The ILM Industrial Complex: Star Wars and VFX in the Digital Age

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The ILM Industrial Complex:

*Star Wars* and VFX in the Digital Age

Submitted to
Professor James Morrison

By Jane Baldwin

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Abstract

This paper proposes an expansion of Tom Gunning’s seminal theory of the “cinema of attractions.” Advancements in visual effects (VFX) technologies—such as the rise of George Lucas’ Industrial Light and Magic (ILM) and the advent of the digital age, among others—necessitate a more rigorous, updated understanding of effects as objects of media study. Using the Star Wars franchise as an analytical center, I aim to bring the subfield of effects study closer to compatibility with the ever-evolving VFX landscape.
The ILM Industrial Complex: *Star Wars* and VFX in the Digital Age

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Thanks, Mama.
Introduction

In his seminal 1986 essay, Tom Gunning uses the theory of “cinema of attractions” to extricate early cinema—which he defines as the period pre-1907—from the hegemonic framework of narrative supremacy. That is, Gunning took issue with theorists considering works from this cinematic period as storytelling vehicles. He instead identifies a different relation to the spectator in these early films: the cinema of attractions, he argues, is based in its “ability to show something” as opposed to tell it.”¹ Films that Gunning categorizes as part of the cinema of attractions, such as Georges Méliès’ *A Trip to the Moon* (1902), are therefore primarily “frames” for their visual effects and illusory prowess.² Put differently, the spectacle is the point of the film, not the story. As Gunning points out, Méliès confirms that the visual content was the essence of his films, with the filmmaker identifying narrative “merely as a pretext for the ‘stage, effects, the tricks.’”³

Crucially, Gunning also seemed content to disregard the relational capabilities of effects in more recent cinema. He acknowledged that cinema of spectacle is alive and well, thanks in large part to the “Spielberg-Lucas-Coppola” cinema of effects, but simultaneously neutered the impact of this statement: “But effects,” Gunning writes, “are tamed attractions.”⁴ Gunning’s more recent work, including a significant cadre from the mid-2000s, leaves this initial assertion effectively untouched. While scholars such as Christian Metz, Dick Tomasovic, and Dan North have added some nuance to Gunning’s cinema of attractions, his essential theory remains prohibitively narrow and incapable of accommodating revolutionary visual effects efforts—such as those undertaken in Stanley Kubrick’s *2001: A Space Odyssey* (1968) and, most centrally to this paper, George Lucas’ *Star Wars* franchise. Since the late 1970s, Hollywood has witnessed the meteoric rise of Industrial Light and Magic (ILM), the collapse of the production process,
and the advent of digital cinema; these are, quite arguably, the three biggest developments in the history of the subfield since its inception. A critical survey of effects studies is therefore long overdue.

With these considerations, I argue that the prevailing theory of attractions relegates the modern effects-driven blockbuster to an uneasy mode of analysis—one that does not properly understand the centrality of visual effects (VFX) to the relational experience of the spectator, as well as the implications of creating a cinematic diegesis. The limitations of the current model are due, in large part, to an absence of scholarship on effects. As Julie Turnock notes, “effects studies” is categorically underrepresented as a subfield of media studies. This is especially true of digital effects. Turnock, Stephen Prince, Bob Rehak and Lev Manovich have each made notable contributions to the subject of digital effects and their aesthetics. Taking the work of these and other scholars into account, I propose an updated understanding of Gunning’s foundational theory: a cinema of effects as an expansion of attractions, as opposed to a digressive entity. In part, I propose a union of the original imaginations of the Lumière brothers and Méliès: advancements in VFX technologies, as well as a broadening of their applications, have synthesized photorealism and fantasy in effects-driven cinema. Situating this mode of filmmaking as such has significant bearing on the relationship between cinematic aesthetics and frameworks of spectator relations.

Chapter One serves as a general theoretical overview of this paper. Ranging from the earliest origins of visual effects to the implications of the digital age, I evaluate the transhistoric value of the cinema of attractions, as well as its relationship to narrative. Significant discussion is of course devoted to Gunning’s 1986 essay, as well as recent rejoinders published by him and other scholars. Ultimately, I form the theoretical basis for a cinema of effects—a concept with
the generative roots of Gunning’s theory, but perhaps a more resilient approach to continuous technological developments.

Chapter Two contains a brief discussion of spectator psychology and the idea of the spectacle.

In Chapter Three I survey the state of VFX over the course of the 20th century, with particular attention paid to the late 20th century, and particularly the 1980s onward. The primary focus of this chapter is the creation of the Star Wars franchise. The initial trilogy quite literally revolutionized the production process, and therefore the study of effects.

Chapter Four includes some final notes on the advent of the digital age, and a short overview of relevant theories, particularly as they relate to the continuing development of VFX and effects studies.
Early Cinema and a Theory of Attractions

_A Trip to the Moon_ (1902) was arguably the first commercially successful application of VFX. One of Méliès longest and most expensive works—production costs totaled a then-astronomical 10,000 francs—it showcased the filmmaker’s entire bag of tricks. Some illusions were relatively simple: near the end of the film, for example, a cardboard silhouette of the sea serves as the backdrop for the space capsule’s return to earth and subsequent ocean landing. Other shots, however, saw complex illusions that employed novel post-production technologies. In some cases, Méliès manipulated negatives, sandwiching two or more frames together to create a composite. This process yielded sequences such as one in which a Selenite, clinging to the back of a falling space capsule, disappears through the bottom of the frame.

![Figure 1: Still of a Selenite in motion](image)

Blending inventive set pieces with multiple exposures and post-production tricks, Méliès definitively revolutionized the possibilities for image manipulation in the film industry. Even though he did not consider _A Trip to the Moon_ a personal favorite in hindsight, he admitted as much himself in a later...
interview: the film, Méliès said, is something “that people still talk about after thirty years. It made a deep impression, being the first of its kind.”

In addition to making a deep impression, Méliès’ work helped Gunning construct a theory of attractions. In an extended passage, Gunning elaborates on his conception of the cinema of attractions, highlighting its defining qualities and essential functions:

…the cinema of attractions directly solicits spectator attention, inciting visual curiosity, and supplying pleasure through an exciting spectacle…It is the direct address of the audience, in which an attraction is offered to the spectator by a cinema showman, that defines this approach to filmmaking…[the cinema of attractions’] energy moves outward an acknowledged spectator…

From Gunning’s conception, we understand that the spectacle, above any narrative or character development, takes precedence in the film. The spectacle provides the spectator’s primary engagement, as opposed to the story. Also, this sort of cinema connotes an active, engaged spectatorship, as dictated by the filmmaker’s ambivalent posture toward fiction and the fourth wall. The interaction with and the reactions of the spectator are part of the viewership experience, and part of its pleasures. Here, it is worth re/considering A Trip to the Moon as an illustrative example. The aforementioned missile scene serves as a textbook example of cinematic spectacle, soliciting the spectator’s attention with its novelty and illusion. Meanwhile, a sequence at the end of the film, in which the actors grab hands and bow to the audience, directs the energy outward from Méliès the showman to the spectator. This is further energized by the newness of the moving image as an entertainment format. In 1902, most viewers would have been accustomed to stage productions. With the bowing sequence, which is much in the vein of a stage production’s finale, Méliès seems to acknowledge the tension in this spectatorial relation. Indeed, John Frazer contends that this fourth wall breach is a tip of the cap to those who were being exposed to cinema for the first time.
The founding lore of cinema lends an additional element to the cinema of attractions. According to an oft-repeated myth, the Lumières’ *Arrival of the Train at La Ciotat Station* (1896) provoked sheer terror in early audiences. One account from the Salon Indien reported spectators as roaring and screaming in astonishment, with some spectators fleeing their seats.\(^{11}\) Years later, Hellmuth Karasek of *Der Spiegel* summarized the impact as follows:

> Although the cinematographic train was dashing toward the crowded audience in flickering black and white (not in natural colors and natural dimensions), and although the only sound accompanying it was the monotonous clatter of the projector’s sprockets engaging into the film’s perforation, the spectators felt physically threatened and panicked [Fig. 2].\(^{12}\)

To be certain, this and all other accounts of audience panic were never corroborated. A thoughtful individual understands that it is basically impossible to mistake the speeding train for reality, even if you have never seen a moving image. Today, most theorists employ the story to demonstrate cinema’s affective power.\(^{13}\) Maxim Gorky, who documented his reaction to Lumière’s film, interprets his own experience and extrapolates it to that of the general spectator: instead of feeling frightened by the train, “the spectator is astonished by its transformation through the new illusion of projected motion;” it is the understanding of this illusion that shocks the viewer.\(^{14}\) This self-propelling tension between shock and absorption undergirds the

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*Figure 2: Still of the train arriving in Arrival of the Train; the supposed perception of its imminent threat to spectators is mythologized in cinema lore*
cinema of attractions. Just as with riding a rollercoaster, Gunning suggests there is a sort of pleasure in discomfort.\textsuperscript{15}

Both Méliès and the Lumière brothers, then, share this conception of film as pretext. If Méliès cinema as a “frame” for his stage effects and tricks, then the Lumière brothers used cinema to unfold their representational abilities. The Lumière’s illusion is the cinema itself: an image appears in front of a spectator, as if in real life, yet it is not physically there; it is representational as opposed to real. Significantly, this latter sort of illusion dovetails with Stephen Prince’s terming of “perceptual realism”—defined as an aesthetic replication of a three-dimensional reality—which relates closely to illusion vis-à-vis VFX in the digital age.\textsuperscript{16} To preview a later point, increasingly capable digital tools permit increasingly perceptually credible VFX. And so, even as digital effects become more detached from material reality, they are perceived as more effective representational tools than earlier analog effects.

The relationship between Prince’s perceptual realism and the familiar realism of the Lumière brothers permits a theoretical turn toward a more expansive understanding of attractions. In one sense, this analysis preempts Julie Turnock’s articulation of the ILM aesthetic. Nearly a century after the release of \textit{Arrival of the Train}, George Lucas directed his in-house effects artists towards the intended aesthetic for his ambitious science fiction project. The term he used—and has used repeatedly to describe his franchise—is an aesthetic of “documentary fantasy.” Turnock notes that this look is meant to evoke a “perfectly credible ‘used future;’” or, a fantastical realm in which the impossible has already occurred.\textsuperscript{17} To this imperative, ILM began cultivating a new form of perceptual realism using cutting-edge VFX. This combination of credibility and fantasy begs comparison to the cinema of attractions that Gunning puts forth. As observed with Méliès, reality-defying visual tricks define the classic—that is, Gunning’s
original—conception of attractions. At the same time, the Lumière brothers’ work exemplified the affective power of representational illusion. Can these methods of spectatorial relation and provocation of visual curiosity both be contained within the cinema of attractions? If the answer is yes, the reductive reading of modern VFX as “tamed attractions” seems, at best, an inadequate characterization and, at worst, an attempt to avoid situating recent effects films within the cinematic discourse.

**Accounting for Technological Evolution: A Cinema of Effects**

In one view, the essential flaw of Gunning’s theory is its seeming resistance to transhistoricism. Perhaps in a preemptive concession to this point, Gunning leaves a door open to future efforts. In 1986, he writes that “Every change in film history implies a change in its address to the spectator, and each period constructs its spectator in a new way.”

To be certain, Georges Méliès could have never envisioned the VFX possibilities of the digital age. And, similarly, it is difficult to retroactively assess the mindsets of cinemagoers in the early 20th century; the mythology surrounding *Arrival of the Train* suggests as much. Gunning effectively acknowledges this dilemma in a 2006 quasi-repositioning: whether audiences watched *A Trip to the Moon* for the visual trickery or for the playful storyline “can never be absolutely adjudicated.” Indeed, “both undoubtedly played a role” and it is the interplay of the two factors that makes the study of early film spectatorship worthwhile. Gunning goes on to suggest that the best use for his theory is not as a hard-and-fast distinction between different eras of film; its true value “lies ultimately in how it opens up films and generates discussion…of the nature of film spectatorship.”
Gunning’s turn toward the wider study of film spectatorship addresses key questions about the fallibility of his theory. Yet it fails to bridge another common critique: some scholars, such as Charles Musser and Bob Rehak, argue that Gunning’s theory is fundamentally counternarrative. For example, in Musser’s view, there is significant value in considering attractions as complementary to cinematic narrative. He argues that a more flexible theory of attractions beckons a wealth of possibility:

If we think of ‘attractions’ as non-narrative aspects of cinema that create curiosity or supply pleasure, attractions of some kind can be found in virtually all narrative films (in fact all cinema). More specifically, Hollywood cinema and its uses of cinematic form cannot be explained by its efforts simply to tell stories. If we think of ‘attractions’ as non-narrative aspects of cinema that create curiosity or supply pleasure, attractions of some kind can be found in virtually all narrative films (in fact all cinema). More specifically, Hollywood cinema and its uses of cinematic form cannot be explained by its efforts simply to tell stories.22

In considering attractions as anything that might “create curiosity or supply pleasure,” it is possible to consider almost all of Hollywood as a cinema of attractions. The full extent of this implication is ambiguous, but at the very least it divorces Hollywood from its prohibitively narrow alliance to narrative-driven cinema.

For his part, Rehak suggests that this alliance is a major reason that effects studies remain stunted. That is, in an effort to elevate the role of narrative in Hollywood cinema, “traditional film studies has mapped out essentially negative roles for special effects—based on their inherent falsity and deceptiveness…and their alterity to narrative.”23 In other words, Rehak contends that some scholars have created a false and unnecessary dichotomy between effects and narrative: if narrative is true, then effects are necessarily false. This view relegates all special effects to the role of cinematic detractors. The question is not what any given effect adds to the story, but, rather, how and what does the effect take away? Rehak argues instead for a broader understanding of special effects within cinema studies, and, in particular, an appreciation of how they “in short, make things possible.”24 Properly understood, special effects are facilitators of
cinema. As this paper will discuss, the digital effects-driven blockbuster exemplifies the role of VFX in contemporary Hollywood. There is a duality to VFX that much of media studies has heretofore left untouched: the effects-object, in particular, is not only a tool of narrative and diegetic facilitation, but is also worthy of study in its own right.

Gunning’s discussion of cinematic technologies suggests one potential route into this discourse. He points out that early audiences—which is to say, audiences of the cinema of attractions—did not necessarily go to the cinema for the images on the screen. Moreso, they went to see exciting, new technologies in action, with the incidence of visual content as a happy byproduct. Machines like x-rays and the Cinématographe were given head billing on posters and flyers, advertised as entertainment alongside the recorded visual content. Indeed, the essential characteristic of early cinema was the foregrounding of novel cinematographic technologies. For example, occasionally the Lumières would show their films twice at the same showing: once as normal and once in reverse. This twist turns the Cinématographe as both “the apparatus of recording and exhibiting” into “the focus of attention.” Here, the technological marvel competes with—and perhaps supersedes—the on-screen content. This foregrounding is a notable throughline across eras of cinema. In a 1955 account, Richard Wagner remarks that the revolutionary capabilities of the wide screen, with its stereophonic sound, dictate contemporary considerations of spectator engagement. Again, the development of new cinematographic technologies suggests an ever-evolving relationship between cinema and spectator. No matter the strength of a film’s narrative drive, technologies can and may serve as cinematic attractions in their own right.

This emphasis on form over content also bears a comparison to the modern day. It is worth noting technological innovations that are endemic to the digital age, such as 3-D and
IMAX screenings, as similar demonstrations of technological form. Spectators can choose to watch the movies without these technologies, but often spectators make a conscious choice to seek out these specialized screenings. 3-D and IMAX screenings therefore imply a form of spectatorial address that serves as a distinct mode of cinematic relation; the narrative is important to the spectator in these screenings, but so is the technology.

Indeed, contends Dan North, perhaps this duality has always been somewhat true—or at least truer than Gunning’s cinema of attractions might allow. North writes:

To Gunning, *Le Voyage dans la lune* [or *A Trip to the Moon*], which premièred in France on 1 September 1902, is a special-effects movie with a narrative deployed only as a means of linking set-pieces. But the story, however slender, is far more integral than that—a progressive narrative framework is an essential part of the trick, a way of hooking the audience, entertaining them while subtly undermining their faculties of discernment…

In this view, the narrative is more than a framing device. In fact, North suggests that it is an essential component of the total illusion. To be tricked, the spectator must be invested, which is to say that he must be hooked into the premise of the illusion. Further, it is clear that any sort of cinematic imagery, no matter how apparently simplistic, is influenced by both the manner in which it is consumed and the context surrounding its creation. Even in the technology-forward works of the Lumière Brothers, the human mind has an incredible capacity to imbue visual content with narrative meaning—whether imagined or real.

*Baby’s First Steps* (1895) is a useful example here [Fig. 3]. As North notes, the technical limitations of the Cinématographe rendered it near impossible to immerse a viewer in any substantive narrative. For one, there was no recorded, synchronized sound available. The Lumières’ film strips were also only long enough to film for fifty seconds. Yet it is precisely these limitations and the contemporary audience’s understanding of them that allows a
semblance of narrative to take hold, regardless. In the film, the tottering baby stands at the far end of the screen. At the near end, a toy lies on the sidewalk. This is the entire premise of the movie: a baby walks toward her toy. Despite the lack of apparent narrative, audiences—who would have known that the Cinématographe can only accommodate a maximum of fifty seconds of footage—would still feel a form of narrative-driven tension. The question in this case is not: what does the baby do next? Instead, it is: will the baby reach her toy before the film strip ends? Here, even lacking a well-developed story, a spectator might still find himself without the satisfaction of narrative resolution. North conceives of this tension neatly, arguing that these temporal constraints remain in dialogue with the viewer throughout the viewing process, allowing for a “small-scale suspense story which requires consideration of film form and technological boundaries for its full effect.” In essence, this example suggests that cinematic content cannot be viewed within a vacuum, even as the prevailing theoretical discourse might suggest.

So too do “small-scale suspense stories” exist within “progressive narrative frameworks. The role of the digital effects-object in the effects-driven blockbuster supports this theory. Take Tony Stark’s CGI-created super suit from *Iron Man* (2008), by way of example [**Fig. 4**]. The visual of Stark “armoring up” is entirely a product of digital VFX, but the spectator’s emotion in that instant is driven, in large part, by the implication of the visual transformation. As Stark
becomes Iron Man for the first time, the viewer is left rapt with curiosity—about the technological mechanics of the on-screen metamorphosis, to be certain, but also about the narrative significance of this new reality: does the suit work? What does Iron Man do next? The CGI is what makes *Iron Man* possible, and it is certainly what makes the film more visually convincing, but the narrative progression from moment to moment is what attaches spectators to the franchise.

It is remarkable that the coexistence of narrative and technological attraction can be traced from 1895 to 2008 and beyond. It is further notable that this similar duality seems to problematize a more stringent conception of the cinema of attractions. Indeed, a cinema of effects that allows for these sorts of illustrative throughlines appears more apt for cinematic analysis across eras. To this end, it is worth noting that the reductive conception of early cinema seems to serve a specific purpose. North identifies the story-versus-spectacle binary as a way for scholars to “stress cinema’s role as a technological, rather than an artistic attraction at its inception.” Indeed, as previously mentioned, there is some reason behind this methodology. It is undeniable that technology stood at the foreground of the earliest cinematic works. However, forcibly juxtaposing narrative and visual effects benefits the standing of cinematographic technologies at the expense of understanding the relationship between filmmaker and spectator.
While technological developments foregrounded early cinema, 19th century magicians and magic shows stood firmly in the background. Further, the existing binary, as highlighted by the cinema of attractions, ignores the important role of magic culture in the creation of cinematic special effects and illusion.32 As North writes, magic culture in the 19th century was “an exploration of the limits of human skill to amaze and baffle using a combination of practised [sic] artistry and scientifically advanced (or obscure) mechanisms.”33 Further, positive audience response was directly tied to the “performer’s ability to deceive the eye as well as the mind.”34 In this light, 19th century magic culture was a give and take between audience and showman: the performer tries to deceive the audience, the audience tries to explain the mechanism of the trick, the level of deception is raised, and so forth. This context not only provides insight as to the origins of early cinema, but it also begs comparison to today’s effects-driven blockbuster.

Specifically, there is an aspect of technical literacy that translates across these generational audiences: just as modern spectators can identify and assess the quality of VFX, spectators as Victorian magic shows “were already familiar with the conventions of magical performance” and could therefore comparatively assess a performer’s skill.35 Such a comparison is especially apt considering more recent understandings of 21st century effects-driven properties as transmedial constructs.36

Perhaps this revised model clarifies how and why Gunning’s conception of the cinema of attractions is prohibitively narrow. Just as early cinema foregrounded technologies, so too does the modern effects-driven blockbuster. In an alternative, broader view, the effects-driven blockbuster therefore connotes a quasi-return to this earliest form of cinema—not a total departure. In both cases, the spectator can and does maintain concurrent understandings of narrative development and visual effects. Still, the creation of a narrative-driven diegesis stand as
essential differences between these two eras. The effects-driven blockbuster does foreground technology, but the current state of film technology is such that filmmakers can accomplish such foregrounding while convincingly blurring the lines between reality and fiction.

Dick Tomasovic speaks to that point, bringing attractions into the age of the Hollywood blockbuster. For the blockbuster, and particularly the superhero or science fiction blockbuster, he contends that “attraction is the golden rule.” These films are an intricate cobweb of stimulation and spectacle, saturating the spectator with graphics, colors, and effects that are unceasingly stimulating. The spectator, Tomasovic argues, is incapable of properly cohering this onslaught of image, but that does not stop him from trying. Indeed, this paradox defines the prowess of effects-driven blockbusters: the sheer magnitude of stimulus “attracts the spectator to the spectacle of its technology.”

Tomasovic proposes that this visual and technological exhibition necessitates an updated form of spectatorial involvement. The spectator, in one sense, wants to reconquer these “assailing views”—that is, the visual elements that attack him; success in this regard will provide him with a fetishistic pleasure. But in another, concurrent sense, overstimulation can complicate intellectual engagement with the competing attractions, therein periodically reducing the spectator to an absorbed bystander to the diegesis.

A comparison of key scenes from Star Wars: Episode IV—A New Hope (1977) and Episode II—Attack of the Clones (2002) explicates this new relation of spectatorial involvement. Tomasovic points to the attack of the Death Star by Rebel fighters as an essential sequence, not only in the context of Star Wars, but also as a model for fixating the spectatorial gaze [Fig. 5]. He identifies this attack as a “magic formula” of “visual sensations,” with meticulous visual composites—punctuated by pyrotechnics and illusions of speed—rendering the spectator hypnotized. In Attack of the Clones, the Battle of Geonosis reappropriates this “magic formula”
to great effect [Fig. 6]. Much of the fundamental formula is maintained in this latter sequence, but, due to the raised stakes of digital VFX technologies, the relation of spectatorial involvement has been shifted once more. A still from the battle reveals a veritable concoction of digital effects: pyrotechnic explosions, shooting lasers, computer-generated characters and set pieces. Here, the spectator finds himself fixated once more by the speed and bravado of this effects sequence. Further, though, awareness of the digital age forces the spectator to consider the implications of his absorption into the diegesis: even as the image bears a resemblance to the spectator’s experienced reality, he is aware of its entirely representational construction. For all he knows, every single element of the scene may be touched by digital VFX. This erosion of representation and reality as distinct constructs, as facilitated by digital technologies, provokes a question for the enraptured spectator: “do my eyes deceive me? And does it matter if they do?”

To this rhetorical end, I propose two final considerations. In one predominant view, Classical Hollywood cinema used special effects invisibly to draw viewers into the diegesis, or to create magic-like events out of thin air. It arguably follows that this view serves as the basis for both Gunning’s seminal theory as well as some of Christian Metz’s contemporary work. By contrast, Bob Rehak contends, more modern applications of special effects are intentionally identifiable—that is, their visibility allows filmmakers to “create settings, characters, creatures, and events whose unreality coexists in pleasurable tension with the detail brought to their
visualization.” Rather than fooling the viewer, current special effects applications invite spectators into a pleasurable, fantastical dialectic. Here marks a new era of worldbuilding, where the standard of “real” is adjusted to accommodate for an inherent unreality.

And it is within this unreality that the effect-object can thrive, both in conversation with and independently of its constituent narrative. In an extended quote, Nicholas Rombes identifies the inherent thrill of digital cinematographic technologies:

Surely you have felt, even in the most terrible CGI movie, that there is something radical and beautiful lurking there in the images, beneath the surface, some image worth dwelling on, some moment of beauty undermined by the mundane dialogue, something flapping by, like silly pages and you want to say: wait, go back, show me that again. Yes, the movie comes up a little short on the ‘please respect my intelligence’ scale, but the sequence itself is beautiful, artistic, visually stunning.42 This posture is central to the discussion of a cinema of effects. Indeed, the “radical and beautiful” undercurrent of VFX betrays an object that is worthy of engagement and examination, regardless of its relationship to the narrative—and regardless of the merits of the narrative on its own right. Effects-driven cinema powerfully intertwines narrative and VFX, even as the two entities function independently of the other. Here, we observe a regression to the ideals of early cinema—in particular to the enrapturing magic and showmanship of the 19th century—with a complementary understanding of the modern weight of narrative.
Chapter Two: What is Spectacle?

Trucage: Metz’s Conception of Cinematic Deceit

“It is in fact essential to know that cinema in its entirety is, in a sense, a vast trucage.”

1977 was a banner year for film fans and theorists alike. In addition to the release of *A New Hope*, Christian Metz published his noteworthy essay “Trucage and the Film.” By his own definition, Metz categorizes trucages—literally: “tricks”—as special effects, or “process-effects which are particular and localized, which do not merge with the normal movement of the photograms, and which are visual but not photographic effects.” Further, according to the author, trucage is only convincing if a cinematic spectator feels he is observing and/or partaking in a “series of disquieting or ‘impossible’ events which nevertheless unfold before him in the guise of eventlike appearances.” That is, the spectator has to be sufficiently subscribed to the fantasy that the improbable narrative occurrences seem improbable not as individual entities, but as specific disruptions within the accepted fantastical world. If a spectator is unconvinced by the basic fantastical premise, no event would therefore qualify as trucage: distrust of everything entails belief in nothing; or, to rephrase, an inability to trust entails an inability to be tricked.

As the apt moment of its publication suggests, this line of thought is best considered in the context of effects-driven blockbusters. Luke Skywalker’s stunning, effects-laden trench run in *A New Hope* is again illustrative here. The spectator’s provisional acceptance of this critical scene—and, by extension, the dramatic crux of the entire film—rests on the tension between the observed reality of Luke and the inferred unreality of the Death Star trench. This tension between the real and the unreal is, of course, facilitated by the groundbreaking quality of the scene’s VFX. Moreover, Metz’s argument—as paraphrased by Bob Rehak—suggests that special effects are sites where “artifice and...profilmic ‘truth’ are most powerfully co-present for spectators,
making the default mode of engaging with special effects one of division and hybridity.” This “default mode” has important implications for the spectator’s approach to cinema. Here, VFX serve two functions: as attractions—or, in a Metzian conception, sites of artifice—and also as propellers of the narrative. In fact, in the case of Luke’s trench run, special effects are primarily able to uphold and facilitate the narrative because of their dialectic relationship to the ‘real’ elements of the fictional world. It is this masterful dialectic between reality and unreality that successfully implicates the spectator in the diegesis.

In his own words, Metz advances a similar point: “The spectator is not the victim of the machination to the point of being unaware that it exists, but he is not sufficiently conscious of it for it to lose its impact.” This quote is useful in its own right, but also, crucially, in terms of its preemptive bearings on Gunning’s 1986 work. Here, Metz’s psychological ambivalence can be read as sufficiently vague to run parallel to Gunning’s cinema of attractions; at the same time, though, it is its same ambivalence that complicates the coexistence of the theories. Again, from Gunning: “the cinema of attractions…is the direct address of the audience” by means of “exciting spectacle.” In Gunning’s original concept, the attraction—that is, the visual spectacle—is the primary mode of spectator address. This notion implies the attraction’s intellectual hegemony, thereby disabling the spectator’s rational integration of visual effect and narrative. Or, in other words, the spectator’s engagement is not divided: it is loyal to the attraction above all else. Metz’s concept of trucage meanwhile suggests an understanding of effects as an auxiliary mode of address that enables the subdivision of engagement, thereby allowing the spectator to heed the cinematic work, even as he hybridizes his attention between reality and fiction. In this view, while Gunning’s attractions distract from the diegesis, Metz’s trucages facilitate the spectator’s absorption into it. It is worth noting that this interpretation is
consciously reductive. It ignores a larger understanding of Metz’s broader semiotic argument, as well as some of Gunning’s finer, previously stated points about the best use of his theory. However, the bare content remains true, and further permits inroads to a broader, multi-faceted cinema of effects.

To be sure, Metz does seem to share some of Gunning’s skepticism about fantasy films as “good” or engaging art; this may be extended to any film that relies heavily on visual trickery. This skepticism, he writes, is due to the “fragile balance” of trucage-heavy genres, which rely on trucage as a primary “instrument of discourse.” Here, even as he resists some of Gunning’s harsher implications, this quote suggests a partial regression toward a cinema of attractions. It is true that trucage functions through deceit and enables development of the diegesis. But, at the same time, Metz argues that the discursive power of trucage permits a sort of direct spectatorial address akin to that of Gunning’s attractions. Moreover, it is the sort of address that can either dictate or destroy the fantastical diegesis.

This theoretical equivocation is best encapsulated by Metz’s own statement: all of cinema is, “in a sense, a vast trucage.” Or, to rephrase: everything about cinema is kind of a trick.

Curiously, Bob Rehak notes that—despite quotes like the above—Metz’s “emphatically psychodynamic approach” remains largely unappropriated in recent effects studies. At the same time, Metz’s identification of the co-presence of artifice and truth in VFX is useful in understanding the way that spectators perceive and engage with effects-driven films. Indeed, it is Metz’s ambiguity that handicaps his useful application, but, at the same time, his ambiguity permits discussion of the “in-between” spaces—spaces that otherwise, according to Rehak, “have been foreclosed to study.” If anything, this in-between quality is useful in conceptualizing a modern spectatorial relation to special and visual effects.
Spectators, Spectacles, and the Spectacular Image

“How,” asks Robert Wagner, “do these wide screen spectacles relate to the spectator?”

Here, the author is referring to the contemporary advent of wide screen movie screens, which were popularizing in the mid-20th century. How, he asks, do spectators engage with these big, new screens—and perhaps vice-versa? There was some element of this question that was and is rhetorical. After all, as Wagner notes, spectacle is somewhat subjective. To that end, he highlights research that point to several key determinants of cinematic spectatorial engagement, including: identification with the people, places, events, and situations shown in the film; familiarity with the subject matter; anticipation; participation; subjective camera angle; and cartoon and dramatic structure.

In spite of this subjectivity, Wagner makes an additional, more broadly applicable—as well as somewhat provocative—point. In short, he proposes that media theorists situate the wide screen as a contribution to “the process of communication, rather than as a technique for spectacle.” For the purpose of theorizing a cinema of effects, this is an intriguing and potentially useful concept: what does it imply to consider the screen as a communicative tool as opposed to a “technique for spectacle?”

On one level, this changes very little. In discussing the dual or multiple capabilities of the effects-driven blockbuster, fundamentally we are discussing the film’s ability to communicate to the spectator—as well as unpacking the mechanisms in which it does so. In that same vein, perhaps this was an evident conclusion all along. The modern film screen is not, really, an instrument of spectacle: it is a permeable barrier between which the filmmaker and spectator can communicate. More than a technique for spectacle, it is a communication device; of spectacle, yes, but also of action and reaction between creator and spectator.
In terms of spectacle itself? Bruce Isaacs lends an answer that is surprisingly compatible with Wagner’s conception of communication. “Spectacle,” writes Isaacs, “is necessarily a convergence aesthetic. It is necessarily a synthesis of a mode of creation that is profoundly technology-oriented.” Here, spectacle reads as an aesthetic funnel, methodically assimilating and organizing the most salient trends of its host medium: the cinema. Yet, even as the cinematic spectacle finds its roots in visual technologies, “spectacle is as much a cultural as aesthetic formation.” Additionally, and possibly most helpfully, spectacle is attention grabbing, to an all-consuming extent; Michael Bay’s *Transformers* (2007) is illustrative here. The first appearance of Bumblebee onscreen momentarily and fully distracts the viewer by the “aesthetic form of the body, by its mechanical malleability, by the astonishment of scale and size.” Further, the spectator’s reaction is mirrored by the onscreen awe of Sam Witwicky, who stares agape at the robot [Fig. 7]. This mirroring beckons a brief return to Wagner and the notion of the screen as a communication tool. As if anticipating the viewer’s reaction, Bay projects it onto the screen in the form of Witwicky. Here, Bay is participating in the spectacle as well as providing it. There is an additional parallel here, too, to Méliès, who had to anticipate and subvert the technical literacy of his audience. In both cases, the filmmakers have to aggregate the predominant cultural outputs of their respective times and distill their basic aesthetics into a display of visual, technological mastery; they must then communicate this process, as well as its

*Figure 7. Witwicky (right) sees Bumblebee for the first time*
product, to their audience. This, maybe, is spectacle.
Chapter Three: The 20th Century

Early Conceptions and Constructions of Cinematic Space

Existing technologies and 19th century magic culture both played significant roles in the construction of early cinema studios. When Méliès built his first studio at Montreuil, North notes that:

…it was about 90 feet long, almost 40 feet wide and equipped with trapdoors and moving panels to enable the easy conjuring and disappearances of performers. It had all the capstans, winches and pulleys of a small theatre, purpose-built for staging fantasy sequences and mechanical effects…

There are several noticeable characteristics in this passage. First, the trapdoors, panels, pulleys, and so forth indicate that, above all else, 19th century illusion influenced the design of Méliès studio. Instead of developing a cinematic repertoire from scratch, Méliès relied on his classic bag of tricks for his earlier works. As previously suggested, this decision was likely as much for his audience as it was for him as performer: for at least at the beginning of his film career, Méliès’ cinematic audience oriented themselves through the recognition of familiar illusions.

Second, the studio equipment indicates a set of repeatable actions: trapdoors that can open and close, mechanical effects that can be reset after use. Méliès, similar to other early cinematographers, created films within a set of relatively narrow spatial and financial bounds; therein lies the benefit of tricks that are simple and reliable. The intersection of 19th century magic and limited available technologies therefore dictated the earliest conceptions of cinematic space.

Similarly, both the limits and unexplored potentials of new technologies influenced the development of the earliest VFX. In turn, VFX helped dictate the development of new
technologies. Instead of smokescreens and curtains, which were too impractical for his small studio, Méliès experimented with film, discovering new ways to manipulate his viewers and capitalizing on the “mechanical potential of the camera.”⁶¹ For example, he invented the concept of stop-motion photography by chance: while photographing a street in Paris, his camera jammed, creating an illusory effect that he learned to intentionally replicate. Within the context of a narrative-driven film, this “technical fault” was cunningly reframed as an intentional illusion. Further, this point once more highlights the understated importance of narrative, however minimal, in early cinema. That is even if tricks or attractions are the central component of Méliès’ work and of the “cinema of attractions,” it is the presence of any semblance of narrative that converts these early technological quirks into bona fide special effects.

These first forms of VFX share not only a pioneering quality, but help further a mutually beneficial relationship between effects technologies and the production process. Beginning, in particular, with the notable use of “glass shots” in Norman O. Dawn’s Missions of California (1907), subsequent iterations of illusion techniques have served dual, mutualistic functions: as special effects technologies advance, they simultaneously enhance the creation of diegetic spaces and minimize production costs.⁶² That is, as the fantasy becomes more believable, the comparative costs to create it have decreased. Crucially, this aids in understanding the link between advancements in pre-production processes and the rise of the studio system: whereas earlier cinema subsided on novel processes and experimentation, preproduction allowed cinema to industrialize, using “an assembly-line-like process involving the coordination of a large labor force…resulting in productions of increasing scale and complexity.”⁶³ In fact, it is difficult to overstate the impact on Hollywood of the correlative relationship between technological advancement and cinematic industrialization.
By the 1940s, cinematic production had become efficient to the point of scaling up to excess. At its most bloated, the Hollywood studio system was also at its most powerful. The efficiency of “artistry on an assembly line”—a process which dates back to the industrialization of those years in the early 20th century—allowed studio giants to set build with an efficacy that, according to Jack L. Warner, resulted in almost too much unnecessary detail. Anatole Litvak, who directed *All This and Heaven Too* (1940), described his $2.5 million dollar film as “overproduced:” “You couldn’t see the actors for the candelabra, and the whole thing became a victory for matter over mind.” Indeed, this “matter over mind” ideal dominated through the 1940s’ last luxurious gasp. The post-war period ushered in a comparatively bashful period for the studio system, with pared back sets and budget cuts.

Of course, effects served a role in Hollywood between the early cinema of attractions and the end of the studio Golden Age. In fact, between these periods, there was a definite narrative primacy that served as the impetus for Gunning’s theory: narrative development was the heart of mid-century films, with effects, set pieces, and other cinematic aspects serving as supports for this central drive. In this era, Hollywood effects therefore typically conformed to a “studio functionalist aesthetic” that aimed to provide an “unobtrusive” backdrop, in front of which actors could work. Many mid-century films, such as *Conquest of Space* (1955), chose to reserve VFX for interstitial and establishing shots. In this paradigm, VFX served as support for live action work and corresponding narrative development, as opposed to an essential component of it. However, thanks to the efforts of filmmakers such as Stanley Kubrick and George Lucas, with influence from experimental effects artists, the end of the 20th century witnessed a more substantive integration of VFX into Hollywood narratives. With the rise of the effects-driven blockbuster, spectators witnessed a quasi-return to an earlier cinema of attractions: effects were
now, once more, an attraction and source of cinematic engagement in their own right, alongside and differentiated from the movie’s narrative.

From “science fact” to “documentary fantasy:” The Birth of ILM

“If 2001 set the bar for a new style of special effects, then Star Wars and its sequels made them repeatable.”

The above quote from Julie Turnock highlights an essential aspect of the effects revolution: there would be no Star Wars without Stanley Kubrick’s 2001: A Space Odyssey. Any modern understanding of effects cinema must recognize the influence of 2001. As Turnock contends, Kubrick’s effects masterpiece established the modern-day paradigm for VFX. This, in large part, is because Kubrick understood the importance of cultivating a photorealistic aesthetic. The Lumières’ Arrival of the Train demonstrates the power of this sort of aesthetic: in his early film, the affective tension of the “illusion” sat in its oscillation between shock and thrill—and, in a similar vein, in the tension between documentation and representation. In search of a realistic representation of the unreal, Kubrick also anticipates the notion of perceptual realism that has come to define the aesthetic of the digital age: the replication of three-dimensionality on a two-dimensional, digitally manufactured plane. Indeed, Kubrick ambitiously attempted to bridge this gap between early illusion and futuristic digital worldbuilding using only analog methods. He was helped in this process by access to near unlimited funds, thanks to MGM. Using labor-
intensive contact printing processes and the elaborate “slit scan” technique, among other methods, Kubrick evoked an entrancing, effectively novel aesthetic.\textsuperscript{70} However, the high financial toll ensured that these processes were not repeatable. In essence, he created a model for the “immaculately realized, plausible ‘science fact’ environment created out of composite techniques.”\textsuperscript{71}

It was George Lucas, though, who realized Kubrick’s model as a repeatable filmmaking mode. As Rehak asserts, late analog advancements in VFX were central to the worldbuilding capabilities of the first Star Wars trilogy:

…proto-digital effects practices such as optical compositing, which multiplied the abilities of traditional optical printing and traveling-matte generation with the precision of microprocessor-driven “motion control” cinematography of miniatures, contributed unprecedented levels of depth and detail to the screen presentation of Star Wars’s universe, while the sheer number of effects shots—some 360, in a time when the typical science-fiction film might employ a tenth that many—and their even distribution throughout the film’s running time worked to stitch together a consistent-seeming set of worlds, vehicles, structures, and creatures.\textsuperscript{72}

This extended quote is not only notable for its iteration of the sheer scale of Lucas’ production effort, but for its emphasis on the consistency and replicability Lucas was able to achieve—especially at that sort of scale; this was the aspect that Kubrick, for all his brilliance, lacked. Moreover, the simplicity of the analog/digital dichotomy elides the impact that Lucas had in bringing Classical Hollywood pre-production into a new era. Before A New Hope, Lucas transformed concept art and storyboarding into tools that “enabled the top-down coordination of labor across a range of production fronts.”\textsuperscript{73} For example, Lucas recycled animatics from WWII movies to create “moving storyboards.”\textsuperscript{74} These reels were essential in crafting the iconic scenes of the entire first Star Wars trilogy: “space battles, featuring small, maneuverable craft moving at
high speeds and captured in short, dynamic shots with a moving camera, intercut with live-action imagery.”\(^\text{75}\) Altogether, this effort marked the industrialization of the previsualization process. Just as labor coordination led to the studio boom, so too did the Lucas-led coordination across a massive, VFX-intensive labor force—a coordination which, notably, saved time and money while increasing artistic experimentation—incite a new era in Hollywood.

Ironically, less industrial sources also had key roles in this large-scale industrialization. As a film student, Lucas found himself enamored of experimental filmmaking and the worldbuilding possibilities of experimental techniques. In fact, the influence of several outsider filmmakers was particularly felt in the creation of the “moving storyboards.” The marriage of VFX and live action photography was a relatively novel and experimental technique. Indeed, the shift from the studio functionalist aesthetic to one that integrated participation in the narrative, therefore helping “to suggest the inexhaustible diegetic cinematic world beyond the screen’s frame,” would have been unlikely without the input of experimental filmmakers.\(^\text{76}\) As explored in the context of the digital age, this sort of “inexhaustible” diegesis is quintessential to the visual pleasure and enduring impact of the *Star Wars* franchise. Beyond digital applications, though, experimental art movements in the analog age forced popular filmmakers to rethink methods of representation, illusion, immersion, and amazement, among other aspects. George Lucas, as an example, adapted experimental techniques “for a photo-realist mise-en-scène and fantasy diegesis but preserved many of their more spectacular features.”\(^\text{77}\) This dialectic between photorealism and experimental VFX yields a cinematic style that proposes novel solicitations of spectatorial attention.

As previously alluded to, if the aesthetic of *2001* is “science fact,” the aesthetic of *Star Wars* is “documentary fantasy.” To embody this sort of “used future” George Lucas sought a
battle-worn, pulpy, nostalgic feel. The “credibility” of this aesthetic depended on the integration of disparate effects techniques into “composite mise-en-scene.” Seamless compositing, coupled with an appearance of photographic “mistakes”—such as wobbling cameras during battle sequences, suggesting a handheld camera—comprise this basis of the documentary fantasy style. Julie Turnock notes that Lucas left much of the technological direction of this style to his burgeoning ILM effects team. With directions to create a New Hollywood style road film—but set in space—the effects team went to work. The result was an enduring photorealistic style that thrives on “truth value”—or, in other words, a documentary fantasy aesthetic driven by VFX is most effective “when a film needs the viewers to believe what they are seeing.” It is powerful to suggest that the diegesis of Star Wars essentially relies on the “eye test.” Indeed, Harris Ellenshaw, who was the matte painter on The Empire Strikes Back (1980), confirms this aim:

> All that matters is if the audience will believe it on the screen. The fact is that people who know nothing about how these things are done can still tell us whether the effect is good or bad. . . . We say, ‘What do they know?’ But they know. They’ve used their eyes all their lives and they know when something doesn’t look exactly right.

The suggestion here is that the realism of Star Wars exists only in a cinematic sense, as perceived by spectators on a movie screen. If an ILM effect meets this goal—which is to say, if a spectator believes it as it functions in a film—then it serves the intended aesthetic. The approach of ILM technicians, like the audience, considers cinematic realism as a phenomenon of cinematic representation; and not, to the contrary, as a representation of the “real” world. To be sure, this approach to filmmaking is not necessarily novel. The same goes for the effects techniques from the original Star Wars trilogy. However, the high concentration of effects application was a new innovation.
Lucas also sought a quicker and more fluid kinetic feel in *Star Wars* effects, as compared with those of *2001*. Motion control camera technology, which allowed a camera rig to perform “precisely repeatable” movements, therefore proved crucial.\(^8^4\) By freeing the camera from its “locked down” position, compositing gained new life: the introduction of moving elements engaged more motion across directional axes, creating an “illusion of kinesis” that was and remains essential to fictional worldbuilding and absorption into the diegesis. On the whole, the fluid, photorealistic feel of *Star Wars*’ effects is predicated on revitalized compositing techniques. Further, this aesthetic methodology drastically reduced the need for massive set pieces and costly on-location shots. The end of the 1970s therefore signaled a final shift away from the predominant styles of the Golden Age and New Hollywood. Indeed, Stephen Prince contends that by embracing compositing and matte painting “as a means for simulating imaginative landscapes,” *Star Wars* brought Hollywood back to the backlot.\(^8^5\)

**The High Concept Era**

By the early 1980s, the financial success of effects-driven blockbusters—kickstarted in large part by Lucas and ILM—had fundamentally altered the American studio system. The American studio system, argues Bruce Isaacs, “was no longer the appropriate industrial context for an American art cinema.”\(^8^6\) Isaacs additionally pinpoints the shift from the New American cinema to a High Concept cinema. In his view, the “High Concept film tells its stories precisely to deliver an experience of action through rhythm, movement, progression, and ultimately
Moreover, the narrative motive of High Concept cinema is to create “resolution through action,” particularly through the employment of a “profoundly affective image-in-itself.”

This two-pronged framework additionally reinvigorates the effects-object as both spectacle and narrative. A useful example here is the destruction of the Death Star in *A New Hope* [Fig. 9]. In short, Luke resolves his crisis of identity through the action of the film, culminating in the destruction of the symbolic effect-object. The fury of the Death Star’s destruction, in addition to its impact on the narrative, is a “profoundly affective image-in-itself”—it is, in a view, the death and psychological rebirth of Luke Skywalker, as well as the address of the spectator through a confluence of narrative and spectacle.

This discussion permits several essential considerations about the analog age of VFX. Through recognition of the truly revolutionary capabilities of effects, Lucas envisioned and enacted a cinema that understood effects as essential to a narrative structure, as opposed to merely peripheral. The impact of this transition cannot be understated. Whereas the use of VFX was previously limited to avoid rupture of the diegesis, analog innovations came to allow a fuller consideration of VFX alongside the narrative. In a nod to the original cinema of attractions, here the effects themselves become a parallel draw alongside the cinematic content. Contemporary spectators, too, were aware of the importance of VFX. In 1977, reporter Gene Siskel of the
Chicago Tribune wrote: “Following a recent preview screening of ‘Star Wars,’ the audience applauded the names of the special effects artists.” This reaction comically recalls an inversion of the founding myth of cinema, where audiences, supposedly unaware of the illusion of the train, proclaimed fear. In this instance, however, audiences specifically acknowledged and cheerfully emphasized the role of illusion in creation of the film. In both cases, the importance of effects as attraction predominates.

The arrival of digital cinema further empowered the effects film, bringing Star Wars into the digital age but not out of the backlot. During production of Attack of the Clones, Lucas used a custom-built HD digital Sony camera. This shift to the digital coincided with—and, indeed, necessitated—a corresponding shift from the physical studio into a digital one: a space which has since been widely adopted by filmmakers in the digital age and termed “the digital backlot.” In the digital backlot, actors film in front of bluescreens or greenscreens and are digitally inserted into settings constructed through computer generated images (CGI). In Attack of the Clones, this technology allowed interactions between live action and digitally rendered characters, such as conversations between Ewan MacGregor-as-Obi-Wan and a CGI Yoda. Even though some of the film was shot on location, almost every shot had “some amount of digital adjustment.” Stephen Prince contextualizes the prominence of this new “digital toolbox,” suggesting that it “affords filmmakers ways of crafting more persuasive and convincing effects, blending live action and synthetic image elements into scenes that have greater perceptual credibility than what optical printing in the analog era permitted.” Frame-by-frame rendering of digital VFX allows for more consistent lighting across sequences, as well as crisper z-axis articulation. The digital also allows for more meticulous treatments of miniatures and matte paintings, further accentuating the possibilities for spatial rendering in digital cinema. In sum, digital VFX continues to
expand on the possibilities of the analog composite, bringing, for example, two-dimensional images into conversation with three-dimensional renderings, as well as merging still and moving images. As expected, these techniques have accessed heretofore unimagined photorealistic possibilities. Further, the arrival of digital tools coincides with the fully realized—or, at least mostly realized—filmmaking vision of Lucas and and ILM, inexplicably expanding the boundaries of Star Wars already “inexhaustible” diegesis.

In light of this intensifying blur between various image categories, Prince proposes an intriguing question: “So what, then, is real?” I would raise this stake with an addendum: in what way does it matter? For one, this massive uptake of digital technologies collapses several filmmaking boundaries. In light of editors’ abilities to digitally alter any aspect of an actor, from his physical position in relation to other characters in the scene to the intensity of his smile, Tanine Allison contends that the “line between visual effects and film performance…is rapidly breaking down.” Likewise, Prince notes that today acting and visual effects have a codependent and inextricable relationship, with actors becoming effects and effects deriving from actors.

The entirely digital Attack of the Clones emphasizes the collapse of the production process into itself. Rehak correctly remarks that, “filmmaking has become nothing but pre-production and the digital methodologies associated with it. For the [new pre-visualization] mind-set, pre- and postproduction merge, crowding out the middle chapter—production—that was formerly considered the most crucial phase of a movie’s manufacture.” This “previz mind-set”—to which Lucas is a notorious subscriber—hastens the destabilization of production and post-production processes by refusing “to see any text as closed or inviolate;” such a mindset driven by the intoxication of “becoming” as opposed to the realization of any concrete outcome. Indeed, the lust for “pre-viz” is succinctly captured with the idea that: “The fetishization of the
process instead of the fetishization of the result.” Allison further emphasizes this conflation of process with result, suggesting that “visual effects now stand at the very origin of the editing process.” This melding of editing and cinematography is also reflected in recent Academy Award trends. From 2009 to 2013, every film that won the award for VFX also received the award for cinematography.

While this hastened collapse of the production process reflects the impact of digital technologies, the same technologies also permit a theoretical return to the cinema of attractions. As explored in the following section, digital technologies permitted a use of VFX in effects-driven blockbusters that went beyond Kubrick and Lucas’ pre-digital efforts. In Steven Spielberg’s *Jurassic Park* (1993), for example, CGI dinosaurs were a central component of the film, alongside the narrative. Stephen Prince writes:

A carefully orchestrated marketing campaign promoted the film’s use of digital images and promised viewers they would see dinosaurs that were more vivid and lifelike than any they had seen before in the movies. This aura was enticing, alluring—it promised viewers a radically new experience, and dinosaurs were the perfect vehicle for launching an era of unprecedently vivid visual effects.

Here, Prince pinpoints the dinosaurs as a “vehicle” of attraction, in and of themselves. Advertised as a focal point of the film, digital technologies in *Jurassic Park* “promised viewers” a “radically” new mode of spectatorship. Not only would they be drawn into the narrative of the film, but they would also find themselves in awe of the effects technologies on display. The dinosaurs in the movie are therefore a function of the narrative, but are also a relevant spectacle in their own right. This suggests a return to the spectacle of technologies that was observed in the earlier films categorized under the cinema of attractions, in which viewers were enticed to view the technologies on display in addition to the visual material. As a result, digital developments
not only suggest a heightened prominence and quality of VFX, but also clear the path for a re/consideration of Gunning’s original theory.
Chapter Four: Additional Considerations for Digital Cinema

Film Theory in the Digital Age

The impact of the digital on cinema cannot be understated, particularly in considering how digital technologies influenced filmmakers’ abilities to interact with their viewers. While the mainstream inundation of VFX preceded the advent of the digital, the eventual shift from analog to digital technologies has significant implications for effects studies. What are the fundamental differences between analog and digital cinema, and how do they influence theoretical considerations? Lev Manovich’s “Digital Cinema and the Moving Image” provides a useful basis here. Digitization, he contends, undermines the indexical basis of film, which is to say that it problematizes cinema’s material reality. Similar to animation, everything in digital cinema is generated without a literal, tangible referent. Subject to manipulation at every stage of the production process, the digital image challenges the primacy of realism through a new construction: a realism which “looks exactly as if it could have happened, although it really could not.”

Previous discussion of the Battle of Geonosis speaks to both of these points. Indeed, to the delight of George Lucas, *Attack of the Clones* was the first *Star Wars* film shot entirely on digital.

Manovich also begins to address the impact of the digital on VFX. Whereas filmmakers in the analog era understood effects as a peripheral tool— and, to some extent, as a hallmark of the avant-garde—the advent of the digital resituated VFX as a “norm” of filmmaking. By virtue of its industrialization, digital cinema also facilitates collapsing of the production process, with captured footage serving as a mere starting point for post-production efforts. While matte paintings and rear-production remain important to VFX, most of the effects in the digital age are rendered after the camera stops rolling.
Stephen Prince elaborates on this final point, relating this shift in production to the development of cinematic diegesis. He proposes that the advent of computer graphics has led to a union of analog and digital of VFX methods. From the early days of digital technologies, this blend of material and immaterial referents lent a credibility to effects that allowed directors, such as Steven Spielberg in *Jurassic Park* (1993), to “linger on effects shots that in earlier generations of films would have been much briefer.”107 This lingering shot suggests a pro-filmic allegiance to worldbuilding that necessarily sways spectators: surely a director would not give unnecessary credence to an excessively distracting frame, instead choosing to preserve an otherwise compelling diegesis? The extended presence of the image self-reflexively justifies its convincing quality.

Digital technologies outside of VFX have also increased possibilities for worldbuilding through facilitation of the diegesis. For one, internet surfing and streaming developments have simply revolutionized development of the diegesis. As Sean Cubitt notes, “diegetic worlds can benefit not only from spin-off markets, but also from the fan-base built up by audiences who continue the narratives.”108 In this light, the off-screen interaction among spectators—as facilitated through lightspeed digital technologies—is a critical component of the overall diegesis; this may be especially true for serial or franchise narratives. Speculation about a cinematic world outside of the exclusively cinematic space critically upholds a diegesis as a fanbase awaits content. As such, it is fair to suggest that the latter *Star Wars* trilogy, with its pre-built world and fan investment, had fewer diegetic hurdles to overcome than its predecessor—not to even mention recent and upcoming *Star Wars* Disney properties.

Digital streaming culture also encourages fixation on an individual level. Laura Mulvey’s possessive spectator, in conjunction with her theory of delayed cinema, provide support here. In
her conception, repeated and replayed images—as exemplified through pausing, rewinding, and rewatching on a streaming service—encourages a spectator’s fixation on particular, favorite clips. In this digital model, the spectator comes to possess the previously illusive analog image. Further, the self-indulgence of this possessive spectator is enabled by the liberation of the filmmaker from analog effects. Just as digital VFX emboldens the filmmaker to linger on effects shots, so too does digital streaming embolden the spectator to revisit the chosen moment, again and again.

As a final point, there is a logical marriage between digital technologies and a centerpiece of many effects films: the effects-object reveal. This reveal, which Turnock identifies as “one of the most important moments historically in an effects film, digital or analog,” is essentially supercharged by digital technologies. The introduction of the Death Star in *A New Hope* is a useful analog referent [Fig. 10]. An exemplary composition yields one of the iconic images of American effects cinema: a gargantuan moon, shrouded in dark, appears as an unrecognizable, almost inconceivable presence on an infinite horizon; the grand scale of the floating colossus is punctuated by an approaching jet. Still, even the groundbreaking skill of this effects-object reveal cannot overcome analog limitations. The ship approaches and readily disappears into the depths of the Death Star. The sequence is stunning, but it does not invite prolonged scrutiny. Compare
this analog reveal to a digital counterpart from *Attack of the Clones* [Fig. 11]. Here, we have a
digital rendering of the reveal of the clones—which, technically, is a continuum of effects-
objects. As Obi-Wan perceives an unceasing procession of clone troopers, he serves as stand-in
for the cinematic spectator. The flood of Jango clones mechanically assumes the formation of a
large army—but are they immaterial constructions, or are they humans? This question could
easily occupy both Obi-Wan and the spectator, emphasizing the almost uncomfortable length of
this sequence. At a glance, a spectator may take the visual trickery for granted; that is, he will
understand it as his mind intuitively understands it: a mere trick. However, forced and prolonged
observation of the clones emphasizes the filmmaker’s faith in the quality of this trick, thereby
compelling the spectator to question his understanding of the relationship between VFX and
visual reality. Put succinctly, digital technologies allow filmmakers to revel in the effects-object
reveal to the extent that spectators assume the impaired subject-position of a character within the
diegesis—just a character in film has incomplete information, so too does the spectator feel at a
deficit. Thus, digital VFX borrows and reinvigorates a traditional lynchpin of the effects film.

Moreover, this digital appropriation of an analog antecedent illustrates the paradoxical,
l late-1970s quest of cinematic auteurs: to merge photorealist representation with the most
imaginative futures conceivable. Even without digital technologies, the visions of these
filmmakers shifted the posture of VFX production towards an ambitious cinematic visual. In
other words, these filmmakers did not predict the dominant aesthetic of digital effects cinema;
rather, they dictated it. With an aspiration toward a cinematic look that was “simultaneously
more realistic and fantastic,” the end of the 20th century begets a preliminary union of Méliès’
and the Lumiere brothers’ distinct cinematic postures.\(^\text{111}\) It is not until we get digital
technologies, though, that a full synthesis is possible—and, thus, a re/imagining of the cinema of
effects. Auteurs and experimental cinematic artists made this theoretical turn plausible. Meanwhile, digital technologies took these visions out of the analog and made them possible.

The Death of Attractions? Return to A Cinema of Effects

The opening image of the *Star Wars* franchise is a revelation [Fig. 12]. A slow downward pan reveals a galaxy far, far away, but somewhat near to a spectator’s mind: moons, stars, and planets yield a familiar conception of space. This familiarity is immediately shattered, though, as a blockade runner sprints on screen, followed by the enveloping behemoth that is the Star Destroyer. What seems to be a typical mid-century matte painting is therefore quickly usurped by a novel composite of effects. Lasers fly and explosions boom as the ships move across the
screen; it is an all-consuming image, both in terms of its visual content and its relationship to contemporary films.

Nearly three decades later, *Attack of the Clones* brings this sequence into the digital age [Fig. 13]. A slow upward pan reveals the horizon of a distant planet. The tranquility of this image is interrupted by a succession of Jedi transport ships, which bob and weave across the scene, fading into the planet’s surface. The parallels between these scenes are numerous: camera pans, large planets in the distance, and a succession of starships. The differences, too, are clear. In the sequence from *Attack of the Clones*, the surface of the planet is more detailed and crisper, and the motion of the ships across the screen is smoother and more variable across axes of movement.

Both of these initial scenes propose a stunning array of effects, but the advancements from analog to digital VFX are obvious. Perhaps the change in direction of the camera pan reflects this fundamental shift: while the structure of each flyover suggests effects as a central attraction of its respective film, the disorientation of the upward pan in *Attack of the Clones* reflects additional liberties that digital technologies allow filmmakers to take. Still, this is a bold opening gambit in either case. The application of VFX and the resulting image propose an immediate dialectic between a spectator’s enthrallment in the effects of the narrative and the spectator’s ultimate acceptance of a diegesis. To this day, disorientation and photorealism define the discourse surrounding cinematic effects.

Indeed, this aspect of disorientation could explain theorists’ hesitance toward substantive re/consideration of the cinema of attractions. Recent VFX are visually advanced to the extent that they have implications on cinematic narrative. That is, aspects of cinematic narrative are subsumed by the strength of a movie’s visual attraction. Stephen Prince elucidates this dilemma, contending that “If digital tools enabled visual effects to become more assertive, some scholars
felt that the results often challenged the primacy of narrative.”112 In terms of the source of this threat to narrative primacy, Scott Bukatman theorizes that, “What is evoked by special effects sequences is often a hallucinatory excess as narrative yields to kinetic spectatorial experience.”113 Certainly, as both opening flyovers demonstrate, situation within the narrative takes a temporary backseat to the display of effects. In each instance, the spectator finds himself less concerned with what is happening than how it is happening.
Conclusion: “Theme Parks”—Digital Cinema as Art (or not)

In October 2019, Martin Scorsese sucker-punched every Italian New Yorker with an affinity for guys named Chris. In an interview with Empire, the legendary director revealed that he does not watch Marvel movies. Not only that, but he thinks of them as beneath cinema: “Honestly,” he admitted, “the closest I can think of them, as well made as they are, with actors doing the best they can under the circumstances, is theme parks.”

The following month, Scorsese doubled-down in an opinion piece for the New York Times. Hatred is too strong a word, he claims, but he certainly does not consider the Marvel Cinematic Universe (MCU) an “art form.” Rather, they fall into a precarious category he calls “worldwide audiovisual entertainment:” mass-market content that is devoid of risk and “dismissive” toward the “history of cinema.”

Scorsese, of course, has a point. MCU movies are no Hitchcock. However, there is a curious and untouched parallel between his assessment of this highly marketable, lowest-common-denominator content and the actual history of cinema—in particular, as overviewed in this paper, a history of effects-driven cinema.

Much of this thesis has been dedicated to unpacking the cinema of attractions—not only the rationale behind the theory, but the impetus for the effects and films that undergird it. At this stage, it does not feel like a huge stretch to argue that Scorsese is bemoaning the very factors that enabled the development of cinema in the first place: narrative as a pretext for visual enjoyment and mass-market fun. To resurface an earlier passage from this paper, Gunning has argued that “early [cinema] audiences…did not necessarily go to the cinema for the images on the screen, Moreso, they went to see exciting, new technologies in action, with the incidence of visual content as a happy byproduct.”
None of this is to contend that Scorsese—or anyone in this debate—is inherently right or wrong; it is, however, fascinating that modern effects technologies have advanced to the point that some of our greatest cinematic minds are considering it a regression to the founding conditions of the medium.

If anything, this discussion emphasizes the need for more effects studies.
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