game playing to a meta-level—not interfacing on the surface of the screen, but with the programs underneath.⁵⁵

In early martial arts games like *Karate Champ*, this sense of penetrating beneath the superficial interface of the game to get at the hidden code driving these visible effects takes on racialized meanings. As Colleen Lye argues, “the visibility of Asiatic racial form has a distinctive character insofar as the sense of its deceitfulness or mystery always points to the presence of something not shown.”⁵⁶ A gaming magazine’s comment that “deciphering the strange karate terms listed in the attack menu...and mastering the joystick sequences...are formidable challenges”⁵⁷ registers the initial oriental inscrutability of the game. As both “black box” and “Chinese box,” technological and racial other, *Karate Champ* seems to possess invisible secrets that can only be acquired by diving deep beyond the game surface in a process that destabilizes any outside subject position. Going beneath the superficial “skin” of the game to its underlying processes requires not just reacting swiftly to the computer’s onscreen actions, but absorbing its system of patterns. Players condition their bodies according to the game’s procedural system to the point where they can predict the computer’s moves.

| RIGHT LEVER LEFT LEVER | | | | | |
|---------------------------|-------------------|-------------------------------|------------------------------------|---------------------------------|--------------------|
| | | BACK KICK | FRONT KICK MIDDLE REVERSE PUNCH | ROUND KICK | LOW KICK |
| | WITHDRAW BLOCK | BACK KICK | BACK ROUND KICK | UPPER PUNCH | LOW KICK |
| | FORWARD | CHANGE DIRECTION BACK KICK | MIDDLE LUNGE PUNCH FRONT KICK | UPPER LUNGE PUNCH ROUND KICK | LOW KICK |
| | JUMP | JUMPING BACK KICK | JUMPING SIDE KICK | BACKWARD SOMERSAULT | FORWARD SOMERSAULT |
| | SQUAT | BACK FOOT SWEEP | FRONT FOOT SWEEP | SQUATTING REVERSE LUNGE PUNCH | FRONT FOOT SWEEP |

Figure 1.5. *Karate Champ* arcade moves chart.

By programming the player’s body into a martial arts techno-body driven by a tight system of movements and rules, *Karate Champ* reveals the abstraction of movement already inherent to the martial arts, and was in fact praised for its authenticity insofar as it adhered to the strict rules of tournament karate. The game breaks down the bodily movements of karate into discrete units that can be logically and repeatedly executed by the player like lines of code. Unlike in games with less precisely controlled moves, random joystick thrashing in *Karate Champ* is always counterproductive. Each move consists of two or more frames of animation. To successfully perform a move, you have to hold the joysticks in position for the full animation count. If you stop short before the

full move execution, your character does not finish the move. Instead, he starts performing the animation sequence backwards from where he was in the attack until he is in the neutral position again. So random thrashing means that your character will always be starting attacks but not finishing them. Although the character animations are jerky, with moves being executed in distinct individual steps, this choppiness actually allows you to time your moves accurately frame by frame. *Karate Champ*'s discrete, logically executable moves make mastery of the body and of the computer a rational exchange that proceeds according to defined programmatic steps.



Figure 1.6. *Karate Champ* sprite sheet.

A game critic who wrote, “In the hands of a skilled player, control over a fighter can be so complete that the player appears to be animating his fighter through sheer force of will”⁵⁸ suggests that the mechanism of the controllers seems to disappear with virtuosic play. Yet the absolute mastery and control that this transparent interface seems to confer covers over the fragmentation and mechanization of bodily motion that this seeming mastery renders pleasurable. The play between attacking the game machine and fusing with the game machine echoes both a historic encounter with information technology and the ambivalent position of Asian/Asian-Americans in 1980s American culture—both threateningly alien to the U.S. national body, and assimilated into the U.S. national body in a fantasy of self-fortification.

As Shira Chess emphasizes, “All video games are about disciplining...video games force structured rule patterns on the player.”⁵⁹ In *Karate Champ*, achieving the martial arts body’s discipline and fluency of movement becomes a matter of subjecting the body to computational rigor rather than a physical training regime. Asian martial arts mastery becomes, in the game, Asian technical mastery of computer-programmed

movement. It is this abstraction away from the physicality of onscreen bodies, and towards the concretization of informatic processes in the bodies of the game player that takes us from the 1970s figure of the Asian kung fu hero to the 1980s figure of the Asian American computer nerd. Although technology is markedly absent from the stripped-down, hand-to-hand combat represented onscreen, *Karate Champ*'s martial arts video game body is deeply interpenetrated by modern technology rather than defiantly unaided by it. The kinetic force of the gameplay experience emerges from the game player's internalization of the same "quantitative modulations and numerical valuations required by the new information worker,"⁶⁰ of which Asians and Asian Americans are the exemplar in the U.S. cultural imaginary.

Cinematic Movement: *Karateka*

Karateka (1984) was created by game designer Jordan Mechner while he was an undergraduate student studying film at Yale. Designed to incorporate cinematic storytelling into the videogame experience, the game unites the fluidity of movement in kung fu films with the desire to control that movement. The smooth and uncannily lifelike animation of the onscreen fighters, achieved through rotoscoping techniques, was unprecedented and widely praised. The game is structured around a simple rescue narrative: You are the nameless hero who must rescue your bride-to-be Mariko from the clutches of the evil warlord Akuma by fighting your way through his heavily guarded fortress. Mechner's description of the influences on his design for the game belies a twin fascination with both cinema and the orient.

I was obsessed with the films of Kurosawa—especially *Seven Samurai*, which is still near the top of my list of all-time greatest films. At the same time, I was discovering early Disney animation, and silent movies. I wanted to bring those film storytelling techniques to an Apple II computer game... Japanese woodblock art was a great inspiration, the way artists like Hokusai created such a powerful mood and atmosphere with strong lines and just one or two colors. And the setting of feudal Japan was a straight homage to Kurosawa.⁶¹

Mechner's explicit desire to translate between the old medium of cinema and the new medium of videogames is matched by his implicit desire to translate between the "old" culture of the East and modern Western culture. While the old technology of cinema paradoxically promises to jumpstart the narrative potential of computer games, the ancient aesthetic traditions of Asia anachronistically promise to inject new life into white American culture. At the same time, *Karateka*'s nostalgic, orientalist turn to a pre-modern Japan of traditional woodblock prints and noble samurai warriors serves to neutralize the looming threat of a thoroughly technologized modern Japan. By turning back to the oriental Japanese samurai over the techno-oriental Japanese robot, and to linear narrative over procedural loops, *Karateka* works to reverse the alarming changes wrought by Japanese economic modernity and high-technology, and re-invest the cold,

soulless, dehumanized space of computer technology with the authenticity of an originary, natural, and real Asian body.

Unlike the tournament structure of *Karate Champ* and its straightforward imperative to train and compete, *Karateka* is loaded with human drama and expressivity through the game's heroic narrative and cinematic depiction of flowing movement rooted in a real human body. Whereas the gamic *Karate Champ* foregrounds the hard body in dissected motion, the cinematic *Karateka* foregrounds the flexible body in continuous motion. Whereas *Karate Champ* requires players to decompose movement into discrete, configurable units, *Karateka* attempts to stitch these movements back together into a seamless flow that seems to obscure rather than foreground its underlying procedural logic. *Karateka* is structured by this tension between the gamic and the cinematic, the unfolding of cinematic narrative and movement onscreen and the competing desire to directly control onscreen actions by engaging with the algorithms that generate them. While the packaging, story and mise-en-scène of the game reinforce a conventional Fu Manchu narrative of a white woman enslaved by an oriental despot who must be saved by the lone white male hero, the martial arts gameplay offers the player a more complex relationship to the Asian male body. *Karate Champ* and its tournament structure and matrix of moves went on to become the template for all subsequent fighting games whereas *Karateka*, although similarly chart-topping, remained a relative anomaly in the martial arts game genre.



Figure 1.7. *Karateka* box art.

Karateka was well-reviewed for its “stunning animation” and “film-like quality.”⁶² Unlike the gamy jerkiness of discrete moves in *Karate Champ*, *Karateka* foregrounds cinematic continuity of movement. As Mechner describes, “What made *Karateka* different was that it felt like a movie...I wanted to bring the silent-film techniques I was learning about in my history-of-cinema classes — rotoscoping, cross-cutting, tracking shots — to the Apple II.”⁶³ The game announces its cinematic intentions right from the start with the widescreen “letter-box” proportions and film-like opening credits and prologue that scroll onscreen. The game also originated the now common use of a “cut-scene,” a non-interactive animated film inserted into the videogame at key intervals to set up the game’s story and characters, and to transition between game levels. Unlike the static framing of *Karate Champ*, the game camera in *Karateka* centers on your character and tracks to follow your actions. . Extensive cross-cutting between your character running right across the screen and an enemy warrior running the opposite way toward you generates suspense before the dramatic moment when both fighters meet in the same frame to begin combat. If you are defeated and killed at any point, the game ends, not with the customary onscreen text “Game Over,” but a cinematic “The End.” It is possible to be killed by a single blow, and like a film, *Karateka* strikingly offers players only one life per game, with no saves or checkpoints. The abrupt end is particularly agonizing because of the forward momentum created by the game’s insistent horizontal tracking movement deeper into Akuma’s stronghold.

However, the linearity of game’s structure is undermined by the fact that you must start over from the beginning and repeat the linear narrative over and over again, cut-scenes included, in order to get better at the game. Ultimately, like *Karate Champ*, *Karateka* still adheres to an algorithmic logic of pattern recognition and iteration. Despite the cinematic editing and camera movement that foregrounds dramatic narrative over gamy looping, you still must learn the abstract system of rules that drive the visual representation in order to play the game well. And this internalization of the game logic requires the same systematic repetition of techniques and movements until they are absorbed into the player’s body that structures martial arts training. A reviewer emphasizes how this repetitive process of learning the game algorithm can frustrate the elaborately conceived game narrative: “Each opponent has his own fighting style and weaknesses—which you must learn in order to stay alive. This becomes the most challenging aspect of the game—expect to play *Karateka* many times before mastering the skills you need to even enter the castle!”⁶⁴ The punishing difficulty of the game is compounded by sudden attacks—by an eagle, an automated gate, and even the girl you are supposed to rescue at the very end of the game—that can kill you and end the game instantaneously, forcing you to start at the beginning again to continue.⁶⁵



Figure 1.8. First fight in *Karateka*.



Figure 1.9. Akuma and enemy fighter in a cut-scene from *Karateka*.

So it is not the techniques of narrative cinema that create the remarkable experience of cinematic realism praised by players of *Karateka*, for these storytelling techniques are continually disrupted and forced to reformat to the game's fundamental procedural logic. Rather, the reality effect is produced by the sense that the computer animated body onscreen is rooted in a "real" body in the physical world through Mechner's rotoscoping technique. The naturalistic proportions and smooth, gliding movement of the figures onscreen have none of the cartoon exaggeration and mechanical jerkiness characteristic of character movement in other fighting games, giving the game animation an "extremely realistic" and "true to life" quality commented on by game reviewers.⁶⁶ The ad touts the authentic martial arts body and its movement as the source of the game's realism: "*Karateka* designer Jordan Mechner is a karate enthusiast and a stickler for realism. He used film clips of karate masters as a guide for the moves used in the game. The carefully detailed, animated figures perform all the moves of real martial arts combat with stunning realism." Mechner describes the process further in an interview:

My mom at that time was heavily into karate, and I had taken a few lessons during the summer down at the local dojo....What made the big difference was using a super 8 camera to film my karate teacher going

through the moves, and tracing them frame by frame on a Moviola. It was rotoscoping, the same trick that Disney had used for Snow White back in the '30s.⁶⁷

Publicity for *Karateka* touted Mechner's use of rotoscoping in order to reinforce the link between the genuine "karate master" who taught Mechner, and the game that will teach you, the player. The game positions the player, like Mechner, as an acolyte who must imitate every move of the karate master's body in order to master the discipline. By capturing the karate expert in motion on film, dissecting it into individual frames, and then programming these dissected moves into the game to be re-animated by the player's controls, *Karateka* transmutes the martial arts body from corporeal presence to a series of executable commands. Yet the originary and whole martial arts body is not erased by this abstraction and codification of its movements. It leaves a palpable imprint on the player-controlled game animation that promises the game player a direct, tangible connection to the martial arts body's racialized style of movement. For Joanna Bouldin, rotoscoping foregrounds the indexicality of the animated image, creating a phenomenological link between the rotoscoped body in the world and the animated body onscreen:

The rotoscope facilitates an indexical transference of reality and materiality from an original body into its filmic copy, and then again into its animated incarnation... The rotoscoped image draws its power from its contagious contact with an original. Through this "material connection" the rotoscoped animated body is able to conjure the uncanny, supplemental presence of an absent body, the body of the original. Borrowing from the substance of that body, this connection thickens the animated body, bringing it in closer proximity to the "real."⁶⁸

Like the act of following the karate master's live moves in a karate lesson, the act of tracing each frame of the karate master's filmed moves by hand is about physically absorbing these moves into the body through tangible contact. The ghostly presence of the karate teacher's body shimmering through the pencil tracings created by Mechner for the game animation highlights this tactile connection. The rendering of the onscreen fighters as white silhouettes against a dark background reinforces the spectrality of the absent body that haunts the onscreen animation like a different kind of "ghost in the machine." The "substance" of the body of the karate master "thickens" the pixelated, programmed game body, producing the experience of an authentic, bodily encounter with oriental martial arts knowledge, or as the in-game introductory text calls it, "the way of the Karateka." For as Bouldin continues in her examination of early Fleischer Brothers rotoscoping, "Movement—a quality audiences were trained to understand as an accurate indicator of race—allows the animated body to become legible as authentically and actually racialized," so that even in the absence of outward racial markers of Asianness like skin and eyes, "the index of movement remains the 'authentic' residue of race."⁶⁹



Figure 1.10. Screen traces used for rotoscoping by Jordan Mechner.

The game works to restore what is understood to be the authentic Asian body—the graceful and flowing martial arts body of karate lessons and of kung fu cinema—back to the videogame, where “real” bodies have been usurped by fragmented, routinized, and robotic techno-bodies. But the cinematic aestheticization of the rotoscoped body is often at odds with the gameric imperative for immediacy, responsiveness and control. *Karateka* moves at an eerily slow pace in which body movements and camera movements are synchronized to the same uniform and deliberate speed. As one critic complained, “The gameplay is really, really slow. It’s so slow it’s almost like playing a dream!”⁷⁰ Indeed, Jordan Mechner’s animation was pushing the limits of the computer’s processing power in a way that is palpable onscreen, as he reminisces, “it’s eight frames a second, with these giant chunky Apple II pixels, and it slows WAY down when that big first gate scrolls onto the screen.”⁷¹

It is this tension between rotoscoping as an animation technique designed to create a fluidity and naturalism of unfolding animated movement, and combat gameplay mechanics in which smooth control over the speed and timing of your movements is key, that structures the experience of the game. Getting good at the game requires submitting to the meditative flow of the movements, patiently holding back, re-positioning, and incorporating delays into your attacks. Martial arts fighting games make bodily habituation to new forms of information technology pleasurable by enlisting racial desires as part of the shaping of the larger U.S. national body. Martial arts videogames like *Karateka* train our bodies to function more optimally in the new, Asia-dominated high-tech global economy. But in *Karateka*, this training is not about turning you into a hyper-efficient robot, but imprinting into your muscle memory some measure of flowing, elegant movement that is infinitely responsive to the environment.

The Machinic Assemblage: *Kung Fu Master*

The 1987 film *Kung-Fu Master* by French filmmaker Agnès Varda is named after the videogame, and opens with a playful sequence in which live actors perform the game in sped-up motion. A static shot of an ordinary city street is abruptly set in motion by a kung fu battle cry and a frenetic sequence of electronic music from the game. The camera tracks along the street to a white teenage boy wearing a martial arts uniform who shuffles down the sidewalk in jerky, robotic steps that match the staccato pace of the music. He pauses occasionally to perform forward punches, kicks, and hops that are accented by the game's sound effects, his rigid posture and jerky gait especially hyperbolic in contrast to an older woman who ambles by. The camera continues tracking the boy until he stops in front of a shop window decorated with red lanterns, a porcelain Buddha, and other chinoiserie. Here, he encounters a tall black man wielding a stick with whom he performs a stylized combat sequence. The man swings his stick up and down like an automaton and the boy counters with a rapid succession of punches, until the man flies backward offscreen. The boy paces stiffly back and forth until disappearing offscreen as well.

The scene reverses *Karateka*'s process of transferring the movements of a real martial arts body into computer animations by re-embodiment *Kung Fu Master*'s videogame moves in the real world and in real bodies. The incongruity of a white teenager stalking the streets of Paris in a karate uniform and unleashing his moves on a black man nearly twice his size calls attention to the racial fantasies engendered by videogame play. And the scene's denaturalized and robotic movements make visible the way that martial arts videogames program and condition players' bodies to their own gamic patterns. The rhythms of the game are literally stamped onto human bodies in a process where the jolting repetition, depersonalization, and mechanization of bodily movement unexpectedly open them up to playful expressivity. Varda's film insightfully points to the innervating possibilities of internalizing the patterns and movements of computer technology by way of the Asian martial arts body.



Figure 1.11. Opening scene of the film *Kung Fu Master* (Agnès Varda, 1987).



Figure 1.12. *Kung Fu Master* game level that inspired the film scene.

Kung-Fu Master was developed for arcades by the Japanese game company Irem and released, along with *Karate Champ* and *Karateka*, in 1984.⁷² It originated the “beat ‘em up” genre, in which a lone fighter takes on a large group of attackers through multiple levels, with each level culminating in a “boss” that requires special strategies to defeat. Unlike the ceremonial, one-on-one fights in *Karate Champ* and *Karateka*, *Kung-Fu Master* is marked by the frenzied pace of a street brawl in which you are attacked by multiple enemies simultaneously and from all sides. You play a kung fu master named Thomas who must fight your way up through each level of a pagoda called “The Devil’s Temple” to rescue your kidnapped girlfriend Silvia from the evil Mr. X. The foreshortened gameplay space is framed by oriental décor that collapses foreground and background: a green-tiled roof with detailed red and gold ornamentation, lattice-work windows, and red lacquered columns marked with calligraphic characters. A colorful assortment of fighters, knife throwers, grappling midgets, moths, snake pots, and dragon balls descend on you in clusters, each with their own patterns of attack. Unlike the rationally organized space of *Karate Champ* and the elegantly austere spaces of *Karateka*, this is the kitschy and cluttered aesthetic of a Chinatown curio shop whose exotic signifiers both bewilder and charm.

Homay King argues that the oriental visual objects that saturate the mise-en-scène of Hollywood films depicting Asia are not mere set decoration:

These filmic worlds often contain curious objects or details of ornament that seem to lie outside of rational systems of knowledge and communication...they all implicitly draw an association between Asian things and things that defy traditionally Western modes of rational cognition.⁷³

Many of the mysterious “inscrutable objects” in *Kung-Fu Master* do not remain in the margins, but actively swarm around and overwhelm the player. Several of the objects are recognizably oriental—dragons, cobras—but others are simply dangerous and bizarre—exploding confetti balls and poisonous moths. Getting good at the game requires

players to figure out the patterns that govern how these different objects move and attack, but not what they mean. In *Kung-Fu Master*, bodily engagement with the technological/racial other does not yield epistemological mastery. Rather, as Varda's film reveals, the game's enigmatic oriental signs are aesthetically stimulating, and all the more exhilarating because we do not fully comprehend them, and can only appreciate their technologically enhanced, visceral, and sensory properties.



Figure 1.13. *Kung-Fu Master* Level 1.

Kung-Fu Master was originally released in Japan with the name *Spartan X* (1984), and is loosely based on a Jackie Chan martial arts film with the same name. The narrative connection to Jackie Chan's *Spartan X* (1984) is thin, with only the damsel-in-distress rescue narrative and the main character names Thomas and Sylvia transferring from film to game. *Kung Fu Master*'s structure more closely resembles Bruce Lee's original concept for the film *The Game of Death*, in which Lee fights his way up the five levels of a pagoda, with each floor defended by a martial artist with a different fighting style. However, despite the parallel structure to Lee's film, *Kung Fu Master*'s aesthetic and gameplay mechanics are much closer to the "perpetual-motion style"⁷⁴ of Jackie Chan. *Kung-Fu Master* is not about flesh battering flesh, but bodies encountering and reacting to other bodies and objects in what Gordon Coonfield identifies as a Deleuze-Guattarian "machinic assemblage." As Coonfield asserts, "a machinic assemblage is understood not as a thing, but as a process, an ongoing organizing of multiplicities, of relations between elements and forces." In a machinic assemblage, technology is not an instrumentalized tool that presupposes a distinction between the subject who acts and the tool that is acted on, but part of an always-in-motion set of interrelations between bodies and technologies as forces that all have capacity for affects and action.⁷⁵

Kung-Fu Master conditions players to a style of bodily movement that is in dynamic, non-hierarchical exchange with other human and non-human agents of movement. In *Kung-Fu Master* as in Chan's films, objects in the environment are a constant threat to be outmaneuvered and outpaced simultaneous with the fight against human attackers. The moths that appear out of holes cut into the wall and the balls, pots, snakes, and dragons that drop from the ceiling or explode from the floor all must be dodged or attacked at the same time that you are kicking away a series of fighters or shaking off a midget that has jumped onto your back. Humans, creatures, objects, and technologies are all potential agents of exchange, both with the player and between themselves. Therefore strategically positioning yourself between a Knife Thrower and other attackers cuts down on the number of enemies you have to defeat yourself, as long as you remember to dodge the knives so that they hit the others instead.

Whereas the *Karate Champ* and *Karateka* player confronts a single AI opponent at a time in an intimate back-and-forth exchange of moves, punctuated by pauses, bursts of action, and stillness, the *Kung-Fu Master* player is imbricated in a more complex and open-ended assemblage of simultaneous processes and exchanges in constant frenetic motion, with more potential for unpredictability. You must keep moving and changing position—both scrolling back and forth and jumping and crouching—to successfully contend with the continual onslaught of objects and enemies. The strategy here is not to patiently time your precise moves in relation to a single prodigious computer opponent's pattern of movement, but to efficiently dispatch your moves across a field of less individually powerful, but multiple and varied, computer opponents. Like Jackie Chan's comical dodges and feints, this involves strategically avoiding contact with enemies as much as aggressively seeking them out. And also like Chan, it means engaging elements in the environment in your repertoire of moves, such as backing an opponent into the staircase. Despite its rescue narrative framework and level-up structure, the game feels like an infinitely looping and accelerating perpetual motion machine. Beating the last boss on the top level of the pagoda and rescuing Silvia restarts the game from the beginning with the same pagoda levels and opponents, just faster and more formidable.

In *Kung-Fu Master*, your attack moves set things in motion rather than bringing them to a standstill. Whereas defeated fighters in *Karate Champ* and *Karateka* crumple to the ground in pain and freeze, acknowledging the bodily costs of combat, in *Kung-Fu Master* they bounce like pinballs, ricocheting diagonally over the edge of the floor and disappearing offscreen. The game focuses on the physics of multiple bodies careening across the screen in response to your moves rather than the physics of your blows landing on another individual body. And each move you make must take into account how optimally it sets you up to immediately contend with the next attack. As in Jackie Chan's films, there is an antic desperation in the overwhelming speed of movement and the barrage of bodies and objects in the game. This is reinforced by the game's unremitting, hopped-up soundtrack that compels you to keep moving. Calling *Kung-Fu Master* "one of the most hard-hitting breath-taking fast games for Kung Fu adepts," a reviewer from the period re-enacts the breakneck speed of the game in his prose.⁷⁶

Sianne Ngai argues that this "noisy, aggressive, fast-paced" physical energy is characteristic of what she identifies as an "aesthetic of zaniness" that is defined by "the experience of an agent confronted by—and endangered by—too many things coming at her at once."⁷⁷ For Ngai, zaniness is a response to the post-Fordist blurring of the

boundaries between work and play, which is why it emerges particularly in videogames. Particularly in the 1980s, videogames were closely aligned with programmer culture, with programmers exchanging games they had coded alongside business and accounting programs. As Sherry Turkle told a reporter from *Time* about a new generation of tech-savvy youth who both play games and write programs for fun, “The line between game playing and programming is very thin. Programming takes what is powerful about games—this articulation of knowledge, this learning about strategy—and carries it to a higher level of power.”⁷⁸ In this sense, *Kung Fu Master* is about efficiently responding to the accelerated streams of information that assail subjects in both work and leisure in the new computerized culture.

The satisfactions of springing acrobatically over, under, between, and against the nonstop and multi-directional assaults of the enemy algorithms with just the right moves at just the right times points to the virtuosic ability to manage our “processed” lives through a technologized martial arts body that is internal to rather than outside of this system of processes. This is further attenuated by the fact that the videogame is marked as Japanese, and that the bombardments are oriental signifiers whose idiosyncratic behaviors can be internalized but that do not add up to any rational hierarchy or system. Snakes that leap out of pots? Poisonous moths? A hunchback magician who creates a fake body double? Here, zaniness merges into wackiness, as in “those wacky Japanese,” a racial formulation that attributes fundamental inscrutability to Japanese modernity but renders it comically bizarre. Mastery in *Kung-Fu Master* is edged with panic, incomprehension, and dispersed agency, and their surprising pleasures. In *Kung Fu Master*, the player needs neither to acquire total knowledge over nor dissolve into the high-intensity energies and stimulations of a modern, technologized Asian body in order to pleurably inhabit it.

A 2001 comprehensive “census” of videogames released in the U.S. that year revealed that not only did Asian characters represent only 9% of the videogame world population, but that three quarters of them were “computer controlled props, bystanders or villains.” In other words, Asian bodies, when they appeared in videogames at all, were overwhelmingly figured as representatives of the computer program, not of the player. Moreover, of the very few player-controlled Asian characters in videogames, nearly three quarters of them were cast as wrestlers or fighters, and only 11% of them used weapons.⁷⁹ According to this census, it would seem that in videogaming, Asianness has continued to be closely associated with the computer AI, both as the environment within which the white male agent operates, and against which the white male agent must compete. Martial arts games have continued to be the main genre of videogames in which Asians have any visibility at all. The Asian male martial arts body, bare-fisted but technologized from within, master of algorithmic movement, has continued to be the main figure through which players engage with Asia in videogame culture. As an exemplar of discipline, grace, efficiency and self-mastery, the Asian martial arts body promises to re-train the ailing national body to the new rhythms and forms of high-technology.

Chapter 2

Playing Bruce Lee

The picture that night was *Enter the Dragon*...One minute into the movie, Bruce Lee threw his first punch. With it, a power came roiling up from Lee's belly, affecting itself in blistering waves not only upon his on-screen opponent, but on the movie audience. The wind blew through me. My hands shook; I quivered electrically from head to toe.

Ali had seemed so singular, so freaky, such a mutant. He was so damned huge. Bruce Lee's frame...looked almost exactly the same as my own. Though I didn't consciously think about any of that...What I knew in every molecule of my body was this: Bruce Lee was who I'd always wanted to be, what I'd always believed I could become.

After watching *Enter the Dragon*...I didn't know until I got back to my dorm room, opened the magazine cover, and read the hurriedly written obituary—Bruce Lee was dead at age thirty-two. I almost had to sit down on the floor. I couldn't see how or why someone so obviously alive could ever really die.

—Davis Miller, *The Tao of Bruce Lee: A Martial Arts Memoir* (2000)

Bruce Lee's untimely and mysterious death by cerebral edema in 1973, two weeks before the U.S. release of his blockbuster film *Enter the Dragon*, has cast the long shadow of death over his still vivid cinematic image. Writer Davis Miller's autobiographical account of his first encounter with Lee onscreen is a condensation of the American public's jarring experience of Lee's "simultaneous entrance and departure."¹ At the same time that Miller is gripped with a transformative, electrifying, visceral affinity with Bruce Lee's cinematic body, he also undergoes the shocking discovery that this body, even as he is experiencing its kinetic presence onscreen, is dead. This encounter with Bruce Lee as both intensely present and irretrievably absent is an extreme manifestation of cinema's temporality, which has always been associated with death.² In Lee's cinematic image, the desire for Bruce Lee and the frustration of that desire are inextricable and mutually sustaining.³ For although Lee's death seems to snatch him away from American fans like Miller, it also, as we shall see, opens him up to a seemingly endless outpouring of cross-racial and transnational identifications, imitations, and revivifications, in both analog and now digital forms.

Miller's articulations of his differing identificatory investments in his two idols, the African-American Muhammad Ali and the Asian/Asian-American Bruce Lee, reveals the specific racial frameworks through which these bodies are interpreted. Miller discloses that as a "skinny bones" white teenage boy, he is unable to identify with the freakishly "huge" black body of Muhammad Ali, as if the very much alive Ali occupies too much solid, dark matter to penetrate with the "scrawny" arrows of white male adolescent identification. Yet Miller identifies immediately with the Asian/Asian-

American Lee, whose slight frame poses no such intimidating obstacle, and whose dynamic cinematic body seems to be comprised of electrical currents rather than mass. Whereas the living black body is insistently material, the dead Asian body exists in a more ambivalent state, vacillating between the material and immaterial. It is a liminal state that invites rather than blocks cross-racial identification. Miller highlights this disquieting sense of Lee's simultaneously real and virtual presence in *Enter the Dragon*, "This wasn't simply a movie, a shadowbox fantasy; there was a seed of reality in every Lee movement. Yet the experience of watching him felt just like a dream."⁴ It is precisely this virtualization of the Asian male body, wherein Bruce Lee's cinematic mediation combines with his early death to make him a dream-like empty vessel without a living, physical body, that makes it possible for Miller to feel he could actualize Lee and "become" him.

Whereas "Ali's was a vibrancy and rhythm only he could tap," Lee offers to Miller "a life that could be mine,"⁵ a life that could be seized by a young white male because, being both dead and Asian (rather than alive and black), it poses little resistance or threat. Implicit in the cross-racial identifications activated by Lee's present-yet-absent body is both the self-subsuming desire to *be* Bruce Lee, as well as the colonizing desire to *take possession* of Bruce Lee. As feminist theorist Diana Fuss argues, "the desire to be *like* can itself be motivated by the desire to *possess*: being can be the most radical form of having."⁶ These slippages between being and having also suggest uneasy sexual identifications, as the potentially homoerotic desire to "have" Lee is swiftly covered by the desire to "be" him. Unlike the "singular" black body of Ali, the potency of Lee's Asian body is reproducible and transferrable to (racial) others. It is this formidable, yet dematerialized and dispersed Asian male body figured by Bruce Lee that will be the focus of this chapter.

Bruce Lee's body foregrounds the ambivalent assimilation of the Asian male body into the American national body. It is a body that models a desirable form of racialized masculinity wherein fluidity, diminutiveness, and agility outperform the stolidity and brawn of traditional white American masculinity. Yet, at the same time, Lee's body also signifies a racialized bodily abjection, in which the Asian male body is equated with weakness, vulnerability, and death. Due to his sudden demise, Bruce Lee's body was never fully present for American audiences but always apprehended as a reanimated corpse originating from a distant shore to flicker across our screens and haunt us with its uncanny liveliness. In an updated version of the overtly racist Vietnam War-era refrain that "the only good gook is a dead gook," Bruce Lee's abjected state reveals the conditions for the American embrace of the Asian male body—it must be dead. Yet Lee's dead body refuses to lay still, and only incites our desire to re-animate it and give it concrete form again.

Videogames featuring Bruce Lee as a playable avatar are the ultimate manifestation of this desire to re-animate Bruce Lee, and thus offer an important entry point into this potentially predatory mode of identification. Videogames not only foreground the virtualization of Lee's body through digitization, but they allow players to "become" Bruce Lee by controlling onscreen Bruce Lee avatars that leap, kick, and punch in direct response to their own movements. Players experience their game avatars both as idealized technological extensions of themselves and as tools or puppets that they expect to do their bidding. Bruce Lee videogames reveal the close link between the desire

to be Bruce Lee and the desire to master him—to access some of his bodily power by exercising power over his body—and they reveal how race is produced in this exchange. But videogames also trouble this question of possession—of who possesses or takes control of whom, insofar as games program players to move in tune with computational processes, and games require players to repeatedly experience failure, defeat, and violent death.

The Virtual Asian Male Body

I'd speak to Kareem about his sessions with Bruce and he said, "I sparred with him and he was just so quick. I'd turn this way and then he's not there. He's over here somewhere and he's kicking me in the back of the head. Then I turn this way and he's over here." He said he couldn't catch him. There was just no way he could lock in on him.

—Kobe Bryant, *I Am Bruce Lee*
documentary (2010)

In the U.S., Asian masculinity has been traditionally viewed as lacking a body—perhaps intellectually and spiritually powerful but physically weak. The physical deficiencies of the stereotypical Asian male—from the gaunt Fu Manchu to the rotund Charlie Chan—are equated with sexual deficiency, what Richard Fung has memorably called “a striking absence down there.”⁷ The commanding cinematic image of Bruce Lee, with his rippling muscles and lethal kicks and punches, has been considered a welcome antidote to the emasculation of the Asian/Asian-American male.⁸ As Lee's goddaughter Diana Inosanto says it, “He put balls on Chinese men.”⁹ Lee's cultivation of a hard and muscular fighting body counteracts the characterization of Asian men as soft and delicate, and, as Yvonne Tasker asserts, “remasculinizes” Asian identity along the lines of a “macho Chinese nationalism” that fights back against racist colonial oppressors.¹⁰ No longer discreetly hidden behind silk robes, the sweaty, bloody, and bare-chested body of Bruce Lee in combat puts the Asian male body on spectacular, and sexualized, display. Lee's tough and physically aggressive masculinity exploded the stereotype of the limp and passive Asian man and, according to Jachinson Chan, “single-handedly changed American audiences perception of Asians in the early 1970s.”¹¹

At the same time that Lee emerged as the epitome of Asian/Asian-American masculinity, he also exuded what Bill Brown calls a “generic ethnicity”¹² that was championed by those who fell outside the norms of white masculine hegemony. As Sylvia Chong asserts, “Lee is simultaneously the apogee of Chineseness or Asian-Americanness and also the denial of racial specificity in favor of cross-racial affiliations.”¹³ *Time* magazine proclaimed him “the redeemer, not only for the Chinese but for all the geeks and dorks and pimply teenage masses that washed up at the theaters to see his action movies.”¹⁴ Moreover, his underdog defiance of white colonial power resonated with underclass people of color all over the world, from urban African-American youth to Third-World freedom fighters, who championed his “bare fists” corporeal warfare.¹⁵ As Chris Berry observes in a riff on the 1974 Carl Douglas disco hit “Everybody was kung fu fighting,” “Everybody loves Bruce Lee's body.”¹⁶ Like the

mimetic contagion of the infectious pop song that conflates kung fu craze with dance craze, Bruce Lee's forceful and virtuosic fighting body provokes visceral bodily identifications and desires—homoerotic, cross-racial, and transnational—previously unavailable to the Asian male body.

Yet the very openness of Bruce Lee's body to so many trajectories of desire points to fundamental tensions in his form of rehabilitated masculinity. Lee is championed as a model of the hyper-masculine, but primarily by those who are marginalized within white heteromale normativity. Despite his awe-inspiring physique, Bruce Lee's body is still framed in terms of (Asian male) lack. His sudden death removed his body from the scene at the moment of its peak visibility, leaving a void that permitted others to fill it. For although Lee is rightly celebrated for inaugurating an unprecedented display of powerful Asian masculinity and for inspiring boundary-breaking cross-racial identifications, the specific racial form of Lee's physical prowess always associates it with the abjection of death, the presence that vanishes, the pirated copy whose original is gone. I would further argue that Lee's potent racialized physicality is desirable to American audiences precisely because his body is also insistently virtual, absent as much it is present, potential as much as it is actual, simulated as much as it is real. Kareem Abdul Jabbar's statements as retold by Kobe Bryant articulate this sense of Lee's powerful physical impact ("kicking me in the back of the head") coinciding with his physical absence ("he's not there"). The racialized contrast between the large, solid black male body and the tiny, flitting Asian one recalls the ones set up by Davis Miller between Muhammad Ali and Bruce Lee. Leaping up seven feet to kick Jabbar and then vanishing, Lee in this account puts a literal and energetic spin on Fung's "striking absence down there" statement by manifesting an absence that strikes. It is with this sense of upending the designation of abject lack that characterizes Asian male racialization that I will examine Bruce Lee's virtual forms. Rather than denigrating this racialized lack as an undesirable position through the terms of white heteronormativity (the problem of relying on the terms of white heteronormativity are made clear in the inverse denigration of the excessive bodily presence of African-American men), I want to take Bruce Lee's lethal non-presence as a potentially transformative starting point that upsets other binaries of difference, including subject/object, masculine/feminine, white/Asian, life/death, and human/technology.

Bruce Lee's living body was highly mobile and transnationally dispersed. He was born in San Francisco to a Eurasian mother and Chinese father who then raised him in Hong Kong. He returned to the U.S. for college, but then left the country to make movies in Hong Kong after his Asianness barred him entry into the white Hollywood mainstream. He returned to the U.S. film industry as a bonafide international star, but died in Hong Kong and was ultimately buried in Seattle. Lee's many trans-Pacific crossings render him resistant to stable definition as either Asian or Asian-American, of the East or West. Like Hong Kong, the city-in-transit where he returned and departed in succession, Bruce Lee is marked by what postcolonial theorist Akbar Abbas has called "a culture of disappearance"—the emergence of his identity is linked to his demise.¹⁷ The film project *Game of Death* (1978), to be written and directed by Lee in order to actualize his unique martial arts philosophy, ended up being pieced together after his death by director Robert Clouse using old footage and stand-ins to substitute for Lee's lost body. Lee's vision for the film remained unrealized, and his directorial control over the images

of his body was taken over by another director and by other actors. Amplified by his sudden death, Lee's formidable body is thus marked by absence and loss of agency that shares something in common with the old emasculated Asian stereotypes, undermining the hegemonic masculinity and bodily mastery that his combative hard body seems to secure.

At the same time, there is power and possibility in this dynamic state of insubstantiality. For although Bruce Lee rehabilitated Asian masculinity, it was not along the lines of Arnold Schwarzenegger's massive, "pumped up" brute force, but rather a leaner form of strength that emerges through speed and elegance of movement.¹⁸ According to an oft-repeated story, Bruce Lee moved so fast that filmmakers had to use special film for his fight scenes to capture the speed of his otherwise invisible movements, and they had to slow down the captured footage so that audiences could see it.¹⁹ That Bruce Lee was frequently analogized to electricity, from his "lightning-fast" movements and "electrifying screen presence" to widely circulated accounts of his experiments with electric stimulation to tone his muscles and reflexes, is revealing.²⁰ Electricity embodies the inability to fully distinguish between matter and immateriality. Defined by charges and flows, passing instantaneously between materials and bodies, existing only in movement and perceptible only in the moment of its discharge, it suggests the disintegration of discrete individuals and distinctions between self and other. At the same time, electric shock instantiates powerful physical effects on real bodies. Embodying electrical flow gains even greater significance in the new electronic age of modern technology and its tactile, invisible flows of information. Writing in 1968, Marshall McLuhan explicitly connected the new "electric age" with the orientalizing of western culture and its transformative effects: "As the western world goes Oriental on its inner trip with electric circuitry...the whole nature of self-identity enters a state of crisis."²¹ Bruce Lee's electrically charged, abstract-but-concrete body is a privileged signifier of this identity-shattering orientalizing and technologizing process.

Cultural theorist Paul Bowman gets at the simultaneous abstraction and concreteness of Bruce Lee's kinetic cinematic presence when he analogizes it to music: "The *spectacle* of Bruce Lee *calls to the body 'directly'*, in precisely the same way music calls to the body directly....When music starts playing, it is not a "hermeneutical process" that makes your feet start tapping and your body start moving. In exactly the same way Bruce Lee is *music to the eyes*."²² If music is an immaterial stream until it is embodied in us, Bruce Lee's explosively fast movements are also a streak of mobile points that summon us to embody them. Bruce Lee's kinetic onscreen body stamps its rhythms onto our bodies and compels us to move like him, to actualize his virtual, cinematic body in our own bodies. This is the oft-repeated phenomenon of people spilling into the streets after viewing a Bruce Lee film, kicking and chopping the air as if fulfilling uncontainable bodily urges.²³

Because what Kwai-Cheung Lo calls "the hole punched out by Bruce Lee's body"²⁴ created a void that others rush in to fill, Lee's disappearance has been the occasion for his prolific posthumous appearances. In addition to *Game of Death*, a profusion of films featuring Bruce Lee imitators with sound-alike names like Bruce Li, Bruce Le, and Bruce Leong were hastily released after Lee's death, reaching a self-reflexive apex in the 1977 film *The Clones of Bruce Lee*. These films were dubbed "Bruceploitation" to recall the low-budget and exploitative subgenre of Blaxploitation

film. They carry with them the association of Asia with cheap copies, imitation rather than original innovation. Here is another example of the uneasy status of Bruce Lee's Asian male body—both indelibly unique and subject to continuous replication, both an individuated star presence and a flood of indistinguishable Oriental copies that “all look the same.” Bruce Lee's iconic image continues to circulate transnationally across books, magazines, comics, and posters, and his life and films continue to be worked over in fictional and nonfictional narratives emerging from the U.S., China, and Hong Kong.²⁵ In particular, the ambivalent status of Lee's dead-and-alive, mastering-and-mastered body has found an especially intriguing articulation in videogame form, where an entire genre of martial arts fighting games that officially and unofficially bear Bruce Lee's digital likeness has flourished. This is because to some extent, all martial arts fighting games, whether they directly feature him or not, manifest the desire catalyzed by but unfulfilled by his films *to be Bruce Lee*.

Becoming Bruce Lee

Back in the early '70s, half the guys I knew in the Bronx were walking around in Chinese kung fu outfits....*Everybody* loved Bruce. Everybody wanted to *be* Bruce.

—Wesley Snipes, *Vibe* magazine (1998)

I don't even look at him as being Asian. He's Bruce Lee. He's my idol.

—Stephan Bonnar, Ultimate Fighting
Championship fighter, *I Am Bruce Lee*
documentary (2010)

Bruce Lee's films and the fact of his premature death give his identity a porousness that insistently inspires spectators with the potential to *become* him, with the multiple valences of imitation, incorporation, inhabitation, occupation, revitalization or possession that this becoming entails. The virtuality of Bruce Lee's body makes him particularly receptive to not only cinematic, but electronic and computational mediation, because the disembodiment inherent to Lee's formidable body, his existence as a capacity for movement, gives him a special affinity for mobility and circulation across global media networks. The play between the intense immediacy of digital experience and the dislocating sense of being out of your body and leaving it behind resonates with Lee's virtual body. It is this dematerialization of the Asian male body, already considered less a body by its inferred lack, already associated with virtuality, disembodiment, and simulacra, that paradoxically makes Bruce Lee's embodied potency transferrable to other bodies.

Asian film scholar Brian Hu points to the particular star appeal of Bruce Lee that inspires mimetic bodily connection rather than worshipful distance: “The logic of the Bruce Lee look-alike is that Bruce Lee is not a person, but a readily assumable attitude and style.... Though nobody would claim that Lee could be replaced, articles and advertisements in martial arts magazines suggest that anybody could learn to be Bruce.”²⁶ His Jeet Kune Do philosophy of martial arts emphasized flexibility, flow and

spontaneous responsiveness to the moment over adherence to a repertoire of specific moves. As Sylvia Chong argues, being Bruce Lee does not mean looking like him, it means *moving* like him, “to bodily inhabit the ‘physical virtuosity’ which Lee’s film image presents.”²⁷ Bruce Lee offers a style of bodily mastery and “potential for movement” rather than any particular lexicon of gestures and stances. Particularly to African-American men like those recalled by Wesley Snipes, Bruce Lee modeled a powerful and aggressive physicality that was honed by discipline and spiritual rigor, a welcome counter to the excessive physicality associated with black masculinity.

The relationship between videogame player and his or her onscreen double defines a split and highly unstable inter-subjectivity that fluctuates according to the rhythms of gameplay. When the player experiences smooth and continuous control of the game avatar, and a synchronicity between the movements of his/her body and those of the body onscreen, the avatar becomes not only a channel for the player’s perception of the game world and a tool for acting on that world, but an extension of the player’s body and subjectivity, a body of perception, movement, and expressivity that the player collapses into his/her own subjectivity. Game designer Steve Swink analogizes this extension of the self into the avatar to a driver’s relationship to his/her car: “You don’t say, ‘His automobile hit my automobile.’ You say, ‘He hit me!’”²⁸. Yet at the same time, this fluid connectivity can be disrupted without warning in the midst of play—by program error like a dropped frame or lax collision detection, or by player error like mistiming a parry or overreaching a kick—ejecting the game avatar from the player’s subjectivity and rendering it a malfunctioning or non-cooperative technological other. As Swink continues, “Players will say ‘I am awesome!’ during moments of skillful triumph and ‘Why did he do that!?’ when they fail a moment later.”²⁹

Although Swink’s model of player-avatar connection is very useful, he assumes that the player’s and the avatar’s identities are each stable entities that only connect when the game program responds seamlessly to the player’s intentions and actions. He further presupposes that the game player is the definitive agent who either absorbs or rejects the onscreen avatar in the quest for continuous “real-time control”³⁰ over gameplay. Contradictory, triangulated, and misrecognized desires and intentions; a dialectic of control and release that circuits between avatar and game player bodies; and the flux of national, racial, and gender identifications shaping both player and game are powerful dynamics that go overlooked in his schematic model. Translating the desire to be Bruce Lee to a videogame avatar programmed to look and move like Lee matches the masterful movement idealized in the figure of Bruce Lee to the masterful movement idealized in computer game technology. And as I showed in chapter one, these fantasies about Asian male proficiency and computation are very much conflated in techno-orientalism. In addition, the vacillation between intimate immediacy and dislocating disembodiment endemic to digital techno-culture shares an affinity to Lee’s already virtualized body.

For David Leonard, playing racially stereotyped avatars such as those in sports games like *NFL Street* and *NBA Street* constitutes a form of “high-tech minstrelsy,” in which white players consume exploitative stereotypes of black male criminality and hyper-athleticism for exotic thrills, without engaging in the social, political, and economic realities of black urban communities. As Leonard asserts, “sports games indulge white pleasures as they affirm stereotypical visions of black bodies, as physical, aggressive and violent, while simultaneously minimizing the importance of

intellectualism and hard work in understanding the supposed dominance of black athletes.”³¹ Leonard’s argument bears close resemblance to Lisa Nakamura’s critique of the phenomenon of online passing, where white men impersonate other genders and races in online game spaces. For Lisa Nakamura, playing an “Oriental warrior” online is an act of “identity tourism” that entrenches pervasive orientalist stereotypes. “The choice to enact oneself as a samurai warrior in LambdaMOO...allows a player to appropriate an Asian racial identity without any of the risks associated with being a racial minority in real life.”³² Nakamura goes on to close down the potential for the player to experience a transformative encounter with racial otherness in the act of performing it, arguing that “while this might seem to offer a promising venue for non-Asian characters to see through the eyes of the Other...the fact that the personae chosen are overwhelmingly Asian stereotypes blocks this possibility by reinforcing these stereotypes.”³³ Both Leonard and Nakamura focus on how performing a racial other from the safety of home allows white players the exotic thrills of consuming another racial identity in its most exotic, grotesquely stereotyped form before ultimately discarding that identity, without socially or politically engaging the lived experience of real women and people of color.

Leonard and Nakamura’s primary critique of these digital games is that they fail to reflect the actual experience of black and Asian male life in its fully social, historical, and economic dimensions. The implicit assertion is that negative images must be replaced with positive images that more accurately represent “real life” as experienced by racial minorities. However, not only is “real life” a less-than-stable construction that is produced through rather than distorted or obscured by its opposition to “virtual life,” but it is also significantly mediated in computer games. While these games certainly enlist negative stereotypes of black and Asian masculinity, it is important to examine how the abstraction and mediation of these stereotypes through a procedural system complicates the racial performances engendered by the game. The racial fantasies that the digital games seem to offer up for players are shaped in the reciprocal encounter between player and computational system, not necessarily in any kind of resistant or transformative way, but certainly in uniquely ludic and technologized ways that bear scrutiny rather than dismissal. Assuming, like Swink, that the player is the exclusive agent of control in the gameplay scenario who masters the digital object by appropriating it and then casting it aside, fails to fully account for the player’s interaction with the game system itself, in which the player’s control over the game’s racialized representations requires submitting to the control of what Noah Wardrip-Fruin calls its “operational logics,” the mechanics of the computational system.³⁴ Playing a game as Bruce Lee engages an uneven and inconsistent dialectic of control that is left out of Leonard’s and Nakamura’s accounts.

The influence of Bruce Lee on the genre of martial arts videogames is incalculable. As Joel Stein puts it, “Every combination you can create in *Mortal Kombat* can be found in a Lee movie.”³⁵ On the heels of the Bruceploitation films hurriedly released after Lee’s death, a stream of games have officially borne Bruce Lee’s digital likeness, from the 1984 Atari game *Bruce Lee* to the 2010 iPhone/Android game *Bruce Lee: Dragon Warrior*. In addition, unofficial homages to Bruce Lee abound in videogames, from 1986’s *Way of the Exploding Fist*, whose title references Bruce Lee’s martial arts system Jeet Kune Do, “The Way of the Intercepting Fist;” to iconic characters based on Lee featured in fighting game series such as *Street Fighter*, *Mortal Kombat*, and *Tekken*; to the yellow tracksuit worn by Lee in *Game of Death* that appears

as a selectable player outfit in the 2012 game *Sleeping Dogs*. These videogames promise not only to re-animate Bruce Lee, but to make you, the player, the agent of that re-animation. What happens to the awe-inspiring, racialized body of Bruce Lee, immortalized in cinema, when it is re-mediated into a computer-rendered animation that is not only *viewed* but *controlled* and *inhabited* by a game player?

Fighting Machines: *Bruce Lee* (Atari, 1984)

“Bruce Lee. He was all over lectric, with letricity for eyes. He could hear lectricity inside you and tell you if you lying or not.”

“Where Bruce Lee come from?” Drake asked.

“Come from China. Down deep in a hole in the world.”
—Denis Johnson, *Fiskadoro* (1985)

The biographical film *Dragon: The Bruce Lee Story* (Rob Cohen, 1993) dramatizes the widely circulated accounts of Bruce Lee’s experiments with electric shock to tone his muscles and reflexes.³⁶ In one memorable scene, Bruce Lee, played by Jason Scott Lee, sits at his desk typing with electrodes strapped to his bare torso. His muscles twitch rhythmically as he clacks away at the typewriter, and he explains to a surprised visitor that three minutes connected to the device is equivalent to performing two hundred push-ups. The scene enacts the fantasy of the human body optimized by the electronic machine.³⁷ The image of Bruce Lee strapped to an electronic reflex-enhancing machine is strikingly analogous to the image of the videogame player who attaches himself to a game machine in order to move like Bruce Lee. Both figure self-mastery through the Asian male body interpenetrated with technology. Although fixed at a desk in the sedentary position of the post-industrial information worker, Bruce Lee’s body appears to be internally jolted into micro-actions by the invisible pulses of the electronic device. Like a videogame player, he is plugged into the energy of the machine, optimally trained by its programmatic rhythms, experiencing intensity of movement at a micro-level. The scene also provides a metaphor for the later digital revivifications of Lee’s dead body, suggesting that an unmoving body can be catalyzed back into motion by an electronic machine.

This image of a technologized Bruce Lee whose body has been honed into a perfectly tuned “fighting machine” is one that is repeated by writers as a way to extol his physical precision and stamina.³⁸ Lee himself referred in his writings to his body as a “fighting machine” in which his left heel is a “sparkplug” or “piston” that stores and then unleashes the full force of the body’s movement.³⁹ These parallels between Bruce Lee’s body and machine both idealize the ultra-powerful unification of human and machine, and negatively associate Lee’s racialized physicality with an almost inhuman, automaton-like quality (see chapter one on techno-orientalism) that might require a (white) human operator. Asian-American scholar Elaine Kim critiques Lee’s role as “a one-dimensional fighting machine” in *Enter the Dragon* as a dehumanizing stereotype.⁴⁰ But reducing the “fighting machine” to a dehumanized automaton of violence misses the potential for

bodily expressivity inherent to being like a machine, and forecloses a different form of subjectivity opened up by the form of a technological other. By conflating the pleasures of moving like Bruce Lee with the pleasures of computer-programmed movement, the videogame *Bruce Lee* allows us to experience ourselves as Asian fighting machines, in tune with rather than alienated by electrical currents and computer algorithms. This racialized form of technological and bodily mastery allows us to aggressively take control of the tactile flow of information patterns that structures human life in our computerized age.



Figure 2.1. Jason Scott Lee as Bruce Lee strapped to an electric muscle stimulator in the biopic *Dragon: The Bruce Lee Story* (1993).

The first official Bruce Lee videogame, *Bruce Lee* remains the most successful of the Lee game adaptations in spite of, or perhaps because of, its technological limitations. Released for the Atari home console in 1984, it remained on *Billboard's* Top 20 list of bestselling videogames for over a year. Game creator Ron Fortier identifies martial arts cinema as his main reference point for designing the game. “We watched all the Bruce Lee movies...as well as other martial arts films on videotape. We had this idea of utilizing really fantastic graphics to create a sort of computer-movie with the player as a character. We wanted the animation in particular to be outstanding.”⁴¹ Fortier’s emphasis on the game’s visual elements evokes an interactive Bruce Lee film, in which the powerful computer-generated graphics and animation provide the player with total immersion. A magazine advertisement for the game reinforces this fantasy of allowing the player to participate in a Bruce Lee film with an illustration of Lee, his bare upper body streaked with blood as in the climax of *Enter the Dragon*, shredding through the movie screen that separates him from the spectator.

Yet by today’s standards of highly detailed, photorealistic, 3-D computer animation, what we see onscreen in this early videogame is a far cry from a Bruce Lee film. The physicality of Bruce Lee’s bloodied body has been transformed into a chunky, two-color assemblage of pixels characteristic of the 8-bit Atari system with its limited graphics capabilities.⁴² In an extremely simplified rendition of Lee taken from an early fight scene in *Enter the Dragon*, the game character’s black pants, gloves, hair and eyes

are blocked out in black pixels, and his face and bare torso are rendered in yellow ones. As a still image, this bitmap of Lee is so schematic and cartoon-like, not to mention racially-stereotyped, that it is not surprising that the magazine ad declines to show any screenshots of the game itself, and instead focuses exclusively on a naturalistic illustration of Lee. Each level in the game constitutes a single static frame in which the Bruce Lee character, dwarfed by the maze-like environment, moves around the screen. He strategically avoids or confronts his similarly pixelated enemies, a just as graphically and racially schematized black ninja and a green sumo wrestler, while maneuvering through the numerous obstacles and prizes.⁴³ Except in the static title screen, Bruce Lee is never shown in close-up or in any shots that duplicate scenes from his films. Visually, the game looks very little like a Bruce Lee film.



Figure 2.2. Bruce Lee bare-chested with black boxing gloves in *Enter the Dragon* (1973).

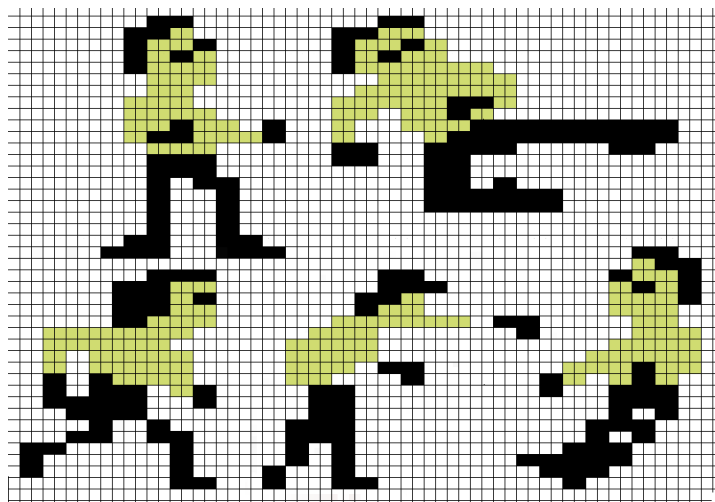


Figure 2.3. *Bruce Lee* character sprites.



Figure 2.4. *Bruce Lee* title screen.



Figure 2.5 *Bruce Lee* flying kick.

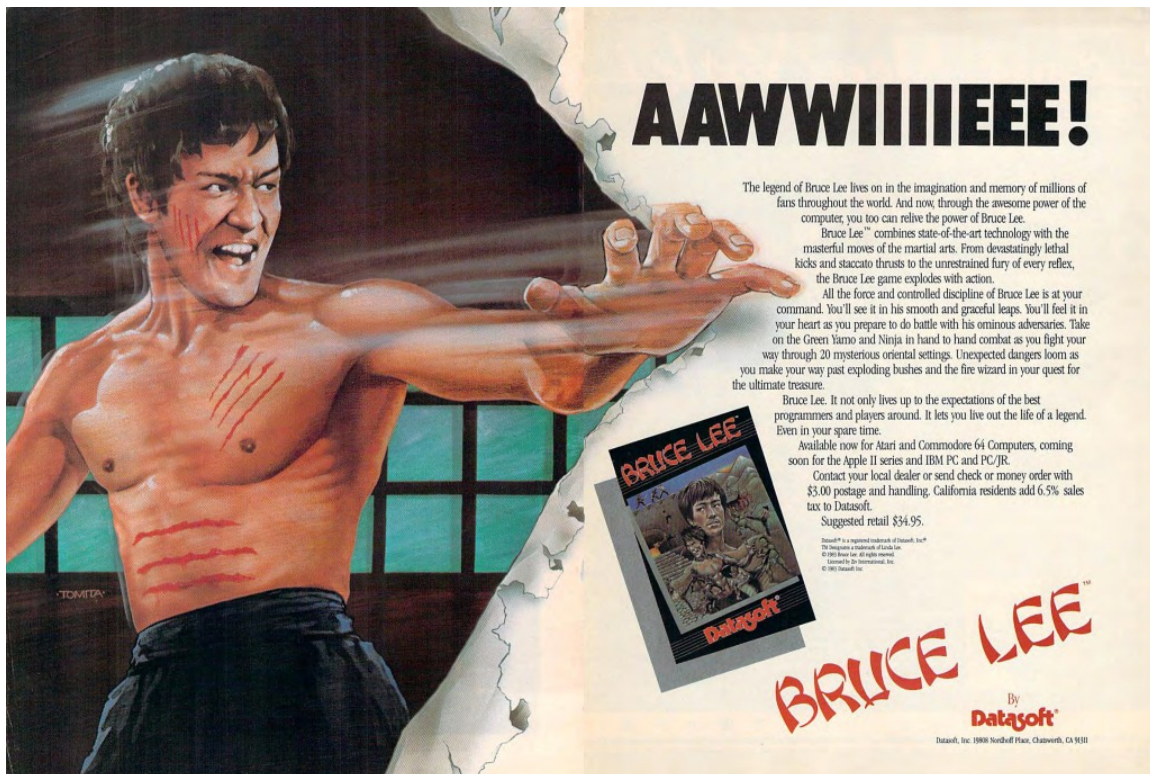
However, despite the remoteness of the 8-bit image's resemblance to Bruce Lee's well-known face, frame, and musculature, and despite the crude yellow-face of Lee's character, players were still able to "experience the power and glory of Bruce Lee" as promised on the game's box cover.⁴⁴ A game critic at the time remarked that the game's "animation is great, especially the flying drop-kicks that are unique to Lee." Another critic marveled that "when you leap he looks like a trained ballet dancer." And yet another game magazine raved that "the moves that you can make in this game are spectacular. Leap over your opponents' head. Take a running jump and crash both feet to their chin. Deliver a repeated series of punches and watch them crumple to the floor and vanish."⁴⁵ These reviewers' comments on the game's graceful choreography and brutal and precise attacks highlight the beauty and palpable violence of Lee's onscreen

movement in response to the player's. Rather than critiquing the game's blocky, diagrammatic visuals for falling short of Bruce Lee's legendary films, players widely praised the game's graphics and animations. This is because the game evokes Lee's electrifying, kinetic cinematic presence not through photorealistic verisimilitude, but through the mechanics of gameplay. Cinematic realism is not technologically an option for this early 8-bit game, so *Bruce Lee* is free to pursue Bruce Lee's precision and fluidity of motion.

Promotional materials for the game also invoke the fantasy of becoming Bruce Lee by moving like and controlling the movements of Bruce Lee. The magazine ad reads:

Now, through the awesome power of the computer, you too can relive the power of Bruce Lee. *Bruce Lee* combines state-of-the-art technology with the masterful moves of the martial arts. From devastatingly lethal kicks and staccato thrusts to the unrestrained fury of every reflex, the *Bruce Lee* game explodes with action. All the force and controlled discipline of Bruce Lee is at your command.

The ad conflates Lee's power with computational might, both of which are subject to the player's agency and control. A reincarnated Bruce Lee, even in his "unrestrained fury," becomes, like the computer, a tool that is ultimately "at your command." Becoming Bruce Lee promises mastery of the potentially overwhelming force of body and technology intertwined.



AAWWIIIEE!

The legend of Bruce Lee lives on in the imagination and memory of millions of fans throughout the world. And now through the awesome power of the computer, you too can relive the power of Bruce Lee.

Bruce Lee™ combines state-of-the-art technology with the masterful moves of the martial arts. From devastatingly lethal kicks and staccato thrusts to the unrestrained fury of every reflex, the *Bruce Lee* game explodes with action.

All the force and controlled discipline of Bruce Lee is at your command. You'll see it in his smooth and graceful leaps. You'll feel it in your heart as you prepare to do battle with his ominous adversaries. Take on the Green Yamo and Ninja in hand to hand combat as you fight your way through 20 mysterious oriental settings. Unexpected dangers loom as you make your way past exploding bushes and the fire wizard in your quest for the ultimate treasure.

Bruce Lee. It not only lives up to the expectations of the best programmers and players around. It lets you live out the life of a legend. Even in your spare time.

Available now for Atari and Commodore 64 Computers, coming soon for the Apple II series and IBM PC and PC/JR.

Contact your local dealer or send check or money order with \$3.00 postage and handling. California residents add 6.5% sales tax to Datagoft.

Suggested retail \$34.95.

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BRUCE LEE™
By
Datagoft™
Datagoft, Inc. 1800 Northhoff Place, Chaworth, CA 95011

Figure 2.6. Magazine advertisement for *Bruce Lee* videogame.

However, although the promotional materials emphasize hand-to-hand combat, and indeed the first three levels of the game focus on fighting your attackers with well-placed flying kicks and punches that knock your opponents back with a satisfying crash, *Bruce Lee* is ultimately a platform game that includes but does not prioritize fighting. The challenge of the game is as much in nimbly exploring unknown spaces in search of treasure—and the associated movements of jumping, climbing, and running—as it is in fighting enemies. Unlike in his films, the camera does not center Lee and follow his movements. The frame remains static throughout each level, and Lee is a tiny figure in relationship to the intricate environment through which he moves. The game foregrounds the Bruce Lee who slips down into a secret underground drug operation in *Enter the Dragon* and escapes the notice of his enemies through dexterity and stealth, rather than the more frequently invoked image of Lee engaged in fierce combat. Negotiating the shifting spaces of the level design is as key to gameplay as fighting your ninja and sumo enemies. The orientalized space of the game, with its lattice-work, pagodas, and yin-yang symbols, is itself inscrutable and deadly. As you descend deeper into the underground fortress, it is difficult to make out where you are within the maze of chambers, as well as what things are in the highly textured, ornate environments. Is that intricate pattern of pixels part of the fortress décor, a ladder that can be climbed, or an impassable wall? Collecting objects and returning to previously traversed spaces can remove traps and open new doors, creating opportunities to explore previously inaccessible areas. Each of the twenty rooms in the game is littered with traps to be carefully maneuvered around while at the same time avoiding or fighting enemies, which requires agility and timing that can only be achieved by repeated play. The environment itself—with its dead-ends, precipitous drops, shifting ground, and deadly obstacles—is Lee's most formidable enemy, and figuring out its patterns is the key to the game. Not only are the attacking ninja and sumo wrestler completely absent from two of the game's most difficult levels, but it is even possible to complete the entire game without engaging in any combat at all.⁴⁶

Electricity is both enemy and weapon in the game. In one of the game's hardest levels, you must maneuver Lee across four parallel platforms of racing electric beams. Once you have waited for the appropriate number of beats, you must run and leap forward repeatedly and without hesitation in one continuous, rhythmic motion until you make it across, planning each leap to avoid the electrical current passing beneath you as well as in preparation for the drop down to the next electrified platform. Mastering the timing is notoriously difficult, as the lights stream at different rates and abruptly change direction, and there is no resting point between the last two platforms. In other rooms, electrical charges spring out from gaps in the walls, and you can finesse your fights with enemies to push them into the flares while at the same time avoiding electrocution yourself. Some rooms allow you to ride waves of particles that stream up-and-down, changing direction at random so that you either leap safely to the next ledge or plunge down into the thicket of spikes below. This electrified game environment is flickering and unstable yet governed by procedural patterns that can be learned. It is immaterial yet charged with the potential for deadly force. The environment itself is assembled into a "fighting machine" that you as Bruce Lee strategically and elegantly traverse, cementing the link between Lee's assured freedom of motion and his virtuosity with electricity. Lee's body and the electric streaks are visually interchangeable, abstraction rendering the

representations uniform. Both human foot and electrical tendril are represented by a single solid black pixel. Both are governed by the same program and both are composed of the same stuff—pixels on the screen. This is unlike photorealistic games in which the textures of flesh and environment are carefully visually differentiated.

Yet despite the jagged abstraction of the game graphics, there is a sensitive tactility to them, so that when one pixel of Bruce Lee inadvertently touches one pixel of a charge flickering up from the floor, your onscreen avatar immediately reacts by crumpling to the ground. The game's focus on proximate interactions between bodies and objects and its well-tuned programmed responses to input create an experience of direct bodily contact. One reviewer wrote, "I loved the way that you actually make physical contact with your enemy (eg a punch on the nose or a kick in the ribs) instead of just zapping with a photon lazer phaser."⁴⁷ The responsiveness of the game's controls and collision detection creates a sense of fluidity in the connection between player and game. Like Bruce Lee's reflex-stimulating machine, the player's reflexes become programmed to respond to the game's algorithmic patterns. As noted by a reviewer at the time, getting good at the game requires not only aggressive attacks but "Zen-like patience"⁴⁸ in timing your moves in relationship to both constantly moving enemies and the different level environments. Players experience many variations in speed. Lee's movements are excruciatingly slow as he climbs up ladders and floats down tunnels in danger of getting zapped by electrical charges that will burst out any minute. And they are gloriously speedy as he dashes across corridors and climbs hand over hand across railings. Taking control of the game therefore requires holding back from aggressive pursuit and attack, and integrating into its varying rhythms.

It is this racialized encounter with technology wherein players are programmed to incorporate into their own bodies "Zen-like" deportment, mobility and agility, and receptiveness to algorithmic patterns—in addition to violent combat—that the game *Bruce Lee* enlists and extends ideas about the Asian male body. The particular contours of Bruce Lee's muscles, the proportions and shape of his body, the expressions of his face, and even the specific repertoire of moves that he performs is not what makes you feel like Bruce Lee in playing this game. Rather, it is a more open-ended capacity for virtuosic and graceful movement through space that the game allows players to inhabit. As Sylvia Chong argues, "Bruce Lee is not so much...a mere visual icon, as he is a potential for movement and agency."⁴⁹ This is why, despite its crude racial iconography of a yellow Bruce Lee, black ninja, and green sumo wrestler, *Bruce Lee* does not conform to David Leonard's concept of racial minstrelsy, in which racialized bodies are casually occupied and discarded, leaving dominant stereotypes of the racial other intact. In *Bruce Lee*, the colonizing desire to seize control of a digital Bruce Lee is inextricable from the self-subsuming desire to be incorporated into this computational Bruce Lee "fighting machine" in order to execute its potential. The game does invoke stereotyped racial performance, but one that is re-mediated and re-shaped by the game technology and the game mechanics it deploys, so that the Asian male body both harnesses and is harnessed to technological power.

In her critique of techno-orientalist fictions, Asian-American literary scholar Betsy Huang contends that in these texts, "the emphasis is on Asian *as* technology rather than as designers and wielders of it."⁵⁰ Her critique, while valid, assumes that there is a stable relationship between humans and technology. For Huang, as for game designer

Steve Swink, we humans are the masters of our technological instruments. So to figure Asians *as* technology is to figure them as subjugated tools. Videogames like *Bruce Lee* allow us to imagine a different form of agency outside of the subject-object binary. Here, the technologized Asian male possesses an expressive and agentic subjectivity, and human mastery is pleurably shared with the computer algorithm and the racial other. The abstraction of Bruce Lee into a computational “potential for movement” is what allows this early videogame to evoke Bruce Lee with more intensity and vividness than subsequent, more graphically sophisticated ones to which I will now turn.

Uncanny Resurrections

Really, the dead are a cybernetic problem. Alive in the virtual world of ideas—we think of them often—they pose a problem of storage and transfer. And they do spread.

—Kathryn Bond, *Beautiful Bottom, Beautiful Shame* (2006)

The desire to digitally revive Bruce Lee to his full cinematic glory has been undertaken by two abandoned movie projects. In 2001, South Korean filmmaker Chul Sin gained the rights to develop a computer-animated film featuring an all-CGI Bruce Lee. As “the first to feature a long-dead star in a leading role,” the film promised to use cutting-edge computer graphics technology to “fool audiences into believing they’re seeing Bruce Lee in the flesh.”⁵¹ The project was never realized, but five years later the director of the 1994 Bruce Lee biopic *Dragon: The Bruce Lee Story*, Rob Cohen, was reported to be working on another cinematic attempt to “Bring Bruce Lee Back to Life.” As Cohen explained in an interview, “I am NOT using clips from the film; I am creating an entirely photo-realistic Bruce Lee with new, advanced digital technology....this will be the Man himself, alive for those of us that didn’t get enough.”⁵² Cohen’s comments articulate both the sense of lack and the aggressive desire to force Bruce Lee back to life in order to fill that lack common in fan discourse around the dead star. But the digital animation projects are not content with re-creations and re-enactments featuring Bruce Lee pretenders characteristic of Bruceploitation films. Both filmmakers express the desire to harness the new digital technology’s generative powers to resurrect the *real* Bruce Lee, “the Man himself,” “in the flesh.” Implicit in this fantasy of digital resurrection is what Katherine Hayles has called the “posthuman” concept that “information can circulate unchanged among different material substrates”⁵³—that the true essence of Bruce Lee, as captured in cinema, can be exported as code from the old lens-based medium, and converted to and re-executed in the new computation-based medium, without any loss or degradation from the “original,” authentic Bruce Lee. Bruce Lee’s already virtualized Asian male body, in which the density of flesh is figured simultaneously with the formlessness of electricity, is particularly receptive to this fantasy of digitization, which seeks to both transcend and re-instantiate the body.

Wendy Chun has argued that the Internet offers up “the dream of bodiless subjectivity” and that this liberating disembodiment is racialized as Asian through a techno-orientalist logic “that relies on the other as disembodied representation.”⁵⁴ Yet at the same time, she points out, “the Internet can only be portrayed as a space of the mind

if there is an accompanying Orientalizing of difference, if there is an accompanying display of Orientalized bodies.”⁵⁵ For Chun, digital space projects a fantasy of orientalized disembodiment at the same time that it relies on the visibility of orientalized bodies to authenticate it as real. The simultaneously disembodied and hyper-visible oriental body helps to resolve the mind-body and simulacral-real dualism that plagues western encounters with digital space. The fantasy of a digital Bruce Lee seems to promise not only “bodiless exultation,” a freedom from the limitations of the physical body, but also its inverse, the digital made flesh.⁵⁶ It assumes the replicability and transferability of Bruce Lee’s body from its original to digital form, but simultaneously insists that the digital form is both authentic and alive. Molded into new material form by cutting edge digital technology, Bruce Lee’s oriental body also acts as the digital’s guarantor of authenticity.

Both computer-animated Bruce Lee projects were met with heated protestations. Movie critic Leonard Maltin balked at the idea of a posthumous digital performance: “I’m horrified.... You’re talking about inventing a performance by somebody who’s dead. It’s eerie and inappropriate.” Fans distrusted digital technology’s ability to fully capture Bruce Lee’s hard-earned bodily capacities: “The real fascination with Bruce Lee isn’t what he looks like, it’s the amazing things he could do with his body, the discipline and the training.”⁵⁷ Underlying these objections to digital resurrection as inherently disrespectful to the dead and fundamentally incapable of fully capturing Bruce Lee’s practiced movement is an assertion of the unique auratic presence of Bruce Lee’s body, a presence bounded by human finitude and impervious to replication. This is Hayles’ counterclaim to the posthuman fantasy of digital immateriality and infinite reproducibility:

Information, like humanity, cannot exist apart from the embodiment that brings it into being as a material entity in the world; and embodiment is always instantiated, local, and specific. Embodiment can be destroyed, but it cannot be replicated. Once the specific form constituting it is gone, no amount of massaging data will bring it back.⁵⁸

Hayles argues that although the digital promises freedom from the body, data is not infinitely malleable and portable, so the instantiation of data in specific bodies matters. In this line of argument, Bruce Lee’s unique performative style and virtuosic movement are “medium-specific” insofar as they were embedded in his living body. Thus, the quest to digitally re-animate his corpse is both horrific and futile.

Yet while many fans decried the concept of a *film* starring a CGI Bruce Lee, it seems that a *videogame* featuring a photorealistic, computer-animated Bruce Lee would be comparatively palatable. Reserving cinema as a sacred space for live actors, one fan fumed, “A digital Bruce is all right for a video game but not a live freaking movie,” while another fan declared “The only place where a digital Bruce Lee does make sense would be a video game.”⁵⁹ Why is it that a computer-animated *videogame* version of Bruce Lee “makes sense” while a computer-animated *film* version of Bruce Lee is an abomination? And what does this reveal about our racialized conceptions of the agency, authenticity, and materiality of the human body in motion, in relationship to cinema vs. to videogames?

The tension I have described—between those who marvel at the possibility of a digitally resurrected Bruce Lee and those who recoil from it, those who seek to transcend human materiality vs. those who insist on its limits—seems to map to an analogous tension between videogames and cinema. Whereas the term “digital cinema” poses an ontological challenge that bears closer scrutiny,⁶⁰ the term “digital game” is a matter-of-fact description that gives no one pause. Cinema, grounded in photography, is discursively tied to the indexical, to the referent of “real” bodies before the camera. Moreover, cinematic practices grounded in the indexical have been key to the production of racial categories, what Nicholas Mirzoeff calls “the indexicality of race.”⁶¹ Computer games, on the other hand, in which images have always been generated through computation rather than pro-filmic reality, are already understood to be simulations of the real rather than the real. The non-indexicality of digital representation separates race and body to the point that, as both Lisa Nakamura and Mark Hansen argue, racial passing online is a generalized condition.⁶² Yet at the same time, immersion in a videogame *is* grounded in an experience of real bodily presence generated by the circuit of feedback and control between the player’s body and the on-screen action—the feeling that one’s actions here animate the actions on screen and that you are in turn animated by those actions.⁶³ The indexicality of race emerges in a different form in videogames, in which the racialized mastery of movement in a game is understood as “real” insofar as it allows the player to inhabit the “real” bodily capacities of Bruce Lee. While a digital movie resurrecting Bruce Lee is beholden to the indexical standard of Lee’s indelible cinematic image, a digital game resurrecting Bruce Lee is held to a different standard grounded in movement and its control.

Sianne Ngai gets at the racial stakes of this control over the digitally animated figure in her examination of racial representation in animation, including early cel and claymation technologies. For her, “racialized animatedness” is “the translation, into affect, of a state of being ‘puppeteered’ that points to a specific history of systemic political and economic disenfranchisement”⁶⁴ for racialized subjects under external control. On the other hand, she points to the disquieting affects of animated ethnic subjects who assume “a liveliness that is distinct from the ‘life’ given to them by the animators and that exceeds their design and control.”⁶⁵ The ambivalent agency of the technologically animated figure, who seems simultaneously controlled by a puppet master *and* endowed with a life of its own, is consonant with that of the racialized subject in U.S. culture. Analogously, the figure of Bruce Lee seems exceptionally receptive to occupation by others at the same time it remains uncannily alive through a force of its own.

Both videogame and film manifest a desire to bring Bruce Lee back to life, but a Bruce Lee videogame must allow the player to inhabit the speed and grace of Bruce Lee’s movement through the fluidity and responsiveness of gameplay, in which players feel like they are in control. What makes one of Bruce Lee’s flying kicks through the air or a blow to his body feel authentic to the game player is not whether it accurately matches the images of Lee that we have seen in films. Rather, it is the tight synchronicity of action and reaction between player and game, between the player’s body moving the controller and the Bruce Lee body moving with corresponding precision onscreen and vice versa. This is why the chunky forms in the 1984 *Bruce Lee* videogame, which make no pretense toward photorealistic verisimilitude, nevertheless allow players to “re-live the

power of Bruce Lee” through responsive gameplay, while the fantasy of reviving Lee in *cinematic* form remains unfulfilled. This is also why the highly hyped, photo-realist but poorly controlled Bruce Lee videogame *Bruce Lee: Quest of the Dragon* (2002), to which I will now turn, was so universally reviled.

Seeking the Index in *Bruce Lee: Quest of the Dragon* (Xbox, 2002)

Of the five officially licensed videogames to feature Bruce Lee to date, *Bruce Lee: Quest of the Dragon* was the most highly anticipated and the most overwhelmingly disappointing. Originally scheduled to coincide with the introduction of the Xbox, the game was prominently featured in Xbox promotions and was intended to show off the power of Microsoft’s new, next-generation game console alongside the power of Bruce Lee. The game preview trailer boldly declared, “You Are Fast. You Are Powerful. You Are Bruce Lee.” However, *Quest of the Dragon* was released seven months late to nearly universal critical scorn, receiving a score of 35% out of 100% on the videogame review-aggregating website Gamerankings.com, and is frequently referred to as among the worst Xbox games ever made.⁶⁶ The titles of user reviews posted to the popular videogame online database GameFAQS.com register the disappointment and betrayal that Bruce Lee fans felt toward the game that tarnished their hero’s legacy: “Not only is this game a disgrace to the Xbox but also to Bruce Lee in general”; “Shame to the Lee Name”; “Bruce Would be Crying in Heaven.”⁶⁷ *Quest of the Dragon*’s failure to make good on its advertised promise to allow players to “fight as the one and only Bruce Lee” and the outpouring of vitriol directed at the game allows us to see how fulfilling the desire to be Bruce Lee is predicated on mastering Bruce Lee’s moves in the racialized form of mastering his body.

Confronted with a Bruce Lee avatar that looks the part but whose actions are of a malfunctioning, out-of-control, autonomous robot, players expecting to inhabit Lee’s lithe, technically optimized, electrifying movement are instead helpless spectators to technological breakdown. This is not the virtualized Asian male body that invites inhabitation, that facilitates integration with the computational logic of the game, and that empowers players with racialized technological mastery. The Bruce Lee in *Quest of the Dragon* appears to be a glitchy and recalcitrant imposter, impossible for the human player to direct, and seemingly indifferent to the player’s desires and intentions. He defiantly blocks possession and alienates players from the game system. That players rejected the game as representative of the real Bruce Lee *and* as representative of the Xbox’s true technological prowess points to the condition for assimilation into U.S. culture that is shared by Asian masculinity and computational technology—both must submit to control. Yet at the same time, both must also be powerful, optimized, and well-designed and well-trained enough for players to desire to assimilate those qualities into themselves and take control of them. *Quest of the Dragon* frustrates the dynamic exchange of mastery and control that is so central to videogame play and to the gamic desire to be Bruce Lee because, unlike the masterful Lee and the powerful Xbox, it is so “awkward,” “weak,” and “lame” that it resists allowing players to integrate with it in order to take control.⁶⁸

The game's frustratingly clunky fighting system, along with its jerkiness and delays, were savagely criticized by game reviewers. Critics complained that the game's Bruce Lee character "moves about as fast as a turtle in quicksand," that "animation is stiff and unconvincing," and that "moving and fighting just felt terribly, utterly wrong."⁶⁹ The game is indeed ponderous to play and full of glitches. Simple actions like getting Bruce Lee to move in a certain direction are obstructed by awkward controls, clipping bugs result in arms and legs passing through walls and clothing as you walk, and the game funnels Lee's exploration of the game space through invisible walls that you can only discover by bumbling back and forth against them. Because the game adheres to a realist, cinematic aesthetic, players have higher expectations for it to behave naturalistically. Whereas accidental bumps against obstacles in the 2D, cartoon-like *Bruce Lee* game from 1984 do not register as interruptions and simply prompt you to re-orient your avatar's direction, walking a photorealist Bruce Lee avatar repeatedly into walls and invisible barriers in a cinematic 3D space is comically discordant and impedes the fluidity of gameplay. The game's awkward navigation and rampant errors erode the cohesion of the game world and undermine the assured mobility, agility, and mastery of space emblemized by Lee's transnational stardom and privileged by virtual 3D space.

Fighting, the game's core mechanic, is especially exasperating. Although the game robustly catalogs over one hundred of Bruce Lee's Jeet Kune Do moves, most special combination moves are impossible to execute with any accuracy or consistency due to the unresponsive controls. This does not mean that the game is hard to master, as the sluggish and repetitive enemy AI is tediously easy to defeat with the same few moves. But it does mean that it is hard to play, inverting the "easy to play, hard to master" tenet of game design. Moreover, because enemy attacks can be repelled by randomly button-mashing a battery of basic punches and kicks, the game discourages you from attempting more strategic and complex attacks. The game's camera, which was designed to dynamically follow the Bruce Lee character "as if guided by a skilled director,"⁷⁰ seems indifferent to your actions. It zooms in and out haphazardly, abruptly jerks behind furniture or some other barrier during the heat of battle so you cannot see what you are doing, and frequently fails to keep the opponent that you are in the midst of fighting visible on the screen. Sudden drops in frame rates when multiple enemies enter the scene add to the jarring effect. The game's collision detection is also off, so that enemies fly backwards in response to punches that miss them by several feet, and fail to react to what should be direct blows. The cumbersome and imprecise fighting mechanics debilitate rather than empower the player, failing to evoke Bruce Lee's virtuosic grace. Even the bloodcurdling cries with which Bruce Lee famously punctuates fight scenes in his films become mechanical and shrill in the game, as they are repeated with every strike over the entire course of the game, creating an incessant, rather irritating cacophony. Finally, the lag time, interminable loading screens, and overall slowness of the game are particularly antithetical to both Bruce Lee's celebrated style of lightning-fast movement and the Xbox technology's vaunted processing speed. The racialized mediation between human and technology in which Bruce Lee's Asian masculinity facilitates an optimized fusion of bodily and technological mastery breaks down.



Figure 2.7. Kicking an opponent who is cut out of the frame in *Bruce Lee: Quest of the Dragon*.



Figure 2.8. A wall blocking the view of a fight in *Bruce Lee: Quest of the Dragon*.



Figure 2.9. A clipping error where Bruce Lee's leg passes through his opponent's body in *Bruce Lee: Quest of the Dragon*.

A key problem with *Quest of the Dragon* is that the designers of the game attempted to capture “the real Bruce Lee” through cinematic rather than gameric standards of authenticity. As production coordinator Justin Lees explained in an interview, “We were keen on adding essential elements to the game that convey an accurate representation of Bruce Lee...Our animators worked closely with Lee’s films, frame by frame, so that Bruce’s unique moves could be translated precisely.”⁷¹ Anchored in a cinematic concept of indexical realism, the game developers attempted to strengthen the game’s indexical links to Bruce Lee’s originary body. *Quest of the Dragon* forged an unprecedented collaboration between the game developers and Bruce Lee’s estate, which provided previously unreleased writings by Lee that were excerpted and interspersed into the game dialogue to root it in Lee’s own words. The Jeet Kune Do movements performed by prominent Bruce Lee disciples were motion-captured for the game, facilitating a corporeal transfer from Bruce Lee’s body, to his students’ bodies, and to the digital avatar body. In addition, the game developers created a 3D model of Bruce Lee’s face from the original mask that Lee wore as Kato on *The Green Hornet* television series. Like the Shroud of Turin relic to which Andre Bazin equates photography in his famous essay “The Ontology of the Photographic Image,” the face mold enables an intimately tactile “transference of reality from the thing to its reproduction”—from the actual contours of Bruce Lee’s flesh to their digital model.⁷² According to Ted Wong, one of the motion-captured martial artists who learned his moves directly from Bruce Lee, the game

so successfully captures Bruce Lee's cinematic image that he mistook it for real: "When I saw some of the footage at first I thought it was Bruce Lee there... Then I looked closely and it was all digital imaging. It's so incredible."⁷³ Whereas the awe-inspiring moves of the cinematic Bruce Lee invite spectators to mimic his movements on the street, those of the gamic Bruce Lee invite players to actually control his screen body. Thus, the cinematic verisimilitude enabled by new digital technology proved to be inadequate for embodying Bruce Lee in gameplay.



Figure 2.10. Close-up on Bruce Lee character model in *Bruce Lee: Quest of the Dragon*.

Rather than immersing us in Bruce Lee's virtual body, the game continually thrusts us out of it, making us very aware of the asynchronicity between our bodies and the game program by responding arbitrarily rather than seamlessly to our input. In other words, the game inhibits players from inhabiting Bruce Lee because it prevents players from inhabiting the game program, which is buggy, slow, and unresponsive. It reduces players to helpless fumble-fingers and Lee to a stuttering and malfunctioning automaton. Players complained that without his defining speed and agility, the accurately modeled but functionally incompetent Bruce Lee in *Quest of the Dragon* seems like an imposter rather than the real thing. As one game reviewer observes, "The real Bruce Lee was never this sloppy."⁷⁴ But players reject the game not only because the game avatar fails to move like the cinematic Bruce Lee, but more precisely because the game program refuses to allow players to take control of and inhabit Bruce Lee's technicized, masterful movement. This is because the racialized experience of authenticity in a videogame is achieved through the immediacy of smooth, continuous, real-time control, a proficiency and instantaneity of action and reflex that cutting-edge computer technology promises and Bruce Lee epitomizes. At the same time, it prevents players from surrendering to the game system as a model of technicized bodily training and discipline. The herky-jerky bumbling of the Bruce Lee avatar in *Quest of the Dragon* calls attention not only to the strains of digital resurrection and the failures of computational technology, but also to the vulnerability and abjection of the failed-model-minority Asian male, stripped of both his kung-fu and technological prowess. Everybody wants to be Bruce Lee; nobody wants to

be this loser. Precisely because the game is so clumsy and doltish as to be unplayable, it renders the figure of Bruce Lee markedly resistant to player identification and appropriation.

The dashed expectations for a Bruce Lee videogame that jolts Lee back to life from the grave and puts his awe-inspiring physical virtuosity as well as cutting-edge digital technology at your command seem to have discouraged further game development. Since the spectacular failure of *Quest of the Dragon*, no other console game licensing Bruce Lee's image has been released.⁷⁵ Jack Halberstam reads failure as a queer mode of resistance that “allows us to escape the punishing norms that discipline behavior” and offers “a critique of the intuitive connections within capitalism between success and profit.”⁷⁶ By foregrounding physical and technological breakdown, *Quest of the Dragon* moves the figure of Bruce Lee away from masculinist mastery and “a will to power” towards what Halberstam calls “the unregulated territories of failure, loss, and unbecoming.”⁷⁷ A broken, poorly executed game that frustrates all attempts to enter imaginatively into the game system, *Quest of the Dragon* undermines the racializing discourse of Asian success through technological affinity that subtends the pleasures of mastering the power of Bruce Lee through the power of the Xbox. The fantasy of invincibility and technological progress linked in the idea of a digitally animated Bruce Lee falls apart in the game, which exposes both Asian masculinity and computer technology as vulnerable to going sullenly unresponsive and uncontrollably haywire.

Games of Death

To accept defeat—to learn to die—is to be liberated from it. Once you accept, you are free to flow and to harmonize. Fluidity is the way to an empty mind. You must free your ambitious mind and learn the art of dying.

—Bruce Lee, *The Warrior's Journey* documentary (2000)

The only film starring Bruce Lee in which he dies is *Fist of Fury* (Lo Wei, 1972). A rousing nationalistic film that rails against foreign occupying forces in China, the film ends with Lee's character martyring himself before the colonial oppressors in order to protect his master's school. As a line of armed soldiers open fire, Lee rushes forward to attack. Although it is understood that Lee's character is shot to death by the firing squad, we do not actually see him die. Rather, the film arrests him in a freeze-frame mid-air, at the apex of a flying kick, while the audio track continues with a hail of gunfire. Lee is triumphantly defiant in the midst of defeat, ferociously alive at the moment of his death. The iconic shot crystallizes an image of Bruce Lee whose vitality is amplified in the moment of his death. Yet strikingly, the shot puts the spectator in the position of the firing squad. Bruce Lee charges straight towards us, fists clenched, eyes blazing in a direct stare, leg poised to kick us in the face, and is at the same moment abruptly frozen before us. This confrontational shot both enacts an assault on the spectator and spares us from assault at the very last minute. By putting us in the position of shooting Lee down with bullets as well as shooting him into a static photograph before he can strike us, it sensationally positions us to be terrorized by Bruce Lee as well as to master his image.

This play between submitting ourselves to Lee’s awe-inspiring power and putting it under our control is a core dynamic of playing Bruce Lee in videogames, and corresponds to the ambivalent agency of the virtualized Asian male subject whose prowess must be surrendered to in order to have access to it.



Figure 2.11. Closing freeze-frame in *Fist of Fury* (1972).

Although Bruce Lee does not die in films, he dies over and over again in the videogames that purport to bring him back to life. This is because in videogames, death is not an endpoint, but a game mechanic, an interruption of one round of play and a signal to begin another, hopefully improved round. Dying and coming back to life in videogames is a fundamental game routine, as neutral as setting up chess pieces for a new match.⁷⁸ Without learning through successive rounds of trial and error, dying and respawning to play again, you could never progress through each level of the game. Game lives can frequently be accumulated by collecting them in the game, or earning them through high scores. They are a resource, along with weapons, armor, coins, healing, and special powers, which are part of the economy of the game and can be won, bartered, and lost. Death is frustrating and inconvenient in that it indicates player failure and results in lost progress in the game, but it is not permanent. Dying in the game can eject you, sometimes painfully and abruptly, from the thick of pleasurable gameplay, but you can always press a button to restart the game again. As far as the narrative within the game is concerned, the death never even happened. Players do not worry that the avatar that re-appears onscreen, fully revived, is a mere copy of the “original” player, because inhabiting a digital body that repeatedly dies and lives again is part of the iterative nature of gameplay. Player death is a central game mechanism that both threatens mastery and is essential to it.

The meaninglessness of death in videogames takes on a racialized resonance when the death repeatedly enacted is that of Bruce Lee. Wrenching Bruce Lee’s body back to life only to kill it over and over again in videogame form echoes the infamous Vietnam era sentiment that “life is cheap in the Orient”—that Asian bodies, analogous to digital bodies, are infinitely reproducible and therefore expendable. Like the “yellow hordes” conjured in the nineteenth-century national imaginary against a perceived influx of Asian industrial labor, the “cheap copies” ascribed to contemporary Chinese

manufacturing, and the racist joke that “all Asians look the same,” Asian bodies have long been associated with endless cloning and the replaceability of mechanized labor and mechanical reproduction. As in the proliferation of Bruce Lee look-alikes in Bruceploitation movies, the endless respawning of Bruce Lee avatars in games that feature him both undermine and insist upon his singularity as an Asian/Asian-American star. Bruce Lee is both a one-and-only figure of exceptionally powerful Asian masculinity, and a figure that invites anyone to be him. In the case of videogames structured around the death mechanic, players are invited to be him over and over again across multiple resurrections and deaths.

The 1984 game *Bruce Lee* gives you four lives that can be increased by attaining high scores. When you die in the game by getting hit by an enemy or by touching a deadly obstacle, there is no pause for a transitional screen or a special death animation. The game either instantly respawns you at the opening of the level in which you died, or, if you have no more lives left, abruptly thrusts you out of the visually rich game environment and into a stark “Game Over” screen. Lives in *Bruce Lee* are like extra balls in pinball—a marker for the number of chances you have to beat the game before it ends. And like multi-ball in pinball, the more lives you have, the less the fate of any single one matters. But the fewer lives you are left with, the greater the stakes are for taking risks and the more intense your investment in every tiny movement, because the real death in *Bruce Lee* is the death of the computer program, the end of the game. The direct opposite of Bruce Lee’s climactic and visually fetishized death in *Fist of Fury*, his death in the videogame *Bruce Lee* has no visual representation. Rather, it functions as a switchbox in the program to send the player to another state of the game. Purely procedural, death in the *Bruce Lee* videogame propels you to optimize your fighting machine so that the system runs more smoothly, elegantly, and efficiently the next time around, with fewer interruptions. What Bruce Lee calls “the art of dying” is, in the game, indeed a matter of optimizing each life you have and strategically taking risks that kill you, so that you are “free to flow” from death back to action. Bruce Lee’s death becomes the conduit for an expressivity of algorithmic computation.



Figure 2.12. “Game Over” screen in *Bruce Lee*.

The oft-repeated “easy to play, hard to master” paradigm of a well-balanced videogame points to a key dynamic in gameplay, that mastery is actually elusive and

requires repeated rounds of failure to achieve. Even with fully responsive game controls, well-tuned collision detection, and smoothly animated movement, the experience of playing a martial arts videogame like *Street Fighter* or *Tekken* is not a continuous flow of displaying bodily prowess and defeating enemies. Rather, it is the constant grinding frustration of being thwarted in your efforts to win, in the hopes that you will eventually get good enough at the game to do it. In an essay about videogames and boy culture, Henry Jenkins argues:

The central virtues of video game culture are mastery (over the technical skills required by the games) and self-control (manual dexterity). Putting in the long hours of repetition and failure necessary to master a game also requires discipline and the ability to meet and surpass self-imposed goals. Most contemporary video games are ruthlessly goal-driven. Boys will often play the games, struggling to master a challenging level, well past the point of physical and emotional exhaustion.⁷⁹

Although Jenkins rightly focuses on the fusion of bodily and technological training engendered by gameplay, his characterization of videogames as an experience of successfully achieving goals glides over the “long hours of repetition and failure” that players endure in the process. Like game designers and players who accept death as an affectively neutral game mechanic, Jenkins underemphasizes the sheer phenomenological accumulation of dying over and over again, the accretion of failure and death that players experience on their way to the promised triumphant win. Yet as he hints in his point about gamers playing beyond the point of exhaustion, mastery of the game is not the inevitable outcome of even long hours of grueling gameplay. The 1995 videogame based on the biographical film *Dragon: The Bruce Lee Story* features levels based on key moments in Bruce Lee’s life, from his streetfighting days in Hong Kong to his performance in *Enter the Dragon*. The final boss fight against a fictional “phantom” of death that has haunted him all his life is so brutally difficult that even dedicated players were unable to defeat him. They therefore assumed that the game deliberately ends with an unbeatable opponent who always kills you no matter how well you play, in order to reflect Bruce Lee’s actual death.

The cinematic Bruce Lee does not suffer nearly the proportion of brutal defeats to triumphant wins as his videogame counterparts. Martial arts games repeatedly subject players to being punched in the ribs, kicked in the face, knocked to the ground and killed by merciless and seemingly invincible opponents on their way to allowing players to do the same attacks back. This is because videogames have to be challenging in order to be fun. A game in which the enemy AI is unsophisticated and can be easily defeated with the same rote moves quickly becomes tedious. Therefore, even though they appear to be masculine empowerment fantasies of mastery and invincibility, martial arts videogame play is just as much about suffering repeated defeat. This tension between mastery and failure is particularly acute in Bruce Lee videogames because Lee’s uneasy star image registers both triumph and defeat. The triumphant rhetoric surrounding Lee’s image as a kung fu super star covers over even as it obsessively rehearses his bodily wounds and his early death. Davis Miller’s observations about Lee’s physical shortcomings connect Lee’s frequently referenced small stature and slender body to a profound vulnerability:

“He was short and thin and there was a fragility, and eggshell mortality, about him.”⁸⁰ How Bruce Lee’s death plays out in videogames reveals the push-pull between mastering and being mastered by the technological/racial other in videogame play. In videogames, we die with Bruce Lee *and* we kill Bruce Lee. We introject ourselves into his wounded body and also find ourselves, like the spectators of *Fist of Fury*, the agents of that wounding.

The 1989 PC game *Bruce Lee Lives: The Fall of Hong Kong Palace* overtly restages Bruce Lee’s tragic death through the death of the player’s Bruce Lee avatar. In *Bruce Lee Lives*, you play as Bruce Lee living in Hong Kong, under threat from a criminal overlord. If you are killed in a fight with an enemy thug, your avatar falls backward and slumps to the ground in a fetal position. The game holds the static screen of your killer standing over your defeated corpse for an extended time before fading to black and then cutting to a close-up on a newspaper story that ends the game. The newspaper headline begins, “Bruce Lee Killed” and continues, “The broken body of martial arts hero Bruce Lee was found by police...” The game provides neither multiple lives nor opportunities to regain health, and it is both hard to play and master. So when the game ends, it ends emphatically and you must start again from the beginning, only to inevitably die again because of the game’s punishing difficulty.

By shifting you from actively controlling the movements of your Bruce Lee avatar in the game (“I *am* Bruce Lee”), to gazing on your/his motionless body as a helpless spectator (“They killed me”/“I got Bruce Lee killed”), and then finally to reading about his death in the third person (“Bruce Lee is dead”)—the death mechanic in *Bruce Lee Lives* pushes you from inhabiting the movements of Bruce Lee to experiencing Bruce Lee as static text on a page, distant and irrevocably other. This shift forces you to witness the consequences of your unsuccessful gameplay and implicates you in killing Bruce Lee, again and again. Its prolonged visual and textual contemplation of “the broken body” of Bruce Lee at the end of each game fetishizes Lee’s death, as does the ending of *Fist of Fury*, but with an emphasis on frailty and loss rather than on imploding defiance. Therefore embodying Lee’s virtuosic bodily force in the game’s fighting matches is overwhelmingly circumscribed by death. And this death is made more rather than less consequential by its temporariness and repetition. Although the text on the game’s box art commands you to “never, ever forget that through you, BRUCE LEE LIVES,” the game insistently reminds the player, to the contrary, that through you, Bruce Lee dies. A game designed to reanimate the potent fury of Bruce Lee instead registers the melancholy and incontrovertibility of his loss. It repeatedly rehearses mourning for the lost body of Bruce Lee that you failed to adequately inhabit and defend, itself an obsessive repetition of America’s experience of Bruce Lee’s premature death. It is telling that *Bruce Lee Lives* was not a popular game and exists now only as “abandonware.”



Figure 2.13. Bruce Lee's dead body in *Bruce Lee Lives*.

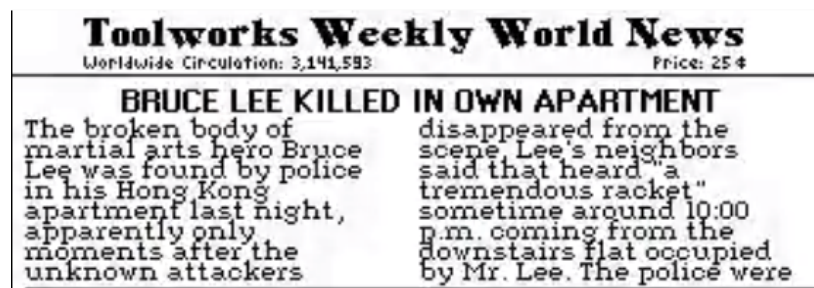


Figure 2.14. News of Bruce Lee's death in *Bruce Lee Lives*.

Celine Shimizu argues that the “vulnerability in violence” expressed by Bruce Lee’s cinematic body “exceeds the celebration of brutish male power as antiracist and anticolonial redemption,” and that this vulnerability is underexplored in the cultural narrative of Lee as an invincible hard body.⁸¹ A much more unstable figure of identification than the oft-repeated mantra “everybody wants to be Bruce Lee” would admit, Bruce Lee’s awe-inspiring power is always shaded by death, and the inhabitation that his magnificent body seems to inspire is always founded on its abjection. His absence is required for you to fill it with your presence. Bruce Lee thus emblemizes the ambiguity of Asian/Asian-American masculinity that is desired for its supremely optimized bodily techniques, yet necessarily put to death in order to offer others access to that power. When you die in the game *Quest of the Dragon*, you lose control of your Bruce Lee avatar and the game’s virtual camera swoops up to display a still shot of him splayed on the ground where he fell. Unlike the third person address of the death screen in *Bruce Lee Lives* that identifies the avatar as “Bruce,” the text on the screen in this game declares “You Have Been Defeated” (emphasis added). The slippage between referring to “Bruce” and to “You” reveals the slippery subjectivity engendered by videogame play—in which one controls the onscreen avatar like a puppet, but only on the condition of introjecting that avatar and the game system that governs it into yourself. This play between mastering and assimilating the racial/technological other in videogames amplifies the volatile dynamics of cross-racial identification and racial performance engendered by the present/absent body of Bruce Lee. By revealing how

fundamental killing Bruce Lee is to the fantasy of bringing Bruce Lee back to life, videogames featuring his digital likeness remind us of the vulnerability within Bruce Lee's image and at the core of the videogame's imperative to master and control.



Figure 2.15. "You Have Been Defeated!" in *Bruce Lee: Quest of the Dragon*.

Chapter 3

This Is Not a Dance

At the turn of the last century, U.S. News and fan media descended upon the debunking of a prevailing cultural icon: the lone videogame player (chubby, pasty-faced, at home in a dark room, planted in front of the computer or television with his eyes locked on the glowing screen, totally immobile except for the furious button-punching and joystick-twisting of his fingers) was triumphantly supplanted in media accounts by pairs of teenage boys frenetically hopping in synchronized rhythm to techno music atop the lighted stage of an arcade game, in public space, while crowds gathered to gawk, cheer, and queue up so that they too could play.¹

Sustained by on and offline fan communities, this “arcade craze” revolved around the dance simulation game *Dance Dance Revolution*, or *DDR*. *Dance Dance Revolution* was officially released to U.S. arcades in 2000 and quickly became the most successful of a genre of rhythm action games called Bemani.² The precursor to both the music games *Guitar Hero* and *Rock Band* of the late 2000s as well as dance games *Dance Central* and *Just Dance* of the 2010s, *Dance Dance Revolution* was the first game to popularize the use of specialized input devices rather than traditional joystick controllers to capture performative, full-body movements. Rhythm action videogames turn players into performers—requiring them to dance, shake maracas, scratch DJ turntables, beat drums, and strum guitars in synchronicity with the game machine. The arcade version of *Dance Dance Revolution* works like this: as strobe lights flash and music thumps out of large, neon-lit speakers, each player follows a dance sequence, symbolized by a pattern of arrows scrolling up the game screen, by stepping on the corresponding quadrants of a raised dance platform. Scores are based on the accuracy and timing of the player’s steps. The game ends if the player misses too many steps.

Dance Dance Revolution has gone through multiple versions and modes of play since its original release as an arcade game in Japan in 1998, moving between a highly visible arcade-based “dance craze” in public leisure space and a home-console game experienced in private. Far-flung renditions of *Dance Dance Revolution* include versions that are played with your fingers on a handheld mini-dance pad, ones that allow live, networked gameplay in shared virtual space, and ones that integrate a digital camera so that players can see themselves dancing onscreen. Official full releases of the game mingle with song and character upgrades, as well as a profusion of region specific, third-party, pirated, and hacked game hardware and software.³ Rather than each new release replacing the old in linear progression, all of the versions continue to circulate through both authorized and unauthorized global channels. Certainly, dominant game versions and modes of playing have emerged, and this chapter will focus mainly on *DDR* games played in arcades. However, as the shift between theatrical arcade performance to decentralized home console playing has shown, gameplay configurations are neither stable nor pure. Even the relegation of home-console gameplay to “home” is problematic, since in addition to the remote spaces that the Internet opens up to them, home consoles are also set up at community and institutional social events for public play that borrows from the performative modes of the arcade. This heterogeneous flux of interactions between bodies and spaces not only foregrounds how the videogame as an object of study

is a shifting target, but also suggests that attending to this very indeterminacy of the new media object—the object in motion across what cultural theorist Brian Massumi calls a “field of emergence”⁴—might be the appropriate way to theorize all media, not just the “new.”

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Stay Cool!

Figure 3.1. *Dance Dance Revolution* arcade promotional flyer.

Dance simulation games exist at the intersection of two under-theorized areas that might seem to have little to do with each other: dance and videogames.⁵ While dance is traditionally privileged as fundamentally embodied, video-game playing is assumed to be consummately disembodied—it is the ultimate dissolution of flesh-bound “meatware” into infinitely transmissible bits of information. Thus, on the one hand, dance scholar Johannes Birringer is able to declare that “the medium of dance is the living human body, possessing the power to convey ideas inherent in its movements,”⁶ while on the other, film scholar Vivian Sobchack is able to assert that “electronic representation, by its very structure, phenomenologically diffuses the fleshly presence of the human body and the dimensions of that body’s material world,” arguing further that electronic presence is “so diffused as to belong to *no-body*.”⁷ Dance is media and message condensed into the body. Video-game representations disperse and ultimately disappear the body.

In her book *Dancing Machines*, Felicia McCarren suggests that “dance offers ways of thinking both about the movement possible with machines and about machines moving themselves.”⁸ In this spirit, I would like to trace the body in and in front of the videogame *DDR*, and the solicited and elicited online and offline game culture that surrounds it, to explore a technologically mediated experience of embodiment that unfolds through movement that is both dance and a simulation of dance. I am particularly interested in how dance enabled by the videogame and its digitally composited characters allows for racial and sexual figurations that translate the assumed portability of the pixel into social configurations of imagined/desired identities. Like the expressive license furnished by temporarily becoming othered sexual and racial identities (e.g., drag and blackface), the mechanically activated, technologically interpenetrated, and bracketed-as-game body is given license to move in ways that are unavailable to it in non-mediated experiences of movement. The way that *DDR* moves you by making you move, compelling you to dance, is similar to the way film “body genres” such as horror, melodrama, comedy, and porn also inspire an externally registerable bodily performance, compelling you to scream, weep, laugh, or jerk off.⁹ The rhetoric of inappropriate, hyperbolic fascination also surrounds accounts of *DDR*, whose players are described and describe themselves as “in a daze,” “fanatic,” “zombie-like addicts,” “maniacs,” and “freaks” who have lost their minds and themselves to the visceral rush of the game.¹⁰ At the same time, this aerobic mode of video-game play has also been deployed as a wholesome antidote to traditional computer games, which have been similarly pathologized as addictive, but also as physically and psychologically unhealthy. The assumed opposition between dance and videogame, intersecting with prevailing distinctions between active/passive, passion/addiction, and embodied/disembodied, is exactly what generated the frisson of surprise captured by media accounts of *Dance Dance Revolution’s* public spectacle.



Figure 3.2. Pre-game tutorial teaching you how to play the game.

By hyperbolizing the player’s physical interaction with the computer game, rhythm action games such as *Dance Dance Revolution* certainly provoke a rethinking of new media critiques that cast digitality as profoundly disembodied and disembodiment.¹¹ But rather than giving the digital back its body by drawing on the bodily agency and expressivity “essential” to dance movement, this chapter aims to seek out the computational in dance as well as the corporeal in new media. I will argue that the phenomenological encounter between the human body and digital technology takes sensible shape only through subtending cultural designations of sexual, racial, and national difference that are too often sidelined in critical studies of new media. To frame my exploration of the body fastened to, moved by, and becoming a computerized motion machine, I will enlist the irrepressibly enthusiastic comments barked by *Dance Dance Revolution*’s invisible announcer. At turns commanding, derisive, and sycophantic, its remarks compose a running commentary on the player’s performance during the game. The announcer’s voice positions the game machine as a spectator who can “see,” although the machine is actually “blind” to the dancer’s movements except as they coincide with the buttons that make up the quadrants on the dance pad. Earlier versions of *DDR* consistently cast a masculine voice in the role, while the newer Xbox *Ultramix* version introduces the option of choosing male, female, both, or none.¹² Like a parodic Turing Machine performing human presence in ostentatious excess of the game play, the voice emanating from the computer game is simultaneously audience, competitor, and master of ceremonies—both giving the game machine a body and making it acousmatically unlocalizable to any particular body.

“Let me see you move!”

New media theorist Lev Manovich’s critique of the traditional relationship between body and screen focuses on the immobility of the body in real life versus the mobility of the body in the fictive screen world. He posits virtual reality as a fundamental break with previous human-screen interfaces because even though it imprisons the body

within an encumbering apparatus, “the spectator actually has to move in physical space in order to experience movement in virtual space.”¹³ *Dance Dance Revolution* also simultaneously fastens the body to a machine and requires that it move. But unlike virtual reality, *DDR* does not figure movement as an exploration of an expanding space, but as the movement-rich occupation of a predefined, restricted space vis-à-vis another intending body: the body on screen, the body of another player, or the bodies of a spectating audience. Counter to Donna Haraway’s famous statement that “Our machines are disturbingly lively, and we ourselves are frighteningly inert,”¹⁴ *DDR* demands outright that we keep up with its disturbing liveliness.

Like Manovich’s, most analyses of the immobile body before the screen focus on how the screen allows the spectator to journey through visually rendered spaces otherwise forbidden or impossible. Significantly, the example Manovich offers of a VR project that synchronizes the virtual and physical worlds at the cost of clamping down the body is the Super Cockpit application developed by the U.S. Air Force.¹⁵ In an essay about dance movement assisted by the low-technology instruments of crutches, cane, and prosthetic leg, Vivian Sobchack exposes the privileged relationship to space that dominant video-game modes of conquering territory and traveling over expanses presume: “I was never one to plunge into space as if it were an open and hospitable field of possible experience. . . . I tended to tiptoe or edge into unknown places (however ordinary) with a certain tentativeness born of anxiety, sometimes even of fear.”¹⁶ Dance in *DDR*, however, is movement with neither forward motion nor immersion in a boundless, exotic, external space. Rather than concentrate only on the space opened up on or through the screen, players inhabit the off-screen space around their own bodies as well. What does it mean to be “immobilized” in this sense, where your actions are restricted to the area within reach of the dance pad, but are opened up to the contingencies of jumps, gestures, and motions that pulsate between your body, the scrolling arrows, the sound waves shuddering through your organs, and the animated dancer(s) onscreen?



Figure 3.3. A character dancing in the background in *DDR Extreme 2*.

The movements of a player's body in the game inevitably exceed the requirements for touching foot to grid at the signaled time; therefore much of *DDR*'s energy is outside of the game system. The most elaborate dance flourishes of the player are imperceptible to the game itself: the dance pad records only contact or no-contact with specific quadrants at specific times. It does not register that the player has spun around, dropped his elbow to one square and then leaped up without missing a beat to continue dancing on his feet, nor that his heart is pounding and his muscles ache. Rather than asserting that the dance steps that are measured by the game system are technologically mandated and thus artificial, whereas the superlative actions added by the dancers through their own interpretive movements are where the true dancing happens, I would suggest that the interplay of movement both prescribed and enabled by the game is precisely the point—or, as Brian Massumi would argue, the passage across all points.

According to Massumi, “when we think of space as ‘extensive,’ as being measurable, divisible, and composed of points plotting possible positions that objects may occupy, we are stopping the world in thought. We are thinking away its dynamic unity, the continuity of its movements.”¹⁷ For Massumi, position emerges from movement rather than the other way around. In other words, the arrows on the screen hitting their targets are not plotting out a series of points for the player to respond to one after another, moving from quadrant to quadrant. Rather, they are folded into and out of the continuous experience of the whole dance as moments accenting movements that flow immediately into another movement. “Never present in position, only ever in

passing,”¹⁸ the experience of playing *DDR* is not a series of isolated responses to targets on the screen. It is instead a dynamic unity of “reciprocal variation” that encompasses the arrows hitting their targets, as if they were punctuations of a dance that you were already performing, that your body, with the help of the music, is already carrying you through, making a cause-effect relationship between your movements and the arrows impossible to isolate.

If *DDR*'s movement is not about swooping into space or about hopping from point to point, how exactly does *Dance Dance Revolution* move us? Evaluated mainly by its ability to impel people to dance, to accelerate their heartbeats and urge their bodies into motion, dance music itself might provide a clue. Music critic Simon Reynolds describes techno music in terms of its convulsive repetition, calling it “an intransitive acceleration, an intensity without object” offering “no narrative, no destination.”¹⁹ Thinking through videogame experiences in terms of “the mechanics of motion and emotion” rather than of story, character, and architecture, Henry Jenkins writes, “Game play becomes memorable when...it makes you want to move...when the computer seems to be totally responsive...when the computer does something that follows logically from your actions, yet doesn't feel like it was prescribed or preprogrammed.”²⁰ *Dance Dance Revolution* offers a space-motion empowerment fantasy that is predicated not on projecting forward to conquer visible objects, master territory, or hit a target, but on the sensations of the body occupying the kinesphere around it. In *DDR*, action and perception are in reciprocal relation, surging and receding into each other in the same movement, creating a space that you wholly inhabit rather than one that you fly through or tour. This is not an inchoate, touchy-feely, or expressive dance, but one based on a body that is simultaneously carnal *and* abstract, that pushes the body's muscles to make sense of and fulfill the computer's mathematical predictability and precision, that is pre-programmed yet experienced as potential. The game does not force us to conform our naturally expressive bodily rhythms to the algorithms of the computer, nor does it celebrate the mechanized intensity of computer-accurate movement. Rather, it reveals to us the mathematical discipline and abstraction of our fleshly bodies in motion.

“You are a perfect dancing machine!”

If the player's actions in *Dance Dance Revolution* are not the directed, intentional movement of subjective expression or projection into space—if they say nothing and go nowhere—how can they be meaningful? Maurice Merleau-Ponty suggests that intentionality is not just linear, purposeful movement when he affirms that “among my movements, there are some that go nowhere.”²¹ Dance in *DDR* stays in one place but is always in motion, like a never-ending loop. The idea of the loop is useful here, because it stands for both perpetual motion and non-progression. Although moving in space, the loop never advances forward or evolves into signification; it is suspended in an infinite hypnotic trance—immobilized, catatonic, and offering nothing but innumerable iterations of itself.

Thus the loop has both pathological and generative possibilities—the schizophrenia of continuous return and the dynamic freedom of continuous becoming. On the one hand, *DDR* is like a computerized version of the shiny red shoes in the fairy tale

that force the young heroine to dance without rest—regardless of natural cycles like day and night—until she chops off her feet.²² Even after amputation, the shoes grotesquely continue to twirl about on their own. The red shoes are a signifier that refuses stillness, an overwhelmingly vivid signifier that is set in motion by the subject, but that relentlessly reconstitutes itself, outside of any organic logic, and ultimately exceeds and annihilates her. Evacuating the subject of personal expressive agency, the red shoes no longer signify dance as meaningful expression; instead it becomes pure, inexhaustible motion.

On the other hand, Vivian Sobchack suggests that the loop is subversive because it bridges the perceived disjuncture between body and representation, literal and figural. For Sobchack, all bodies in the cinematic experience, both onscreen and offscreen, have the potential “to subvert their own fixity from within, commingling flesh and consciousness, reversing the human and technological sensorium, so that meaning, and where it is made, does not have a discrete origin in either spectators’ bodies or cinematic representation but emerges in their conjunction.”²³ This cooperative meaning-making streams between bodies and images in what she calls “rebound.” “The cinesthetic subject both touches and is touched by the screen—able to commute seeing to touching and back again *without a thought* . . . able to experience both here and there rather than clearly locating the site of experience as onscreen or off screen.”²⁴ Sobchack insists that this reciprocal and reflexive sensual experience of both real and as-if-real is unique to cinema. For her, only cinema has a subjective and intentional presence that projects back to us our lived-body experience of representation, whereas “insubstantial” digital presence “randomly disperses its being across a network, its kinetic gestures describing and lighting on the surface of the screen rather than inscribing it with bodily dimension.”²⁵ But Sobchack underestimates the body’s capacity for both abstraction and materialization in its encounter with the digital through “kinetic gestures.” It is this bodily motion, reciprocally generated between player and computer, that productively expands her concept of rebound for a videogame like *Dance Dance Revolution*. The corporeal form that the mimetically dancing body gives to the bits of information generated by the game program re-invests the body with a powerful modality. The dancer’s active yielding to the shimmering ones and zeros entails a subjectivity-dispersing submission to abstract motion. This process is in constant oscillation with the inverse process of incarnating data into concrete spatio-temporal form.

Here, exchanges between perception and bodily movement—between symbols on the screen and the body incorporating and making sense of them—stream in a continuous circuit spurred by the vibrations of the music’s beat. The player carnally translates signs into meaning and realigns his/her body in response, already propelled by the body’s movement toward the next step, indistinguishably before or after he/she makes a conscious, reflective reading of those signs, through a reversible transubstantiation of subjective feeling and objective knowledge. The concept of mimetic rebound suggests that we take literally comments made by players in which they say that getting good at *DDR* requires you to get into a “zone” where you “become” the music and thus “become” the game.

Merleau-Ponty also frames this experience of becoming in terms of acquiescing to the always incipient action-perception of music:

We do not possess the musical or sensible ideas, precisely because they are negativity or absence circumscribed; they possess us. The performer is no longer producing or reproducing the sonata: he feels himself, and the others feel him to be at the service of the sonata; the sonata sings through him or cries out so suddenly that he must “dash on the bow” to follow it.²⁶

As in reading music to play a musical instrument, the experience of playing *DDR* well is not a unidirectional process where symbols on the page or screen are consciously translated into an appropriate bodily response. Rather, playing manifests the vacillating, ambivalent, nonhierarchical relationship between information and body. Although the structure of the game presupposes that the player’s feet follow the arrows on the screen and that movement is determined by the sequence of arrows, the lived experience of playing makes it clear that to play the game as if parsing a list of random instructions results in inevitable failure. Players find an overall rhythm that flows across movements in a dynamic synthesis, so that each subsequent step emerges out of the movement already started and already contains within it the accumulation of previous steps and the incipient press of all potential following steps. Some players choreograph, memorize, and perform dance sequences that use the *DDR* game as a backdrop to their virtuosic exhibition before an audience. But players who eschew the traditional expressivity of this type of “freestyle” play for the score-based precision of “tech” play also manifest the same perception-action “flow,” and in fact deliberately tweak it to make the relationship between symbol and body even more arbitrarily complex. In Stealth mode, arrows disappear before aligning with their targets so that the moment the arrow passes through the target it is invisible and indeterminate, producing a temporal gap between when you see the arrow and when you are supposed to hit the step. Mirror, Left, Right, and Shuffle modes each confound sedimented patterns of exchange between body and information by reorienting the symbols so that the player is counter-intuitively required to step in a direction different from what each arrow signifies.

DDR’s highly mechanized human-computer interface and the machine’s relentlessly precise translation of body movement into high and low scores demands that the body conform to its ceaseless, mechanized rhythm. Sweaty, out-of-breath, and exhausted, players eventually submit to time, gravity, and the loss of energy. Handlebars provided in the arcade version are clutched as supports, and players substitute into games when another player is too tired to continue. However, the game also imagines its ideal player as a perpetual motion machine, atomizing movement into machine-logical step sequences and featuring songs accelerated to a heart-bursting maximum of 320 beats per minute.²⁷ Circumventing the scoring and “game over” concept, *DDR*’s Endless mode cycles repeatedly and nonstop through every song the player has unlocked until he/she is unable to play any longer and has to turn off the game to end it. The bodily struggle to become machine is rewarded with the amplification of motion and sensation, but without the strain of sustaining personal expressivity and self-identity, in what is both a material condensation and an abstract dispersal of presence into euphoric intensity.

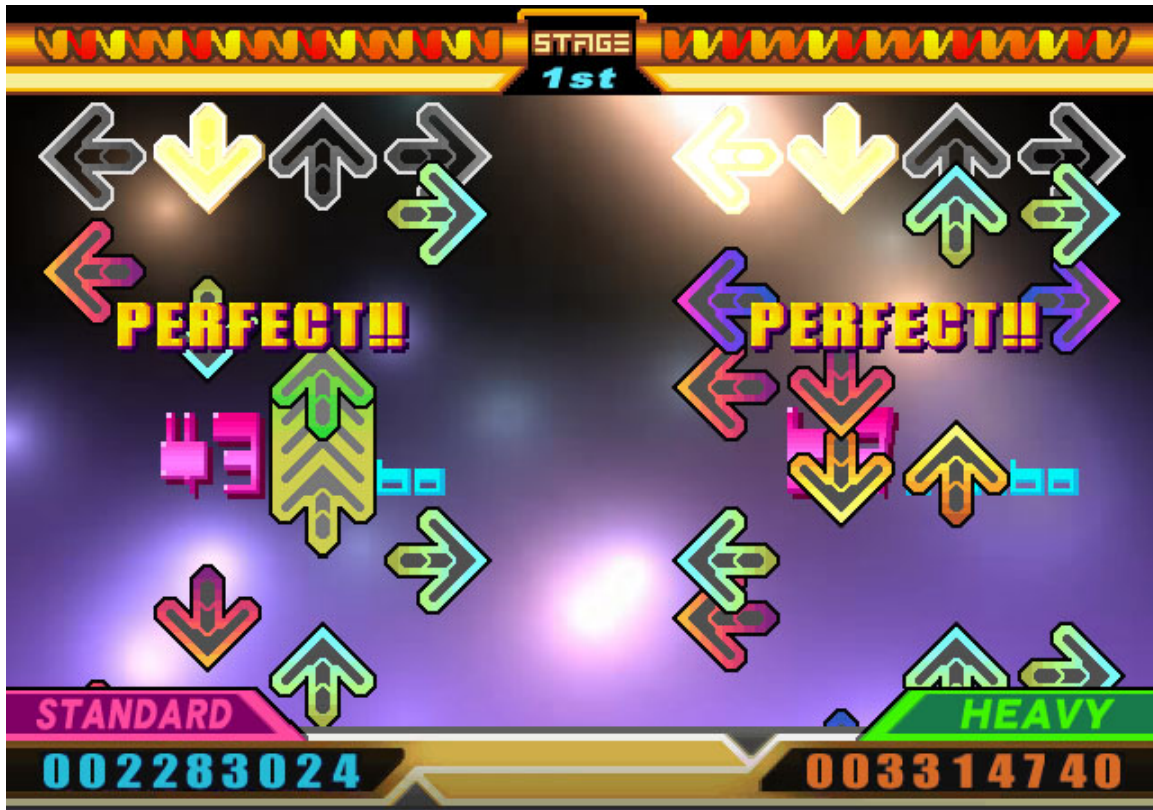


Figure 3.4. A two-player game displaying arrows.

“Are you a monkey?”

My account of the *DDR* game experience as a feedback loop between player and game machine suggests a relationship of coherence and immersion, where the spectator exists in a physical space that is continuous with the space onscreen. However, it is also important to think of the game-player relationship in terms of what anthropologist Michael Taussig, re-reading Walter Benjamin, calls “the mimetic faculty,” where the very desire to become the (computerized) Other by copying and yielding to it is joined with the compulsion to find distance from the imitated.²⁸ This attraction-repulsion dynamic can be mapped to racial, sexual, and national differences modeled in the game play. To account for how technology moves us, we must consider the cultural identifications from which the computer-activated body in motion draws its affective force, as well as how these identifications are magnified or transformed in the process. Consider the fact that the first rhythm-based videogame to be released in the U.S. in 1997 was *Parappa the Rappa*, in which players control a shy cartoon dog who attempts to impress a beautiful flower with the rapping skills that he learns by repeating the stylings of his teachers, including a kung-fu fighting onion and a Rastafarian frog; that the Japanese-imported arcade version of *DDR* first became immensely popular with Asian-American youth cultures in California, most visibly teenage boys; and that the only two characters available on the *Ultramix* version are a blonde white woman named “Lady” and a black man sporting an afro named “Afro,” a couple that is reiterated in the *Extreme* version’s white female “Rhythm” and black male “Blues” characters. It becomes clear

that the game taps into racial and sexual imaginaries that are transmuted by the ostensibly impersonal, abstract, dispersed non-presence of the computer and the player's physically mimetic connection to it. Becoming-machine is not a neutral abolition of self-identity into the blank energy of electric pulses and mechanized movement; it is articulated through preexisting racial and sexual schemas of technology and dance that make this corporeal becoming both intelligible and irresistible.



Figure 3.5. Character selection screen in *DDR Extreme*.

A vital question that *Dance Dance Revolution* makes difficult to answer is “With whom are you dancing?” Most versions of *DDR* allow you to choose an animated character from a pre-programmed assortment that ranges from robots, princesses, and racialized icons like those described above, to more extravagant amalgamations such as the blue-mohawked, S&M-attired “Mr. Spanky” and the vacuum-toting, cat-eared “Maid Zukin.” But is the player’s relationship to the onscreen character “I am you,” “I want to be you,” or “I want you?” The game never makes this clear, sliding between suggesting that you are the character, soliciting you to aspire to the character’s more perfect dancing, and inviting you to desire the character through a voyeuristic gaze. The selected character dances onscreen in its own specific style as you play, ignoring the pattern of arrows superimposed over it. Its fluent dance moves are spotlighted by a floating virtual camera that ceaselessly zooms and swoops around it, competing with the arrows for your visual attention, and with your own dancing body for the spectator’s attention. But the characters dance autonomously, not bound like you are to the movements dictated by the arrows and the dance grid, and irrespective of your movements. Like the disembodied commentator, the status of these mute onscreen bodies—avatar or partner, instrument or

playmate, figure or ground—remains ambiguous and unstable. Embodying these various conflicting subject positions through sounds, images, and actions that do not consistently parallel each other, the game-machine body engages the player in a disorienting recursive rebound that both determines and diffuses potential subjectivities. Rave and club dancers who share a dance space pick up moves from one another, making bodily sense of other bodies by copying and absorbing attitudes and personas through mimetic movement. What body does the *DDR* player encounter and assimilate? *Dance Dance Revolution* allows players to perform a bodily mirroring of racial and sexual otherness by submitting to an ambiguously embodied computerized Other, with all the passivity-activity, sameness-difference, proximity-distance, and incorporation-separation that this bodily mirroring entails, complicated by the arbitrarily rendered identities assumed to be made possible by the game's status not just as machine but as computer.



Figure 3.6. Two-player mode in *Dance Dance Revolution Extreme 2*.

expectations of what constitutes racial identities. The racial homogeneity and patriarchal hegemony associated with Japanese culture allows American *DDR* players to disavow the game's racist and sexist caricatures through the racist caricaturization of the Japanese as racist, sexist, and unsophisticated about contemporary American race and gender relations. This refraction of racial imaginaries also enables us to see whiteness through the eyes of the Other, in a move that produces white masculinity itself as hyperreal fantasy. Thus the racial and sexual identity of the blond, enormously pompadoured, and blue-jeaned character Johnny is denaturalized by an over-saturation of American white male signifiers. Yet this unsettling recognition of self in other is complicated and at least partially recuperated by the racist conception of the Japanese as derivative mimics whose attempts to imitate Western culture are comically and exotically naïve. Similarly, hybrid composites of multiple racial and sexual signifiers intermixed with nonhuman animal and robot features stress discernable identities at the same time that they make actual coherence of identity impossible. The fantastical reduction of all identity markers to an infinitely malleable, mix-and-match polygon aesthetic registers both difference *and* sameness. This is the uncontained circulation of mimesis in alterity that Taussig calls "mimetic excess": "a magnificent excessiveness over and beyond the fact that mimesis implies alterity as its flip-side. The full effect occurs when the necessary impossibility is attained, when mimesis becomes alterity."³⁰ However superlative, the characters onscreen are only the most obvious manifestation of the racialized and sexualized bodies imagined by *Dance Dance Revolution*, and their significance varies between players and game versions. While some *DDR* console players turn them off to focus on the arrows, others elaborately costume themselves as their favorite characters to attend anime fan conventions.³¹



Figure 3.8. White male Johnny character juxtaposed with calligraphic lettering in *Dance Dance Revolution Konamix*.



Figure 3.9. Selection screen in *Dance Dance Revolution Extreme 2*.

At the locus of dance and technology, rave culture gathers up racialized signs, inflects them with the sexy cool of technophilia, and drops them onto African and Asian bodies, which are activated by and contained in the eroticized figure of the dancing machine. The mechanized dancer's driving energy has been historically connected to "African possession," primitivism, and "primordial energy" in an imagined linking of the mechanized and the primitive jazz body. As Felicia McCarren points out in her reading of Josephine Baker and the dancing machine, the modernist fascination with the technological paralleled the fascination with the pre-technological "primitive" or "tribal,"³² a relationship that has been transposed to hip-hop as a desired figure of both new urban culture and raw sexuality and savagery. Similarly, techno-orientalism casts Asianness as both technologically superior and inhumanly robotic, so that Asians are simultaneously idealized and demonized for their mysterious ability to harmonize and harness natural, cosmic forces, and for their compact, efficient bodies that are perfectly suited to the speed and rhythms of mechanical motion. Thus the mimetic morphology of the player's body to the videogame allows the player to embody a naturalized mastery of dance (black people have rhythm) and a technical mastery of machine movement (Asians are like robots).

The mediation of mimetically performed identities through the game machine provides players both visceral contact with the Other and appropriate distance, a dynamic that is particularly significant when examining how male arcade players play *DDR* with and against each other. Taussig reminds us that mimesis "implies both copy and substantial connection, both visual replication and palpable, material transfer."³³ Film scholar Steven Shaviro elaborates on both Taussig and Benjamin. For him, this visceral

contact resonates with *contagion*, a term that aptly accommodates both the “dance fever” that overcomes *DDR*’s players and its implicit threat of homosexual infection. Shaping the body to the form of another’s implies an intimate, sensuous contact that leaks one into the other. For Shaviro, “the subject is captivated and ‘distracted,’ made more fluid and indeterminate, in the process of sympathetic participation.”³⁴ *DDR* creates an open-ended social space where young men can dance with other young men—imitating one another, the animated bodies onscreen, and imagined dance personas. Moving together in time and place is a powerful force for affective bonding. Yet *Dance Dance Revolution* eludes the homophobia that forbids men—particularly young Asian-American men whose virility is already in question according to dominant white masculinity—from dancing with each other in couples by displacing the eroticization of this homo-social experience to the video-game machine’s sensational graphics and pulsating music. Like cinema spectators facing a movie screen, players move their bodies in unison, but they face the video-game screen rather than each other, dancing both together and apart. Eye contact with the screen rather than with the other player is key to containing the contagious reverberations between the pair’s synchronously moving bodies. In his analysis of rave culture, music critic Simon Reynolds highlights the sublimation of sexuality that techno’s machinic pulse affords:

Sex as the central metaphor of dancing seems remoter than ever. Rave dancing doesn’t bump and grind from the hip; it’s abandoned the model of genital sexuality altogether for a kind of polymorphously perverse frenzy. It’s a dance of tics and twitches, jerks and spasms, the agitation of a body broken down into individual components, then re-integrated.³⁵

DDR players dance with each other through the videogame, transporting themselves into each other’s movements through the purifying abstraction of the game commands, unburdened by the pressure of expressive agency that could be eroticized into sexual agency. The videogame’s atomization and abstraction of motion allows the dancers to re-embody that motion together—a mutually mimetic conjoining that effects bodily intimacy and contact.



Figure 3.10. Timing a perfect step in *Dance Dance Revolution Extreme*.

“Wow, how could you make up a dance like this?”

I would like to end this chapter with an exploration of the perplexing but common refrain amongst even the top players of *Dance Dance Revolution*—that they can’t *really* dance. They can follow the steps in the game in a simulation of dancing skill, but throw them into a real dance club and they claim two left feet. Andrea Bowers, an artist who integrated *DDR* into a video installation piece, echoes the refrain by declaring “The games require no rhythm—nor, for that matter, any traditional dance skills.”³⁶

In a culture that insists on the reality of its mediated fictive experiences, from reality TV to docudrama to Web cams, why does *DDR*, which is marketed by Konami as a “dance simulation game,” insist that it is not “real” dance, and why do its players concur? Certainly, there is a bit of the marketing plug in this insistence, so as to not frighten away video-game players who are more comfortable with games that direct attention to the screen rather than to the body of the person playing. But when virtual surgery applications are used for both training simulations and actual surgery, virtual pilot applications are used for both flight simulations and actual piloting, and scientific studies set out to prove that hand-eye coordination developed through video-game play prepares soldiers for combat fighting, then the insistence that *Dance Dance Revolution* is not dance, but only a simulation of dance, seems out of place.

What exactly is being simulated, what bodily investments do players have in a dance simulation experience that is both real movement and as-if-real dance, and where does that leave the status of “real” or nonsimulated dancing, particularly that which is

technologically, prosthetically, or otherwise artificially enabled? And to come from the other direction, if hitting what are essentially big buttons on a big controller in *DDR* can be considered dance or “like dance,” what about other video-game playing experiences that require a synthesis of bodily reactions on a smaller scale? Is typing email, surfing the Web, or editing digital video with an internal rhythm carrying you from movement to movement also a form of dance? Rather than privileging rhythm and dance games as the most or the only embodied videogames, I would like to acknowledge the embodied experience of all video-game play and all new media interactions, and the body’s capacity to know and feel through mimetic movements both macro and micro. Henry Jenkins reminds us that rhythm action games:

build on the excess kinetic energy that has always surrounded gameplay. Watch children play games and they sway with the movement of the figures on the screen, bouncing with the action, totally engaged with the moment. It is even more interesting to observe the responses of people watching them play, since they also mimic the actions which are occurring on the screen, even though their actions have no consequences on the game play.³⁷

This returns us to assumptions about dance and videogames that position dance as naturally embodied and videogames as technologically disembodied, an opposition that makes it impossible to conceive of the bodily motion generated by a videogame as dance. The distinction between simulated and real dance is not located in a particular movement itself, but in the discursive conventions that judge and define that movement as expressively, creatively generated by a human subject or hollowly, mechanically processed by an automaton. This distinction is mapped over dance’s gender and race-inflected relationships to space, objects, and other bodies. Surgery, piloting, and warfare applications need to insist on the reality of a hostile, disorderly space occupied by malignant objects/bodies in order to produce a disembodied user that must be protected from this hostile world through the armor of a calibrated, better-than-real simulation. Dance simulation needs to insist on its non-real status as “only a game” in order to protect the clean, neutral space of computer-processed virtuality and the player’s body-instrument from the seductive incursions of the authentically expressive body. Simulated dance contains the risk of feminine, racially other, and homoerotic self-contamination that the self-expressive dancing body would unleash. However, it is precisely the complexly mediated performance of a nonhuman, nonwhite, coded-as-other body that makes it possible to imagine the gameplay as a dance simulation rather than as real dancing. In other words, the technologically interpenetrated body’s real experience of movement is made possible through an as-if-real experience of dancing through, as, and with a multiply figured Other. It is this intertwining of technological alterity with racial, sexual, and national alterity, through the intensified motion and sensation of computer-driven dance, that fuses the pleasures and dangers of becoming-machine and becoming-data with those of becoming-Other. Contemporary new media studies that turn to the vital question of embodiment must therefore attend not only to the corporeal dimensions of digitality that challenge the “no-body” presumed by earlier critical studies, but also to the embedded racial, sexual, and national identifications that historically shape the

disappearance/reappearance, valorization/denigration of specific kinds of bodily presence.

If you watch a *DDR* videogame run by itself, unactivated by a player, the game begins to look like a cross between a dance diagram in a “learn to cha-cha” book that notates dance steps and a “learn to breakdance” video that teaches hip-hop moves through images of expert dancers meant to be mimicked. The pleasures of masterful play emerge from the crucial tension between the “simulated” dancing of the abstract diagram and the “real” dancing of bodily memory and intuition, and the way this attenuation evokes the desired identities promised by digitality’s infinite transmutability. *Dance Dance Revolution* players reconcile these oppositions between self and other, language and body, perception and action, abstraction and corporeality, automaton and agent, folding them into each other. By doing so, they reveal that dancing by numbers is a necessarily carnal experience, encompassing movement and sensation that is both real and as-if-real.

Chapter 4

Nimble Hands, “Digital” Labor, and the Rhythms of Touchscreen Gameplay

If she hasn't had a hand in anything, her fingerprints are everywhere.
—Sadie Plant, *Zeros + Ones: Digital Women and the New Technoculture*

The print ad that introduced the original iPhone in 2007 shows a (white-skinned and masculine) hand shrouded in darkness. In a blur of motion, one finger reaches out from the shadows to touch the device's illuminated screen. The tagline reads, “Touching is believing.”¹ The immobility, distance and bodily alienation endemic to our dominantly visual relationship with screen-based images are replaced by the dynamism, intimacy and materiality of pressing your fingers directly against the display. When Apple guru Steve Jobs first unveiled the new iPhone at the annual Mac Developer's Conference in San Francisco the same year, he similarly emphasized the pleasures of manual manipulation: “I just take my finger and slide it across” he intones to a rapturous audience as the screen behind him displays a close-up of his hand cradling the device and his fingers gliding across its surface. Stroking the screen rather than pushing buttons ensures delightful experimentation rather than “fixed” and “crippled” bodily routines: “Alright! I could play with this for a long time.” In this new era of touch, the hand and in particular the fingers—not the eyes—are the new privileged organ of knowledge, perception, and play. The “genius” of Apple's new device is inseparable from the virtuosity of the hands and fingers manipulating it, activating the images onscreen with a corpus of gestures that seem at once commanding and playfully expressive.²

The “digital” in digital media becomes literally manifested in the digits of our hands that swipe and tap our touchscreens, cementing the tactile appeal of the iPhone as something that you hold in your hand and caress with your fingers. As Mary Ann Doane reminds us, despite digital media's pervasive association with the abstract and immaterial, the linguistic origins of the “digital” are in the fingers:

The first definition of “digital” listed in the Oxford English Dictionary is “of or pertaining to a finger, or to the fingers or digits.” The transition from the digit to the digital is effected, first, by defining the most pertinent characteristic of the finger as its discreteness, its differentiation from the other fingers, and second, by emphasizing the way in which the fingers lend themselves to counting, enumeration. Yet, what is elided here is the finger's preeminent status as the organ of touch, of contact, of sensation, of connection with the concrete. It could be said that the unconscious of the digital, that most abstract of logics/forms of representation, is touch.³

The touchscreen iPhone is thus a return of the repressed that re-activates the embodied, tactile origins of the digital. In the iPhone's visual iconography, the device is scaled to and fused with the hands that directly clasp it and manipulate the visual display. The hand becomes a synecdoche for the body in our new mobile, touchscreen-based digital culture,

a stand-in for the creatively empowered user. The digital interfaces that previously engaged the hands and fingers—keyboards, mice, trackpads, joysticks and game controllers—were customarily ignored by industry and popular media (they are in fact referred to as computer “peripherals”), and the hands that used them were considered only in terms of utilitarian function. In contrast, the lively hands that interface with iPhones are in the center spotlight and framed in close-up. All other parts of the body are excised to focus exclusively on the fingers, gesturing playfully and expressively even in the midst of the mundane tasks like scrolling down webpages, checking emails, and organizing photos, apps, and files. The experience of squinting our eyes, straining our necks, and hunching our shoulders to scan tiny screens as we bumble our way down the sidewalk are left out of the iPhone imagery that zooms in to fetishize only the device in the hand. The elegance and speed with which we move our fingers across the touchscreens, feeling direct contact with the images as they respond to our digital touch, compose what dance scholar Harmony Bench calls the new “gestural choreographies” engendered by the iPhone that foreground our dancier, virtuosic, performative hands.⁴

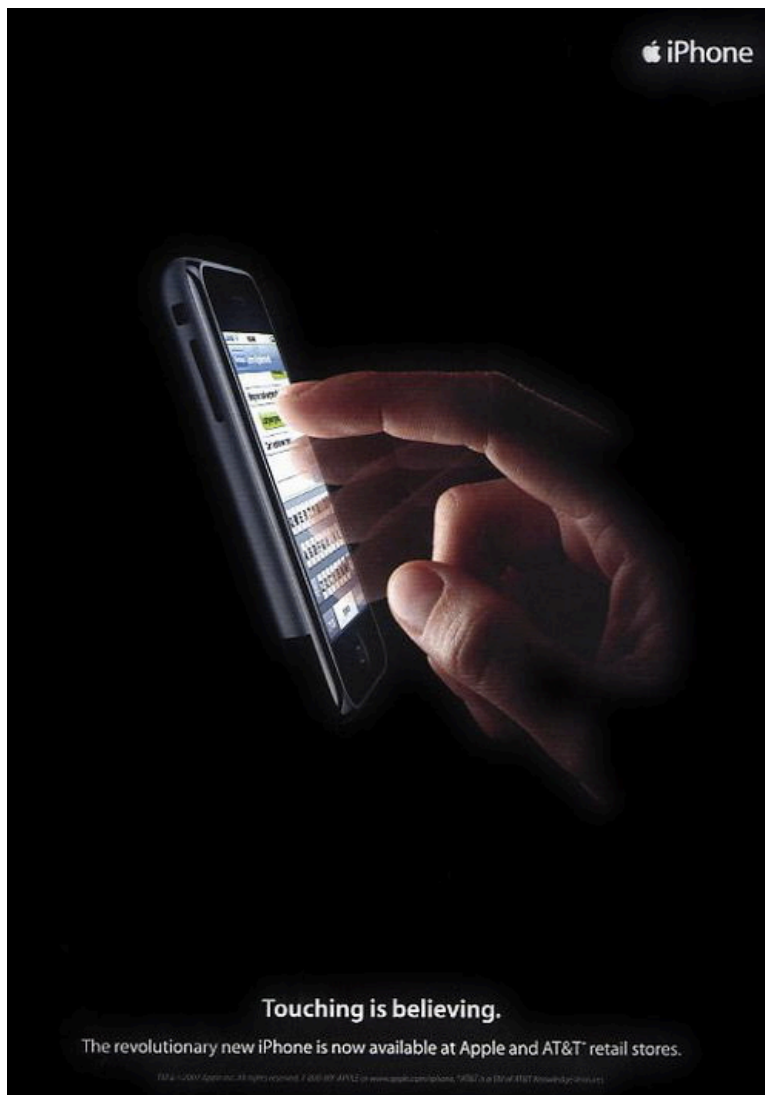


Figure 4.1. Original iPhone print ad.

What happens when what was previously “off-screen” becomes so emphatically “onscreen”? What does this focus on the hand and fingers and on tactility do to discourses of embodiment and disembodiment in relation to the material conditions of the iPhone and its global circulations? As manifested in the text engraved on the back of every iPhone that reads, “Designed by Apple in California. Assembled in China,” Apple’s insistence on the creative, innovative, virtuosic, and autonomous fingers of the iPhone *designer*, *user*, and *player* synthesized in Steve Jobs’ Macworld demonstration disavows yet can not stop pointing to (or swiping towards?) the tiny and dexterous but anonymous, robotic, and subjugated fingers of the iPhone *assembler* crystalized in the image of the Chinese factory worker. Yet the binary between “immaterial” and industrial labor as originally conceived by Michael Hardt and Antonio Negri and enforced by Apple fails to hold.⁵ The return of the long-ignored hand to the cultural imaginary of cutting-edge, liberating digital technology here (in California) necessarily evokes the other hands out there (in China) that have so long borne the symbolic weight of technological handwork—but under the denigrated sign of femininity, ethnicity, discipline and subjugation.

In this chapter, I analyze the hit, U.S.-developed iPhone game *Tap Tap Revenge* (2008) that challenges players to tap, swipe, and shake their iPhones to the beat of popular music in the context of the infamous “iPhone Girl,” the Chinese Foxconn worker whose photos were inadvertently left on an iPhone on the production line and then globally distributed online as an uneasy reminder of the “nimble fingers” that touch each device before it reaches western consumers, who in turn train their own fingers to tap and slide across the iPhone’s new touchscreen interface. I draw an oblique connection between these two phenomena—the mobile phone game that fosters virtuosic finger play and the virtuosic fingers that work to assemble these mobile phones—in order to reveal the Asian female worker and her manual “digital” labor as the othered counterpoint in the US consumer imaginary to the tactile “digital” play engendered by the portability and miniaturization of mobile devices such as the iPhone. I argue that reading the early hit game *Tap Tap Revenge* in relationship to transnationally circulated images of feminized Chinese labor point to the structuring absence of the Asian female body, condensed into an image of tiny, fast, dexterous hands, in liberatory discourses of immaterial digital labor and tactile gameplay.

Touchscreen mobile games like *Tap Tap Revenge* promise to empower iPhone users by integrating play into the frenetic everyday experience of on-the-go, always-on digital life. In his study of videogame controllers, Graeme Kirkpatrick points out that “the tensions of the hand give rise to the pleasures of gameplay,” but that “this work of the hands is repressed, hidden from view.”⁶ By investigating this “work of the hands” across both touchscreen gameplay and touchscreen manufacture, I reassert the connection between “digital” and “manual” labor to show how these hand-held rhythm games articulate the globally gendered and racialized dynamic between work and play.

***Tap Tap Revenge* and Casual Mobile Gameplay**

Tap Tap Revenge was one of the first games available on the iPhone and was officially released with the launch of Apple’s iPhone application store, the App Store, in

July 2008. Within a month it became the most downloaded app in the store, with close to one million downloads. It was installed on one out of three iPhones by 2009, and has sped through multiple chart-topping sequels and spin-offs.⁷ Despite its enormous success and market penetration, the *Tap Tap Revenge* series, like many in the flash-and-burn business cycle of app releases, was abruptly pulled from circulation in February 2014 not long after its parent company Tapulous was bought by Disney.⁸ Like other game apps, *Tap Tap Revenge* was rapidly produced, cheap and ephemeral, reflecting the volatility of a new form and new business. *Tap Tap Revenge* is so obviously derivative of similar console-based rhythm games that it is often referred to as a “*Guitar Hero* clone” or “*Dance Dance Revolution* for your fingers.”⁹ Yet despite its breakaway success alongside that of the iPhone, *Tap Tap Revenge* proves to be a difficult and elusive object of study compared to the popular console games that inspired it. This is because mobile game apps fly under the radar of what are considered real games. As a “casual game” that is cheap or free to download online, easy to learn, and can be played in short bursts of time between other activities, *Tap Tap Revenge* does not dominate players’ lives, inspire obsessed subcultures, or invite visually arresting player performances. Compared to the social and performative rhythm and dance games I have previously discussed, *Tap Tap Revenge* seems resolutely non-spectacular. It contracts the expansive whole-body macro-movements unleashed by those games back down to micro finger and hand movements that are smaller even than those required for the console controllers that *DDR* and *Guitar Hero* replaced. Although *Tap Tap Revenge* has been described as “dancing with your fingers,”¹⁰ peering over the shoulder of someone playing *Tap Tap Revenge* is more like watching someone texting than watching a dance or musical performance.

Yet it is precisely because casual games are the mode through which “there are now more video game players than non-video game players”¹¹ that understanding the phenomenon of the widely played yet non-spectacular casual mobile phone game should be central rather than peripheral to video games studies. As Samuel Tobin describes in his analysis of portable game culture,

It is vital that we understand mobile play, because this is the primary pathway through which play is seeping into the fabric of contemporary lives, not through...massive systems, but by slipping into empty moments between activities deemed more important. Mobile play is everywhere but never total; it is opportunistic, nomadic, and dependent on other structures and other practices for its shape and possibilities. Mobile play is miniature; it fits into a purse, a pocket, a train ride, a waiting room, attended to without dominating the attention.¹²

Mobile games fit into the crevices of players’ lives rather than requiring players to organize their lives around them. That mobile phone games seem to demand so little of the player’s attention, passion, physical space, and commitment—they are easy to both pick up *and* to put down over the course of a day—is what allows them to insinuate themselves so intimately into our everyday lives at the same time they pass beneath our notice as too trivial for further scrutiny.

Console games now circulate within a thriving and mature culture of games journalism that reviews and analyzes videogame releases as aesthetic and cultural objects.

In contrast, mobile phone game apps are primarily discussed in the popular media and games industry in terms of their accelerated development process, prodigious sales figures, and ability to penetrate new game markets and demographics. The *business* of play thus dominates the mainstream discussion of mobile gaming. This makes sense, as iPhones foreground the integration of business and play in the new paradigm of mobile digital culture, allowing users to respond to emails while waiting for the elevator or to sneak in a game in a break between meetings. Mobile phone gameplay, stolen away from more pressing commitments like school and work, insistently points to the labor that it invites you to avoid. Mobile games are played by what Tobin identifies as the “always on-call worker tethered to his Blackberry or the constantly entertained, updated, and connected I-Phone, a player too, to be sure, but only among many other activities and identities.”¹³ Snatched in small doses while on the way to and from work, while the boss is away, or while waiting for a spreadsheet to load, mobile gameplay is structured as much by the rhythms of work as those of leisure. The minute movements and task-managing skills that it cultivates are the same as those required for maximizing productivity on the iPhone in general.

The incidentalness and diminutiveness of games on mobile phones—the way they absorb the restless energy in our hands, always on the verge of being tucked away, while we focus our attentions elsewhere—is what inspires *New York Times* writer Sam Anderson to dismiss them as “digital prayer beads,” “knitting games,” and most disdainfully, “stupid games.”¹⁴ That Anderson draws analogies between iPhone games and traditionally feminized activities that occupy the hands rather than the brain is significant, for casual games are indeed strongly associated with female players and subsequently deemed culturally insignificant. In North America, for example, casual games are the only type of videogame where women over the age of thirty-five have constituted the majority of the market for many years. According to a recent industry report, 61% of mobile gamers in the U.S. are women.¹⁵ That “stupid games” would be played by intelligent people on smart phones is a puzzle for Anderson precisely because he fails to recognize how central old, denigrated female handwork is to the new, celebrated touchscreen play.

iPhone Girl and Putting a Glove on It

Electronics assembly work has long been viewed within the technology industry as uniquely suited to the “quick hands” and “nimble fingers” of Asian female laborers, who are imagined as ideal workers naturally inclined to execute monotonous, repetitive tasks at high speed.¹⁶ Sociologist Pun Ngai identifies transnational capital’s image of female migrant factory workers in China as “a homogenous and orientalist construct: slim body, sharp eyes, nimble fingers, shy and hardworking.”¹⁷ In this construct, it is the very characteristics that epitomize Asian femininity—petiteness and submissiveness—that allows them to be so easily incorporated into the system of global production. As Ngai asserts, “The biopower of the production machine has no interest in a general body; it is only interested in a particular body, a feminine body, that is imagined as more obedient, tolerant, and conforming to the factory machine.”¹⁸ Yet the diminutive and docile Asian worker bodies that purportedly integrate so deftly and efficiently with the miniature scale

of the iPhone's hardware find their analog in the Western hands that are empowered to purchase, possess, and control these devices, yet must also conform to the device's miniaturization of bodily position and movement. Indeed, the internet abounds with iPhone users who worry over their "clumsy hands" accidentally dropping the iPhone and their fingers being "too big" to grasp its lithe form and manipulate its tiny icons and buttons. The "fat finger problem" wherein the user's finger occludes the target on the display at the critical moment of touch is a well-documented issue in human interface design.¹⁹ The tangible manual labor of the hands and the abstract knowledge work of the brain are supposed to be separate in the gendered, racialized and spatialized divisions activated by Apple's binary of "assembly" vs. "design." But the iPhone's celebration of manipulation by hand as a more spontaneous, intuitive, and creative way to do knowledge work troubles this fraught binary by reinvesting nimble fingers as a source of agency and innovation.

In August 2008, a month after *Tap Tap Revenge*'s record-breaking release in Apple's App Store, and seven months after the *New York Times* reported in an article headlined "In Chinese Factories, Lost Fingers and Low Pay" that "factory workers lose or break about 40,000 fingers on the job every year" in China's Pearl River Delta region,²⁰ three photographs of an anonymous Chinese female worker on a factory production line smiling into the camera and holding up two fingers in a peace sign were discovered on a brand new iPhone 3G purchased in the UK. They were presumably test photos taken inside the Foxconn manufacturing facility in Shenzhen that were supposed to be deleted from the device before shipping. Posted to MacRumors.com under the title "iPhone Girl," the photos quickly became a viral sensation in both the West and in Asia, including in mainstream news outlets.²¹ The unexpected images of the cute, fresh-faced Asian woman beaming and gesturing playfully in an iPhone factory inspired online ricochets of suspicion and concern, affection and desire, revealing what media historian Matthew Hockenberry calls "the uncomfortable intimacies that result when a familiar device is imagined within an unfamiliar network of production."²² Out for just over a year, the iPhone was notably not yet commercially available in China despite being manufactured there.



Figure 4.2. Images of "iPhone Girl" posted to MacRumors.com.

iPhone Girl inserts the scene of iPhone production into the scene of its consumption, making the Chinese assembly line worker suddenly and emphatically visible as a subject of digital culture. For Ananya Roy, the visibility of the young woman as not just a wretched *laborer* but also a *consumer* of digital technology generates disruptive connections between the Asian worker and the Western end user: “By asserting her place in the global value chain, ‘iPhone girl’ suggests the possibility of an imagined community crafted through the transactions of the global commodity.”²³ I argue that the effaced imprints of the embodied hand and its gestures—traveling between factory and end user, however unevenly—is key to how these imagined connections are forged. This is not to say that the conditions of migrant workers working in electronics manufacturing in China are the same as those of western iPhone consumers, nor that iPhone consumers and *Tap Tap Revenge* players are exclusively from the West. Indeed, China has become a key market for Apple and as of 2013, “the company makes about two out of every ten dollars in revenue from Asia.”²⁴ But for U.S. iPhone users in 2008, iPhone Girl became a novel figure of affective investment—both in her image, and in the device that allows us to hold her image in the hand—rather than a distant, abject, inscrutable other. She became an unexpected exemplar of play in the midst of unending work. Precisely because of the anomalous appearance of a Chinese worker as a symbol of play, I would like to examine what new media scholar Seth Perlow calls “the receptions, deferrals, and remakings of Asian labor within the consumerist imaginary.”²⁵ Tracing how iPhone Girl connects the globally divided experiences of celebrated immaterial and debased material labor allows us to understand mobile casual games like *Tap Tap Revenge* in terms of the migrant within the mobile, the precarity within the casual, and the disciplinary within the ludic.

The worker in the photographs is centered in a medium close-up. She wears a pink-striped uniform and cap. Her hands are sheathed in white gloves. A pristine iPhone encased in plastic, overlaid with transparent film, and plugged into some kind of testing machine is prominently displayed on the table in front of her. Shifts in the extreme foreground between the three images suggest a moving conveyor belt. Cables and a pipe hang down over the worker’s head and, in two photos, block part of her face. The radiant smile and playful gestures she performs for the camera are in stark contrast to the drabness of the two identically uniformed workers huddled around other stations that we see only from behind, working in the background. Overexposed white blurs at the top of two of the images are likely traces of the photographer’s own fingertips accidentally caught in front of the camera lens. That the photograph’s producer coincides with its subject through the movement of a finger distills the production-within-consumption dynamic that makes the iPhone Girl images so arresting.

In the original posting of the image, the British iPhone consumer speculates, “It would appear that someone on the production line was having a bit of fun.” iPhone Girl breaks out of the construct of the robotic Asian factory worker who is defined only by her inhumanly productive capacities within the industrial machine. Like iPhone users and *Tap Tap Revenge* players, iPhone Girl seems to inhabit in a world in which work and play intermingle. While the steadfast workers behind her labor on, she is able to steal “a bit of fun” from the mundane tasks of industrial assembly, to claim personal expressivity and agency within the rigid disciplinary environment of the factory. iPhone Girl was celebrated for demonstrating to western iPhone owners that the playful experimentation

and spontaneity that branded their cherished devices was “built-in” at the level of manufacture. Her smiling face alleviated concerns about poor working conditions in Apple’s factories in China and reassured consumers that the laborers who manufactured the iPhone had as much fun on the production side as they themselves were having at the other end.²⁶ As Lisa Nakamura writes, “The iPhone girl...underwrote the illusion that Apple is ‘cruelty free,’ and that users are not contributing to human misery by consuming it. The charm of the company’s image lies in the implication that Apple/Foxconn’s products emerge not from a sweatshop but rather from a happy, creative workplace where laborers have the time and leisure to pose for the camera to visually document their happiness—just as its consumers and “makers” do.”²⁷

Yet, at the same time, as is the case for the mobile game player, this moment of “fun” is dominated by the framework of work rather than play. Media scholar Helen Grace reads the first image in particular, in which the worker ducks forward from beneath overhanging wires to flash V-signs, as emphasizing “the constrained energy of her gesture of freedom, a moment seized in the production process that otherwise absorbs all her time and energy.”²⁸ This reminds us that our devices and the games that we compulsively play on them can be as much associated with desperation and anxiety as with pleasure. The liberating potential for spontaneity activated in the iPhone’s clichéd invitation to “play anywhere, anytime” has its shadow in the coercive exhortation to “work everywhere, all the time.” This is layered further by the awareness of those “out there” who labor long hours in order to produce the device that you now labor long hours on yourself here, differently but in parallel. In this context, even a carefree gesture can be an effect of a system of bodily discipline. Indeed, one of the reforms that Foxconn instituted after a rash of worker suicides and international exposés on its exploitative labor practices was to offer its factory workers on-site “courses in knitting and sketching” in what seems like an obvious attempt to re-frame the gestures of industrial handwork in terms of autonomy, leisure, and artistic expression.²⁹

iPhone Girl’s conspicuously glove-covered hands and fingers—gesturing toward the camera or clasping around themselves but not actually handling the iPhone itself—are in ironic contrast to the familiar promotional images of the iPhone grasped in a bare hand with the imperative to *touch*. The distinct yellow fingertips on the gloves are presumably composed of conductive fiber to allow the worker to manipulate the iPhone without actually touching it with her skin. Her encased hands and fingers highlight the strange dynamic of the iPhone’s global production and circulation—iPhone consumers must be shielded from the contaminating touch of iPhone assemblers, and iPhone factory laborers cannot touch the product, designed to be touched, that they themselves produce. Yet the stunted tactility of the worker’s gloved hands also points to the severely circumscribed sensory experience of the iPhone consumer, whose tactile *deprivation* at the mercy of the iPhone goes unacknowledged in the celebratory discourse of touchscreen technology.

The worker’s special glove prevents her from directly feeling the surface of the phone, but this is only a magnification of the generalized experience of the touchscreen interface, which, unlike a keyboard, mouse, or game controller, offers no tactile feedback for the hands and fingers. As one iPhone user describes his experience writing on a touchscreen, “with my big fat finger, it’s more like sewing on a button while wearing boxing gloves.”³⁰ Touchscreens offer no sensation of texture or pressure, only a uniform

flatness and hardness. The distinct contours of individual buttons, the sensitive springiness of keys and control sticks, and the orienting variations between matte and slick, firm and elastic surfaces are all absent. Hard and light taps feel and sound the same. And the inevitable scratches that accumulate on the touchscreen feel like gouges under the fingertips, interrupting smooth swipes. We are all figuratively wearing clean suits and gloves when interacting with our iPhones, as the touchscreen only works if our hands are clean and dry, and it must itself be constantly cleaned with special dust-free, non-scratching cloths. Vision rather than touch actually dominates the touchscreen experience, as iPhone users must look at their screens to manage simple tasks like making or answering calls or sending text messages that traditional button-phone users could accomplish by feel. The keypad freezes, taps miss their marks, and scrolling and swiping are often sluggish. It is telling that the iPhone's one physical button works to instantly exit from any malfunctioning application and to take the user back to the safe and familiar comforts of "home."

The lack of fluidity and control that we feel in our gestures and touches and the constraints of the apparatus itself are covered over by games like *Tap Tap Revenge* that train players to experience the bodily work of the touchscreen interface as "fun." The "revenge" in the *Dance Dance Revolution*-influenced title of the game seems less like a non-sequiter and more like a crystallization of the game's affective dynamic, in that the game empowers the player to "get back" at the iPhone's often frustrating and non-intuitive touchscreen interface. Posing for a photograph on the production line and using her fingers to play in the midst of work is also a kind of "revenge" leveled by iPhone Girl against her disciplinary manufacturing restrictions. Media scholar Seth Perlow traces the connections between the gestures of production and consumption in order to stress "technology's disciplinary effects upon embodiment." He writes,

Analogizing the user's button-pushing and the worker's gestures of production...shows how consumer electronics constrain embodiment in an array of contexts, though with uneven severity....The idealization of gestural interfacing as an escape from such discipline—as a more organic, spontaneous, or natural way of interacting with machines—elides the bodily suffering that repeated gesture itself occasions in the scene of production and elsewhere.³¹

Harmony Bench points out that the global spread of computing technologies and mobile devices has created a uniform and universally recognizable body language of mobile phone use: "Adopted all over the world, such technologies interpellate their users into a similar bodily configuration, promoting and cultivating gestural homogeneity among consumers and operators." In this way, mobile phone devices can constitute "mechanism of corporeal discipline and colonization."³² Extending our conception of this "gestural homogeneity" to mobile phone *assemblers* as well requires us to consider the ways that bodies on both sides of iPhone production are trained to labor within the globalized "digital" economy.

The viral circulation of iPhone Girl's image complicates the one-way trajectory of production line to end user that constructs the female Asian laborer as the hand that makes the iPhone and the male western consumer as the hand that possesses it. iPhone

Girl disrupts the feminization and racialization of factory labor as wretched and abject compared to that of empowered, creative knowledge workers—not to suggest that her laboring conditions are not in fact exploitative, but to invite connections between her “bodily suffering” on the assembly line and the corporeal discipline that iPhone consumers docilely absorb under the banner of liberation. iPhone Girls reveals a mimetic transfer or tactile contagion between the bodily techniques of the iPhone assembly workers and those of the iPhone users. Comparing nineteenth-century textile manufacture and contemporary electronics assembly, Lisa Nakamura points out that “while both induce eyestrain and carpal tunnel in the producers of these objects, only the iPhone transfers the affliction onto the user.”³³ Mechanically reproduced, virally circulated, and consumed and possessed in the hand through the very device that she too both labors over and plays with by hand, iPhone Girl signals the transfer not only of images, software, and hardware through global networks, but of the bodily gestures of work and play intertwined as well.

Made by Hand, Played by Hand

Game researcher and designer Katherine Isbister champions “gestural- and movement-based interaction” design as a way to avoid “recreating dissatisfying and unhealthy modes of engagement with computers, forcing people into awkward and unsustainable—and still worse, joyless and demoralizing postures and motions all day long (like the Taylorized factory workers of the early assembly lines).”³⁴ Comparing the sliding gesture that wakes up an iPhone to the stroking of a kitten, Isbister argues that technological innovations like the iPhone touchscreen can open us up to “engaging our bodies in activities like caresses and other subtle, expressive, and satisfying motions as we move through our days.” She declares, “I want to bring my body and its pleasures and capacities back into the mix of doing my daily work.”³⁵ Isbister offers a compelling vision for turning our daily encounters with new media technology towards more engaging bodily interactions through the phenomenology of motion and emotion. However, she is deeply invested in a liberatory model of the knowledge worker as creative innovator, and she therefore fails to take into account the uneven structures of global capitalism that delimit these different bodily capacities and affordances. Moreover, her comments reveal how dependent the first-world, post-industrial creative professional is on the figure of the laboring body of the “Taylorized factory worker” as its abject other.

The assembly line factory worker of the past that Isbister imagines we have evolved away from is of course alive and well, but relocated to the distant countries of the global South, including China. As Nina Huntemann points out in her analysis of women in the game hardware industry, despite the move towards knowledge work, “today the digital economy relies as much, if not more, on bodies in the form of manual labor and service work. What has changed significantly is where the laboring body is located, both geographically and in the production network.”³⁶ Moreover, as the iPhone Girl shows, the pleasures of bodily expressivity that Isbister champions cannot be so easily separated from the suffering of grueling, mechanized bodily labor. Lisa Nakamura astutely observes that “making work seem like play is a staple of the digital interface

industries,” and this is in fact crucial to their ability to sell more services and devices. After the initial thrill of the iPhone’s gestural interface, wherein touchscreen swipes feel like petting kittens, wears off, “the manual labor of interface manipulation becomes laborious soon enough, just like all the other interface interventions required of us for work and entertainment.”³⁷ In this section, I examine the gestures of *Tap Tap Revenge* in relationship to the gestures of factory work to reveal the expressive pleasures *and* disciplinary force of “dancing with your fingers” on the iPhone and to delineate the forms of work *and/as* play that the game makes gratifying.

Playing *Tap Tap Revenge* is fundamentally about tapping designated targets on the touchscreen to the beat of catchy music. You choose a song from an expansive catalog ranging from Top-40 pop, dance, hip-hop and rock hits to more obscure electronica and K-Pop tracks. Echoing a factory assembly line, a series of colored dots glide down the screen towards you along three tracks as your selected song plays. You must tap each dot on the beat at the moment it reaches a line at the bottom of the screen. If you tap the dot accurately and in time you earn points, whereas missed ones subtract from your score. Variations that increase the difficulty of the game include finger holds and swipes as well as device shakes up, left, and to the right, all in time with the music. As the difficulty level increases, the speed and complexity of the patterns intensifies, and dots must be hit simultaneously with multiple fingers. At the hardest levels, these rapid multi-tap patterns require you to hold down an extended note on the track with one finger while continuing to tap out beats on the other two tracks. Further challenging the player are the distracting images that flood the background behind the tracks with flashing lights and pulsing shapes, or, in the case of certain licensed songs, pop star pinups and scrolling text that move across the screen following a different tempo. In accordance with the primarily visual paradigm of the iPhone, nothing happens to the music when you hit or miss a beat. In fact, even though it is a music game played on a touchscreen, *Tap Tap Revenge* offers no auditory or tactile feedback at all during gameplay, but only onscreen visual indicators of your performance. Unlike in *Guitar Hero* and *Rock Band*, the notes play whether you hit them accurately or not. In addition to the tracks of streaming notes, the screen also displays the player’s score, percentage of hits, and a “tap accuracy” meter that gauges whether the player is hitting before, on, or after the correct beat. The longer you go without missing or overtapping a beat, the more opportunities you get for bonus scores. The focus is speed and accuracy—keeping up with the frenzied pace of the notes by tapping each one precisely and at the exact right time.



Figure 4.3. *Guitar Hero 2* screenshot.



Figure 4.4. *Tap Tap Revenge 4* screenshot.



Figure 4.5. Playing Nicki Minaj song in *Tap Tap Revenge 4*.

Playing *Tap Tap Revenge* insinuates the logic of multi-tasking into music listening, of working in the midst of play and vice versa. Rather than simply *listening* to hit songs, the game functions under the imperative that you must *manually manipulate* multiple and varying visual and aural cues in the manner of texting while walking. Playing *Tap Tap Revenge* on your iPhone across different locations—home on the sofa or riding in a bus, train, or car—affords the possibility of finding a satisfying rhythm within an onslaught of heterogeneous, out-of-sync streams of information and multiple scales of bodily presence and mobility, from feet to fingertips. Played in short bursts across brief, interrupted durations or across long stretches, *Tap Tap Revenge* swings between the impatient finger-tapping of bored, motionless waiting and the manic button-tapping of looking up map directions, rearranging a playlist, answering a phone call, and responding to a tweet in quick succession, all while navigating a busy street. Most songs in the game are under three minutes, and can be paused and started again at will to break up gameplay into even smaller increments. In fact, when Steve Jobs introduced the iPhone’s latest multi-tasking capabilities in 2010, he demonstrated them by switching between checking his work email and playing *Tap Tap Revenge*. Lead by the agility of the fingers, *Tap Tap Revenge* provides a predictable, choreographed coherence to the wild shifts in bodily rhythm characteristic of this “hurry up and wait” temporality in which the flows of physical and virtual networks and the instantaneity of digital communication are in practice unpredictably punctuated by lag time and delay.

For media artist Martin Pichlmair, rhythm games differ from musical instrument games in that they rigidly tune the player’s movements according to a pre-programmed rhythm rather than allowing the player to generate music through movement. According to Pichlmair, “rhythm games offer little freedom of expression... They strictly force rules on the player on how she has to react to a specific stimulus displayed on screen or communicated by sound.... Players are not building their own environment of sound.”³⁸

Musicologist Miki Kaneda similarly critiques the rigid sense of rhythm engendered in these types of games: “The game’s programming software enables measurements of rhythmic precision only. Outside of the small allowable margin of error that is based on the accuracy of the timing in relationship to metronomic time, the scoring system of the game does not account for the senses of pushing and pulling against the beat.”³⁹ For both Pichlmair and Kaneda, games like *Tap Tap Revenge* subject the player to inflexible and uniform rhythms that the player must stringently adhere to rather than allowing the player to improvise and create.

However, despite this rigidity, the *Tap Tap Revenge* player feels an intense connection with the song being played, as if he/she is excavating all its secrets and mastering its precise rhythms with the full interpretive expressivity of playing a piece of music or a dancing a choreographed routine. According to a game reviewer, in *Tap Tap Revenge* “you’re free to kick back and jam,” and even the most “devilish pattern designs” in the game “always flow naturally with the music.” As another player writes, “with your fingers on the touch screen, *Tap Tap Revenge* has a delightfully organic feel...it feels closer to ‘playing’ an instrument than *Guitar Hero* or *Rock Band*, and more natural than *Dance Dance Revolution* feels like dancing.”⁴⁰ That frantically tapping points on the flat, hard screen of an iPhone according to a preprogrammed routine would be experienced as “free,” “organic,” and “natural” demonstrates the extent to which the “subtle, expressive, and satisfying motions” championed by Katherine Isbister and the “freedom of expression” championed by Martin Pichlmair are intertwined with rather than in absolute opposition to the disciplined uniformity of prescribed rhythm and movement.

The hand movements activated by *Tap Tap Revenge*—even as they echo the repeated gestures of factory labor and twist players’ fingers into painful contortions—are experienced by players as a pleasurable and empowering dance of gestures. Indeed, the 2008 guide book *iPod Touch for Dummies* advises novice device users who “need to practice tapping” to play *Tap Tap Revenge* in order to familiarize themselves with “all the touch-and-gesture tricks to make your iPod dance and sing.”⁴¹ Playing *Tap Tap Revenge* hones players into touchscreen virtuosos performing elegant tap dances on their new devices. Yet at the same time, as dance scholar Judith Hamera reminds us, “Dancing is work: a job, the product of labor.”⁴² Even if training yourself to get better at *Tap Tap Revenge* feels like dancing, dancing is still embedded in the repetitive rhythms of work. If, as games researcher Nick Yee argues, it is “the purpose of all video games...to train a player to work harder while still enjoying it,”⁴³ then it is not surprising that *Tap Tap Revenge* trains players to take pleasure in optimizing their bodies for the new touch interface and its particular rhythms of hand and finger gestures. Turning work into a game system functions to accelerate productivity on the hardware production side as well, although with more starkly laid-out terms and unevenly severe effects. As Ngai notes in her study of Chinese electronics assembly workers, “every worker in the workplace knew that the bonus system was designed to induce him or her to work as fast as possible.” Although gamifying factory work through an “incentive mechanism” fails to cover over its coercive and exploitative force, it does offer the Chinese workers an opportunity to tweak if not actually master the pre-rigged game. According to Ngai, workers in turn play the bonus system “to exert some control over the work pace and maximize their own interests.”⁴⁴ Playing the game *Tap Tap Revenge* as a way to incorporate the bodily gestures that will allow you to become a more productive and

effective knowledge worker evokes the effaced inverse image of the Asian factory laborer whose strategic incorporation of the assembly line's bonus system allows her some capacity to maximize her gains from her body's rigidly prescribed gestures.

Level: Asian

Graeme Kirkpatrick observes that gameplay relies on but submerges the presence of the hands on the controller apparatus: "Good play is about feeling, and being able to feel what we are supposed to be feeling is, at least partly, a function of not looking at or thinking about our hands. At the same time, it is powerfully determined by what we do with them."⁴⁵ To an unprecedented extent, *Tap Tap Revenge* foregrounds rather than suppresses the player's hands. In console game discussions, players mention their hands very rarely or else only in passing in order to better focus on the game's fictional world, narrative, and mechanics. But when players talk about *Tap Tap Revenge*, they talk about their hands. They share tips on how to maximize the suppleness of their fingers, debate optimal hand-grip positions, and commiserate about the sore thumbs and aching wrists induced by sessions of furious gameplay. "My fingers hurt from this game," writes a player in an online forum. "Those tracks are brutal and I think it gave me carpal tunnel," writes another. "Lately I can barely play cause my thumbs are so numb and sore," bemoans another player.⁴⁶ In later versions of the game, the game's final score screen directly references the player's hands with evaluative comments like "Every finger in its place," and "what freakishly fast fingers." Unlike YouTube gameplay videos for other popular iPhone apps such as *Angry Birds* and *Bejeweled* that display only what is output on the game screen, *Tap Tap Revenge* videos consistently feature the player's hands holding the device and tapping the screen display, which bobbles and shakes with the force of the taps. And unlike videos of console dance and rhythm games like *Dance Dance Revenge* and *Guitar Hero*, the player's face and body other than the fingers are left outside the frame. This is because the player's fast fingers, not the onscreen graphics nor the rest of the player's body, are the main attraction.

The most popular YouTube videos of *Tap Tap Revenge* gameplay are those of the player TapTapKing, whose two hundred gameplay recordings have collectively garnered almost three million views since 2008.⁴⁷ Although TapTapKing's carefully recorded high scores and expert gameplay represent a "hardcore" commitment to the game that does not represent the typical more casual *Tap Tap Revenge* player, his videos distill the game's primary mechanic of manual dexterity. Each video, following the conventions of other uploads of *Tap Tap Revenge* gameplay footage, is identically framed with an extreme close-up on the player's fingers cradling an iPhone and tapping the notes to one of the game's most difficult songs with extraordinary speed and accuracy. Each video ends with the game's display of TapTapKing's perfect final score. Most of the comments for TapTapKing's videos praise his astonishing game skills, with a particular focus on his "mesmerizing," "super fast" fingers. A few comments scorn the unmanly nerdiness of his subjugation to the game, to the point where TapTapKing is compelled to defend his hetero-masculinity by asserting in a reply, "I do have a girlfriend, friends, and a life."⁴⁸ The slender, hairless, disembodied hands that we see flying across the screen do not offer many defining marks for race and gender. However, TapTapKing's display name and

profile image identify him as a young Asian man, and commenters on his videos consistently associate his game proficiency with his Asianness. “i cud tell from before i saw ur pic that u were asian, no white guy is this good at tap tap,” writes a commenter on one of his most viewed videos. Another commenter adds, “YOU ARE A FREAKIN ROBOT! (made in japan?).”⁴⁹ TapTapKing’s extraordinary manual dexterity and facility with precise, repetitive movement seem to make him racially legible as Asian even in the absence of any other racial markers. The fast hands required to excel in *Tap Tap Revenge* gameplay are perceived as rooted in an Asian body that is custom-built for the rhythms of pre-programmed micro-movement. Thus the high-performing *Tap Tap Revenge* player is both racially marked by and reduced to his “freakishly fast hands.”

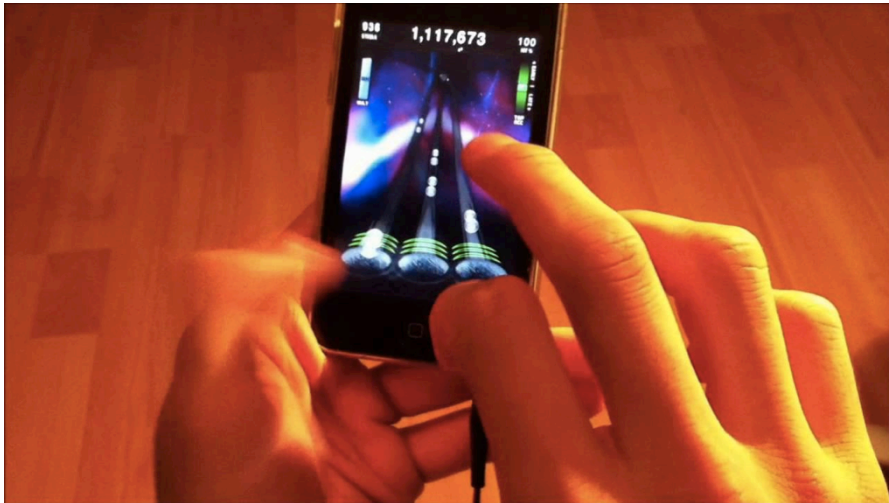


Figure 4.6 Screenshot from TapTapKing YouTube video of *Tap Tap Revenge* gameplay.

At the other end of the work-play binary is another video that also makes a visual spectacle of Asian manual dexterity and speed. “Worker Has Super Fast Hands” is a one-and-a-half-minute viral hit on YouTube that has been viewed almost 1,500,000 times.⁵⁰ It shows a young female Chinese factory worker assembling electrical transformers by hand at breakneck speed. The blurry, hand-held video opens in media res with the worker seen diagonally from above and behind. She efficiently executes a series of precise winding, tying, and snipping movements on the copper-wired bobbin at her work station, like an industrialized Rumpelstiltskin. The camera reveals a pile of completed transformers on the table in front of her then quickly moves into an extreme close-up on the worker’s hands and their clipped, mechanical movements as they repeat the same minute gestures over and over. Unlike iPhone girl, this worker is focused on the task at hand and does not look into the camera to acknowledge a spectator. Unlike TapTapKing, she is not the agent of her displayed prowess. She is firmly planted on the production end of the global value chain, assembling goods that will be consumed elsewhere for work and play. The gold ring on her finger that flashes in and out of view suggests a personal identity beyond that of the subjugated worker, but the bright yellow tape wrapped around her index finger tips—the same tape that is also used to wrap the transformers—binds body to electrical device and reminds us of the disciplinary force that directs the dazzling proficiency of her hands.



Figure 4.7. Screenshot from YouTube video of Chinese worker assembling transformers.



Figure 4.8. Close-up on the worker's hands.

Yet despite the profoundly unequal material conditions and international division of labor that define their positions in the global commodity chain, TapTapKing and the female electronics worker, in their mediated YouTube form, are both primarily defined

and racialized by the work/play of their nimble hands. The subtitle of the assembly worker video, “Factory level: Asian,” refers to a widely circulated internet meme in which “Level: Asian” designates the highest difficulty level of any task, in the manner of videogame difficulty levels like those in *Tap Tap Revenge* that range from “level: easy” to “level: extreme.” Both the Chinese factory worker’s and TapTapKing’s fast hands are labeled “Level: Asian” to suggest that Asianness confers the enviable ability to perform almost inhuman feats of technical proficiency.⁵¹ The phrase both celebrates the efficiency, agility, and precision of bodily movement necessary to succeed in the contemporary global digital economy—a world that seems to be more and more dominated by miniaturized mobile technologies and gaming paradigms—and denigrates that form of bodily proficiency as effeminate, diminutive, and robotic.

As cultural theorist Sadie Plant observes, mobile phone use produces a “new body language.” She writes, “in response to the novel physical and psychological demands made by mobiles, people have introduced new stances, gestures, and bodily movements to their everyday behavior, changing the ways in which the body, the fingers, the thumbs, the hands and the eyes are used.”⁵² Considering *Tap Tap Revenge* in its heyday as a form of practice that trains the body to adopt fluency in a new “foreign” language reminds us of the political stakes in learning to playfully inhabit the bodily stance of a racial and linguistic other. It reveals the work that goes into installing a new set of bodily movements and the disciplinary force the game exerts even as it promises that we will eventually get comfortable with these new corporeal techniques. Touching, tapping, and swiping our smartphone screens is learned physical work. But as Bench points out, “perhaps because these activities are associated with leisure and are viewed by some as a waste of time rather than a time investment, the physical training and bodily knowledge required to operate digital media remains invisible as such.”⁵³ Rhythm games like *Tap Tap Revenge* flourished with the introduction of touchscreen devices because rhythm gaming is a genre where players could learn how to operate and take pleasure in the still alien gestural interface. Now that touchscreen interfaces have become routine, rhythm games have receded from their prominent status as a top mainstream genre and have returned to being a subgenre supported mainly by dedicated fans. There are over 650 games in the “rhythm” genre in Apple’s App Store. The “free to play” monetization structure pioneered by *Tap Tap Revenge* that now dominates the Apple’s App Store crystallizes the repressed question of who pays and who plays in the iPhone economy. The “cheap labor” of exploited migrant woman assembly workers in China that sustains the proliferation of these devices in the hands of both American and now Chinese consumers indirectly echoes this “freemium” paradigm of downloading games for free. Both seem to offer something for nothing, both produce bodily suffering. *Tap Tap Revenge* players are not under subjection to the same material conditions of Chinese Foxconn workers, but the implicit analogues between them point to the circulations of binaries of play/work, consumption/production, East/West, that retain both material and symbolic power at the same time they are collapsed within contemporary global capitalism.

Conclusion

The problem with computers is that there is not enough Africa in them. This is why I can't use them for very long. Do you know what a nerd is? A nerd is a human being without enough Africa in him...[The computer] uses so little of my body. You're just sitting there, and it's quite boring. You've got this stupid little mouse that requires one hand, and your eyes. That's it. What about the rest of you? No African would stand for a computer like that.

—Brian Eno, *Wired* magazine, 1995

Why are Asians smart and good at video games?

—HJP Hewart, *Yahoo! Answers* website, 2012

The bluntness of the stereotypes invoked by musician Brian Eno and by the question that was posted to Yahoo!'s community-driven question-and-answer site almost a decade later is shocking. But they provocatively distill the widespread association of blackness with pre-technological bodily authenticity and Asianness with modern technological proficiency, a proficiency that is emblemized by computer game skills. This dissertation has worked to unpack these pervasive racial stereotypes in all their dimensions by examining how the binaries of intelligence and brawn, mind and body get mapped in familiar ways to racial binaries that are then collapsed and redrawn when mediated through digital technologies. This is because new computational technologies and videogames have a contradictory and incoherent relationship to embodiment.

Digital technologies seem to disappear bodies into an ether of ones and zeroes at the same time that they make profusions of bodies ubiquitously visible and desirable in new ways online. They allow us to transcend the limitations of our bodies as we launch into virtual worlds, while at the same time they remind us how physically tired, achy, and glazed we feel after days spent hunched over laptop and smartphone screens. The racial triangulation of blackness as too much body and Asianness as lacking a body is enlisted to manage these bodily contradictions in digital culture and to cultivate an ideal white body that is equipped for and competent within the shifting conditions of global capitalism. The ambivalence articulated by Eno over whether we even want to be “nerds” who are “good at” technicized activities like gaming, computer programming, electronics assembly, and knowledge work insofar as they violate prevailing definitions of masculinity, nation, labor, and the human gets articulated through the racial ambivalence of whether unmarked whiteness wants to be more “African” or “Asian.”

The fighting and dancing videogames that I have examined in this dissertation give players access to technological proficiency by way of rather than in opposition to their bodies. The pleasures of the virtuosic body in motion activated by these games train players to incorporate machinic, electronic, algorithmic bodily techniques that are optimized for the contemporary digital economy and culture. These fighting and dancing games engage the corporeal discourses of martial arts and dance to open up a form of embodied subjectivity that attempts to bridge the schism between human and computer through playful reciprocal expression and shared agency, but in a way that often elides the racialized forces of discipline and domination that structure this exchange. To

conclude, I would like to return to the question of bodily awkwardness that threads through both chapter two on Bruce Lee and chapter four on the iPhone touchscreen. As I have discussed, the *failure* of the player to soar through the experience of bodily mastery and control promised by fighting and dancing videogames can reveal the racial stakes in the quest to become a highly skilled gamer, and by extension, an independent agent of digital technology. Asianness signifies a hyperbolic facility with contemporary digital culture and global capital that registers as both enviable and threateningly inhuman. The racial threat of Asianness is connected to the technologized threat of automation, of movements driven by computational code rather than autonomous human control. What about the pleasures of unprogrammed, inefficient, and inept movement that resists both automation *and* autonomy?

To explore this possibility, I end with a brief reflection on the flipside of Asian technological proficiency by examining the recent mobile phone game *Clumsy Ninja* (2014). The joke driving the game is that ninjas are supposed to be quick, stealthy, and lithe, not clumsy. *Clumsy Ninja* revels in the helplessness and ineptitude of the white guy dressed up in a ninja outfit who utterly fails to master the bodily techniques that will allow him to “become Bruce Lee.” The game is one of several ninja-themed games topping the mobile game charts in 2014, including *Fruit Ninja* and the *Ninjump* series, all of which associate “ninja skills” with preternatural proficiency and exceptional achievement. In *Clumsy Ninja*, however, the goal is not to heroically defeat bad guys, rescue damsels in distress, or to become a virtuoso of graceful movement. Rather, it is simply to get less clumsy through the grinding repetition of tasks that cycle and repeat rather than progress towards mastery. Rather than inviting players to seamlessly inhabit the graceful movement of the digitized Asian martial arts avatar, *Clumsy Ninja* focuses on the uncomfortable subject-object division between player and onscreen character and the incongruity of a martial artist who is a klutz.

The much anticipated game was downloaded ten million times in its first week in Apple’s App Store and has been a hit in both in the west and in Asia, achieving the #2 most downloaded spot in both Korea and China. *Clumsy Ninja* extends the “virtual pet” genre of games—in which players raise a digital pet by caring for it and playing with it daily—with the fighting game genre of mastering combat skills.¹ In *Clumsy Ninja*, you do not play *as* the eponymous ninja, you play *with* him. The game thematizes the relationship between player and avatar, and makes the ambiguity of the player’s affective investment in the avatar, who is your ward rather than you, its central conceit. The ninja onscreen is a wide-green-eyed, round-headed, cute and floppy figure who you can manipulate directly by dragging him around the screen with your finger. The background is a picturesque pastiche of Oriental signifiers: pagodas, cherry blossoms, bamboo and Japanese calligraphy. Onscreen directions delivered by the ninja’s ancient, bearded sensei invite the player to help the hapless avatar learn proper ninja skills by taking him through a series of training tasks like jumping on a trampoline, hitting punching bags, and smashing wooden crates. But you are also encouraged to tickle, poke, knock down and fling him at will. Tapping and holding on the ninja’s limbs allows you to jerk him across the screen like a marionette. Players are rewarded for all interactions, not just those that guide the avatar through training exercises. Thus you gain points for tying balloons to the ninja’s legs that lift him upside-down into the air before dropping him in a heap on the ground, as well as for helping him to practice kung fu moves. No matter what the player

does to him, the ninja stares out at the player with a perpetual doe-eyed look of surprise and confusion, and always trots back into place facing you to await his next command. Both a puppet utterly subjugated to your commands and a pet dependent on you for his welfare, the clumsy ninja invites both sadism and affection. Even as players slam the defenseless character into the ground and punch him in the stomach while giggling at his reactions and racking up experience points, they also feel surprisingly intimate connection with him, putting the ninja to sleep on his mat every night and posting “selfie” snapshots on social media of themselves beaming next to their little friend.²

The simultaneous hostility and attachment induced by the digital ninja echoes the “domination and affection” dynamic that for Yi-Fu Tuan characterizes the compromised relationship between master and pet, as well as what Sianne Ngai calls the “ugly or aggressive feelings, as well as the expected tender or maternal ones” activated by the “helplessness, pitifulness, and even despondency” fundamental to the aesthetic of cuteness.³ This affectionate domination—wherein the virtual character onscreen is a distinct but inferior computational agent designed to be an always loyal, always available plaything for the player’s pleasure—is very different from the aspirational desire to assimilate into the logic of the game induced by previously discussed fighting and dancing games. The adorable ineptitude of the miniature ninja who you can pull out of your pocket to toy around with confers feelings of power to the player who possesses and controls him. But the helplessness of the limp, foolish white guy—reduced from a he-man image of bigness, hardness, virility, and strength, and forced to perform out-of-his-league at the level of Asian martial arts mastery—also registers the anxieties of white masculinity. For the player takes on both the authoritative role of the trainer whipping a hapless digital acolyte into shape, *and* the role of the student who is in turn counseled and commanded by the onscreen sensei to learn the game and perform specific actions on the ninja. The squeamish feelings activated by petness and cuteness are redoubled by the player’s self-identification with these abject, patronized forms.

Clumsy Ninja resembles a playable “Gaming for Dummies” book in that it directly addresses the inadequacies of the lowest common denominator—the helpless “newbie” who, unlike the technically proficient Asian computer nerd and gamer, is unversed in the bodily techniques required of new digital technologies like computers, videogames, and smartphones. Designed to be accessible to casual players with little experience in gaming, *Clumsy Ninja* embraces and rewards rather than disavows or punishes the interruptions and errors of imprecise timing and bumbling control that frustrate gameplay in most fighting and dancing videogames. Although the surrounding narrative frames the ninja’s daily training as preparation to save his kidnapped girlfriend, this goal is a red herring. The game never progresses beyond the series of tasks and actions that players put the ninja through in the name of “learning.” As the ninja “masters” various training implements simply by spending time interacting with them, even if those interactions consist of tripping over the equipment, players unlock new animations and the next tier of equipment. In an inversion of the high-performance imperative to optimize, strive, achieve, and excel, the ninja’s digressive slip-ups are the engine of gameplay rather than its impediment.

While the ninja does improve his skills through your efforts, this often allows you to make his spins and stumbles more spectacular. The feeble limbs that collapse uselessly under the ninja’s own weight after a miscalculated jump and the teetering lack

of coordination that sends the ninja careening across the screen after a misdirected punch are as satisfying to execute as the perfectly timed combo moves in the games of virtuosic movement discussed previously. Unlike the tightly choreographed sequences of movement solicited by these other games, *Clumsy Ninja* encourages both the repetition of tediously elementary moves that require your bare-minimum attention, as well as experimentation with loose, sloppy moves that lurch between fighting and dancing with unpredictable results. The game thus inspires players to experience the vagaries of uninspired, inelegant, imperfect human movement.



Fig. 5.1. Lifting the ninja into the air by the arm, attaching balloons to the ninja’s limbs, and dropping the ninja to the ground in *Clumsy Ninja*.

Clumsy Ninja is created by the game company NaturalMotion, whose name indicates the company’s investment in producing the experience of unfettered, spontaneous, natural movement rather than movement that is pre-programmed or automated. Indeed, the game’s technical innovation is that it foregoes pre-rendered body animation for procedural body animation that is rendered in real-time in response to the player’s inputs. This means that the ninja character’s movements are not pre-programmed events triggered to unfold according to deliberate player actions (if I push this sequence of buttons just right then my fighter will execute a flying kick), but generated reactively on-the-fly according to the game’s complex physics algorithm (if I pull the fighter’s leg this way, he will either collapse in a heap or wobble for a bit before finding his balance according to the exigencies of the moment). The astonishing naturalism of these bodily collapses and verge-of-collapses highlights a different kind of virtuosity, that of the game’s responsive AI and real-time physics engine. In this way, the game demonstrates a “programmed move” that resists both automated, game-determined actions *and* expressive, virtuosic, player-controlled action.

Unlike the games discussed previously, *Clumsy Ninja* detours the dynamic of submitting to the game algorithm in order to master it by disavowing mastery altogether and embracing procedural contingency. By positing a harmless white male character whose inherent physical inelegance is resistant to the attractions of racialized precise

technical control, *Clumsy Ninja* articulates the satisfactions of giving up on rather than seizing white masculine power. Performing white masculinity as comically powerless is of course disingenuous, and the aesthetics of de-skilled, amateur, awkward performance have diminished political stakes for white male bodies that have always (brutally) obtained access to skill, expertise, and mastery. But the game *Clumsy Ninja*, by highlighting rather than smoothing over a disjuncture between player and avatar, human and computer agency, and white mediocrity and Asian super-skills, allows us to experience a form of bodily potential that registers the precarity and unpredictability of digitized experience. *Programmed Moves* has explored how videogames can produce exchanges between players and computational systems that re-map the racial strategies by which bodies and affects are attached to certain styles and forms of movement. As digital technologies and videogames become a dominant mode through which cultural meanings and their attendant racial ideologies are produced, the ways that we are compelled to perform, and fail to perform, in concert with them merits continued attention.

Notes

Introduction

- ¹ Kaminsky, “Kung Fu Film as Ghetto Myth,” 129-131.
- ² McLuhan, *Understanding Media*, 238.
- ³ Lott, *Love & Theft*.
- ⁴ Nakamura and Peter Chow-White, “Introduction,” 8.
- ⁵ Crogan and Kennedy, “Technologies between Games and Culture,” 113.
- ⁶ Everett and Watkins, “The Power of Play,” 143.

Chapter 1

- ¹ By mid-1985, all four games rose to Billboard’s top-10 list of bestselling videogames, often holding close positions on the list at the same time. See “Top Computer Software,” *Billboard Magazine*, May 10, 1986, 51; and “Top Computer Software,” *Billboard Magazine*, July 6, 1985, 25. A handful of other martial arts-themed videogames pre-date *Karate Champ* (Technōs, 1984), *Karateka* (Jordan Mechner, 1984), *Kung Fu Master* (Irem, 1984), and *Bruce Lee* (Datasoft, 1984), but none were very successful. See the arcade game *Samurai* (Sega, 1980); *Karate* (Ultravision, 1982) for the Atari 2600; *Ninja Warrior* (The Programmer’s Guild, 1983) for the TRS-80 and the Dragon 32/64; and *Chuck Norris Superkicks* (Xonox, 1983) for the Commodore VIC20/64, Atari 2600, and Colecovision.
- ² Aarseth, “Computer Game Studies.”
- ³ In contemporary games, we understand racial identity primarily through the framework of visual representation—with a focus on facial features and skin color. It follows that most critical examinations of race in videogames, ie. the pioneering works of Anna Everett and David Leonard, focus on how games reproduce negative racial stereotypes through *narratives* and *visual images*. See Everett, “Serious Play” and Leonard, “Not a Hater.”
- ⁴ Bogost, *Persuasive Games*, 25.
- ⁵ *Ibid.*
- ⁶ Clare Edgeley, “Arcade Action,” *Computer and Video Games*, April 1985, 92; Bill Kunkel, Joyce Worley, and Arnie Katz, “The Furious Fists of Sega!” *Computer Gaming World*, October 1988, 48.
- ⁷ Raymond, *New Hacker’s Dictionary*, 523.
- ⁸ Norris, *Secret Power Within*, 69.
- ⁹ Lee, *Art of Expressing the Human Body*, 18.
- ¹⁰ *Ibid.*, 22.
- ¹¹ Tasker, “Fists of Fury,” 316.
- ¹² *Ibid.*, 325.
- ¹³ Chan, *Chinese American Masculinities*, 239.
- ¹⁴ Prashad, “Anti-imperialism of Kung Fu,” 71.
- ¹⁵ Ongiri, “Just Like Bruce Lee,” 39.

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- ¹⁶ Morley and Robbins, *Spaces of Identity*, 167.
- ¹⁷ Frederic Golden and Thomas Levenson, "Closing the Gap with the West," *Time*, Aug 1, 1983, 58; Charles P. Alexander, Gisela Bolt, and Adam Zagorin, "The New Economy," *Time*, May 30, 1983, 79.
- ¹⁸ Theodore H. White, "The Danger From Japan," *New York Times*, Jul 28, 1985, A19; Tom Forester, *Silicon Samurai: How Japan Conquered the World's IT Industry* (Malden: Blackwell Business, 1993); Lloyd Dobyns, "If Japan Can... Why Can't We," *NBC White Paper*, NBC, broadcast on June 24, 1980.
- ¹⁹ For extended examinations of the representation of Asia/Asians in cyber-punk fiction, see Thomas Foster, *The Souls of Cyberfolk*; Wendy Hui Kyong Chun, *Control And Freedom*; and Jane Chi Hyun Park, *Yellow Future*.
- ²⁰ Morley and Robins, 170.
- ²¹ Lye, *Racial Form and American Literature*, 5, 94.
- ²² David Brand, "The New Whiz Kids: Why Asian Americans Are Doing So Well, and What It Costs Them," *Time*, August 31, 1987, 42.
- ²³ Daniel Seligman, "The Emperor's Brain," *Fortune*, March 14, 1988, http://archive.fortune.com/magazines/fortune/fortune_archive/1988/03/14/70287/index.htm.
- ²⁴ Anthony Ramirez, "America's Super Minority," *Fortune*, November 24, 1986, 148; Alexander, Bolt, and Zagorin, 70.
- ²⁵ William R. Doerner, "Asians to America with Skills," *Time*, July 8, 1985, 42.
- ²⁶ Varma, "High-Tech Coolies," 355.
- ²⁷ Alexander, Bolt, and Zagorin, 70.
- ²⁸ Chong, *The Oriental Obscene*, 206.
- ²⁹ D. Keith Mano, "Kung Phooey," *National Review*, May 2, 1980, 547.
- ³⁰ Linda Spear, "Karate: Children Get More Than Kicks," *New York Times*, April 4, 1986, 17; Deborah Blumenthal, "Grace from the Martial Arts," *New York Times Magazine*, May 4, 1986, 54; Michael W. Lowenstein, "Black-belt Marketing: Applying Martial Arts Concepts to Marketing," *Marketing News*, Nov. 7, 1986, 8; Jeff Myers, "Marital Arts: Two Black Belts Are Among the Ties That Bind This Unique Karate Couple From Woodland Hills," *Los Angeles Times*, September 22, 1988, http://articles.latimes.com/1988-09-22/sports/sp-3362_1_black-belt.
- ³¹ Chong, 205.
- ³² Andrew Kupfer, "People to Watch," *Fortune*, October 28, 1985, http://archive.fortune.com/magazines/fortune/fortune_archive/1985/10/28/66498/index.htm.
- ³³ William Plummer, "Nunchaku? No, Thank You—That's What Angry Demonstrators Are Saying to a Painful New Twist in Police Hardware," *People*, May 28, 1990, 105.
- ³⁴ Richard Serrano, "Advisory Board Supports Police Use of Nunchakus on Protesters," *Los Angeles Times*, June 15, 1989, http://articles.latimes.com/1989-06-15/local/me-2274_1_nunchakus-protesters-pain-compliance.
- ³⁵ Chong, 181.
- ³⁶ Teo, *Chinese Martial Arts Cinema*, 4.
- ³⁷ Lo, "Technology Comes to Presence in China," 93.
- ³⁸ Heidegger, "The Question Concerning Technology," 3-35.

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- ³⁹ Wolf, "The Video Game Industry Crash," 106.
- ⁴⁰ Eglash, "Race, Sex, and Nerds," 52.
- ⁴¹ Miller, "A State of Grace: Understanding the Martial Arts," *The Atlantic Monthly*, September 1980, 85.
- ⁴² Nguyen and Tu, *Alien Encounters*, 1.
- ⁴³ The Asian nerd did not fare well in 1980s mainstream popular culture, as the grotesque stereotypes of Long Duk Dong in *Sixteen Candles* (John Hughes, 1984) and Takashi in *Revenge of the Nerds* (Jeff Kanew, 1984) can demonstrate.
- ⁴⁴ Chun, *Control and Freedom*, 29.
- ⁴⁵ Fung, "Looking for My Penis," 148.
- ⁴⁶ Merleau-Ponty, *Phenomenology of Perception*, 143.
- ⁴⁷ Ngai, *Ugly Feelings*, 113.
- ⁴⁸ Friedman, *Electric Dreams*, 138.
- ⁴⁹ Chun, 161.
- ⁵⁰ In a striking inversion of Japan-bashing rhetoric that accused the Japanese of "copycat syndrome," the Japan-based publisher of the game *Karate Champ* sued the U.S. game company Epyx for copyright infringement, alleging that the Epyx game *World Karate Championship* directly copied *Karate Champ*.
- ⁵¹ A sequel released in the same year, *Karate Champ - Player vs. Player*, offered player vs. player capabilities, so that players could square off against each other.
- ⁵² Ihde, *Technology and the Lifeworld*, 101.
- ⁵³ Friedman, 137.
- ⁵⁴ Galloway, *Gaming*, 95.
- ⁵⁵ Jensen, "Finish Him," 116.
- ⁵⁶ Lye, 7.
- ⁵⁷ Michael Blanchet, "Arcadia," *Computer Entertainment*, July 1985, 64.
- ⁵⁸ Bill Kunkel, "Martial Arts Video Games: Which Offer the Most Realistic Fighting Action?" *Black Belt*, June 1997, 69.
- ⁵⁹ Chess, "Playing the Bad Guy," 84.
- ⁶⁰ Galloway, 17.
- ⁶¹ Evan Narcisse, "Apple Classic *Karateka* Gets Reboot, Bird Punching Makes a Comeback!" *Kotaku*, February 15, 2012, <http://kotaku.com/5885242/>. Mechner's subsequent games also combine oriental themes with cinematic techniques: *Prince of Persia* (1989), a platformer game set in ancient Persia, and *The Last Express* (1997), an adventure game set on the Orient Express train. A sequel to *Karateka*, also developed by Mechner, was released in 2012.
- ⁶² "ZZAP! Test: *Karateka*," *ZZAP!* November 1985, 102.
- ⁶³ Jordan Mechner, personal website, <http://jordanmechner.com/karateka/>.
- ⁶⁴ David Plotkin, "Product Reviews: *Karateka*," *Antic*, March 1986, 77.
- ⁶⁵ Players soon discover that even after your final defeat of the warlord Akuma, you can still lose the game. If, in your eagerness to rescue Mariko from her dungeon prison, you run towards her in a fighting stance, she will kick you in the head and kill you, abruptly ending the game before the climactic moment of reunion.
- ⁶⁶ David Plotkin, "Carnival of Cartridges: Food Fight, *Karateka* and Lots More Hits," *Antic*, August 1989, 28.

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- ⁶⁷ Rouse, *Game Design*, 322.
- ⁶⁸ Bouldin, “Cadaver of the Real,” 26.
- ⁶⁹ *Ibid.*, 30.
- ⁷⁰ “ZZAP! Test: Karateka,” 102.
- ⁷¹ Narcisse.
- ⁷² The producer of the game, Takashi Nishiyama, later created a sequel to *Kung-Fu Master* called *Vigilante* (Irem, 1988). He also produced other influential martial arts games including the original *Street Fighter* (Capcom, 1987), *Fatal Fury* (SNK, 1992), *Samurai Shodown* (SNK, 1993), and *The King of Fighters* (SNK, 1994).
- ⁷³ King, *Lost in Translation*, 3.
- ⁷⁴ Gallagher, *Action Figures*, 176.
- ⁷⁵ Coonfield, “Thinking Machinically,” 290.
- ⁷⁶ Edgeley, 92.
- ⁷⁷ Ngai, *Our Aesthetic Categories*, 183.
- ⁷⁸ Frederic Golden, “Here Come the Microkids,” *Time*, May 3, 1982, 82.
- ⁷⁹ Heintz-Knowles et al., *Fair Play?*

Chapter 2

- ¹ Bowman, *Theorizing Bruce Lee*, 19.
- ² See Mary Ann Doane on contingency and death in cinema in *The Emergence of Cinematic Time* and André Bazin on cinema’s “mummy complex” in “The Ontology of the Photographic Image.”
- ³ Paul Bowman points out that this pull between the “Asiaphiliac” desire to be Bruce Lee and the frustration of that desire is what structures American audiences’ relationship with Lee’s cinematic image: “the condition of possibility for desiring ‘Chinese’/kung fu—the object-cause of the desire—is also the condition of impossibility for satisfying it—the obstacle. One cannot *be* Bruce Lee. Such a frustrated desire—in Lacanian terms, the work of this particular lack—is of course amplified by the fact of Bruce Lee’s irremediable absence.” For Bowman, the impossibility of the fan’s desire to be Bruce Lee is two-fold—he is fascinating because he is the exotic racial other and because he is dead, and he is unfathomable because he is othered by both his race and his death. Bowman, 18.
- ⁴ Miller, *The Tao of Bruce Lee*, 4.
- ⁵ *Ibid.*, 67.
- ⁶ Fuss, “Fashion and the Homospectatorial Look,” 737.
- ⁷ Fung, “Looking for My Penis,” 148.
- ⁸ For an extended examination of the emasculation of Asian American men, see David L. Eng, *Racial Castration*.
- ⁹ As quoted in the documentary film *I Am Bruce Lee* (Pete McCormack, 2010). Inosanto was paraphrasing a statement made by Albert Goldman in *Penthouse* magazine: “The Oriental Bruce Lee—to phrase it bluntly—put balls on 400 million Chinamen.” Albert Goldman, “The Life and Death of Bruce Lee: His Final Victim,” *Penthouse*, February 1983, 189.

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- ¹⁰ Tasker, “Fists of Fury,” 316. For another examination of Bruce Lee’s masculinization of a Chinese national body through his own hard body, see Yuan Shu, “Reading the Kung Fu Film in an American Context.”
- ¹¹ Chan, *Chinese American Masculinities*, 75.
- ¹² Brown, “Global Bodies/Postnationalities,” 33.
- ¹³ Chong, *The Oriental Obscene*, 233.
- ¹⁴ Joel Stein, “Bruce Lee,” *Time*, June 14, 1999, 118.
- ¹⁵ For an examination of Lee’s cult status among urban African-American communities, see Stuart Kaminsky, “Kung Fu Film as Ghetto Myth” and Amy Abugo Ongiri, “African Americans, Kung Fu Theater and Cultural Exchange at the Margins.” For an examination of Bruce Lee’s impact on Third-World audiences, see May Joseph, “Kung Fu Cinema and Frugality” and Vijay Prashad, “Bruce Lee and the Anti-imperialism of Kung Fu.”
- ¹⁶ “...But they might not all love it for the same reasons,” continues Berry, pointing to Lee’s transnational body as a source of Chinese nationalist pride, Asian-American cultural pride, third world and African-American underdog triumph, and queer desire. Berry, “Stellar Transit,” 218.
- ¹⁷ Abbas, *Hong Kong: Culture and the Politics of Disappearance*.
- ¹⁸ Schwarzenegger himself spoke admiringly of Lee’s lithe body: “Bruce Lee had a very—I mean very—defined physique....He had one of the lowest body fat counts of any athlete around.” Bruce Lee, *The Art of Expressing the Human Body*, 18.
- ¹⁹ This apocryphal legend might have originated with an article on Bruce Lee published in *Chicago’s American* on August 23, 1966, “Hornet’s Sidekick a Blur on Film,” reprinted in Bruce Lee, *Words of the Dragon*, 66-68.
- ²⁰ Roensch, *Bruce Lee*, 58.
- ²¹ McLuhan, *The Essential McLuhan*, 350.
- ²² Bowman, 97.
- ²³ See Aaron Anderson, “Kinesthesia in Martial Arts Films,” 1.
- ²⁴ Lo, “Muscles and Subjectivity,” 109.
- ²⁵ Recent films and television series about Bruce Lee include the independent mockumentary *Finishing the Game* (Justin Lin, 2007), the Chinese television biopic series *The Legend of Bruce Lee* (2008), the Hong Kong biopic *Bruce Lee, My Brother* (Manfred Wong and Wai Man Yip, 2010), the American television series “*Bruce Lee Lives!*” (2011), the American television documentary *I am Bruce Lee* (Pete McCormack, 2011), Henry David Hwang’s play *Kung Fu* and the upcoming origin story film *Birth of the Dragon* (George Nolfi, 2015).
- ²⁶ Hu, “A Life in Conjectures,” 132.
- ²⁷ Chong, 214.
- ²⁸ Swink, *Game Feel*, 13.
- ²⁹ *Ibid.*, 13.
- ³⁰ *Ibid.*, 2.
- ³¹ Leonard, “Performing Blackness,” 329.
- ³² Nakamura, “Race in/for Cyberspace,” 714.
- ³³ *Ibid.*
- ³⁴ Wardrip-Fruin, *Expressive Processing*, 13-17.

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- ³⁵ Stein, 118.
- ³⁶ See Bruce Thomas, *Fighting Spirit*, 250.
- ³⁷ The sense of Bruce Lee as seamlessly embodying the information-age multi-tasker who is able to simultaneously cultivate body and mind, activity and passivity, and media spectatorship and physical agency is embedded in the description of his virtuosic multi-tasking posted on the biography page of the Bruce Lee Foundation's official website: "There was rarely a time when Bruce was doing nothing—in fact, he was often seen reading a book, doing forearm curls, and watching a boxing film at the same time." <http://bruceleefoundation.com/index.cfm/pid/10585>.
- ³⁸ See Ohara Publications, *Dear Bruce Lee*, 13; Mitoshi Uyehara, *The Incomparable Fighter*, 57; and Thomas, *Fighting Spirit*, 59.
- ³⁹ Bruce Lee, *Bruce Lee Library*, 194.
- ⁴⁰ Elaine Kim, "Letters to Datebook," *San Francisco Chronicle*, January 4, 2000, <http://www.sfgate.com/entertainment/article/LETTERS-TO-DATEBOOK-2814348.php#page-2>.
- ⁴¹ Quoted in Bill Kunkel, "Bruce Lee: Enter the Joystick!" *Electronic Games*, November 1984, 79.
- ⁴² Although the Atari system's graphics were far from high resolution, Nick Monfort and Ian Bogost have noted that its collision detection system was very precise, contributing to the emphasis on movement in gameplay rather than graphical verisimilitude in the game *Bruce Lee*. See Nick Montfort and Ian Bogost, *Racing the Beam*, 54.
- ⁴³ Pitting Lee against two Japanese fighting icons (ninja and sumo wrestler) does recall Lee's anti-imperialist stance against Japanese occupation of China in *Fists of Fury*.
- ⁴⁴ For more on the forms of identification engendered by the abstract aesthetic of early videogames, see Jessica Aldred, "A Question of Character." Aldred writes, "Abstraction can become something that aids identification rather than alienating the player...the marked gaps between early movie-game characters and their cinematic source material, in terms of both appearance and behavior, may have ultimately been crucial to naturalizing player engagement with them." Aldred, 92.
- ⁴⁵ Shay Addams and Dan Giffman, "Buyer's Guide," review of *Bruce Lee*, *Computer Games*, November 1984, 49; Review of *Bruce Lee*, *Crash*, May 1995, 29; "Soft Focus," review of *Bruce Lee*, *Sinclair Programs*, May 1985, 15.
- ⁴⁶ See a player's demonstration of a "non-violent walkthrough" of the game on YouTube: <http://www.youtube.com/watch?v=IA-wqdkY0Nk>.
- ⁴⁷ *Crash*, 29.
- ⁴⁸ Kunkel, "Enter the Joystick," 79.
- ⁴⁹ Chong, 215.
- ⁵⁰ Huang, "Premodern Orientalist Science Fictions," 39.
- ⁵¹ Michael Stroud, "Bruce Lee's Fantastic Comeback," *Wired*, November 16, 2001, <http://archive.wired.com/entertainment/music/news/2001/11/48449>.
- ⁵² El Mayimbe, "Exclusive: Digital Bruce Lee!" *Latino Review*, November 20, 2006, <http://www.latinoreview.com/news.php?id=1154>.
- ⁵³ Hayles, *How We Became Posthuman*, 1.
- ⁵⁴ Chun, *Control and Freedom*, 195, 177.
- ⁵⁵ *Ibid.*, 244.

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- ⁵⁶ Ibid., 75.
- ⁵⁷ Kelly Choi and Nicholas Fonseca, "Brush Jobs," *Entertainment Weekly*, Nov 28, 2001, http://www.ew.com/ew/article/0,,20569554_185640,00.html; DorkmanScott, "Bruce Lee to be Resurrected Digitally for Film," *CGSociety: Society of Digital Artists*, November 27, 2006, <http://forums.cgsociety.org/archive/index.php/t-433673.html>.
- ⁵⁸ Hayles, 49.
- ⁵⁹ Hovito, "Bruce Lee CGI Movie Killed," *CGSociety: Society of Digital Artists*, September 23, 2008, <http://forums.cgsociety.org/archive/index.php/t-677725.html>; Chinatown Kid, "Rob Cohen to now do a digital Bruce Lee?" *Kung Fu Cinema*, November 21, 2006, <http://www.kungfucinema.com/forums/archive/index.php/t-2771.html>.
- ⁶⁰ For examinations of indexical realism in the age of digital special effects, see Stephen Prince, *Digital Visual Effects in Cinema*; Gabriel F. Giralt, "Realism and Realistic Representation in the Digital Age"; Allison Tanine, "More Than a Man in a Monkey Suit"; and Steven Shaviro, "Emotion Capture: Affect in Digital Film."
- ⁶¹ Mirzoeff, "The Shadow and the Substance," 112.
- ⁶² See Lisa Nakamura, "Race in/for Cyberspace"; and Mark Hansen, "Digitizing the Racialized Body."
- ⁶³ Jessica Aldred has argued that enlisting the gamic paradigm of "the gamer controlling her in-game character or avatar" serves to smooth over the otherwise disquieting uncanniness of human figures in all-CGI films such as *The Polar Express*. See Jessica Aldred, "From Synthespian to Avatar."
- ⁶⁴ Ngai, *Ugly Feelings*, 12.
- ⁶⁵ Ibid., 116.
- ⁶⁶ See "Bruce Lee: Quest of the Dragon," *GameRankings.com*, <http://www.gamerankings.com/xbox/481080-bruce-lee-quest-of-the-dragon/index.html>; and Eric Qualls, "Top 10 Worst Xbox Games," *About.com*, <http://xbox.about.com/od/toppicks/tp/worstxboxgames.htm>.
- ⁶⁷ *GameFAQs*, <http://www.gamefaqs.com/xbox/481080-bruce-lee-quest-of-the-dragon/reviews>.
- ⁶⁸ Review of *Bruce Lee: Quest of the Dragon*, *Electronic Gaming Monthly*, October 2002, 204; Matt Leone, review of *Bruce Lee: Quest of the Dragon*, *Official Xbox Magazine*, October 2002, 109; Dr_Moo, "Bruce Lee: Quest of the Dragon Review," *Game Revolution*, July 15, 2002, <http://www.gamerevolution.com/review/bruce-lee-quest-of-the-dragon>.
- ⁶⁹ Danny, review of *Bruce Lee: Quest of the Dragon*, *Team Xbox*, July 2, 2002, http://www.teamxbox.com/view_reviews.php?id=363; Scott Alan Marriott, review of *Bruce Lee: Quest of the Dragon*, *allgame*, <http://www.allgame.com/game.php?id=35041>; Aaron Ruby, review of *Bruce Lee: Quest of the Dragon*, *Entertainment Weekly*, August 9, 2002, <http://www.ew.com/ew/article/0,,333318,00.html>.
- ⁷⁰ Joe Fielder, "E3 2001: First look at Bruce Lee for the Xbox," *Gamespot*, May 17, 2001, <http://www.gamespot.com/news/e3-2001-first-look-at-bruce-lee-for-the-xbox-2761545>.

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- ⁷¹ Gamespot Staff, “Bruce Lee: Quest of the Dragon Q&A,” *Gamespot*, April 3, 2002, <http://www.gamespot.com/bruce-lee-quest-of-the-dragon/previews/bruce-lee-quest-of-the-dragon-qanda-2859874/>.
- ⁷² Bazin, 14.
- ⁷³ Quoted in Patrick Vuong, “Quest of the Dragon: Bruce Lee Has Been Resurrected to Deliver the World from Evil in the Ultimate Video Game!” *Black Belt*, August 2002, 68. The insistence on a cinematic rather than gamic realism is also prominent in the promotional materials for the Xbox. “Xbox is expected to offer the most advanced graphics, the most flexibility in Internet gaming, and the most realistic play of any game console on the market,” said Rick Thompson, vice president of Microsoft’s Games division, quoted in a Microsoft News Center press release from March 10, 2000, <http://www.microsoft.com/en-us/news/features/2000/03-10Xbox.aspx>. There is a hint of the uncanny in Wong’s account of misrecognizing Lee’s digital model for the real thing, for according to Freud, the uncanny results from “doubts whether an apparently animate being is really alive; or conversely, whether a lifeless object might not be in fact animate.” Freud, “The Uncanny,” 226. Even stranger is that he misrecognizes himself as Bruce Lee, since the referent of the digital model is not Lee, but Lee as interpreted by his own body. Seeing Lee come back to life in digital form is both awe-inspiring and disquieting.
- ⁷⁴ Giancarlo Varanini, “*Bruce Lee: Quest of the Dragon* Review,” *Gamespot*, July 12, 2002, <http://www.gamespot.com/bruce-lee-quest-of-the-dragon/reviews/bruce-lee-quest-of-the-dragon-review-2874235/>.
- ⁷⁵ There have been licensed appearances of Bruce Lee in a handful of games, including the mobile games *Bruce Lee Dragon Warrior* (2010) and *Bruce Lee: Enter the Game* (2014) for mobile Bruce Lee: Enter the Game (2014)
- ⁷⁶ Halberstam, *Queer Art of Failure*, 3, 11.
- ⁷⁷ *Ibid.*, 7.
- ⁷⁸ This convention of game death and multiple lives developed in the context of videogame arcades, which required a way to eject players from the game in order to keep them pumping coins into the arcade machine. An arcade game typically increases in difficulty until the player is overcome and dies. The player must add more money in order to continue to play.
- ⁷⁹ Jenkins, “Complete Freedom of Movement,” 271.
- ⁸⁰ Miller, 6.
- ⁸¹ Shimizu, *Straitjacket Sexualities*, 37.

Chapter 3

- ¹ By touting *Dance Dance Revolution* as radically active gaming, these articles position other videogames as passive, sedentary, and disembodied. See Khanh T. L. Tran, “Karaoke for Feet—In the Latest Arcade Craze, Players Show a Machine Their Fanciest Footwork,” *Wall Street Journal*, August 16, 2000, Sec. B; Alice M. Lee, “Electric Boogie,” *Entertainment Weekly*, August 4, 2000, 16; Marco R. della Cava, “Karaoke for Your Feet,” *USA Today*, August 21, 2001, Sec. D. More recently, rhythm

action games like *Dance Dance Revolution* have been hyped as “exergames” and “exertainment” that fight rather than contribute to the perceived crisis of childhood obesity.

- ² “Bemani,” from the game *Beatmania* (1997), is actually the brand name of the rhythm action game line from the Japanese videogame company Konami, creator of *Dance Dance Revolution*, which currently dominates the market in this genre. Other Konami Bemani games, listed with the year of the original U.S. version’s release, include *Guitar Freaks* (1999), *Pop ‘n’ Music* (1999), *Para Para Paradise* (2000), *Drummania* (2002), *Mambo a Go Go* (2002), and *Karaoke Revolution* (2003). Bemani gameplay has its antecedents in the popular arcade game *Whac-a-Mole* (1976), which in turn evolved from carnival midway and amusement park games. Like early cinematic apparatuses, carnival games such as skeeball and shooting ranges involved the player’s active physical participation. In fact, Bemani has been credited with revitalizing an arcade culture that had been languishing since the 1980s, as well as with opening up the social space of the arcade to female players, who have been more willing to play rhythm-action games than the shooting and fighting games that formerly dominated video arcades. See Maggie McKee, “Interactive Arcade Game Starts a Dance Revolution,” *Santa Cruz Sentinel*, April 21, 2000.
- ³ The Japanese-only *Game Boy*, *Game Boy Oha Sta*, and *Game Boy Disney Mix* releases are played on the portable, handheld Nintendo Game Boy and DS. The *DDR S* series and *DDR Dance Wars* are for Apple iOS devices. The Microsoft Xbox *Ultramix* and *Universe* and Sony Playstation *Extreme* versions support online play. The Sony Playstation *Extreme* and *DanceDanceRevolution* versions support the EyeToy digital camera. The *DanceDanceRevolution* versions for Sony Playstation also supports the Move controller and the *DDR Hottest Party*, *DDR Disney Grooves*, and *DDR II* versions for Nintendo Wii support the Wii controller. The major arcade releases of *Dance Dance Revolution* are as follows, in roughly chronological order: *DDR*, *DDR Konamix*, *DDR Max*, *DDR Extreme*, *SuperNOVA*, and *DDR X*.
- ⁴ Massumi, *Parables of the Virtual*, 9, 15.
- ⁵ In his book *Bodies in Technology*, Don Ihde opposes videogame play’s “reduced set of bodily actions” to the “healthy, implicitly athletic embodiment” of Merleau-Ponty’s “free-flowing, active ‘sports body’” in order to critique Merleau-Ponty’s secretly normative body. However, Ihde erases the possibility of conceiving of an active, intentional body in video-game play at the same time. Dance is used as a foil to the videogame’s diminished embodiment: “The Nintendo phenomenon that emphasizes eye/hand actions has been seen to span bodies in technologies ranging from video games to surgery and is a new, if restricted, style of movement that is very far from bodily sports activity or dance, whether classical ballet or modern.” Ihde, 18, 15, 138.
- ⁶ Birringer, *Media and Performance Along the Border*, 39.
- ⁷ Sobchack, “The Scene of the Screen,” 161, 152.
- ⁸ McCarren, *Dancing Machines*, 5.
- ⁹ See Linda Williams, “Film Bodies: Genre, Gender, Excess.”
- ¹⁰ See Dawn Bryant, “Game Puts Twist on Dance,” *The Sun News*, Myrtle Beach, SC, June 19, 2002; Susan Lieu, “DDR: The Young and the Agile,” *The San Francisco Examiner*, September 22, 2002; Jimmy Magahern, “Dance Dance Fever: Valley

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- Arcade Rats Find Fame on the DDR Dance Pad,” *The Phoenix New Times*, September 9, 2004; Jason Ko, *DDR Freak*, <http://www.ddrfreak.com>.
- ¹¹ See Mark B. N. Hansen, *New Philosophy for New Media* for a valuable challenge to critical studies of new media technologies that focus on their capacity to transcend rather than re-invest the human body.
- ¹² The female voice in *Dance Dance Revolution Ultramix* is credited to Audio Angel, also known as Rashida Clendening, an African-American actress and voice talent who is prominent in the San Francisco drum and bass music scene.
- ¹³ Manovich, *The Language of New Media*, 109.
- ¹⁴ Haraway, “A Cyborg Manifesto,” 152.
- ¹⁵ In the Super Cockpit virtual reality system, the Air Force pilot is securely strapped into a helmet-mounted display that blocks out sensory connections to the physical world and replaces them with three-dimensional projections that “exactly mimicked the world outside,” except with information such as compass heading and flight path superimposed on the field of vision. Manovich, 111.
- ¹⁶ Sobchack, “Choreography for One, Two, and Three Legs,” 56.
- ¹⁷ Massumi, 6. Massumi’s invocation of Henri Bergson’s critique of Zeno’s paradox of the arrow resonates provocatively with the streams of arrows in *Dance Dance Revolution*, which do not stop the game’s movement as they pass through their targets, but flare in intensity and continue streaming until the song or the game ends. *DDR’s* flocks of arrows, however, never hit their target and stop. They never provide the cessation that enables the retrospective plotting of the positions that divide their trajectory, and therefore radically resist positioning: “Movement, in process, cannot be determinately indexed by anything outside of itself. It has withdrawn into an all-encompassing relation with what it will be. It is in becoming, absorbed in occupying its field of potential.” Massumi, 7.
- ¹⁸ *Ibid.*, 5.
- ¹⁹ Simon Reynolds, “Technical Ecstasy,” *The Wire*, November 1992, 36. Most of *DDR’s* dance tracks, such as “MaxX Unlimited,” “Brilliant2U,” and “Dynamite Rave” are songs composed specifically for the Konami Bemani series, but more recent versions of the game feature licensed songs and music-video clips in abridged form. The screen-faced orientation of the player’s body in *DDR* may emerge as much from rave and electronic dance music culture as from the videogame convention of player-facing-screen. In her analysis of the bodily movements of disco dancing versus those of rave dancing, Helen Thomas observes that rave dancers do not shift eyes, focus, and direction, nor project their bodies into 360-degree space or across the dance floor: “In contrast to the older dancers whose front and eye focus changed through stepping and turning and whose gestures inhabited the space around the body, the younger people danced on the spot, with their feet...keeping a distinctive light (pulse-like) bounce...focusing to the front.” Thomas, *The Body, Dance and Cultural Theory*, 203.
- ²⁰ Jenkins, “Games, the New Lively Art,” 180.
- ²¹ Merleau-Ponty, *The Visible and the Invisible*, 146.
- ²² See *The Red Shoes* (1948), directed by Michael Powell and Emeric Pressburger, for a highly self-reflexive cinematic interpretation of the fairy tale.
- ²³ Sobchack, “What My Fingers Knew,” 67.

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- ²⁴ Ibid., 71.
- ²⁵ Sobchack, "The Scene of the Screen," 159.
- ²⁶ Merleau-Ponty, *The Visible and the Invisible*, 151.
- ²⁷ *DDR's* "MaxX Unlimited" and "The Legend of MaxX" reach an arrow-scrolling speed as fast as 320 beats per minute. The human heart at rest averages 72 BPM and dance club music typically plays at 120-180 beats per minute.
- ²⁸ See Walter Benjamin, "On the Mimetic Faculty."
- ²⁹ Taussig, *Mimesis and Alterity*, 246.
- ³⁰ Ibid., 192.
- ³¹ These fans of anime, manga, and gaming call themselves cos-players, or "costume players."
- ³² McCarren, 34.
- ³³ Taussig, 144.
- ³⁴ Shaviro, *The Cinematic Body*, 53.
- ³⁵ Reynolds, 36.
- ³⁶ Andrea Bowers, "Top Ten," *Artforum*, May 2001, 38. Bowers' video installation is *Democracy's Body - Dance Dance Revolution* (2001).
- ³⁷ Jenkins, "The New Lively Art," 183.

Chapter 4

- ¹ The hand gesture evokes well-known Christian iconography, including Michelangelo's Sistine Chapel painting *The Creation of Adam* and Caravaggio's painting *The Incredulity of St. Thomas*. For more on Apple's use of religious allegory in its branding, see Brett T. Robinson, "The Marriage of Religion and Technology: Reading Apple's Allegorical Advertising," *Marginalia Review of Books*, August 3, 2013, <http://marginalia.lareviewofbooks.org/the-marriage-of-religion-and-technology-reading-apples-allegorical-advertising/>.
- ² This is consonant with what Shannon Steen calls Apple's aggressive branding "as an entity born of 1960s counter-cultural maverick enlightenment, fairness, equality, and global embrace" whose values are embodied in the high-tech worker re-cast as "cultural revolutionary." Steen, "Neoliberal Scandals," 3.
- ³ Doane, "The Indexical and Medium Specificity," 142.
- ⁴ Bench, "Gestural Choreographies."
- ⁵ Hardt and Negri, *Empire*, 289-291.
- ⁶ Kirkpatrick, "Controller, Hand, Screen," 137.
- ⁷ Dan Moren, "Tap Tap Revenge is iPhone's most popular app," *Macworld*, April 9, 2009, http://www.macworld.com/article/1139906/appstore_data.html.
- ⁸ Andrew Stevens, "Tap Tap Revenge Franchise Comes to an End," *148Apps*, January 6, 2014, <http://www.148apps.com/news/tap-tap-revenge-franchise/#ixzz3Nd0yx7KD>.
- ⁹ See Scott Steinberg, *Music Games Rock*, 55; and Kerry Lengel, "The Decade's Top Apps for iPhone," *The Arizona Republic*, November 29, 2009, <http://archive.azcentral.com/review/2010/ent/articles/2009/11/29/20091129popapps.html>.

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- ¹⁰ John Mundy, review of *Tap Tap Revenge Tour*, *Pocket Gamer*, July 18, 2012, <http://www.pocketgamer.co.uk/r/iPad/Tap+Tap+Revenge+Tour/review.asp?c=43167>
- ¹¹ Juul, *A Casual Revolution*, 8.
- ¹² Tobin, *Portable Play in Everyday Life*, 4.
- ¹³ Ibid.
- ¹⁴ Sam Anderson, “Just One More Game... Angry Birds, Farmville and Other Hyperaddictive ‘Stupid Games’,” *New York Times Magazine*, April 8, 2012, <http://www.nytimes.com/2012/04/08/magazine/angry-birds-farmville-and-other-hyperaddictive-stupid-games.html>. *Rolling Stone* writer Scott Steinberg similarly reinforces a hierarchy between cognitive work and the “finger-numbing” work of the hands by mocking *Tap Tap Revenge* as a game geared toward the “brain-fried” that makes “IQ points melt away.” Steinberg, “The Best Apps of 2011,” *Rolling Stone*, December 29, 2011, <http://www.rollingstone.com/culture/news/the-best-apps-of-2011-20111229>.
- ¹⁵ See Casual Games Association, *Casual Games Market Report 2007* (Smithfield, UT: Casual Games Association, 2007), <http://dl.dropboxusercontent.com/u/3698805/Reports/CasualGamesMarketReport-2007.pdf>; Casual Games Association, *Mobile Gaming: Casual Games Sector Report 2012* (Smithfield, UT: Casual Games Association, 2012), http://dl.dropboxusercontent.com/u/3698805/Reports/2012_CGA_MobileSector.pdf; InMobi, *Mobile Gaming Cross-Market Analysis* (San Francisco, CA: InMobi, 2014), [http://www.inmobi.com/ui/pdfs/Mobile_Gaming_Cross-Market_Analysis_\(First_Edition\).pdf](http://www.inmobi.com/ui/pdfs/Mobile_Gaming_Cross-Market_Analysis_(First_Edition).pdf). For more on the pervasive feminization of casual gaming as the denigrated other to “hardcore” gaming, see John Vanderhoef, “Casual Threats.”
- ¹⁶ See Diane Elson and Ruth Pearson, “Nimble Fingers Make Cheap Workers.”
- ¹⁷ Ngai, *Made in China*, 77.
- ¹⁸ Ibid., 15. Already a privileged cipher for the erotic allure of the internet on the *consumption* side of digital culture (See Wendy Chun, *Control and Freedom*), the Asian female’s sexualization is also essential to the scene of technological *production*, as a laboring body.
- ¹⁹ Salvador Rodriguez, “Apple’s Patent for a Cat-like Tech Could One Day Save Your iPhone,” *Los Angeles Times*, March 21, 2013, <http://articles.latimes.com/2013/mar/21/business/la-fi-tn-apple-cat-patent-iphone-20130321>; Rsteve, “My fingers are too big for my iPhone 3G! Any ideas?” *AppleInsider*, August 2, 2008, <http://forums.appleinsider.com/t/89669/my-fingers-are-too-big-for-my-iphone-3g-any-ideas>. For examinations of the fat finger problem in touchscreen interfaces, see Patrick Baudisch and Gerry Chu, “Back-of-device Interaction.” Steve Wozniak, Apple’s co-founder, publically complained that he wanted the iPhone to offer “more space for your fingers.” See David Gilbert, “Steve Wozniak: ‘The iPhone is Too Small but iPad mini is Too Big’,” *International Business Times*, October 23, 2013, <http://www.ibtimes.co.uk/steve-wozniak-woz-iphone-small-ipad-big-516282>.

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- ²⁰ David Barboza, "In Chinese Factories, Lost Fingers and Low Pay," *New York Times*, January 5, 2008, <http://www.nytimes.com/2008/01/05/business/worldbusiness/05sweatshop.html>.
- ²¹ See Mark Mitchell, "iPhone 3G - Already with Pictures! (aka 'iPhone Girl')," *MacRumors*, August 20, 2008, <http://forums.macrumors.com/showthread.php?t=547777>; Jeninne Lee-St.John, "The Top 10 of Everything 2008," *Time*, November 3, 2008, http://content.time.com/time/specials/packages/article/0,28804,1855948_1864127_1864138,00.html; Min Lee, "Who Is the Mystery 'iPhone Girl'?" *NBCNews.com*, August 8, 2008, http://www.nbcnews.com/id/26421622/ns/technology_and_science-internet/t/who-mystery-iphone-girl; and Chen Hong, "Cute Face of 'Beautiful Mistake'," *China Daily*, August 27, 2008, http://www.chinadaily.com.cn/china/2008-08/27/content_6973364.htm.
- ²² Matthew Hockenberry, "Supply Chain Epistemologies," *Supply Studies*, September 16, 2014, <http://supplystudies.com/2013/09/16/supply-chain-epistemologies-one/>. The rash of suicides among Foxconn workers in 2010 and the subsequent international outrage over exploitative and inhumane working conditions in Apple's Chinese factories, fueled by the *New York Times* investigative series on the "iEconomy" published in 2012, had not yet tarnished the iPhone's allure. See "The iEconomy," *New York Times*, <http://www.nytimes.com/interactive/business/ieconomy.html>.
- ²³ Roy, "Postcolonial Urbanism," 316.
- ²⁴ Derek Thompson, "What a New, Cheap iPhone Reveals About Apple's Grand Strategy," *Atlantic*, January 9, 2013, <http://www.theatlantic.com/business/archive/2013/01/what-a-new-cheap-iphone-reveals-about-apples-grand-strategy/267001/>.
- ²⁵ Perlow, "On Production for Digital Culture," 247. The hands of Asian labor are particularly in focus in two mainstream media accounts of the lives of Chinese factory workers—*Time Magazine*'s naming of "The Chinese Worker" as a runner up for 2009 Person of the Year and Mike Daisey's *This American Life* radio show episode "Dr. Daisey and the Apple Factory" broadcast in 2012. In *Time*'s series of portraits of "some of the young men and women—all of them migrants—who are fueling China's booming economic growth," each female worker is framed so that her hands are prominently in view. In Mike Daisey's notoriously falsified account of his visit to the Foxconn factory and interviews with workers in Shenzhen, China, he too fixates on the fingers of Chinese laborers: "In a place where the cost of labor is effectively zero, anything that can be made by hand is made by hand. No matter how complex your electronics are, they are assembled by thousands and thousands of tiny little fingers, working in concert. And in those vast spaces, the only sound is the sound of bodies in constant, unending motion." Austin Ramzy, "Portraits of Chinese Workers," *Time*, December 16, 2009, <http://content.time.com/time/photogallery/0,29307,1947488,00.html>; Ira Glass, "Mr. Daisey and the Apple Factory," *This American Life*, January 6, 2012, <http://www.thisamericanlife.org/radio-archives/episode/454/transcript>.
- ²⁶ Shannon Steen writes, "Supposedly outsource-proof, autonomous, and performing personally and financially rewarding labor, the tech worker is a key vehicle for

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- neoliberal fantasies of the ideal citizen. The shadow side of this figure is the high-tech manufacturing worker, who absorbs the elements of insecurity that the software guru and his Silicon Valley ilk supposedly evade,” 6.
- ²⁷ Nakamura, “Economies of Digital Production,” 3.
- ²⁸ Grace, “iPhone Girl,” 137.
- ²⁹ See Keith Bradshur and Charles Duhigg, “Signs of Changes Taking Hold in Electronics Factories in China,” *New York Times*, December 26, 2012, <http://www.nytimes.com/2012/12/27/business/signs-of-changes-taking-hold-in-electronics-factories-in-china.html>.
- ³⁰ Zhai et al., “Shapewriter on the iPhone,” 2670.
- ³¹ Perlow, 248.
- ³² Bench, 248.
- ³³ Nakamura, “Economies of Digital Production,” 6.
- ³⁴ Isbister, “Emotion and Motion,” 24.
- ³⁵ *Ibid.*, 27.
- ³⁶ Huntemann, “Women in Video Games,” 44.
- ³⁷ Nakamura, “What Steven Wants.”
- ³⁸ Pichlmair and Kayali, “Levels of Sound,” 426.
- ³⁹ Kaneda, “Rhythm Heaven,” 433.
- ⁴⁰ John Bedford, “Tap Tap Revenge: Tour iPhone Review,” *Modojo*, July 12, 2012, http://www.modojo.com/reviews/tap_tap_revenge_tour; Ghostwolfe, review of *Tap Tap Revenge*, *theghostwolfe/angellwraith* blog, January 4, 2010, <http://ghostwolfe.wordpress.com/2010/01/04/tap-tap-revenge/>.
- ⁴¹ Bove, *iPod Touch for Dummies*, 28.
- ⁴² Hamera, “The Labors of Michael Jackson,” 752.
- ⁴³ Yee, “The Labor of Fun,” 70.
- ⁴⁴ Ngai, *Made in China*, 93.
- ⁴⁵ Kirkpatrick, 130.
- ⁴⁶ mattmccarty, “Tap Tap Revenge Is Out,” *MacRumors*, July 11, 2008, <http://forums.macrumors.com/showthread.php?t=516831&page=2>; Whosatm, “iPhone: Justin Bieber Revenge (Tap Tap Revenge),” *TouchArcade*, March 24, 2010, <http://forums.toucharcade.com/showthread.php?t=49193&page=13>; Sylafari, “About the Fingers People Use When Playing Tap Tap Revenge 2,” *Tapulous Community*, June 13, 2009, http://getsatisfaction.com/tapulous/topics/about_the_fingers_people_use_when_playing_tap_tap_revenge_2.
- ⁴⁷ TapTapKing’s *Tap Tap Revenge* gameplay videos are available on YouTube at <http://www.youtube.com/user/TapTapKing/videos>.
- ⁴⁸ See TapTapKing’s comment “in reply to SANFRY A GARCIA” on the video TapTapKing, “Tik Tok - Tap Tap Revenge 3,” *YouTube*, January 10, 2010, http://www.youtube.com/all_comments?v=g3Kc380QPvI.
- ⁴⁹ See comments by Arran Johnson and gurenig, *Ibid.*
- ⁵⁰ Epikviral, “Worker Has Super Fast Hands,” *YouTube*, March 16, 2012, <http://www.youtube.com/watch?v=NZK5kkcJypg>.

⁵¹ See comment by Norman Tan on the video TapTapKing, “Tap Tap Revenge 4 - Faint - Linkin Park,” *YouTube*, December 25, 2010, <http://www.youtube.com/watch?v=prW062EVADU> and by Halverd Schit on the video TapTapKing, “Tinie Tempah - Pass Out - Tap Tap Revenge 3,” *YouTube*, April 23, 2010, http://www.youtube.com/watch?v=_g59JlcKDcU. For more on the “Level: Asian” internet meme, see the blog *Difficulty Level: Asian*, available at <http://difficultylevelasian.tumblr.com/> and the stereotype-busting Fung Bros. video series on YouTube, *Level: Asian*, available at <http://www.youtube.com/playlist?list=PLwF-CGTso19RYS4e3sAg4zq2fmqtYqGnF>.

⁵² Plant, *On the Mobile*, 51.

⁵³ Bench, 244.

Conclusion

¹ For an extended examination of virtual pets, see Anne Allison, *Millennial Monsters*, 163-191.

² For examples of these “selfie” photos taken by players, see the *Clumsy Ninja* game’s Twitter feed, available here: <http://twitter.com/clumsygame>.

³ Tuan, *Dominance and Affection*; Ngai, “The Cuteness of the Avant-Garde,” 816.

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