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9

Interference as Artistic Strategy:

Video Game Art between Transparency and Opacity

Stephan Schwingeler

Academic discussions of video games have largely failed to consider the relevance of video games in the context of art.¹ However, in this contextual space, completely new forms of gamespace and gameplay emerge, which critically challenge the medium. Artists deconstruct, defamiliarize, and disrupt the games, and thus expose their operating principles. In a way, video games are being stripped, as their structures are laid bare and made visible. This constellation may even lead to the creation of paradoxical artifacts—namely unplayable, dysfunctional games.

In this chapter, I will first discuss different artistic strategies which historically developed in the context of video games as source material. Second, I will introduce *SOD* (1999) and *Untitled Game: Arena* (1998–2001), both created by the Dutch-Belgian artist couple JODI. As I will demonstrate, in terms of their artistic style and the strategies they employ, these artworks draw on earlier artworks. In a third step, I will draw on media theory and discuss these examples in the context of transparency and opacity, which will allow me to reflect on computer game art in general. Opacity and transparency will play key roles in this discussion, as media strive for immediacy (transparency) but constantly refer to themselves and their mediality (opacity).² Media artifacts constantly oscillate between these two extreme states, which are thus co-dependent. The medial and material qualities of video games are

supposed to remain invisible to, and unnoticed by, players. Accordingly, a key artistic strategy is to disrupt the video game's aspiration for immediacy and to highlight its medial characteristics. Fourth, in closing, I will establish further links to traditions in art history in order to offer projections and a historical positioning of the artistic strategies at work.

The concept of disruption will be central to my following elaborations. The term "disruption" perfectly describes the appropriations and modifications of the source material I will discuss below, as these artistic interventions disrupt the successful reception of the artifact.³ The shift from transparency to opacity thus becomes a consciously used artistic strategy, which Bertolt Brecht might have referred to as "alienation." These strategies allow artists to quite literally make the medium visible. The medium becomes *obstinate*, as it no longer operates or functions the way it *should*.⁴ Whereas media generally "operate beyond the threshold of our perception," disruption foregrounds the medium in question.⁵

Artistic strategies

Different artistic strategies may be identified in video game art which illustrate in what ways artists treat video games as source material. A first strategy could be termed *re-decoration of the source material*. This strategy describes the modding of existent video games and their audiovisual interfaces, as is the case in the total conversion *Arsdoom* (1995), which was the first video game modification in an art context. In 1995, Peter Weibel, then art director of Ars Electronica, asked architect Orhan Kipcak to produce an artwork for the media art festival. Kipcak, in cooperation with architect and mathematician Reinhard Urban, conceptualized an interactive work. The result was a video game modification based on the first-person shooter *Doom II* (id Software, 1994), created by using different level editors and the software AutoCAD. *Arsdoom* presents a digital model of the Brucknerhaus in Linz, digitally reconstructed on the basis of the original construction plans. Tellingly, the Brucknerhaus served as the venue for Ars Electronica 1995, and in the game, the player encounters the digitized faces of various artists and other personalities connected to the Ars Electronica, including Peter Weibel, Jörg Schlick, and Ecke Bonk. In addition, the weapons players can employ in the FPS point to figures in recent art history, such as Joseph Beuys and Nam June Paik.⁶

Reduction and abstraction of the source material functions as a second strategy. Artists cultivate *voids and imperfections* as, for example, in Myfanwy Ashmore's *mario battle no. 1* (2000). In Ashmore's modification, all obstacles and opponents are deleted from *Super Mario Bros.* (Nintendo, 1985). In

Cory Arcangel's *Super Mario Clouds* (2002), what remains of the original game are the clouds passing by the viewer from right to left in front of the pale-blue background. The strategy of abstraction, on the one hand, aims at highlighting the games' interfaces and thus on a *staging of the audiovisual*, as in the *Quake III Arena* (id Software, 1999) mod *QQQ* (2002) by British artist Tom Betts, which is consciously saturated with graphics glitches. On the other hand, it aims at (and partly complements) the process of image and sound development and highlights the *representation of the code and the computing process*, as in Margarete Jahrmann and Max Moswitzer's *nybble-engine-toolZ* (2002), an installation which "converts information (text, images, sound) on the hard disk into three-dimensional abstract movies and projects these onto a 180 degrees circular screen."⁷

Modifications of the rules of the game and game-discordant actions in the source material itself form a third strategy. For example, in *Velvet-Strike* (Brody Condon, Anne-Marie Schleiner, and Joan Leandre, 2001), pacifist images are attached to the walls of *Counter-Strike* (Valve, 2000) maps, while in Joseph DeLappe's online gaming performance *dead-in-iraq* (2006), the artist staged an online protest against the War in Iraq during a session of *America's Army* (United States Army, 2002) by posting the names of soldiers killed in action in the Iraq War via the game's chat function.

The combination of these strategies may produce paradoxical artifacts: unplayable games. JODI's *Wolfenstein 3D* mod *SOD*, the map *Arena* from the series *Untitled Game*, and the game *Glitchhiker* (2011) provide examples of this most extreme form of obstinacy. Unlike the other two examples, *Glitchhiker* is not a modification but an original game. As such, it is not based upon a commercial game that it has appropriated; instead, *Glitchhiker* is an independent video game production.

All of these artistic strategies disrupt the operating principles of their source materials by consciously transforming transparency into opacity. These strategies aim at raising awareness of the video game's technical limits through formal-aesthetic experiments, the construction of dysfunctionalities, incoherence, and the limitation of interactivity. I will discuss JODI's *SOD* and *Arena* in more detail to illustrate how these cultural artifacts work with their source materials.

From non-representational to unplayable game: *SOD* and *untitled game: Arena*

SOD is based on the commercial video game *Wolfenstein 3D* (id Software, 1992). In the modification *SOD*, all representational textures have been

FIGURE 9.1 All representational elements disappear in SOD. Screenshot from SOD (JODI, 1999).

eliminated and substituted with black-and-white geometric shapes by tampering with the code (see Figure 9.1). The image's configuration outs the first-person shooter's underlying illusion that by entering a room and consequently moving through it, players can own it through abstraction.

Graphic abstraction accordingly leads to a loss of control on the player's part, which may coincide with irritation, disorientation, and frustration. As a result, the game's playability is restricted and the user's input effectively transforms the game into a play with the image itself. Thus, the player no longer pursues the objectives of the original game but rather manipulates the image by twisting and turning it. JODI thereby demonstrate the true essence of video games, namely their being image and space machines, "perspective engines," as Francis Hunger has termed it.⁸ In addition, the strategy allows JODI to highlight the video game's underlying mechanics—namely that users manipulate images and then trace the changing visual content back to their own actions. As a result, *SOD* is not only an abstract, but a concrete video game, which relies on basic geometric and stereo-geometric shapes to construct its images.

Hence JODI reflect on the relationship between video games and realism by drawing attention to the building blocks of video game images and to players' actions and agencies. Gerrit Gohlke has remarked that the majority of mainstream video games is committed to a "hyperrealist culture of excellence." Here "all simulation skills of occidental art tradition are employed to create a mass market product."⁹ Importantly, video game imagery draws on

photography and film. As a result, video game simulation implies that video games do not simulate physical reality (as perceived through the human senses), but rather seek to produce photorealism, since the photographic and filmic image still radiates authenticity. As Lev Manovich has appropriately observed, “the reason we may think that computer graphics has succeeded in faking reality is that we, over the course of the last hundred and fifty years, we have come to accept the image of photography and film as reality.”¹⁰

In fact video games’ claim to authenticity exceeds the photographic image. Götz Großklaus has suggested that computers can create images disconnected from real-world sources; video game images are not “just” copies of the real world, but (hyper-)real in their own right.¹¹ In other words, computers allow us to generate images that appear real, but cannot be real. Significantly, the images do not only look real, but the simulated objects also act and behave real. They are subject to simulated laws of nature, which further intensify their reality effect. The end result is a hyperrealism which replaces the laws of nature with random rules of mathematical models, creating a new kind of mimesis.¹² Since the simulated object has no referent in the real world, the simulated object needs to be legitimated and authenticated, for example through splatter on the (non-existent) camera lens and optical refractions (where neither the required light source nor the camera exists).

In their oeuvre, JODI have repeatedly varied their type of interference in the source material, turning this variation into their characteristic artistic strategy. The level *Arena* from the series *Untitled Game* represents an extreme case (see Figure 9.2). Here, the visual interface of the FPS *Quake* (id Software, 1996) has been completely erased. However, the video game remains operable and continues to react to the player’s input. When the avatar is hit, the frame turns into a shade of red for the fraction of a second. While I do not mean to compare video games and painting, the artistic strategy applied in *Arena* establishes links to monochrome paintings such as Robert Rauschenberg’s *White Paintings* (1951), which show nothing but white canvas.

However, the radical act of deletion plays an important role in another one of Rauschenberg’s works as well: the effaced drawing of Willem de Kooning (*Erased de Kooning Drawing*, 1953). Rauschenberg had asked the abstract expressionist de Kooning for a drawing as a present, then meticulously erased it, and exhibited it as his own artwork. When looking closely, traces of the blotted drawing are still visible. Whereas Rauschenberg’s artwork represents a palimpsest, *Arena* rather resembles tinted glass behind which the processes of the video game continue running. In JODI’s *Arena*, information on the game remains visible in the form of extradiegetic traces surrounding the monochrome frame. Paradoxically, the deletion of image information draws the player’s attention to video games’ visuality. The blank screen, which the viewer’s

FIGURE 9.2 *The visual interface is erased in Untitled Game. Screenshot from Untitled Game: Arena (JODI, 1996–2001).*

imagination may fill, points to the absence of the image and thus puts the image at the center of the artwork.¹³

Conceptually, *Arena* may be likened to *Zen for Film* (1964) by media artist Nam June Paik. In *Zen for Film*, Paik has an unexposed, *blank* film run through a projector.¹⁴ He thus screens what Paik himself has called an “anti-movie,” explaining that the film “only represents itself and its material quality.”¹⁵ The medium’s operating principles and immanent characteristics take on a life of their own and eventually become the artwork’s actual content.

Video game art between transparency and opacity

The materiality and mediality showcased in the works of JODI, Rauschenberg, and Paik remain invisible in video games, as the following example clearly illustrates: Figure 9.3 shows the end of *Pac-Man* (1980). If the player succeeds in reaching the 256th level, something unexpected happens: letters and strange signs (which are not part of the image) appear on the right side of the screen. This final screen of the game, the so-called *kill screen*, reveals the dual

FIGURE 9.3 *The kill screen in Pac-Man. Screenshot from Pac-Man (Namco, 1980).*

nature of the image: the code on which both the image and the game are based is foregrounded, as it becomes visible in what Alexander Galloway has called a “nondiegetic machine act.”¹⁶ In this moment, the transparent, ideal condition of the video game becomes opaque. The technical level of the game, which is usually hidden, becomes not only visible, but, in fact, part of the gameworld, as the code blocks Pac-Man, Blinky, and the other ghosts’ paths. In fact, they might even end up trapped in the code. As a result, the game becomes virtually unplayable. It stops functioning in the intended manner and highlights its operating principles.

Generally, media strive for a maximum degree of immediacy and transparency, as they seek to disappear behind that which they represent and/or communicate. A live sports broadcast on TV seeks to convey the feeling of being live in the arena. Likewise, video games seek to convince players that they are passing through fantastic spaces and encountering fantastic creatures. However, the

medium constantly obtrudes and makes the recipient/player aware of its presence. Commercials disrupt the broadcast. A graphical glitch disrupts the players' immersion in the simulated world. Immediacy and hypermediacy are co-dependent: "Immediacy depends on hypermediacy," as Jay David Bolter and Richard Grusin have pointed out.¹⁷ After all, perfect immediacy would entail the effacement of the medium. Consequently, the medium's main function as mediator would disappear, as well. Opacity, on the other hand, draws attention to the medium (as medium). Paradoxically, only the awareness of the presence of the medium makes its disappearance possible.

Consider the *trompe-l'œil*: This painting style draws its inspiration from the oscillation between transparency and opacity. The *trompe-l'œil*'s goal is to create the illusion of a reference object through painterly means. However, the beholder defines the quality of the painting by recognizing the material qualities and properties of the painting—how it achieves the effect of appearing real. The same holds true for photo- and hyperrealism. For example, the computer-generated dinosaurs in *Jurassic Park* (1993) largely disguise their artificial character. However, this (attempt at) masking their mediality simultaneously underlines their mediality. These unreal, impossible, and hyperreal images invite viewers to linger on them and to examine them in detail. Viewers search for medial and material traces. After all, a painting also reveals its material traces to beholders.

This oscillation between transparency and opacity becomes evident, for example, when looking at Cornelis Norbertus Gijsbrechts' *The Reverse of a Framed Painting* (1650–1675), which depicts the (usually concealed) reverse of a panel (see Figure 9.4). The art historian Victor Stoichita has cited this

FIGURE 9.4 *Cornelis Norbertus Gijsbrechts, The Reverse of a Framed Painting* (1650–75), oil on canvas, Statens Museum for Kunst, Copenhagen.

painting as an early example of a self-reflexive meta-painting whose subject and content reflect on the art of painting and the production of paintings. It is a painting *about* a painting as well as a painting *of* a painting.¹⁸ *The Reverse of a Framed Painting* displays the realistic reproduction of the reverse of a painting including wooden frame and canvas. For a moment, the viewer might fall for the illusion and think that the painting is, in fact, hanging on the wall in reverse. At the same time, the painting's subject emphasizes the materiality of the painting. Accordingly, the process of mediation—and thus the image as medium—becomes the theme of the painting. The painting becomes self-aware.

Video games are an immersive medium whose medial and material dimensions should remain as unobtrusive as possible to the user. Crucially, the player is not supposed to become aware of the medium—its “technical arrangement (in terms of media design) [should be] naturalized.”¹⁹ Consequently, the user should experience self-efficacy by being positioned in the ideal state of flow.²⁰ Indeed, “a medium only fulfills its function when it disappears in the medial operation; when it is invisible.”²¹

The video game thus oscillates between transparency and opacity. Opacity here implies the process by which the material and medial characteristics of the video game, which are ideally transparent and thus invisible, are made visible. The artworks from the field of artistic video game modification and video game art discussed above take this idea as a point of departure. The artists disrupt the game's aspiration for transparency and make it opaque. Thus, instead of *looking through* the video game's framing, players and viewers are, in fact, asked to *look at* the frame. The artistic strategy of disruption thus spotlights the medium, which becomes obstinate and no longer operates the way it is meant to operate.

Glitchhiker (2011; see Figure 9.5) featured an extreme form of subverting the transparency of video games, since it gradually self-destructed during gameplay. *Glitchhiker* was a meta-video game—a video game *about* video games—which was only playable for one night in January 2011. The fewer mistakes a player made while playing, the longer the video game remained operational. During play, pre-programmed “glitches” appeared, which made the video game not only increasingly difficult, but effectively led to the self-destruction of the program. Thus, the video game's limited availability for play represents the effective destruction of the file, which was pre-determined and inevitable. To be sure, the executable may still be downloaded from the internet, but the file is useless, as the game cannot be booted any more and has therefore ceased to exist as such. Indeed, the file represents a self-contradictory, dysfunctional artifact—an unplayable game.

FIGURE 9.5 *Glitchhiker was a video game about video games. Screenshot from Glitchhiker (Vlambeer, 2011).*

Art-historical traditions of interference

Video game art appropriates its source material. To this end, artists working with video games employ modification practices such as parasitic repurposing and appropriation to highlight video games' specific media-immanent characteristics and structures.²² Thus, errors and glitches are programmed into video games' codes, disrupting them and limiting their interactivity to the point of unplayability. In this way, artists act as spoilsports, as video games simply stop being games. Artists alienate players and viewers from the expected gaming situation and thus relocate video games into artistic contexts through the practice of *détournement*, the "overturning of the established order" accomplished through the "unforeseen activity within the institution, utilising its tools and imagery."²³

This practice of appropriation is also key to hacker culture and ethics. After all, an essential element of hacking is making things work differently from the way they were meant to. Indeed, as Corrado Morgana explains:

Détournement is . . . central to hacker culture; taking “stuff” and making that “stuff” do things it wasn’t meant to do. By modding, hacking, exploiting and other strategies of intervention, artists, game designers and players have responded to preset game limits and other practical and creative boundaries. They have responded by producing artefacts and activity that re-appropriate dominant culture, where normative tropes and memes are subverted and détourned to produce a counter to expected “normal.”²⁴

As a result, the testing, expansion, and crossing of boundaries as well as the breaking of rules ensures a particular “hack value.”²⁵

Appropriation opens up links to other artistic traditions. The Situationist movement embraced an aggressive-destructive impetus which drove them to intervene with the structures of (mass) media and apparatuses. This is, for example, evident in Wolf Vostell’s variations of “dé-coll/ages” of TV sets and Nam June Paik’s TV modifications from the 1960s.

The modification of games (i.e., their rules, aims, etc.) up to unplayability has a distinct tradition in art history. Indeed, *games* and the *playful* became important ideas in the twentieth century, as surrealists, Dadaists, and Fluxus artists dealt with games and used them as material. Variations of the chess game illustrate this utilization of games as artistic resource. Man Ray and Marcel Duchamp, for example, produced and interpreted chessboards and pieces.²⁶ Representatives of the Fluxus movement such as Takako Saito and Yoko Ono followed in their footsteps. Saito has produced modified chess sets since the 1960s, including chess sets that are played with spices or vials. On the other hand, Yoko Ono’s all-white chess sets lead the game and its objective ad absurdum, while simultaneously acting as anti-war metaphor and political statement. Like *Velvet-Strike*, this modification accentuates metaphors of war and combat which are deeply entrenched in many analog and digital games.

Video game art often employs a rhetorics of negation: as soon as the video game does not perform as expected anymore, its operating principles are acknowledged ex negativo. As ideas such as Paik’s “anti-movie” and Brecht’s “alienation effect” suggest, interferences render the immanent characteristics of a medium explicit. Artists thus develop *alternative models* to commercial video games and break their rules. In this way, their artworks reflect not only on the design of computer games as defined by what Gerrit Gohlke has called a “performance-oriented, hyperreal culture,” but also on the general relation between man and machine in the circuit of cybernetics and in the magic circle of play.²⁷

Notes

- 1 This chapter expands on ideas first expressed in my German-language article “Störung als künstlerische Strategie: Kunst mit Computerspielen zwischen Transparenz und Opazität” published in the open-access journal *Navigationen* 12, no. 2 (2012): 61–78. The chapter was translated by Manuela Neuwirth. The author and editors would like to thank the University of Graz for the generous financial support of the translation.
- 2 See Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 1999), 19. Connected to a broader, non-media-specific discourse in art criticism, Emmanuel Alloa describes the terms “transparency” and “opacity” as follows: “Repeatedly ascribed different names and thus having remained inconspicuous, T. and O.—as terms whose history still remains to be written—form the two poles in between which the discussion of artworks oscillates and in which it concretizes. T. (and its synonyms translucence, permeability, transitivity etc.) generally stands for a view which regards works as open ‘windows’ to meaning lying behind. O. (and its alternative denotations such as impenetrability, intransitivity, presence etc.), in contrast, generally means a perspective that traces the works back to their tangible immanence” (445–6).
- 3 Communication studies scholar Ludwig Jäger considers opacity as a disruption in the communication process. He calls transparency and disruption “two aggregate states of communication” (68).
- 4 Martin Heidegger introduced the concept of obstinacy in his theory of equipment, which he develops in *Being and Time* (1927) and which can be applied to tools. Peter Geimer was the first to point to its implications for media theory, in connection with the disruption of photographic images. The terms “transparency” and “opacity” correspond with the Heideggerian notions “ready-to-hand” and “present-at-hand”; “unready-at-hand” oscillates between the two. Three modes can be distinguished: conspicuousness, obtrusiveness, obstinacy. Geimer explains: “These modes appear when equipment loses its being ready-at-hand, when it, instead of being ready at the hand of its user, it is not in its place, denies its service or starts to disturb” (324).
- 5 Markus Rautzenberg, *Die Gegenwärtigkeit der Störung: Aspekte einer postmetaphysischen Präsenztheorie* (Zurich: Diaphanes, 2009), 154; Sybille Krämer, “Erfüllen Medien eine Konstitutionsleistung? Thesen über die Rolle medientheoretischer Erwägungen beim Philosophieren,” in *Medienphilosophie: Beiträge zur Klärung eines Begriffs*, ed. Stefan Münker (Frankfurt am Main: Fischer, 2003), 81.
- 6 Orhan Kipcak, “ARSDOOM—Art Adventure,” in *Mythos Information: Welcome to the Wired World*, ed. Karl Gerbel (Vienna: Springer, 1995), 262–4; Mathias Jansson, “Interview: Orhan Kipcak (ArsDoom, ArsDoom II) (1995–2005),” *Gamescenes: Art in the Age of Videogames*, November 4, 2011, <http://www.gamescenes.org/2009/11/interview-orhan-kipcak-arsdoom-arsdoom-ii-1995.html>.

- 7 "Nybble-Engine-Toolz," V2_, *Lab for the Unstable Media*, accessed July 18, 2017, <http://v2.nl/archive/works/nybble-engine-toolz/>.
- 8 Francis Hunger, "Perspective Engines: An Interview with JODI," in *Videogames and Art*, ed. Andy Clarke and Grethe Mitchell (Bristol: Intellect, 2007).
- 9 Gerrit Gohlke, "Genre i. Gr. Computerspielkunst als Gegenentwurf zu einer technikentfremdeten Kunst," in *Games: Computerspiele von KünstlerInnen*, ed. Tilman Baumgärtel (Frankfurt am Main: Revolver, 2003), 19.
- 10 Lev Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2001), 181.
- 11 Götz Großklaus, *Medien-Zeit, Medien-Raum: Zum Wandel der raumzeitlichen Wahrnehmung in der Moderne* (Frankfurt am Main: Suhrkamp, 1995), 134.
- 12 Gundolf S. Freyermuth, *Digitalisierung. Die transmediale Konversion von Kunst und Unterhaltung in der zweiten Hälfte des 20. Jahrhunderts* (PhD diss., Freie Universität Berlin, 2004), 5.
- 13 For a discussion of the term "blank" in art criticism, see Wolfgang Kemp, "The Work of Art and Its Beholder: The Methodology of the Aesthetic of Reception," in *The Subjects of Art History: Historical Objects in Contemporary Perspectives*, ed. Mark A. Cheetham (Cambridge: Cambridge University Press, 1998).
- 14 Ulrike Gehring, "Das weiße Rauschen: Bilder zwischen Selbstauflösung und Neukonstituierung," in *Nichts*, ed. Martina Weinhart (Ostfildern: Hatje Cantz, 2006).
- 15 Qtd. in Heike Helfert, "Nam June Paik: 'Zen for Film,'" *Medien Kunst Netz (Media Art Net)*, accessed July 18, 2017, <http://www.medienkunstnetz.de/werke/zen-for-film/>.
- 16 Frieder Nake, "Das Doppelte Bild," *Bildwelten des Wissens* 3, no. 2 (2006). According to Alexander Galloway, nondiegetic machine acts are autonomous action of the apparatus outside the diegesis of the game. The computer program can end the game, for example, due to a breach of rule or the player's failure, leading to *game over*. Other conceivable nondiegetic machine acts are the appearance of errors and disruptions (e.g., when an online game lags or even terminates due to a poor internet connection). The above-mentioned kill screen in *Pac-Man* (1980) is another example (1–39).
- 17 Bolter and Grusin, *Remediation*, 6.
- 18 Victor I. Stoichita, *The Self-Aware Image: An Insight into Early Modern Meta-Painting* (Cambridge: Cambridge University Press, 1996).
- 19 Rolf F. Nohr, "Das Verschwinden der Maschinen: Vorüberlegungen zu einer Transparenztheorie des Games," in 'See? I'm real . . .' *Multidisziplinäre Zugänge zum Computerspiel am Beispiel von Silent Hill*, eds. Britta Neitzel and Matthias Bopp (Münster: LIT, 2004), 97; see also Rolf F. Nohr, *Die Natürlichkeit des Spielens: Vom Verschwinden des Gemachten im Spiel* (Münster: LIT, 2008).
- 20 For a discussion of the term "flow," see Daniela Schlütz, *Bildschirmspiele und ihre Faszination* (Munich: Fischer, 2002), 69–71; Christoph Klimmt,

- Computerspielen als Handlung: Dimensionen und Determinanten des Erlebens interaktiver Unterhaltungsangebote* (Cologne: Halem, 2006), 76–81. The experience of flow is not an absolute state but oscillates between transparency and opacity: “Even though ‘flow’ actually registers in the moment in which ‘muscle memory’ no longer necessitates conscious control, this specific state of consciousness continually meanders into emptiness . . . This constant interruption of the ‘flow’ is the result of the specific dynamic structure of the video game whose immersion effect is based on a fragile balance between individual motor and cognitive skills of the player and the requirements of the respective gaming situation” (Rautzenberg, *Spiegelwelt* 73).
- 21** Markus Rautzenberg, *Spiegelwelt: Elemente einer Ästhetik des Bildschirmspiels* (Berlin: Logos, 2002), 153.
- 22** See Anne-Marie Schleiner, “Parasitic Interventions: Game Patches and Hacker Art,” *Opensorcery.net: Annie-Marie Schleiner*, accessed July 18, 2012, <http://opensorcery.net/patchnew.html>; Claus Pias, “Appropriation Art & Games: Spiele der Verschwendung und der Langeweile,” in *Games: Computerspiele von KünstlerInnen*, ed. Tilman Baumgärtel (Frankfurt am Main: Revolver, 2003); Axel Stockburger, “From Appropriation to Approximation,” in *Videogames and Art*, ed. Andy Clarke and Grethe Mitchell (Bristol: Intellect, 2007).
- 23** Corrado Morgana, “Introduction,” in *Artists Re:Thinking Games*, eds. Ruth Catlow, Marc Garrett and Corrado Morgana (Liverpool: Liverpool University Press, 2010), 9; for a discussion of détournement in connection to computer game art, see Anne-Marie Schleiner, “Dissolving the Magic Circle of Play: Lessons from Situationist Gaming,” in *From Diversion to Subversion: Games, Play, and Twentieth-Century Art*, ed. David J. Getsy (University Park: Pennsylvania State University Press, 2011).
- 24** Morgana, “Introduction,” 10; Roberto Simanowski sees a similar connection between détournement and hacker culture: “The transformation of a commercial product of digital media into a critical-reflexive artwork is a popular form of détournement in the context of *hacktivism* (‘hacking’ and ‘activism’) and *artivism* (‘art’ and ‘activism’) inside and outside digital media” (87).
- 25** Eric S. Raymond, *The Jargon File (Version 4.4.7)*, accessed July 18, 2017, <http://www.catb.org/jargon/html/index.html>.
- 26** See Francis M. Naumann, Bradley Bailey, and Jennifer Shahade, *Marcel Duchamp: The Art of Chess* (New York: Ready-made, 2009).
- 27** Gohlke, “Genre i. Gr.,” 19.

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