**“They Can Bill Me” – Quantitative *Cinemetrics* Analysis and Brandywine’s *Alien Quadrilogy***

Ridley Scott’s *Alien* (1979) has personal significance, as it is the first horror in my movie-going experience. The three sequels that followed the indefectible original [*Aliens* (1986), *Alien 3* (1992), *Alien Resurrection* (1997)] have created an unprecedented financial success for the subgenre of scifi-horror, grossing over $250M in the domestic market and $700M worldwide.[[1]](#endnote-1)The more impressive fact is that all four films had a cumulative budget that is less than the worldwide gross of any one film in the series.

Researching the Alien series and studying the four films shot-by-shot imposed a certain impression: there is an overbearingly strong economic politic present in the production of the four films perniciously pursued through the often maligned relationships of the distributor (20th Century-Fox), producer (Brandywine), the essential element to the series (Sigourney Weaver), and the dynamic of the four individual directors that have covered single entries in the series (Ridley Scott, James Cameron, David Fincher, Jean-Pierre Jeunet).[[2]](#endnote-2)2 I have used Cinemetrics analysis and quantitative analysis to explore the importance of special effects as not simply central to the narrative of the science fiction film genre in a qualitative way, but also as an economically driven aspect of film that synergizes with the fecundity of technological development in the film industry.

“Special effects are the impetus for the production of science fiction film” is a central hypothesis arising from my Cinemetrics and quantitative analysis of the Alien Quadrilogy. A strong positive correlation can be expected to exist between the combination of the development, accessibility (to directors), and economy (to producers) of special effects technology, with the amount of special effects (screen time for shots with special effects) in science fiction films. Two other propositions naturally follow from this assertion. The first is that technological development in special effects drives the amount of screen time devoted to it and reaches a maximum exposure once the technology is perfected. The second proposition is that new technology in special effects will supersede previous related technology and render it obsolete.

I have extended my Cinemetrics analysis and quantitative analysis to introduce and support these additional claims. I have applied a novel reconceptualization of ’retrofitting’[[3]](#endnote-3)3 to explore the use of outdated special effects technology in science fiction film. It may be the case that outdated special effects technology is utilized strategically in science fiction film for both aesthetic/nostalgic reasons and economic/fiscal purposes.

Scott Bukatman has made some important statements about science fiction that are highly relevant for the content of my report. Science fiction is a film genre seldom featuring auteur-directors and the primary focus of the genre is the spectacle or “cinema of attractions*”*, permeating pervasively onto the consciousness of the audience through the use of the special effect.[[4]](#endnote-4)4 It seems evident that the directors of the Alien Quadrilogy films are auteurs and have distinct styles and techniques that they consistently employ and evolve throughout their Hollywood careers. Ridley Scott’s use of diegetic lighting, James Cameron’s use of fetishised weapons and his aesthetics of explosions, David Fincher’s canted low angle shots, and Jean-Pierre Jeunet’s use of fades for ‘throbbing’ montage sequences are all recognizable in their installments to the Alien series. The Alien films also featured shared stylistic components such as the use of POV tracking chase shots, fire motifs, ambivalent framing of tertiary characters, and hot-cold color coded lighting set-ups for environments.

Cinemetrics may have provided an opportunity to quantitatively analyze the aforementioned varied qualities of directing; however, I began to recognize more overarching trends in the development of the Alien films which was subsequently corroborated by my literary review. Special effects play a central role in the Alien films and as much as Ridley Scott aptly recognizes the narrative of the series as being about “terror”[[5]](#endnote-5)5, it is more importantly about visual spectacle. Breaking the films up into narrative segments (ie. stasis chamber establishing sequences, exploration of the alien lair, Lt. Ripley’s popular coups, extinction agenda countdowns and finales) and then analyzing stylistic components (shot lengths, number of shots, diegetic lighting, tracking shots, canted angle shots, high contrast lighting) of the segments for similarities and deviations would have been a worthwhile and revealing endeavor. The results may have been interpreted for explanations related to auteurism, ’alien film typology’, and may have provided insight into discrepancies of budget and revenue grossing for the individual films.

At the same time, I couldn’t resist delving into more direct financial-implicating tech-driven areas of concern connected to the distinctive quality and composition of the film series.

It has been considered that the Alien films are all part of the same story or “symphony”, as evidenced by them all being produced by 20th Century-Fox and fixing on a single character, Lt. Ellen Ripley.[[6]](#endnote-6)6 The series was founded on the success of Kubrick’s *2001* (1968) as a sci-fi art film and Lucas’s *Star Wars* (1977) as a money-making behemoth.[[7]](#endnote-7)7 Fox was excited about the original Alien project and was happy to support Giler and Hill’s story (the founders of Brandywine Productions and creators of the Alien characters and story concept). Giler and Hill requested being able to film in England and Fox approved, thus allowing Ridley Scott to employ many of the crew from Star Wars.[[8]](#endnote-8)8 In addition, Fox added money to the budget at different stages of pre-production, allowing Swiss surrealist artist, H.R. Giger, to present his designs for the film.[[9]](#endnote-9)9 Fox reported film rentals worldwide of $48.4M at the end of the first run and a stunting effect had been acknowledged due to a slow platform release (91 theaters) prior to the broad national release a few weeks later.1[[10]](#endnote-10)0 Fox had allowed for a bloated marketing budget that had P&A at $18.8M and, by the end of the year, Fox was still reporting a net loss of $2.4M on the movie.1[[11]](#endnote-11)1 The numbers belie the success of the film as Fox was openly criticized for ‘creative accounting’ and masking profits from participants (there were only net participant contracts for the film).1[[12]](#endnote-12)2 This set the stage for many developments through levels of production on the sequels.

The sequels presented their fair share of obstacles. Sigourney Weaver was increasingly demanding as she became empowered as the essential element of the series (salary for the four films in order: $30K, $2M, $5.5M, $11M).1[[13]](#endnote-13)3 Cameron’s sequel was almost never made due to Fox sitting on their hands about making a deal with Weaver and ultimately Cameron had to ruse the studio with a threat of re-writing the script sans Ripley.1[[14]](#endnote-14)4 Fox was stingy on the Cameron sequel’s budget ($12M increased only to $17.5M after two stages of renegotiation).1[[15]](#endnote-15)5 The war-epic-gun-fetish Cameron sequel did not appeal to Weaver’s liberal sensitivities while Weaver’s age didn’t appeal to Brandywine’s concern about her playing an action role when preparing for Fincher’s sequel. It was clear that Alien 3 would have to be gun-free and not derivative in the slightest of the first two Alien films.1[[16]](#endnote-16)6 Fox had been reporting net losses on Aliens (1986) as late as 1992 and this led Brandywine, Cameron, and Weaver to separately take legal action which was then resolved privately.1[[17]](#endnote-17)7 Alien 3 was mired in scorn, much like the alien queen herself at the epic end of Cameron’s sequel. Six rejected scripts, Weaver’s ballooning salary, Giger’s open criticism of frugality on special effects, Fox’s cost-cutting with endless script re-writes and revisions during production, all led David Thomson to describe the film as “a classic example of how not to do it”.1[[18]](#endnote-18)8 The film history will help mitigate the understanding of my Cinemetrics and quantitative analysis.

I am using Cinemetrics to reveal possible significant connections between special effects and science fiction film. I devised 8 customized categorizes for analysis - Alien Short Takes (shots shorter than 4 seconds in length of aliens, androids and other prosthetic or CG humanoids), Alien Long Takes (shots longer than 4 seconds of aliens, etc.), Landscapes (any very long distance shot focusing on a landscape either interior or exterior), Vehicles (spaceships, tanks, aircraft, etc.), Computers (computers, monitors, lab equipment, etc.), Weapons (weapons being used, weapons demo’d, explosions, fire or flaming), Retrofitted SFX (special effects that were not developed any further from the 1979 original or are special effects that would fit into the other categories except for being not specific to science fiction, ie. use of simple handguns and shotguns), and Non SFX (shots that did not feature special effects). I took as few liberties as possible and tried to fit everything into the appropriate category. Some challenges presented themselves in situations where the shot featured more than one of the special effects categories. Overall, I balanced those sequences to create shot counts that matched screen time evenly. My first major limitation related to Cinemetrics custom categorizing and its maximum limit of 8 categories per run.

N.B. “ASL” = average shot length (in seconds); “MST” = minutes of screen time

By running a Cinemetrics analysis across the full length of all four films (*search Cinemetrics under ‘Stang’ for results)* some details of the use of special effects jumped out at me like the iconic Alien ‘face hugger‘. The 1979 original certainly relied on many long takes of exterior landscapes (11 ASL, 3 MST) and spaceships (7.7 ASL, 8 MST). It can be considered that *Star Wars* and *2001* had established a certain reproducible aesthetic in moving toy models and matte painting that seemed to satisfy science fiction audiences at the time. Weapons did not feature heavily in Alien and only a single flame thrower received any serious screen time. Shots without special effects were predominant and matched the ASL of the film in its entirety. Computers, monitors, diegetic cameras, and lab equipment played important roles in the narrative of the film and the technology of the narrative. They also figured prominently in the film’s screen time (over 8 minutes). Despite the technology being crude and ironic for modern audiences, the audiences of 1979 were not yet familiar with the concept of a home computer in every home.

The final categories to examine with Alien (1979) are the alien categories, which included special effects scenes showing Ash being attacked, alien eggs, alien face huggers, alien births, the alien relic, and the full-grown live alien prowling the ship. The statistics are skewed to this end because there were several long takes of the face hugger, the eggs, and the alien relic (8.4 ASL, 7.7 MST); however, shots of the full grown alien and alien movement, in general, were always short takes and there were few shots in total (2.3 ASL, 1.8 MST). Despite the eggs, face hugger, and elaborately-detailed relic set being worthy of audience’s awe at the time, it would have been valuable to be granted extra Cinemetric categories that might divide my current categories into two parts, distinguishing shots with action special effects from static ones. Another thing to note was the awkward cut when switching from an indignant mannequin head to a cleverly propped Ian Holm as the destroyed android, Ash. Retrofitting did not apply to the original Alien because a large basis for analysis is the comparison of technology from 1979 or earlier being used in the sequels (another limit to my retrofitting category is that it doesn‘t account for homage and special props connected to the narrative of the films).

In 1986, Cameron took the series in a new direction with regards to special effects. The long tracking shots remained; however, the impressiveness of diegetic cameras, computers, and motion trackers increased dramatically and developed directly from their use in the original (3.7 ASL, 7.62 MST). Cameron still masked a lot of the alien movement in deep-shadowed short cuts and he even had some of the most rigorous attacks completely off-screen! (director’s edition sentry gun scenes) Prowling aliens and full-grown aliens did receive a lot more screen time (7.63 MST - over 5 more minutes than in the original). Worth noting is that I must later distinguish action special effects from static special effects with regards to the aliens especially. Also, I must account for the analysis of release cuts versus re-release cuts of the films and adjust comparison given the varying lengths of the films. Landscapes were less prominent in this first sequel and the average length of those shots was much shorter. Vehicles played a much bigger role (especially vehicles in action as early CG was employed frequently). It was a true Cameron film overloaded with gun fights, explosions, raging fires, and even some immaculate looks at the alien queen and her lair. Weapons and explosions occupied over 17 minutes of screen time.

My retrofitting figured into this first sequel and was featured for almost 3 minutes of screen time. The narrative itself can explain most of the retrofitting category given that conventional weapons were used once the Marine Corps had been decimated by the first wave of Alien attackers. It is doubtful that Cameron had budgetary concerns in this regard and the downgrade in weapon tech simply built suspense; however, the sentry gun scenes and the reports of stingy Fox budget negotiations may prove me wrong. Cameron did write the script himself and he may have broken out the ‘pee-shooters’ instead of the ‘big guns’ for fiscal constraints and simply played up the terror-suspense angle of heroes being outmanned and outgunned.

 Alien 3 (1992) was produced with an effort to break from the war epic of Cameron’s sequel and, as a result, the narrative context of the film is that of a dilapidated and sparsely-populated prison. Understandably, there were few weapons, vehicles, or computers (under 5MST, collectively). Retrofitted special effects were not an important factor either, largely due to the fact that the film had very little special effects altogether. It is interesting to note that the budget was extremely high (over $50M) and that outdated technology was not used to control a criticized spiraling budget, even despite the narrative of the film focusing on dilapidated hi-tech-deprived conditions. Alien long takes was a category dominated by a single sequence with a re-activated droid. Although, it was the same droid from the end of Aliens, the technology had clearly taken a step up as prosthetics was replaced by computer-generated imaging. One alien terrorized the set of Alien 3 and almost all scenes employed CG of short takes (2 ASL). With further research it might be determined that Alien 3 (1992) fits into a new era of CG technology, a generation of special effects tech that was perhaps very expensive in its nascent stage.

Alien Resurrection (1997) is certainly a new breed of alien movie. Vehicles, computers, and weapons categories were featured relatively evenly throughout the film and featured impressive spaceships, interfaces, and futuristic weaponry. Retrofitting special effects was on par with these other categories and was balanced between outdated tech and narrative-driven old special effects elements. There were opportunities to innovate where this film chose not to (ie. acid effects of alien blood). Since the late 1990s, special effects have explored corrosion more and more to the point that simple scarring is considered paltry (ie. Batman: Dark Knight). The narrative of Alien Resurrection centers on the movements of a futuristic space pirate crew tattered and torn by galactic ultra-security agencies. Ripley refers to the challenges of piloting their ship as laughable given it is likely older than she is and she is a woman who claims her real birthday hundreds of years in the past. Ripley had been killed off at the end of Alien 3 and cloning technology was going to be fully explored in this final installment of the series. Some of the most powerful scenes involve demonstrating cloning technology through special effects. However, the most impressive part of Alien Resurrection is the screen time for the aliens. Dozens of full-grown aliens, a queen and her lair, a giant hybrid alien, swimming aliens, birthing aliens and a plethora of eggs, all steal the show. There are almost 12 minutes of long takes of the aliens and most are of active and mobile creatures integrated into the film through CG technology in a seamless simulacrum of the real.

I present three tables based on my Cinemetrics analysis (see attached) and can make some further comments regarding comparisons between the four films. There were increasingly more short takes of aliens in raw number of shots, as the series progressed. It would seem that Aliens (1986) has the most attention to the aliens in short takes, however, everything must be adjusted for the sheer length of that film. Alien 3 is somewhat of an anomaly; however, it appears to be a hallmark of an Alien film to present short cuts of shadowed and elusive full-grown alien monsters regardless of the technology available. Alien 3 evaded my retrofitting category in some ways, in that many landscape shots were marked in the vehicle category provided that a spacecraft was moving through the frame. Alien 3 clearly has excluded the presence of spaceships and vehicles; however, a question remains as to whether it connects to the specific narrative setting of this film or whether the politics behind those decisions is an important consideration. Interestingly, Alien Resurrection for all its dedication to special effects has not featured computers and lab equipment as prominently as the first two Alien films. There may be a good reason for this that confirms my hypothesis; namely, that computer and audio-visual technology was not as awe-inspiring to the audiences of the 90’s as it was to those of the 80’s. In fact, the ASL of the computer category is the highest in the fourth film perhaps indicating that the tech is not ‘shown off’ as much because it fits in naturally to the narrative as a ‘regular’ element.

Once again, I might have been able to split my categories and distinguish computer tech that does something novel as opposed to doing something considered conventional (this becomes a further enrichment of my retrofitting category). Weapons were disproportionately represented in Cameron’s sequel relative to the rest of the series. This was expected, but nevertheless begs the question as to whether “modern” weapons in his film were all that much of a tech breakthrough. Perhaps, I could expand my definition of retrofitting to consider other specific films outside the series. All things being equal, Cameron’s sequel was the highest grossing film in the series until the original got a second run in theatrical release. Cameron’s sequel does feature the most retrofitting according to my measurements and perhaps it is significant to note a great leap forward in special effects technology and computer technology specifically between 1986 and 1992 when Alien 3 was released.

The most remarkable detail of my second table, pertaining to screen time, involves the use of long takes of aliens in Alien Resurrection. Once again, it seems that computer technology as it relates to special effects took a huge leap forward between 1992 and 1997. In fact, Alien 3 was evasive in showing long takes of aliens despite the single full-grown alien being the only spectacular effect in the film. It hints at the producers not being fully confident about the nascent technology they employed. There is a lot of similarity in screen time for special effects in the first two Alien movies, with one remarkable inversion of short takes and long takes in the showcasing of the aliens. The first movie took advantage of the unfamiliar narrative frame and focused audience attention on static elements of alien life. Cameron brought a greater action element to the series that was carried over into Jeunet’s sequel more than Fincher’s sequel. In summary, it seems on the whole that stylistically, and with respect to narrative and with regard to special effects, Alien and Alien 3 are related films and Aliens and Alien Resurrection are related films.

The only simple trend present in the four films is the decreasing ASL of landscape shots. I believe that with a larger sample and more runs of enriched Cinemetric categorization, I could confirm the importance of special effects on science fiction films. My retrofitting category is clearly valuable; however, it must be diversified and better researched across a larger sample. Certain quantitative statistics that were not available would be very useful for furthering my research, specifically the budgets for special effects in the Alien films. It seems that there is some significance to the claims that special effects technology takes up more and more screen time in science fiction films until it is perfected, and that once the technology is superseded it is almost totally deserted in high-budget film production.

1. The Numbers. 2011. 1 Dec. 2011 < http://www.the-numbers.com/movies/series/Alien.php>. [↑](#endnote-ref-1)
2. 2 Thomson, David. On The Alien Quartet. London: Bloomsbury Publishing, 1998. [↑](#endnote-ref-2)
3. 3 Price, Stephen. “Future Imperfect.” Visions of Empire: Political Imagery in Contemporary American Film (1992): 155-168 [↑](#endnote-ref-3)
4. 4 Bukatman, Scott. “The Artificial Infinite: On Special Effects and The Sublime.” Alien Zone II, ed. Annette Kuhn. (1999): 249-261 [↑](#endnote-ref-4)
5. 5 Thomson, David. On The Alien Quartet. London: Bloomsbury Publishing, 1998. p.8 [↑](#endnote-ref-5)
6. 6 Ibid., p. 6. [↑](#endnote-ref-6)
7. 7 Ibid., p. 6. [↑](#endnote-ref-7)
8. 8 Ibid., p. 14. [↑](#endnote-ref-8)
9. 9 Ibid., p. 12. [↑](#endnote-ref-9)
10. 10 Ibid., p. 53-55. [↑](#endnote-ref-10)
11. 11 Ibid., p. 53-55. [↑](#endnote-ref-11)
12. 12 Ibid., p. 53-55. [↑](#endnote-ref-12)
13. 13 Thomson, David. On The Alien Quartet. London: Bloomsbury Publishing, 1998. [↑](#endnote-ref-13)
14. 14 ed. Paul M. Sammon. Aliens: The Illustrated Screenplay. London: Orion Books, 2001. p.20 [↑](#endnote-ref-14)
15. 15 Ibid., p. 21. [↑](#endnote-ref-15)
16. 16 Thomson, David. On The Alien Quartet. London: Bloomsbury Publishing, 1998. p. 98-102, 132. [↑](#endnote-ref-16)
17. 17 Ibid., p. 98-102. [↑](#endnote-ref-17)
18. 18 Ibid., p. 98-102. [↑](#endnote-ref-18)