Battle Scene: 2D and 3D Animation Techniques Analysis in “The Rebuild of Evangelion”.

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Abstract

This paper studies the remake of Japan’s 2D animation series Neon Genesis Evangelion to tetralogy OVAs, The Rebuild of Evangelion, that uses 3D animation technique. Japan itself has already known for its 2D animation called Anime. 3D animation nowadays can produce and now needed to visualize a better animation film, rather than only using 2D animation techniques. Since 2D animation and 3D animation techniques have pros and cons, The Rebuild of Evangelion film utilize the excellences in both techniques. As a matter of fact, the animation for The Rebuild of Evangelion are remake from anime series Neon Genesis Evangelion, by adding some new scenes but not making a whole new movie. This paper solely written to learn about how technologies has major role in developing animation films, with a better or more representative visual for The Rebuild of Evangelion. This study focuses in battle scene’s aesthetic visual in the first movie of the tetralogy OVAs of The Rebuild of Evangelion, Evangelion 1.0: You Are (Not) Alone, since battle scene has it’s own complexity which required both 2D and 3D techniques, and how technologies can optimize the visual far better for audience.

Keywords: anime, aesthetic, 2D animation, 3D animation, battle scene.

1 Introduction

It has already known that Japan is famous for its two dimensional animations, known as Anime. Astro Boy (1963) by Osamu Tezuka was the first anime that broadcasted world wide and make anime, very popular. It was started whole animation production using CG (Computer Graphic), then developed to CGI (Computer Graphic-Imagery) in Japan. CGI focused on ‘movements’, known as Computer Animation or CGI Animation, as nowadays known as 3D Animation (Utah, 2011). The presence of 3D animation certainly effected animation industries in Japan. In the 80’s, Japan used 3D animation for video game. Also, video game this era from all over the world began their transition from 8 bit to a simple 3 dimension visual. In the journal entitled Japan’s Finds Early Anime Pioneers (2008), Japan used 3D animations for A.Li.Ce (2000) movie.

In 1987, Square Enix Studio released a Role Playing Game (RPG), Final Fantasy, using 3D animation. The popularity of this game was phenomenal, made the game won Walk of Game Award in 2006 and the Guinness World Records Game’s Edition in 2008. The popularity of Final Fantasy makes Square Enix Studio to keep making Final Fantasy games even until now. In 2009, Final Fantasy made it’s own movie called Final Fantasy: Advent Children based on Final Fantasy VII video game. Ever since then, a lot of Japan production house start making anime with the help of 3D animation.

In 1995, Japan launched a mecha (robot) anime with a science fiction genre called Neon Genesis Evangelion by Hideaki Anno in Gainax Studio. Neon Genesis Evangelion anime series focused on battles between human race, using a massive robot called Eva, to fight alien monsters called Angel. The 3D animation was still underdeveloped and not well known in this era for animation production house. Then in 2007, Khara Studio launched full movies from Evangelion series, into tetralogy OVA (Original Video Animation) films called The Rebuild of Evangelion.

According to Stein (2005), a good story must have an understandable flow so the audience can enjoy and catch what the author need to say. Evangelion series itself has a very complicated background story with a high psychological understanding, such as the background story of each characters. With a complicated story like this, it needs a really well made visual so audience can understand it’s storyline better.

In The Rebuild of Evangelion tetralogy OVAs, the creator, Hideaki Anno, optimized 3D animation techniques for settings, characters, and even effects for battle scenes. The Rebuild of Evangelion is also made for non Evangelion series fans, to straighten up many misconceptions of the story by optimizing 3D animations in it’s new scenes.

Of course, 2D animation techniques are still used, especially in
the making of storyboards, character movements, and also keyframes manufacture, so The Rebuild of Evangelion won’t lose the essence of anime. In mecha genre, it is well known to have a lot of battle scenes in it, and it is well expected. For battle scenes itself, Hideaki Anno and Khara Studio optimized 3D animation, especially for scenes that hard to achieve with only the use of 2D animation. According to everything that has been said above, this study focused on one question: What visualization of this remake from the series Neon Genesis Evangelion into The Rebuild of Evangelion wants to achieve?

2 Literature Study
With the emergence of 2D animation techniques and 3D animation techniques, The Rebuild of Evangelion surely using hybrid media, which the combined of both techniques. According to Lev Manovich in his journal, Understanding Hybrid Media (2007), developed technologies in the evolution of animations, which has its complexity, especially in animation production where that’s incredibly needed. Quoting from Manovich, softwares allows designers to create new visual elements without the need to have that element in real world because basic capabilities of software itself can dig aesthetic value of visual art.

Manovich also said, changes of visual arts are achievable depends of the imaginations of the artist himself. In the other hand, technologies has an important part to keep up what artists have in mind. With combining different types of technologies, obstacles and difficulties like production time timeline, techniques, etc., will no longer problems. Also achieving visual idealism is not impossible.

Then there’s Adam de Beer who wrote An Aesthetic Analysis of Movements & Performance in 3D Anime (2010) who studied 3D movements. Beer mention that motion is one of the most important part in animation. Well made motion through movement in animation will make such differences, so audience can see something more than watching a robot, because 3D animation itself has tendencies about robotic movements while visually, a 3D visual suppose to give a realistic feeling so audience can feel closure, but still watching an imaginary visual art. In production side, 3D animation gives animator easiness compared to 2D animation.

Sarrat and Hernandez (2013) has a theory about artistic animation that can only be achieve through 2D animation, since 2D animation gives an aesthetic appeal.

In the paper titled Animation: 2D Versus 3D and Their Combined Effect by Kritin Au (2014) itself mentioned about the pros and cons using both 2D or 3D animations for animation. Cons from 2D animations is animators need to draw frame by frame for every movements which cost time and energy. The result of 2D animation itself may has flaws and imperfections. Cons from 3D animations itself can be avoided by the making of video references to motion capture to achieve non robotic movements, and that cost much of time production. So by combining pros from both techniques, which are artistic feel from 2D animation and effectiveness from 3D animation, a better visual for animation with less time consuming and energy while producing the animation itself, is possible.

3 Hypothesis and Observations
For The Rebuild of Evangelion itself, there are two hypothesizes: detail idealism and production efficiency. These two hypothesis came from the film observation itself and interview documents.

From documents interview with Hideaki Anno, maker of Evangelion, he mentioned that there are some problems with objects that need some delicate movements like buildings or machines, and it is difficult to achieve through 2D animation technique. As we can see, The Rebuild of Evangelion came out from Studio Khara, not Gainax, which the original studio which produce Neon Genesis Evangelion in 1996. Anno also said he’s not coming back to Gainax because one of the issue was Khara Studio has the technologies he needed to make The Rebuild of Evangelion.

Since the whole film visually still came out as an anime, which 2D animation, producing this film using 3D animation lead to next hypothesis, which is production efficiency.

From pictures above, we can see character movements in battle scenes still using frame by frame drawing, which is traditional 2D animation technique.

In the other hand, building and machines use 3D animation and rendered 2D, to fulfill smooth movements which Hidea Anno mention in his interview.
Now scenes that required 3D animations’ smoothness and 2D animation exaggerations for character movements, which is battle scenes.

4 Analysis with Literature Theories

From all theories I mentioned in literature study, here are all analysis through Evangelion 1.0: You Are (Not) Alone battle scene break down.

Using Lev Manovich theory:

<table>
<thead>
<tr>
<th>Shot Explanation</th>
<th>Lev Manovich Theory</th>
<th>Description</th>
</tr>
</thead>
</table>
| Shinji gives square off to attack. | • Using 2D Animation for expressions  
• 3D model for object.  
• Vfx for mood/tension. | The tension where Shinji against Angel Shamshel well delivered by merging 2D, 3D, and VFX. |

Using Adam de Beer theory:

<table>
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<tr>
<th>Shot Explanation</th>
<th>Adam de Beer Theory</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Angel Shamshel (the alien) attacks.</td>
<td>3D model used for the alien smooth movements.</td>
<td>Angel Shamshel needs robotic movements which require it to be animated using 3D animation while Eva 01 (the purple-robot one) needs expressive movements which making it using 2D animation. Both techniques enhance what scenes need.</td>
</tr>
</tbody>
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Using Sarrat&Hernandez theory:
### Table 3: Sarrat & Hernandez Analysis

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<tr>
<th>Shot Explanation</th>
<th>Sarrat &amp; Hernandez Theory</th>
<th>Description</th>
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</table>
| Shinji finds out his classmates are in battle are. | • 3D model for Eva 01.  
• 2D animation for characters.  
• VFX for GUI. | This scene required a GUI to make believe with sci-fi genre, with both techniques is still as needed for storyline. |

Using Kristin Au theory:

5 Conclusion

The study, observations, and analysis conclude that both techniques, 2D and 3D animation, has pros and cons for productions to visual imaging. Therefore, instead of using only one technique when it flaws can be such problems through out production, it is wise to optimize every aspect and every technique to develop a better visual art.

Also, even though visual art tends to lean into an artistic view like anime nowadays which still using frame by frame (2D animation) and it’s result is good, every developer need to keep an open mind of every possibilities by developing every technologies, but not forgetting about old-traditional ways still has it’s own unique-ness.

### References


Graser, Marc. (2014). Walt Disney Animation, Pixar Promote Andrew Millstein, Jim Morris to President. Variety Media.


