

# What is “Computer Animation”? —Examining Technological Advancements and Cultural Aesthetics of Japanese Animation

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## Abstract

This paper begins with the argument that technology is not simply a tool or means employed to deliver contents or ideas; rather, technologies are themselves constructed, and further acquire cultural meaning through divergent understanding of the visual (Eisenhauer, 2006). By investigating current narratives in the United States and Japan’s deployment of computer animation, this paper argues that at different socio-cultural contexts “computer animation” acquires its cultural meaning and styles, and re-constitutes a specific cultural aesthetic for the society it resides. I first examine three current narratives of computer animation in the United States: (1) the ideological driven by the search of perfect representation of reality, (2) the mythological based on a modernist paradigm of progression, and (3) the hegemonic leading a habitual mode of production. It is suggested that computer animation were developed to approach virtually indistinguishable images from live action recording, to process a phenomenological illusion of reality, and to sustain the long ideological tradition in the West—cinema as a total representation of the real (Lamarre, 2006; Manovich, 2000, 2001). Research of computer animation tends to center on what technologies can do, and production is driven by a hegemonic mode that deploys computer animation as a genre of hyperrealism. Hence, discourses on computer animation risk falling into a constant search for “progression” through technological advancements and innovations whereas this search may merely resemble a modernist paradigm and functions as repetitions of Western cinema traditions.

By examining Japanese animation *Final Fantasy VII: Advent Children* (2005), I identify a divergent perception through which computer animation acquires its cultural meaning and aesthetics: the *hyper-spectacle* embedded in a *superflat* culture and the tradition of *contingency*. This animation discussed reveals more about cultural understanding of the visual than it does about the effectiveness of using particular technologies. Finally, this paper suggests studies not locating “computer animation” in machines or tools as a neutral object, rather, to explore that “computer animation” is discursively constituted by and through culture, and how it constantly acquires its aesthetic and meaning in society.

## Keywords

Computer animation, Japanese anime, *Final Fantasy*, hyperrealism, hyper-spectacle, superflat, depthless, contingency, cultural aesthetics, technology.

## Introduction

Recently, *New York Times* reports a new technology that transfers the facial expressions of real action onto

computer-animated figures. According to the report, this new invention will lead film production going beyond image capture to the next generation of moving images.<sup>1</sup> Today computer-animated figures, environments, and special effects already become necessities of Hollywood production. Animation studios, such as Pixar, DreamWorks, and Blue Sky, proclaim that they are “computer animation studios” which “create a new generation of animated feature films” while persisting an aesthetic and production principles from Disney (Pixar, 2006). In the United States, the term “computer animation” embeds in various technological advancements and promises a “new way of seeing.”

On the other hand, several established Japanese anime studios have explicitly expressed their resistance of computer-generated images. While these studios take advantage of technological advancements that increase effectiveness and reduce production costs, they nostalgically preserve a “hand-drawn” quality through computer simulation instead of looking for a new kind. For instance, Hayao Miyazaki, the most famous anime auteur, proclaimed that computer-generated images could not exceed ten percent of the total in his work, and he desires the “less real, less accurate, and less perfect” of these images.<sup>2</sup> This style, a computer simulation of cel animation and hand drawings, can be found in many anime works. Miyazaki’s *Princess Mononoke* (1997) and *Howl’s Moving Castle* (2004) combine hand-drawn characters and computer-generated backgrounds and effects. Anime shorts *Cat Soup* (2001) and *Kakurenbo: Hide and Seek* (2005) have the visual style of cel animation while all elements are built within computers. In Japan, “computer animation” constitutes a nostalgic vision to preserve the past through technological advancements.

This paper begins with the argument that “computer animation” is not simply a tool used to deliver narratives or contents; rather, it is a discursive formation through which knowledge, meaning, and visuality are acquired. I first examine three current narratives of computer animation in the United States: the ideological, the mythological, and the hegemonic. The first narrative leads an endless search of perfect representation of reality that follows the long-ideological tradition in Hollywood cinema. The second implies a mythological paradigm that promises a historical closure for “the old” and a technological progression for “the new.” The third, more or less as a consequence of the former two, holds a set of habitual principles of production.

By examining Japanese animation *Final Fantasy VII: Advent Children* (2005), this paper argues that computer animation reveals more about cultural understanding of the visual than it does about the effectiveness of using particular

<sup>1</sup> *New York Times*, October 15, 2006.

<sup>2</sup> From *Weekly United Anime and Manga Report* 聯合動漫週記. Retrieved July 20, 2005, from [http://mag.udn.com/mag/dc/storypage.jsp?f\\_MAIN\\_ID=1&f\\_SUB\\_ID=9&f\\_ART\\_ID=9213](http://mag.udn.com/mag/dc/storypage.jsp?f_MAIN_ID=1&f_SUB_ID=9&f_ART_ID=9213)

technologies. Contrary to Square-Enix's previous animated feature *Final Fantasy: the Spirit Within* (2001) that represents a vision of *hyperrealism* but falls into "a panicked search of origins" (Lamarre, 2006), *Advent Children* is argued to present a vision of *hyper-spectacle* that is embedded in contemporary *superflat* culture and in the Japanese tradition of *contingency*. Computer animation thus acquires its aesthetic—*hyper-spectacle*—through which a cultural understanding of the visual is revealed. Finally, this paper proposes studies not to locate "computer animation" in machines or tools as a neutral object, rather, to explore that it is discursively constituted by and through culture, constantly acquiring cultural meaning in society.

## Three Narratives of Computer Animation in the United States

### 1. *An ideology of perfect representation of reality*

Andrew Darley (2000) positions "computer animation" to be a genre or sub-category of film, which deploys a particular group of technology to create the illusion of motion. He defines,

'Computer animation' has two senses: it refers to a particular way of producing the illusion of movement, and it refers to a genre or type of film so produced. Plenty of mainstream films employ computer animation as part of their production process, but they do not become, thereby, examples of computer animation. (p. 82)

Darley uses Pixar's *Toy Story* (1995) as an example, distinguishing a specific aesthetic of computer animation from cinema. This specific aesthetic, for which he called *hyperrealism*, persists Disney's approach to *animation realism* through the digital means. Contrary to the clear distinction that Darley draws, digital media theorist Lev Manovich (2000) argues that computer animation as an idea, once lesser and subordinate to cinema, now subsumes cinema. For Manovich, computer animation embodies a new logic of communication in cinema—which he calls "new language"—through a set of technological advancements, including 3D animation and 2D effects (Manovich, 2000, 2001, 2006). Identically, both Darley and Manovich emphasize three-dimensionality and conceptualize computer animation in relation to cinema. In their discussions, computer animation, with its stunning technological capacities, becomes an *idea* and a *metaphor* that promises "a particular way of producing illusion of movement" or "a new language of cinema." However, whether computer animation is subordinated to cinema as a particular genre or it subsumes cinema as metalanguage as Manovich argues, they both confirm computer animation's inevitable fate to carry on cinema's unsettled relationship with reality. Thomas Lamarre (2006) describes it as a "fatal repetition of cinema"—that cinema has been constructed to be a specific form of representation, as an "optical properties of the photographic lens" and as a "monocular technology arising directly from bourgeois ideology" (p. 165). Computer animation hence sustains this long ideological tradition in the West, processing a phenomenological illusion of reality that is considered as "hyperrealism." Computer animation and its distinct aesthetic of hyperrealism become a return to the unsettled fate between cinema and representation of the real. Further, because computer animation is capable to represent

the real without prior existence of the subject matters, viewers may be ideologically convinced that now images transcend reality.

### 2. *The mythological paradigm of historical closure and technological progression*

Manovich's proposition of "new language" of digital cinema underlines and guarantees two complementary paradigmatic fictions—historical closure and technological progression. Thomas Lamarre (2006) challenges Manovich who takes "cinema" for granted, periodizing cinematic language through which a guarantee is made for the new to replace the old. He criticizes that while suggesting that computer animation promises a new way of seeing, it presupposes that cinema functions as a closed and coherent system and fictionally presents it as the origin of computer animation.

As a result, computer animation, functioning as a metaphor of "the new," is constantly embodied by technological advancements. Since the 1970s, computer animation has possessed more and more phenomenologically perfect imaging, from wireframe displays, smooth shadows, detailed textures, ray-trace rendering, particle systems, and simulation of cloth, hair, and fur, etc. These technological advancements are driven by one fundamental assumption: re-create an image identical to the one captured by a film camera (Manovich, 2000). Thus the very possibility of technological progression depends on the fatal repetition of cinema's formal fate toward the real. Computer animation becomes a substitution to sustain the reality effect in cinematic traditions and assures an imagery of historical closure and technological progression.

### 3. *The habitual mode of production*

The former two narratives habitually lead a set of production principles of computer animation. Manovich (2001) argues that initial developments of computer animation started in two fields: military divisions and entertainment industry. It began merely as computer simulation of reality on the purpose to train soldiers and to enhance special effects in film. Both fields focused on developing technological advancements that were capable to produce a coherent system of causality, space, and time in guiding the phenomenological illusion for viewers. Software and hardware of computer animation were invented to correspond this system, insofar as they become the *infrastructure* of production of computer animation. For example, the prominent 3D animation software Maya divides its interface to be four basic categories—Modeling, Animation, Render, and Dynamic. Users presumably (and unconsciously) follow the inner logic and systemization of production. These four categories structure a set of hegemonic principles of production. Not only production studios hire employees as modelers, animators, or technical directors whose expertise falls into one of these principles, but also education institutions design their curricula of computer animation based on these categories.

Further, production and education of computer animation become a part of software and hardware consumption in the United States. Corporations release "new" products in order to secure their profit each year. These new products as a fictional promise to approach better imaging while constrain production of computer animation into their hegemonic principles. Whereas technological advancements are able to reduce production cost, the industry is driven by the

endless high-tech competition through which low-budget and independent production is excluded. Rather than presenting a new way of seeing, computer animation merely resembles the habitual mode of production.

## A Divergent Vision of Computer Animation in Japan

When the famous Taiwanese comic artist Uen Chen—whose work has been regularly published by the high-profile publisher Kodansha Ltd. in Japan, and his unique Chinese ink-painting style attracts many Japanese manga readers—started using computer-generated images in his work, the Japanese publisher presented strong resistance of these images. The publisher explicitly showed interests *only* in his traditional techniques, rejecting all computer-generated images he made.<sup>3</sup> This is not a single instance among Japanese perceptions of the deployment of computer-generated images. While the anime and manga industries well acknowledge that technological advancements reduce production cost and time, they value more “traditional” qualities of the visual and deliberately deploy the digital means to preserve them. For example, while it is commonly considered as “digital animation,” *Cat Soup* (2001) possesses an indistinguishable visual appearance from cel animation, a hand-drawn and two-dimensional quality. Yet embedded in the flatness visually, there are camera movements, coordinated lights and shadows, perspective alignments, and dynamic effects (such as smoke, water, fire), implying a three-dimensional virtual space. The director Tatsuo explains, “When we say ‘digital’ for this piece, we mean that we used it as a tool to heighten the two-dimensional imagery and to create a sense of three dimensionality.”<sup>4</sup> In the following, I argue that Japanese computer animation acquires an aesthetic that persists a depthless imagery with the contingency of three-dimensional flux.

### 1. The superflat Japanese culture

Heightening a depthless visual quality, argued by Japanese artist Takashi Murakami, Japanese animation reflects the cultural feature of “superflatness” (Lamarre, 2004; Murakami, 2005). Murakami (2005) defines “the superflat” as “the sensibility that our psychological and material world has been transformed into the flattened surfaces—the working environment of computer monitors, the entertaining elements on screens, and the forceful integration of data into images” (p. 152). He further claims that contemporary Japanese customs, art, and culture are all extremely “two-dimensional”—the visual field devoid of perspective and the conceptual field devoid of hierarchy.

The depthless visual quality disembodies linear narratives in viewing experience. For example, Jameson (1991) uses Andy Warhol’s painting *Diamond Dust Shoes* (1960) as an example, arguing that it depicts no illusion of depth, illustrates no visual perspective, contains no markers of context or explanation, and leaves viewers no space to interpret. The supreme formal feature of flatness and the lack of visual perspective provide its viewers only the image of shoes resisting to be interpreted. Visual signifiers with such a quality no longer hold a sense of their origin—the signified.

They distance viewers from political claim, purpose, or rationale but leave them only “a field of stylistic and discursive heterogeneity without a norm” (Jameson, 1991, p. 17). Whereas the perspective brings a two-dimensional surface into a consistent, singular, and a homogeneous kind of order that is united by one vanish point, the superflat is more like an accumulation of independent images and styles that do not promise a consistent viewpoint (Azuma & Murakami, 2000; Looser, 2002).

### 2. *Final Fantasy VII: Advent Children* (2005)

In 1997, the video game *Final Fantasy VII* opened up new playability that combines 3D computer gaming and animation and it made a remarkable success in game history. The company Square (currently Square-Enix) continued the technological and visual approaches deployed in the game series to produce animated features in 2001 and 2005: *Final Fantasy: The Spirits Within* (2001) and *Final Fantasy VII: Advent Children* (2005). It is widely argued that *Final Fantasy: The Spirits Within* presents hyperrealism, through which the notion of the real is challenged. It becomes not only the most significant remark that situates computer animation in search a cinematic origin, but also presents the ultimate goal of computer animation that represents a perfect reality without origins. However, as Lamarre (2006) criticizes, *The Spirits Within* presents a “fatal repetition” of cinema that is “trapped by a panicked search for origins” (p. 171). The panicked search for origins is built upon the fact that there is no inner connection between images and origins. Thus it becomes a disempowering trap through which computer animation search for nothing but only its relation to origins (the real). Instead of representing a perfect reality, it presents a false ideology of searching reality.

Four years after *The Spirits Within*, the company releases *FF VII: Advent Children*. This time the production studio does not aim at searching for any technological or narrative “progress” in *Advent Children*. First, instead of creating a new narrative, *Advent Children* is a continuous storyline after the game *Final Fantasy VII* in 1997. Second, there is not much technological advancement but subsequence of what was utilized in *The Spirits Within*. While it is a deliberate choice of production based on financial and marketing concerns, this paper argues that *Advent Children* differs from *The Spirits Within* from the aspect of searching an over-visualized *spectacle* instead of a repetition of *reality*.

Whereas hyperrealism of computer animation effaces the boundary between the images and the real, it still remains its unsettled relationship with *indexical* media—media that contact and capture “the real,” such as photography and cinema. Manovich (2001) set up *indexical* media (cinema) to be the foundation of computer animation. Both Manovich and Darley argue, although digital media generate realities rather than record them, celebrating imagination over documentary, it still involves an attempt to produce old ways of seeing or representing by the digital means.

On the contrary, the hyper-spectacle is never concerned with any connection to the real or representation of reality. It insofar produces old ways of seeing that embeds in Japanese superflat culture and the tradition of contingency.

## Conclusion

<sup>3</sup> Personal conversation with Uen Chen, 1999.

<sup>4</sup> From the director’s commentary in the DVD.

*Technology is not simply framed as a machine, but also as an idea and metaphor.* (Eisenhauer, 2006, p. 199)

As Manovich (2006) argues, while most live action films and animated features look quite distinct today, it is a result of “deliberate choices” rather than the inevitable consequence of difference technologies (p. 1). However, these “deliberate” choices are discursively constituted by ideologies, traditions, knowledge, and cultural understanding of the visual. Technological advancements of computer animation are reaching a level of sophistication, and computer-generated images become the prevalence in today’s visual culture. This paper looks beyond what’s *new* and what technologies can *do*, exploring what technologies *mean* at particular socio-cultural contexts. Challenging that ideological traditions, technological innovations, and corporative principles of production consist of a neutral vision of “computer animation,” this paper inquires that how computer animation is discursively constituted in Japan.

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