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Back to the Drawing Board: The Effect of Digital Animation Within the Realm of Live-action Cinema

James Opfer

Animation has long occupied the sidelines of cinema. As its essence resides not in the ability to capture the world as it really is but in an artistic representation of reality, conventional animation has often been discarded as an outdated by-product of cinema's early technological development. However, with advances in digital animation, live-action film is becoming increasingly reliant on computer-generated images as a tool to manipulate the on-screen image, whether to subtly tweak aesthetics or to create entire scenes. The relationship between animation and live-action cinema is therefore changing. Some fear that, as a result, cinema will lose its credibility as an authoritative medium; that the hand of the digital animator will detract from cinema's ability to effectively showcase the 'real'. With reference to films containing varying degrees of digital manipulation, this paper will look at the effect that this hybridisation has on both animation and live-action cinema, and will show that, although it may detract from cinema's authoritative nature, it also frees filmmakers from the constraints of conventional cinematic apparatus, allowing for the creation of new and exciting styles.

This paper analyses the impact that digital animation has had within the realm of live-action cinema. It explores how cinema, an art form

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often seen to be grounded in its ability to capture the 'real', has changed as advances in digital technology have allowed computer generated images (CGI) to become another tool in the filmmaker's repertoire. It also investigates how digitalisation has altered animation by looking at the relationship between animation, live-action cinema and 'realism', addressing whether or not this new hybrid can possess a 'realist' quality, examining its effects on cinema's ability to display the 'real'.[1]

Until recently, cinema has been a medium reliant on the use of cameras, dark rooms and processing labs to capture live-action images on celluloid film. It was an art form grounded in analogue technology and mechanical processes.[2] Due to its automatic nature, cinema has been seen as the medium with the ability to represent 'realism' in its truest form, possessing a superior quality over other artistic representations of life. As Andre Bazin once wrote, "For the first time an image of the world is formed automatically, without the creative intervention of man."[3]

While 'realism' is a relative term, the films deemed to possess the highest degree of 'realism' are those that discard cinematic conventions in an attempt to capture the world as it is seen on a day-to-day basis. This excludes animation from the debate as its essence lies in its blatant appeal to its man-made construction. As cinema's "bastard relative", twentieth-century animation relied on hand-painted, man-made images and loops; techniques once used in the production of the pre-twentieth century moving image but surpassed and discarded by cinema as it developed. Animation was unable to provide the sought-after realist qualities that cinema could produce.

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[1] 'Realism': The cinematic styles that are deemed to hold the greatest degree of realism are those which attempt to transcend the viewer's awareness of the cinematic apparatus and capture reality as it really is.
[2] Prince, S., 'The Emergence of Filmic Artefacts: Cinema and Cinematography in the Digital Era' (2004) 57 (3) *Film Quarterly,* 25
[3] Bazin, A. (trans. Grey, H.), *What is Cinema?* 1 vols. (University of California Press, 2004), 13

As a result, twentieth-century animation was often viewed as a by-product of cinema's technological advances. [4]

However, in recent years the relationship between cinema and animation has changed as new digital technology and techniques have engulfed every aspect of the filmmaking practice. Digital cameras record directly onto a digital format that can be manipulated, pixel-by-pixel, with the use of computer editing software in postproduction, giving filmmakers greater artistic control over the filmmaking process.[5] CGI and green-screen technology allows for any degree of manipulation of the pro-filmic event, from digitally tweaking colour and saturation to the creation of digital worlds where whole scenes, props and extras are digitally animated and blended with digital live-action footage.[6] These images, although never actually filmed, have flawless photographic integrity, thus casting a shadow over the authority that cinema holds.[7]

The ability to create photo-realistic images with the use of computer animation software brings the evolution of cinema back to its point of origin. Cinema, the medium that had discarded manual techniques as inferior, has become reliant on digital animation as part of the filmmaking process, bringing animation back to the foreground of the on-screen moving image. Cinema and animation can no longer be distinguished, as they both exist in pixelated, digital form. This means that every scene becomes like a painting. Cinema becomes animation.[8]

Such difficulty in distinguishing live-action footage from digital animation means that, in theory, it is possible for any degree of

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[4] Manovich, L., *The Language of New Media* (Massachusetts Institute of Technology Press, 2001), 298
[5] Prince, S., 'The Emergence of Filmic Artefacts: Cinema and Cinematography in the Digital Era' (2004) 57 (3) *Film Quarterly,* 27
[6] 'Pro-filmic event': The on-screen event.
[7] Manovich, L., *The Language of New Media* (Massachusetts Institute of Technology Press, 2001), 295
[8] Ibid

manipulation of the pro-filmic event. Films such as *O Brother, Where Art Thou?* (Coen, 2000) and *Sin City* (Miller & Rodriguez, 2005) both used digital animation, but they are two completely different cinematic styles. It is therefore important to distinguish between the use of 'covert' and 'overt' digital animation within live-action cinema.

O Brother used 'covert' digital grading during postproduction to subtly dull the recorded image, producing a 'dustbowl' feel whilst maintaining emphasis on the pro-filmic event.[9] This use of digital animation replaces conventional postproduction lab processes as a means to attain a specific pictorial design, passing it off as the 'real' – something that in the digital age has the potential to cause problems for cinema's 'realist' nature.

On the other hand, films like *Sin City* and *300* (Snyder, 2006) use 'overt' digital animation to appeal to the aesthetic of the graphic novels they are adapted from. They use explicit CGI effects as a means to recreate the images and intensity of Frank Miller's original work, reinventing the surreal and twisted world of the comic book for the big screen. Filmed against green screens the only live-action elements are the actors (with the exception of three real sets in *Sin City* – Shellie's flat, Kadie's bar and the hospital in the epilogue). However, as their newly animated aesthetic does not *fully* coincide with their real world appearance, due to digital manipulation, they are effectively transformed into cartoon characters.

Such 'overt' digitalisation places emphasis on *animation*, not live action. It generates an animated aesthetic, using actors as props that become part of the animated mise-en-scène.[10] Although animation can never achieve 'realism', the use of live-action footage as a blank canvas allows for a degree of 'hyper-realism', a term that according to

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[9] Prince, S., 'The Emergence of Filmic Artefacts: Cinema and Cinematography in the Digital Era' (2004) 57 (3) *Film Quarterly,* 28

[10] Tudor, D., 'Through The Eye of The Frog: Questions of Space in Films Using Digital Processes' (2008) 48 (1) *Cinema Journal,* 93

Paul Wells, describes "animation which aspires to the creation of a realistic image system which echoes the realism of the live-action film(s)".[11]

This new digitalised hybrid allows for this whilst embracing its capability to *resist* realism, spawning a new and exciting form of animation, distinct from any other – a form constantly oscillating between meta-realism, realism and over-the-top, epically 'cartoonesque' environments. In the past, films like *Bambi* (Disney Studios, 1942) were seen to reach the ultimate level of 'hyper-realism' due to the way that the characters and their environment were represented. The characters' design corresponded with their real-life counterparts. They were subject to real-world physical laws, sound and movement matched reality and characters held a rounded psychological depth.[12]

Alternatively, cartoons like *Roadrunner* (1949 - Present) did the opposite from reality, portraying outrageous and often violent worlds with inhabitants that held 'squash-n-stretch' characteristics, able to defy the laws of physics.[13] Although *Roadrunner's* defiance of 'realism' allows for a strong creative vision and form of expression, it does so at the expense of character development.[14] Viewers came to know Wiley E. Coyote from his doomed-to-fail run-ins with the roadrunner. It is all he was.[15] Aware of their environment, these characters were constantly at war with the animated effects.

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[11] Wells, P., *Understanding Animation* (London, 1998), 25.

[12] Ibid.

[13] 'Squash-n-stretch': A technique used by animators in which an object's ability to squash and stretch is accentuated in an attempt to generate fluidity and achieve an overly-elasticised aesthetic.

[14] Thompson, R., 'Meep, Meep', in B. Nichols (eds.), *Movies and Methods: An Anthology* (University of California Press, 1976), 128

[15] Ibid. 132

By merging digital animation with live-action, films like *Sin City* and *300* hold a hyper-realistic fluctuation. The characters possess a greater physical resemblance to real-life humans when compared to that of Bambi and real-life deer, creating an intense 'hyper-realism' in terms of design. However, digital animation is used to simultaneously oppose realism and escape from the boundaries of conventional live-action cinema, granting the characters a cartoon-like quality. Like Coyote from *Roadrunner*, they are free to defy physical laws within an environment that holds little cause-and-effect.

Sin City's controversial narrative centres on sex and extreme violence, telling stories of pain, suffering and the rise and fall of characters within their miserable and grimy setting, 'Basin City'. Digital animation allows for an over-the-top portrayal of sex and violence that is unhampered by realism, toning-down the impact of the scenes whilst maintaining the characters' psychological depth. Marv can jump down four flights of stairs whilst dodging bullets, leap feet-first through the windscreen of a moving police car, throw one of the officers fifteen-feet from inside before ploughing the vehicle nose-first into a river. He can do all of this, only to appear in the next scene, covered in comically-applied, criss-cross sticky plasters, stating "Don't worry Lucille, I'm just grazed. You got any beers around this place?"

The live-action, combined with the photo-realistic quality of the digital animation, permits a greater identification with the characters. The spectator is in-effect viewing animated human beings and their struggles within a strange world. Emotional identification with Marv is reinforced by the viewer's relationship with the actor behind the character, Mickey Rourke. Viewers can relate to the character's human qualities on a level that was only possible to achieve in live-action cinema, until now.

Like *Sin City, 300* centres on violence. Depicting the battle of Thermopylae, it illustrates a lone, historically epic and violent event. Although the battle of Thermopylae was an actual event, it is a story that has been passed down through the ages and has become

enmeshed in ancient Greek mythology. The Spartans fought with the help of the Gods riding behind them. It is therefore a tale that merges the real and the unreal, the mythological and the logical. It is an ideal story to be brought back to life, on-screen, through the use of live-action and digital animation, set in an animated world in which anything can happen. It depicts the story as it is has been passed down, one of epic proportions and of fantasy. 'Overt' digitalisation creates an awareness of the animated fantasy world in which the characters operate, allowing for over-the-top spectacle and sensationally violent scenes.

Live-action films with 'epic' narratives often adopt 'covert' digital animation as a means to generate visual impact. However, while animated features like *300* deliberately make viewers aware of the illusion and the creation of the moving image, such fictional live-action cinema attempts to hide its manmade creation. An example of this is *Gladiator* (Scott, 2000) that tells the story of betrayed Roman general, Maximus, condemned to fight for survival in gladiatorial games. Although a live-action feature, it relies on a huge amount of digital animation and CGI to bring the most epic and violent scenes to life. The main fight scenes were filmed within a two-story replica of Rome's Colosseum before digital animators were drafted in to digitally re-build the rest of the Colosseum and the vast crowd within it, in an attempt to carry a 'real' and convincing adaptation of the 'once-was'.
CGI and green screens were used to merge digital footage of tigers with scenes containing live-actors, allowing the ferocious beast to interact with the main character without any fear for the actor's safety. Maximus can plunge his sword through the heart of the tiger without any cost to the reality before the camera.[16] Digital animation used as a cinematic technique permits a more believable portrayal of these violent encounters. The most impressive and violent scenes can be seamlessly brought to fruition in a 'realistic' way by using digital animation in postproduction.

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[16] Prince, S., 'The Emergence of Filmic Artefacts: Cinema and Cinematography in the Digital Era' (2004) 57 (3) *Film Quarterly,* 27

However, *Gladiator* takes digital animation one-step further. The most difficult and perhaps most controversial task for digital animators came after Oliver Reed (Proximo) died halfway through filming. As some of Proximo's scenes were un-filmed, digital animators used digital cut-and-paste techniques to bring the late actor back to life, enabling him to complete a final scene from beyond the grave.[17] Unlike the CGI effects that we expect to find in blockbuster features, such as the digitalised rebirth of the Colosseum, the digital creation of Reed's 'performance' is *completely* covert. It is passed off as just another scene within the narrative; not grand or spectacular. Like the 'digital grading' used in *O Brother*, it is subtle and made to go un-noticed. However, unlike digital grading, digitally animated posthumous 'performances' deduct from the integrity of acting and performance - something that, not only distinguishes live-action cinema from animation but also *defines* it.[18]

Since *Gladiator's* release, digital animation has became commonplace within live-action cinema, with more filmmakers choosing to bypass celluloid film and record digitally. Performance is changing as films like *The Curious Case of Benjamin Button* (Fincher, 2008) and *Tron: Legacy* (Kosinski, 2010) use techniques such as 'performance capture technology' to digitally de-age actors, allowing a middle-aged Brad Pitt to play a young boy or an elderly Jeff Bridges to play a character in his thirties. This overlap of performance and digital manipulation raises the question, "How much of the performance is the actor's and how much of it is created by the hand of the digital animator?" Thus, undermining the humanistic pro-filmic performances upon which live-action film is grounded. In an era when acting holds the status of the last defender of the 'real', such drastic manipulation may lead to the conclusion that 'live-action' can no longer truly exist within the digital realm.[19]

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[17] Ibid. 25
[18] Bode, L., 'No Longer Themselves: Framing Digitally Enabled Posthumous "performance"' (2010) 49 (4) *Cinema Journal,* 47
[19] Ibid. 49

Nevertheless, it is not that the hybrid *itself* ruins cinema or deducts from cinema's 'realist' nature. It is that such a hybrid has the *potential* to when used in a covertly deceiving manner within a live-action feature. Over its one-hundred-and-ten-year history filmmaking has always been a process that has relied on more than just photography to produce moving images, often resorting to matte paintings and animation to change the pro-filmic event.[20] In the brothel shoot-out scene from *Taxi Driver* (Scorsese, 1976), colours were de-saturated in the postproduction lab to detract from the violent impact of the scene. When comparing this de-saturation to the digital grading seen in *O Brother*, it is evident that nothing has changed except the process itself and the ease of which it can be done; the effect remains the same.

The digitalisation of cinema has been, by and large, a positive move for cinema and animation. The use of special effects has lead to the creation of epic live-action cinema, providing filmmakers with endless expressive opportunities. While filmmakers of the past faced restrictions in terms of location, safety and practicality, today's filmmakers can use digital technology as a way to transcend the boundaries of conventional cinema. In terms of animation, digital technology has allowed for new and exciting forms. Animators can create environments that possess the best qualities from both traditional animation and live-action cinema. It allows animators to capture a character's in-depth personality while still allowing for the creation of complex worlds that are free from limitation, leading to an expressive yet psychologically grounded form of animation.

However, when digital animation interferes with the theatrics that rest at the centre of live-action cinema, through the use of technologies like performance capture to bring a dead actor back to life or to tweak an actor's performance, the 'realist' essence that cinema intrinsically possesses gradually evaporates. We have to ask the question, "How important is 'realism' to cinema after all?"

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[20] Ibid. 50

In an age when blockbusters are free to wow audiences through the use of CGI effects and when new forms of radical animation have the ability to draw the audience in both visually and emotionally, in a way never before possible thanks to digital technology, I am forced to look at what cinema actually is – entertainment. It is an art form that tells stories, one that has relied on the manipulation of the pro-filmic ever since Georges Méliès' special effects driven films, dating back to cinema's early years.[21] The digital manipulation of live-action cinema is just the contemporary continuation of an outdated analogue means of manipulation. According to Rudolf Arnheim, film is an art form only once it transcends the camera's inclination to capture a mere resemblance of the world.[22] It can be argued that digital animation therefore allows film to transcend the limitations of the camera and become a stronger art form. Nevertheless, cinema is a medium that is constantly adapting as it is grounded in technology. As society moves into the digital age cinema must follow. Will such a move symbolise the fall of cinema's essence?

It seems to me that this new hybrid is only the beginning of a radical shake-up in the way cinema is created and viewed. It is certain that cinema's essence will change, as it always has, as digital technology progresses. Cinema is founded in evolution and in order to preserve its substance, technological changes must be embraced. Digital animation has earned its place alongside live-action cinema and can therefore be seen as a positive progression, contributing to cinema's identity as an evolutionary medium. Therefore, digital animation should not be viewed as a threat but as a positive stepping stone in the progression of the cinematic form.

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[21] Ibid

[22] Prince, S., 'The Emergence of Filmic Artefacts: Cinema and Cinematography in the Digital Era' (2004) 57 (3) *Film Quarterly,* 26

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