

Computer graphics & animation

Comparison essay - Pre & Post Digital

Assignment 2

Nathan Cock

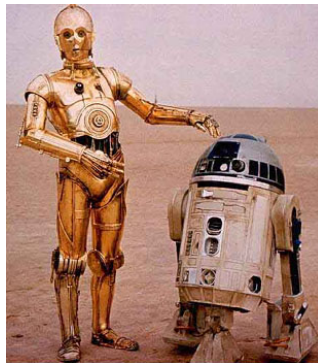
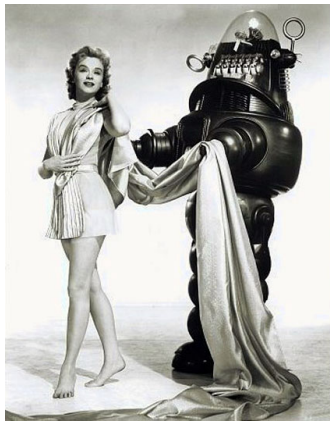
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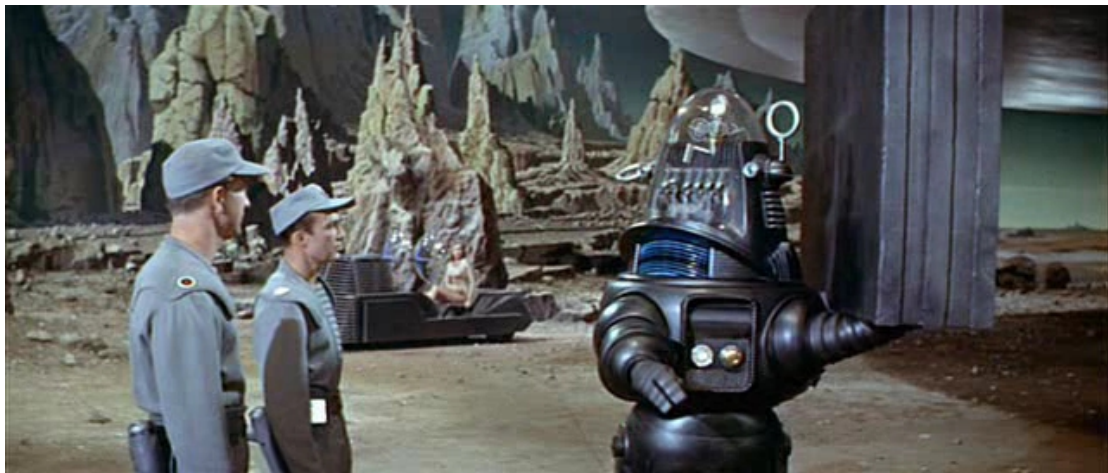
This is an exploration in the history of robots within the film industry and an investigation on how much has changed in the way we integrate robots into movies between these time periods, mainly exploring the use and creation of special effects and sound effects.

This essay will consider the impact of digital technologies on the depiction of robots on screen. It will include a brief historical overview of the robots we have seen in film over the past sixty years. We will explore the positive depictions of robots such as *Forbidden Planet's* Robby The Robot and *Star Wars'* C3P0 and R2D2, as well as engaging in the negative depictions we see in the likes of *iRobot* and *Terminator*. We will also look at the depictions that fall on both sides, *Transformers* being an example.

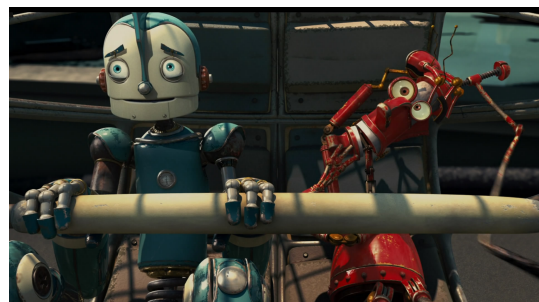


The essay will be making strong comparisons between pre-digital and post-digital cinema and examining the differences just as equally. Pre-digital being at a time when special effects consisted of models filmed on back drops and robots or monsters were people in costumes, however post-digital defines a modernized way of producing special effects by using computer software to

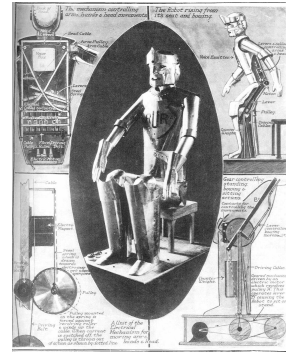
create the same things with computer generated graphics. To make this comparison effective we will mainly be focusing on two particular case studies that compliment robots in cinema during their time. The first movie to observe will be the 1956 iconic movie *Forbidden Planet* that was filmed on 16mm tape. The second will be the 2005 release of *Robots* from Blue Sky Studios, an animated movie made entirely with computer-generated graphics. We will at first notice many differences in the two case studies due to the technology used to create them, however at closer examination we can also see many similarities regardless of the fifty-year difference.



Once we have cross examined the historical elements of robots in cinema and compared in-depth our two case studies a conclusion must be drawn. Is the advancement of technology a positive thing, have we seen all that robots have to offer or are we just re-telling stories that we have already seen in the pre-digital form?



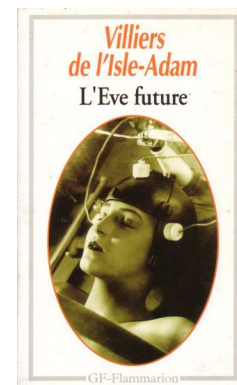
We must first understand what the word 'robot' means. It was Czech playwright Karel Capek who created the term 'robot' the 1921 play R.U.R (Rossum's Universal Robots). The term derived from the Czech word 'robota' which means 'work'. It defines "humanoid



androids designed for menial and repetitive labor" (Robots in film, 2011). It was in this performance that we first saw technology destroy everything and take over the world.

Let's look at some of the most notable time periods within the history of robots in cinema. Taking into thought moments that made a significant change in the way robots are perceived. Perhaps it's the image, the realism or even the way that it relates to the audience. Also take note of the speed at which we have advanced within the sci-fi movie industry.

1896 – 1976 – First robot movie *L'Eve Futur* based upon the book released 10 years prior. A slow period of advancement in any type of movie, particularly sci-fi. It is not until 1956 that we see the most memorable robot in this period is, *Robby the Robot* from the movie *Forbidden Planet*. It was this period that Robots were just people in robot costumes.

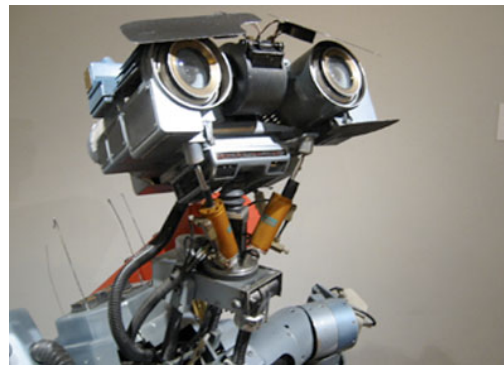


1977 – 1979 - *Star Wars, the empire strikes back* gave us two of the most iconic robots in history, *R2-D2* and *C-3PO*. However *alien* presented *Ash*, an android uncanny of a human being.

1984 – 1987 – *Transformers* (Animated TV series and Movie) this was the first time we saw an



animated movie about robots. The 1986 title *Short Circuit* introduced us to *Johnny 5*, a robot of great intelligence that was being hunted, as humans were afraid of



him.

1996 – *Beast Wars: Transformers* offered a new take on robots that transformed into dinosaurs and wild animals.

1999 – This was a significant year. Here we saw *Warner Bros. Animation* present us with *Iron giant*. The animated family heart-felt movie brought a positive and friendly view towards robots. Also the *Star Wars* franchise gave us *Star Wars: Episode I – The Phantom Menace* and introduced the *Battle Droids* further adding to their list of iconic robots. This was where the *Star Wars* franchise made the change from pre to post digital, creating all the droids and robots on computers.



Additionally we were introduced to *The Matrix*, a complex plot exploiting us to the war between humans and machine.

2004 – Here *Pixar Animation Studios* presented us with their 3D animated take on a robot with the release of *The Incredibles* and *iRobot* gave us *Sonny* the robot that saved humans from it's own kind.

2005 – *Blue Sky Studios* released *Robots*. Though it was a 3D animated movie the style of robots and the mise-en-scene is reminiscent of the 1950's and 60's.

2007 - 2011 – Michael Bay re-vamped the *Transformers* franchise with a live action movie trilogy. The VFX transformers then started a trend in car advertisements such as the *Citroen C4* (*Citroen C4 Advert collection, 2008*), which features the car acting in the same manor as that of Bay's *Transformers*. It is important to remember that the *Transformers* franchise focuses strongly on both depictions of robots. While we have the Decepticons trying to enslave the human race and farm planet earth, we also see the Autobots swearing themselves to the protection of the human race. So in this particular scenario the audience tends not to fear or hate machines but instead the characters that they possess. Thus treating them as though they were also human.

Additionally 2008 offered us *Pixar's Wall-e* which saw a bored and seeming less robot that eventually helps humans to survive against its own kind.



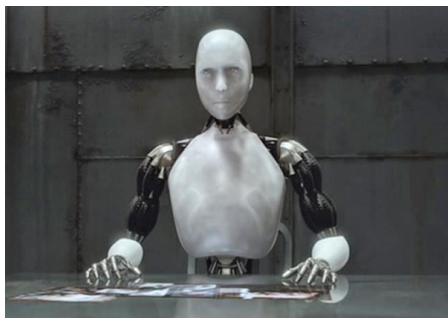
With these historical moments or advancements in mind, let us consider which of these offered positive depictions and which showed the opposite. We see many perceptions of robots over time that were created or bound to protect humans. These would include:

- Robby The Robot
- R2-D2 and C3P0
- Transformers *Autobots*
- The Iron Giant
- Robots

There is an equal amount of negative depictions in which robots are set to destroy the all other races. We see those in:

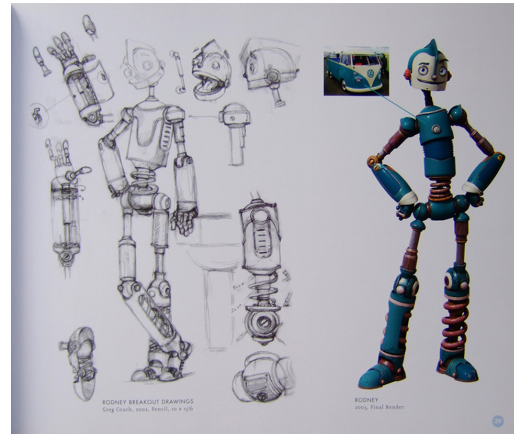
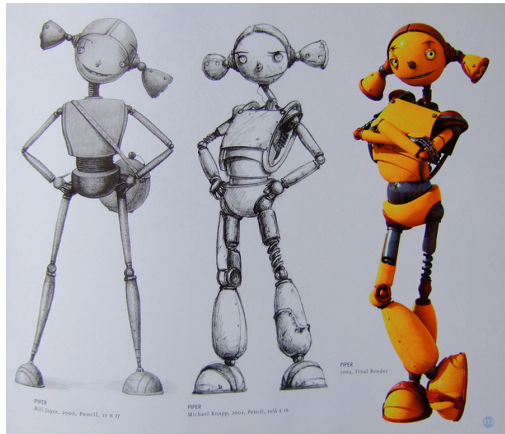
- Transformers *Decepticons*
- Star Wars' *Battle Droids*
- iRobot
- The Incredibles

There is however movies that depict both good and evil as we can see in the transformers franchise that consists of robots saving humans from robots. We see the same thing in *iRobot* and in *Wall-e*. However the movie *Robots* shows a world consisting of nothing other than robots, which in result offers no threat to the audience.



Let us explore what is known as 'The uncanny valley'. This term was given name to a standard of realism that the viewer is happy to accept before becoming uncomfortable. For example, when we see robots such as Robby or C3PO, though they stand in human form with limbs and a head we are more than happy to accept them as people because we can clearly see that they are still just robots. However our attitude towards this changes drastically when we see what the sci-fi industry refers to as androids. In *Alien* we meet Ash, a member of the crew who appears as any human does but is machine and does not feel pain or emotion like humans. This leaves us feeling uncomfortable, as we cannot tell who is human or who is machine. A subject that iRobot touches on when Will Smith's character Del Spooner questions why the robots need to have human features and the ability to make facial expressions.

The 1956 iconic movie *Forbidden Planet* was filmed on 16mm tape at a time pre-dated computer generated graphics. This meant that all the special effects in the feature film had to be created using props, including the spaceship which was a 20inch model filmed on a backdrop. The robot we see in the film is Robby The Robot. The crew ends up stranded and in threat of ever surviving and returning home. Robby then pursues in saving the crew from danger and returning them back to earth. The special effects artists used split screening to make objects appear and disappear. It was the first mainstream movie to use entirely electronic instruments to create the soundtrack. The audio was created in only three months using 14mm tape recordings of electronic sounds which were then played back and re-recorded adjusting pitch and tone.



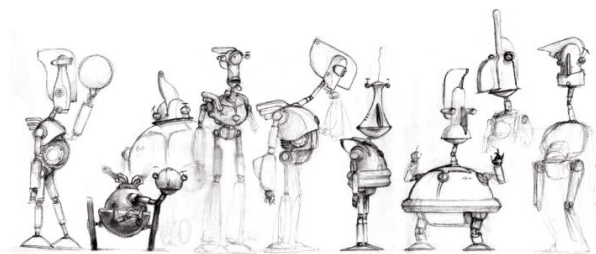
The 2005 film *Robots* by Blue Sky Studios, though it is a post-digital animated movie, instead of creating futuristic robots they decided on a 1950's style. The designs for the robots came from an old Evinrude outboard motor in director Chris Wedge's garage, as well as an old Volkswagen van. Instead of creating what they think robots will look like in fifty years time, they showed us what robots could have looked like just as many years ago. An interesting and successful idea. They hired performance artists Blue Man Group to record the score, as they wanted special percussion effects. Though the movie is entirely digital we still revert to using film for screenings. It was printed on 35mm and 70mm film format for standard and IMAX viewings.

As stated earlier that this film only contains robots we are instantly happy to accept their characteristics as human beings. We relate to the characters the same as we would a human character. However lets place these characters in the 'uncanny valley'. If we put in a couple of human characters clearly outnumbered by the robots and make it live footage instead of animation I think the relationship between the audience and the robots would instantly change. A strong reason why the way they produced this film was a success.

The most notable difference between the two case studies is of course the technological advancements. Robby the Robot consists of a man wearing a costume and appears as the only



significant robot in the film. However in Blue Sky's motion picture all the robots are computer generated and every character in the movie is a robot. Another key difference here is location. When filming *Forbidden Planet* they had to manually build sets for the actors to perform on and any scenes that contained scaled down props had to have backdrops built. Where as *Robots* was created essentially without ever leaving the computer screen. Though inspiration and



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research was taken from outside the digital world everything was placed into the computer. Even drawings and sketches of the characters you could do wherever

you please. Because *Forbidden Planet* was filmed using props and costumes, it allowed the director to get a personal feel for the character as he could touch and interact with Robby. This is something that is lost in the digital world with *Robots*; you never get to interact with the characters, as there is no real world artifact.

Forbidden Planet depicts how robots will save humanity and restore the world to correct form free from danger, *Robots* explores much the opposite in the fact

that we see how robots attempt to survive without any human maintenance or interaction.

In terms of audio, fifty years in the past *Forbidden Planet* made use of technology in order to produce all the sound effects to obtain a futuristic style. However fifty years later in the digital age, *Robots* entire soundtracks used percussion based music and avoided using technology. It seems almost as if the era's were reversed for the audio.

We have noted many differences between the two movies however let's not ignore the similarities. Though the films both explore different scenarios of robots they both depict a positive perception of the 'robot'. They both explore the progression of robots developing personalities and characteristics, having to make choices and sacrifices in order to succeed. This means that in both cases, as the audience we accept and relate with the robot on the screen. In both movies the main robots have basic human features, head, body, arms and legs though they still have the mechanical features of robots thus avoiding any uncanny resemblance of humans.



In addition to *Forbidden Planet* and *Robots* we should briefly explore *The Matrix*, as this is a key moment in the history we have explored. The boundaries between human and robot are blurred further still in this feature film. On the one hand the film juxtaposes humans and robots by depicting them in a war that has destroyed the Earth. Curiously, however, the film simultaneously blurs the same boundaries it creates - the remaining humans of Scion have bionically augmented themselves with technology, which allows them to be 'plugged in' to the Matrix. Considering that large parts of the film take place within The Matrix, the film begs the question: are they, at this moment in the film, robots or human? These questions culminate in the depiction of Neo - known within the movie as 'The One'. Neo is originally introduced to the audience still 'plugged in' to The Matrix, but is soon 'unplugged' by Morpheus. However, unlike the rest of the humans, Neo possesses super powers akin to that of the robots of the film inside The Matrix, otherwise known as Agents. At many times throughout the trilogy, Neo is even depicted to see the world within The Matrix in binary code - he understands and sees the world more like a robot, than a human. Therefore, in a film that shows Humans and Robots on different sides of a war, Neo is called The One because he represents equal part human AND robot.



In order to draw a conclusion on this discussion we must consider certain elements. Firstly let's decide how successful the two case studies were for the time they had been created. Considering the date that *Forbidden Planet* was made, the use of the technology they did have for the audio was utilized incredibly well. Perhaps with a different audio style the film would have been a complete disaster as this is the element that captured that futuristic style they were after. The sounds that the viewers were unfamiliar with engraved intimidation into any scene that presented danger. Combined with the stunning sets and Robby's iconic outfit. Robots decision to base robots fifty years ago was indeed a brilliant choice and one that left that finesse and final touch to a great animated family movie. Showing that even robots can be afraid made the viewers of all ages relate and care for the robots. Combining the style of the animation with the choice of percussive audio, a sound we are familiar with, comforts the audience further more. Therefor we see that the choices made during the creation of these movies were of course, a great success.

The next thing to consider is the advancement of robots in movies, not just in terms of special effects, but also the originality of ideas. One hundred and thirteen years after *L'Eve Futur* was released we have seen a stunning progression in visual effects to a point that sometimes we are unsure if what we see on screen is real or not. We see film sets; characters and scenarios that are created entirely on a digital base yet are unknown to the eye. With the advancement of creation in the digital world we almost have no limit to what we

can put on the screen now and the further we progress the more the viewer is expecting more advanced special effects. However this has led to an era where the visualization of the film may have become more important than the story or the originality of the idea. Each year now we see stunning visuals in sci-fi movies, yet we find ourselves saying 'I have seen this before in another movie'. Have we reached a point where we have now exploited robots for all they are worth?

The final element for conclusion is to voice the prediction of the next ten to twenty years of robots in film. It is evident that we can bring life into anything on screen now, but based on the recent history of films it may be best that we now take a step back and re-consider story writing. The element that many feel is now lost.

Overall we have seen that we can find both comfort and fear in technology. We have revisited why the term 'robot' came around in the first place and the purpose of their creation. But we have also shown that we have an un-nerving fear that we may one day make technology too sophisticated for us to control. As human beings we have evolved and grown into the most powerful species in our existence and to lose this dominance and become enslaved is what scares us most. We fear that if we give emotion, feelings, freedom or human features to robots that this will be the case. Thus explaining why we are so happy to watch movies such as *Robots* and think nothing of it yet a movie that dates back fifty years such as *Forbidden Planet* will still immerse us deep into the thought of "what if we go too far?"

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