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10 Films That Broke the Technological Mold

Scarlet Howes · Tuesday, March 3rd, 2015

The history of filmmaking technology is one that is littered with stunning achievements. The film industry continues to be at the forefront of innovation as cinema has championed some of the most awe-inspiring technologies within the visual arts. From **3D** to the **Steadicam** to shooting on an **iPhone** to **CGI –** here is our list of **10 films that broke the technological mold**.

1. *Tangerine (2015)*

[embedvideo id="vHRUVLOlFpE" website="youtube"]

The Sundance Film Festival is known for showcasing experimental and innovative films, but none more so than the social realist movie *Tangerine*. The narrative follows a transgender sex worker as she journeys through the streets of Los Angeles, following the realization that her pimp boyfriend was unfaithful to her while she was in jail. The unique subject matter befits the unique cinematic style of *Tangerine*. The feature-length film was shot entirely on the iPhone 5s, changing the way we look at how films can be made.

"It's about making the most of what you have," says writer and director Sean Baker. The technology of 2015 has given filmmakers the freedom to make big films **without** the big budget. You just need four things – the iPhone (Baker and his team used three), an app called Filmic Pro to lock focus, exposure and aperture, a Steadicam rig to stabilize, and a set of anamorphic adapter lenses that attach to the iPhone.

Initially, it was a budgetary decision for Baker but it quickly became an aesthetic choice after he realized that shooting on a smartphone came with its own adavantages. The fact that it *is* a phone allows the crew to shoot clandestinely, as well as giving them unrestricted mobility. This means that *Tangerine* reveals a side of LA rarely captured on film.

2. *Tarnation (2004)*

[embedvideo id="mLDQL23nutw" website="youtube"]

In 2004, Jonathan Caouette's *Tarnation* shook up the independent film world. This was thanks not just to its iMovie ingenuity but also to the extreme, and singular, example of personal filmmaking. It is an intimate, and sometimes disturbing, documented family history pieced together by over 20 years of home movie footage, still photographs, and audio diaries. As *Tarnation* examines

Caouette's coming of age amid the mental deterioration of his mother, the narrative strain unfolds as subtitles on screen.

It is the first feature-length film editied entirely on an iMac using the free software iMovie. It cost as little as $218.32 in videotapes and materials to make, but in spite of this low budget the film has achieved critical acclaim. It premiered at the Sundance Film Festival before being programmed at Cannes and going on to win several Best Documentary awards. Both Gus Van Sant and John Cameron Mitchell signed on as executive producers after seeing longer cuts of the film.

"Making a movie is not as difficult as it is made out to be," Caouette has remarked. *Tarnation* proves, once again, how powerful the technology that we have at our fingertips can be.

3. *Avatar (2009)*

[embedvideo id="5PSNL1qE6VY" website="youtube"]

Whether you loved or hated (**yes, yes, yes**) James Cameron's *Avatar*, you cannot deny that it revolutionised 3D cinema. Stereoscopic cinema or 3D is a gimmick as old as filmmaking itself. You take two cameras and shoot them side by side. Later, when the results are projected, the viewer interprets these dual images as a single three-dimensional image. In the past, the success of this illusion has, likewise, proved illusory.

Cameron, tired of waiting for technology to catch up with his sci-fi vision, worked alongside cinematographer Vince Pace to pioneer and patent a new generation of stereoscopic cameras – a "fusion digital 3D camera system". He shot large portions of *Avatar* on a "virtual camera", a handheld monitor that allowed him to move through a 3D terrain in real time. While, the CG character animation was filmed with new motion capture techniques that were originally devised for video games. The "Simulcam" was able to superimpose CG images over live images, with the FPR ("Facial Performance Replacement") digitially re-working an actor's facial movements.

Avatar may have been fairly derivative in its storytelling but the vivid world of Pandora visually broke the technological mould.

4. *A Computer Animated Hand* (1972)

[embedvideo id="wdedV81UQ5k" website="youtube"]

The first use of computer generated imagery in film is credited to the 2-D digital rendition of a robotic cowboy's vision in the 1973 sci-fi western *Westworld*. But in 1972, Pixar co-founder Edwin Catmull and producer Fred Parke created a program to digitally animate a human hand as part of a graduate course project. The one-minute short, *A Computer Animated Hand*, displays the hand turning, opening and closing, pointing at the viewer, and lastly, ending with a shot that travels up inside the hand.

The movement of the hand may seem rudimentary in comparison to the detailed animation we are used to, but back in 1972 *A Computer Animated Hand* was technologicaly ground-breaking. Catmull and Parke's technology has become the foundation for all CGI in film, including the year later *Westworld*, and so should be credited as such.

5. *Cannibal Holocaust* (1980)

[embedvideo id="cZ-Xp6VC7RQ" website="youtube"]

In 1980, Ruggero Deodato released what is still regarded by many as one of the most controversial films ever made — *Cannibal Holocaust*. The movie follows a team of American filmmakers into the Amazon jungle, in search of a previous expedition who disappeared investigating cannibal tribes. What we see on screen is the footage they recovered after they themselves disappeared.

Cannibal Holocaust is heralded for its degrading onslaught of rapes, murders, torture, salacious sex, genocide, castration, and even news footage of real-life executions. But most notorious of all was its actual slaughetering of wild animals on camera. Deodato's "movie-within-a movie" technique, of shooting the film on handheld 16mm film, lead to it being banned in several countries upon release. Meanwhile, Deodato was put on trial for allegedly killing his actors on screen.

Although not solely comprised of "found footage," the presentation of *Cannibal Holocaust* created the film medium. This narrative device grounds the film in reality and, essentially, forces us to relive what the characters went through. The approach was adopted by films such as *The Blair Witch Project*, which premiered at Raindance in 1999 to critical acclaim, and has continued to be a POV phenomenon.

6. *28 Days Later* (2002)

[embedvideo id="c7ynwAgQlDQ" website="youtube"]

Danny Boyle took the digital format and utilized it for his British sci-fi/horror *28 Days Later*. In the process, he broke new technical ground within the industry by using the MiniDV format to revive the stale zombie genre. The plot details the breakdown of society following the accidental release of a highly contagious "rage" virus that has transformed the human race into the walking dead.

In order to maintain the anarchic and gritty feel of Alex Garland's script, Boyle opted to shoot on DV, using the Canon XL1s. This format was at the lower end of the DV resolution scale, but Boyle has repeatedly claimed that this was an artistic choice. *28 Days Later* exhibits the unique aesthetic possibilities of early digital as it gives the film a visceral realism often associated with (as discussed above) found footage. Boyle proves that MiniDV is a viable format for cinema if employed in the right way.

7. *The Wizard of Oz (1939)*

[embedvideo id="vkZcYMy85lY" website="youtube"]

As a sepia-toned Dorothy (Judy Garland) opens the door of the sepia-toned farmhouse, the vibrant world of Oz bursts through the doorway. The camera follows Dorothy, who is revealed to be wearing a bright blue gingham dress, as she steps over the threshold into the Technicolor land of Oz. The transition from black-and-white to Technicolor in *The Wizard of Oz* is a visual sequence that was, technically, a major achievement.

All of the Oz sequences were filmed in a three-strip subtractive process. Each strip, running

simultaneously, emphasized a different colour of the spectrum. This Technicolor process gave us the iconic ruby slippers that have come to define the film. In the original novel, they were “Silver Shoes,” but were changed to ruby in order to take advantage of the technology at use.

So, while today colour cinematography is taken for granted (to the point that some narrow-minded people refuse to watch a black-and-white film), in 1939 the heightened colours of *The Wizard of Oz* were a revelation.

8. *The Jazz Singer (1927)*

[embedvideo id=”mW6GfJ5Tvms” website=”youtube”]

The moment in sound was Alan Crosland’s *The Jazz Singer* in 1927. The musical, based on a play by Samson Raphaelson, was the first feature-length motion picture to use Warner Bros’ Victaphone sound-on-disc technology to reproduce the musical score ***and*** sporadic episodes of synchronised speech. Admittedly, the dialogue was confined to a few sentences, but its release heralded the ascendence of the “talkies.”

The consequences of synchronized sound for cinema were not just generic. It impacted narrative, genre, style, and became a crucial element for the registering of authentic reality. For example, in 1931 Fritz Lang’s *M* (if you haven’t seen it, you **must**) first used sound to dramatize the internal conflict of the character through the external use of the whistling motif.

9. *The Thief of Bagdad* (1940)

[embedvideo id=”QXqFLiO8ATQ” website=”youtube”]

Some might say that *The Thief of Bagdad* has blue-screen halos that are glaringly obvious and flying objects that don’t seem to float as effortlessly as they ought to – **but they would be wrong**. The special effects, supervised by Larry Butler, were a breakthrough in technique and vision. The film was the first to use blue-screen, or the Chroma key technology, which was a variation on the existing “travelling matte” process.

In the famous genie scene, the genie is made to tower over Abu (Sabu) by using an optical printer to combine a shot of the genie close to the camera, and Abu hundreds of feet away. Both are filmed from a camera on the same beach.

This technique has since become the standard process for seperating screen elements and actors from their backgrounds, and placing them on new backgrounds for special effects purpose.

10. Bound for Glory (1976)

[embedvideo id=”z0gYPsTtvFo” website=”youtube”]

Before 1975, the camera could only be mounted on a camera dolly or the camera operator could hold the camera in his hands. While these cinematic techniques are still common, the Steadicam added another dimension to cinematography. The Steadicam, essentially, combines the stabilized steady footage of a conventional tripod mounted with the fluid motion of a dolly shot and the

flexibility of hand-held camera work.

Bound for Glory was the first film in which inventor/operator Garrett Brown used his new Steadicam for filming moving scenes. The Woody Guthrie biopic debuted with a shot that compounded the Steadicam's innovation. The shot started on a fully elevated platform crane which jibbed down, and when it reached the ground, Brown stepped off and walked the camera through the set.

The Steadicam shot in *Bound for Glory* = that legendary shot of Danny riding his tricycle along the corridors of the Overlook Hotel in *The Shining* (1980).

This article originally appeared on the Raindance website.

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