CLOVERFIELD: How to Destroy a City in 12 Easy Steps

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Figure 1: Various stages of The Monster

1 Introduction

Plunk a large CG monster into a metropolitan city, mix in a low budget with high entertainment value, and watch it from a single, shaky point of view for 84 minutes to create Cloverfield. Bad Robot approached us and asked if it was possible to destroy a digital NYC. Here's our recipe.

2 Exposition

The complexity of the visual effects work in Cloverfield lay in the challenge of addressing the cinéma-vérité, single point of view, handheld camera style of the film while seamlessly integrating the CG character – the perpetrator of mayhem central to the narrative. As the camera swoops and jiggles in the style of a non-professional videographer, we catch glimpses of the monster stomping and crashing through the streets of New York.

To create this 'no cuts' style of filmmaking, multiple live action plates were digitally 'stitched' together to simulate a single take. Prior to starting animation, matchmove challenges, made more difficult due to plates not lining up, had to be overcome. The seamless takes were constructed employing various tricks from editorial: soft cuts, three frame dissolves; and from visual effects: a basic morph, a partial 3D reconstruction of NYC, and sometimes all of the above.

Eric Leven, Tippett Studio’s VFX Supervisor, declared that the matchmove artists were the unsung heroes of Cloverfield. Matchmovers used in-house tools for much of the work, but largely relied on the brute force of hand and their excellent eyeballing abilities to create the background plates.

The monster was designed to have a translucent, albino quality as if it had very little exposure to sunlight. However, the monster attacks at night and trots through parts of the city with varying amounts of light. Throughout the film the monster's color and textures had to be constantly tweaked to match the change in environments and visibility. As more of the creature is revealed, the audience sees the body, muscles and face become more defined with the use of muscle simulations and subsurface scattering. Even the veins and pulsating clots just beneath the surface of the monster's translucent skin are visible.

In the middle of postproduction the filmmakers decided to change a few key shots in the movie, providing additional challenges for the crew. Instead of keeping the creature stationary while being attacked by fighter jets, the monster would now tramp through ten city blocks before the camera virtually tilts up to reveal a B2 bomber swooping in and dropping its payload on a carpet-bombed Manhattan. Before rising again through CG explosions and billowing clouds the monster falls down taking with it chunks of skyscrapers and bits of New York.

At the beginning of the project the filmmakers wanted the audience to see very little of the creature but as postproduction progressed they changed their minds. Not satisfied with a fleeting glimpse of the monster's jaw as he attacked the cameraman, the monster would now stand before the audience in all its glory, staring down into a virtual camera for a fully CG shot that lasted over a minute. Finally, the audience got what they came to see, the monster. The breathing sacks, facial detail, and internal musculature are all monstrously visible, right up until the camera and the cameraman are eaten. If one looks closely, Hud's legs are visibly stuck between the monster's teeth, as the camera falls back to the ground.

3 Conclusion

The team of artists at Tippett Studio accomplished all of this on a shoestring budget with a fast turnaround schedule. After all, Cloverfield was a low budget monster movie.