

# The Digital Surreal:

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The representation of space and time through digital visual effects in the contemporary science fiction film.

## Abstract:

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This article explores the changing spectacular aesthetic of the Hollywood science fiction film, in particular its shift to a far more surreal and spatial aesthetic as precipitated by new digital imaging technologies. Drawing parallels with the 'cinema of attractions', this article will analyse these emerging spectacular aesthetic features questioning why the science fiction genre provides a framework that allows audiences to be accepting of these images.

Ben Walker, September 2007.

## The Celebration of CG

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The science fiction film, for the most part, has been a spectacle-driven genre from its inception in the early period of film. *Voyage dans la lune* (1902) by Georges Méliès being the iconic example from that period of the cinema of attractions.

“Many trick films” writes Tom Gunning “are, in effect, plotless, a series of transformations strung together with little connection and certainly no characterization. But to approach even the plotless trick films, such as *Voyage dans la lune*, simply as precursors of later narrative structures is to miss the point. The story simply provides a frame upon which to string a demonstration of the magical possibilities of cinema” (Gunning 1990, p.58).

The working definition for ‘science fiction’ in the context of this essay is a broad one. Science fiction is an inherently difficult genre to define in that science fiction elements creep into a number of genres (and vice-versa). The technologies through which it has been represented have evolved at a remarkable pace in the last 25 years and hence changing what we might consider a science fiction aesthetic. Thematically, the science fiction genre could be defined in a number of ways. Elements of technological fantasy, possible futures, alternate realities and virtual realities as well as notions of the frontier all feed into the notion of science fiction.

The underlying argument of Michelle Pierson’s article ‘CGI effects in Hollywood science-fiction cinema 1989-95: the wonder years’ (Pierson 1999) is that the advent of computer generated imagery (CGI) in the early 1980s to the emergence of what were essentially CGI-driven films (*Terminator 2* (1991), *Jurassic Park* (1992)) was a watershed moment for the sci-fi spectacle. These films “offered the viewers the opportunity to participate in a popular cultural event that put the display of the digital artefact [...] at the centre of the of the entertainment experience” (Pierson 1999, p.158)

However, she also asserts that the images generated for science fiction are “frequently represented as being geared towards simulation, but this period of special effects production also marks the emergence of a popular techno-futurist aesthetic that foregrounds the synthetic properties of electronic imagery” (Ibid., emphasis mine). In this regard, the science fiction film

can be seen as a technological showcase for current image creation technologies – technologies that perhaps only a few years before were science fictions in themselves.

This article is not about highly realistic images that present themselves as reality within science fiction. This is not about simulation. Rather, it is about the spectacle celebrating the very ‘CG-ness’ of the image where the ‘reality’ of the film starts to falter and the images become much more than a realistic simulation. The audience is being presented the very latest of the “trick films” and slips into a computer generated phantasmagoria where the image creators control both time and space.

## Dodge This

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“Every change in film history implies a change in its address to the spectator, and each period constructs its spectator in a new way.” (Gunning 1990, p.61)

A landmark moment in science fiction spectacle is that of the ‘bullet time’ sequence in the 1999 film *The Matrix*. The now oft-parodied and imitated sequence involves the main character, Neo, in a shoot-out with an ‘Agent’. When the Agent fires a round of bullets at Neo we slip into an ultra-slow-motion sequence – we see the bullets moving slowly through the air creating a string of shockwaves behind them. Neo flails backwards dodging (most of) the bullets while the camera swoops around him in a 360° arc, passing through the bullet trails. The shot ends and we are suddenly returned to a real-time aesthetic as the camera becomes locked once again. Perhaps questioning on the audience’s behalf, the Trinity character questions Neo: “How did you do that?”

The bullet time sequence was by no means a revolutionary technological leap forward. It was essentially an evolution of the image ‘morph’ effect that was prevalent in the late 1980s and early 1990s (Spielmann 1999) (Ndalianis 2000, p.256). The effect is achieved by essentially photographing a series of images that are taken by an array of many cameras arranged in an arc. From this point, the images are then morphed together to create the smooth movement. The live action morphed footage is then integrated within a virtual environment. In effect, the multiple real cameras becomes a single virtual camera. Virtual, albeit restricted to the original arc the cameras were arranged in.

Where 'bullet time' was revolutionary was in its application. A highly stylistic, almost surreal, use of visual effects to accentuate the spatiality of the image. This spatiality of the image was accentuated further in the Matrix sequels, most notable in a sequence depicting Neo in a brawl with dozens of Agents. The camera remains fluid for extended sections of the sequence as it flies through the scene as time ramps in and out of 'bullet time' to 'real time'. What is notable about this sequence is the fact that the camera is no longer pre-defined to an existing path or movement, in effect becoming completely virtual.

It is this accentuated spatiality of the image – the presentation of control of space and time in a stylistic or surreal form - which is seen a recurrence within the science fiction genre, particularly within the last decade.

The climactic battle atop the Statue of Liberty in X-men (2000) sees the Wolverine character defy, or at least overcome, gravity through his super-human strength and appendages (for use of a better word). The camera following the character 360° as he miraculously swings around the crown of the statue.

In a more recent example, the climactic sequence to Sunshine (2007) sees the Capa character in a final duel aboard a spaceship falling towards the Sun. The spatiality and temporality of the sequence becomes ill-defined as the gravity becomes immense. The camera swoops around, the audience unsure of what is 'up' or 'down'. At times we see the character fall away from us on what we assume is a level surface while the image itself distorts as if being affected by the environment it represents.

To go further back to the beginnings of CG within film, we see movies such as Tron and The Last Star Fighter which present highly stylistic representations of virtual electronic space. To go further back still we could cite the 'waitress' sequence in 2001: A Space Odyssey (1968) as a prefiguration of the spatial effect. On a ship in space, a waitress serving food apparently walks up a wall in zero gravity, defying the audience expectations and displaying control over natural forces (or rather lack thereof).

However, this spatialisation of the image is not confined to the science fiction film. Kirsten Whissel in her excellent paper, *Tales of Upward Mobility*, explores the 'rise of a new generation of films that make increasing use of the screen's vertical axis' (Whissel 2006, p.23). In it, we see that the use of the screen's vertical, or depth, axis is very much being used outside of the science fiction genre, but for the most part in a different fashion. Whissel describes this notion of verticality, stating "[a]t its most basic level, the new digital verticality is a technique for activating polarized extremes. Its abstract spatial coordinates are those of the zenith and the nadir, and its favorite location is the precipice, regardless of setting" (Ibid., p.24)

What, then, defines the difference between Whissel's verticality that we see in *Titanic*, *Hero*, *Crouching Tiger, Hidden Dragon*, *Lord of the Rings*, to name but a few, and this more spatial aesthetic that becomes apparent in the science fiction film? Stylistically, they seem to be different in that the science fiction film is allowed more leeway in terms of the surrealism of the image. As it is no longer based in a pro-filmic sense of 'reality', it becomes a far more theatrical, presentational aesthetic. Thematically, the science fiction film seems to be more concerned with the character's power or control over the various forces. Whissel's verticality is more concerned with characters succumbing to those forces.

In regards to the audience's relationship to the image, the spatiality of the image becomes a much more interesting facet in that the camera becomes almost free-form. The audience's relation to the image, then, is much more akin to that of a virtual reality ride – an attraction. The audience doesn't assume any one view or position in the classical Hollywood sense of the term, but rather are "freely" moving around within the environment - a filmic rollercoaster designed to incite corporeal responses from the audience. "Attractions pose a very different relation to the spectator" writes Gunning in *'Now You See it, Now You Don't'* (2004, p.44). "The attraction directly addresses the spectator, acknowledging the viewer's presence and seeking to quickly satisfy a curiosity. The encounter can even take on an aggressive aspect, as the attraction confronts the audience and even tries to shock them."

The shock, then, stems from the change in appearance – the transformation of the image. So it is not so much the environment in and of itself that defines the science-fictionness of the aesthetic, but rather how that environment is represented. "With regard to structural components of the morph," writes Spielmann, "we can talk about the emergence of a "spatial

effect” that refers to the development of “special effects” in science fiction film, but is crucially different inasmuch as the “effect” of spatialisation is electronically simulated.” (p.139) Spielmann goes on to describe that this representation of space emphasizes the ‘density and texture’ which represents the ‘inflation and mapping’ of space rather than its depiction. And hence the term of the digital surreal – the digital effects that emphasize the spatiality of the image are an abstraction of cinema presented as an attraction to the audience.

## Transformations and Possible Futures

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What is it, then, that places the science fiction genre at the forefront of this spectacular digital imagery? One possibility, Pierson notes, is that at a almost fundamental level, science fiction requires digital effects to “meet its narrative requirements for never-before seen imagery.” (1999, p.160) But the reasons clearly go beyond this. Pierson cites La Valley who asserts that the science fiction film is ostensibly a showpiece for what visual effect technologies are capable of at this moment in time (p.161).

The timing of the emergence of the more surrealistic visual effects is no coincidence. Towards the end of the 1990s and forging on into the new millennium, CG effects in film in general were attaining higher and higher levels of verisimilitude. To push any further towards a simulated realism was counter-productive within the science fiction genre. The technological performance spectacle became indistinguishable from reality – the tricks were still there, but had become invisible to the audience as a performance. An illusion ceases to be an illusion if the audience thinks they are watching reality. While simulated realism is suited for genres that rely on the flawless representation of reality to maintain the story world, for some science fiction, it hinders the audience’s astonishment. The audience no longer celebrates the simulated CG as with Jurassic Park. In a sense, the verisimilitude hinders the audience’s appreciation due to the fact that the audience can not recognize what is real and what is an illusion. As such, they fail to see the transformation from one to the other. And it is in that transformation where the moments of astonishment lie; the transformation of Neo from ‘Mr Anderson’ to ‘The One’ mirrors the transformation of a real-time aesthetic to a bullet-time aesthetic; from the real to the surreal. The audience needs that transformation to be a large, audacious and over-the-top shift from ‘reality’ to abstraction or surrealism and back again, as it

is within that moment where the representation of space changes, where the attraction of the spectacular image lies.

Perhaps ultimately, the technological spectacle of the science fiction film is bound to film itself. There was a time when the illusion of captured movement in was in itself a science fiction. With the advent of moving images, part of the celebration and theatricality of them originally was the device itself as a scientific wonder and the pinnacle of the magic theatre. With the rise of the digital imaging technologies we have entered into a new age of celebration of the image where the science fiction film is a playground for the theatricality of visual effects. To an extent it legitimizes, in narrative terms, use of spectacular image sequences providing narratives to which we can “hang” the spectacle on, to come back to Gunning and his “plotless trick films”.

“As the century draws to a close” writes Pierson, “we have already witnessed a shift away from a tradition of arts-and-effects direction in science fiction cinema that reached its apotheosis in the early 1990s with Hollywood’s first big experiments in CGI” (p.163). Stylistically the science fiction film is ever changing. Currently, there appears to be the beginnings of a shift towards 3-dimensional films within the next few years, most notably being James Cameron (Terminator 2, Titanic) planning a series of science fiction films combining live-action and CG elements that will be viewed by audiences in 3D (Thompson 2007). It seems that the spatiality of the filmic image is about to undergo a major transformation, again piggy-backing on the science fiction genre where audiences accept and celebrate the digital surreal and marvel at the latest in technological cinematic theatricality.

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