Only One Shot to Deliver the Message

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1917 (Sam Mendes, UK 2019, 118min) follows the story of two soldiers – Lance Corporal Blake and Lance Corporal Schofield – as they are tasked with traveling to the fronts of WW1 to deliver a time sensitive message. A message which if not delivered could lead to the loss of thousands of men. At its core, *1917* is a movie with a very simple plot; the main characters must get from A to B as fast as they can to deliver a message. If the main characters are unsuccessful the consequences are dire. However, the reason the movie found critical acclaim and widespread success was due to the unusual way in which it was filmed and edited. The unusual style has become known as the 'one-shot movie' as the filming and editing leave the impression that the entire movie was filmed in one shot. The one-shot movie *1917* required meticulous attention to detail and support from visual effects in order to make the cuts invisible to the spectator's eye. The editing completes the illusion of being one long continuous shot as opposed to the over sixty actual cuts used within *1917* (Vox). So how was *1917* able to create this illusion that led to it winning the Oscar for Best Visual Effects (Academy of Arts and Sciences)?

The first stage of successfully hiding over sixty cuts within *1917* started with an arguably underappreciated aspect of special effect implementation. This aspect is choreography. Choreography was integral to the success of *1917*'s one-shot style as it allowed for a more controlled environment as well as mitigating mistakes. In *1917* choreography was so important that the filmmakers' first steps towards bringing the film to the screen was to go through the scenes on location or in fields to understand how long each scene was going to be. The run-throughs allowed the filmmakers to choreograph and decide how they were going to frame and place the camera around the actors, as well as how they were going to make sure the camera got to the right place for the hidden cut in time. Furthermore, the run-throughs also provided vital information in the creation of the physical effects for the film.

The level of precision in the designing of the sets and visual effects is why there was the need for run-throughs, with the sets themselves being designed to the exact parameters of the original run-throughs. Without the run-throughs, it could have resulted in a set not being long enough, or there not being enough space for the camera rig to follow. This emphasis on direct parameters is something that has grown with the growth of visual effects and their utilization and importance in modern film. Visual effects prioritization and importance then create a "feedback loop" where most aspects of filming are at the mercy of how the visual effects will be implemented (Cram 170). Thus, prioritizing or rather relying so heavily on choreography and effects can create a flip in command, where the director and cinematographer are at the mercy of what the art department and effects department can create (Turnock 113-114). *1917's* "feedback loop" is the direct result of the desire for the 'one shot' effect and even stemmed into the camera positioning.

The way the camera needed to be positioned to follow the main characters meant that the camera would potentially utilize a 360-degree view of the set from the perspective of the camera. By allowing this 360-degree view it meant that the film not only had to be choreographed and designed to fit the exact needs of the action of the scene, but also the positioning of the camera. The camera moved to fit in with the actors and create the idea that the spectator is following the characters in real-time, and experiencing the journey at the same time. Because of this range of motion and view it meant that a significant amount of planning and then meticulous execution had to go into the camera positioning of *1917* to make sure that aspects of the behind-the-scenes mechanism were not seen in the camera. To enable this motion a high degree of innovation had to occur behind the scenes in the way the camera was rigged and moved.

1917 utilized the camera Arri Alexa Mini LF because it was lightweight enough to allow for a high range of movement and could still provide the level of detail the director and cinematographer wanted (ARRIChannel). The lens that cinematographer Roger Deakin used for the majority of the film was the 40mm Arri Signature Prime Lens. Deakin chose this because of its compactness as well as for its depth of field. The Arri Signature Prime Lens allowed for a shallower depth of field which reduces the level of distortion compared to wider lenses and allows for a more 'real' and sobering view of the actors and the movie. Furthermore, the shallower depth of field allows for more emphasis on the characters the spectator is following and the exact things they are witnessing or experiencing. Thus, one could argue that altering the depth of field and the active choice of lens is its own visual effect as it impacts the image being presented.

Part of the reason why the camera needed to have significant flexibility in motion was to do with creating the cuts, or rather choreographing them. To make the cuts as seamless and 'invisible' as possible they often occur either when there is a darker moment within a scene or when there is a form of 'distraction' that occurs in front of the camera (Flight and Ramsden). A 'distraction' can be something simple such as the camera passing by a tree and briefly obscuring the view of the actors, or something a little more complex such as a group of soldiers walking in front of the actors obscuring – but not completely – the actors. When the actors were fully obscured the transition was easier. When the actors are completely obscured it is known as a 'hidden cut' (Vox). However, when the camera still had a view of the actors the transition was harder and required varying forms of post-production visual effects such as CGI. The scene where this is most notable is the scene where Schofield jumps off a bridge into the water, and to the viewer, he never leaves the screen. However, in reality, there is a cut as soon as Schofield

jumps that is facilitated by CGI (Insider). In Schofield's bridge transition, CGI is utilized to create not just the transition of background and setting but also to transition the actor's image his movements into the next shot. CGI allowed the movement of Schofield's body as he fell from the bridge to seamlessly fit with the next shot.

When creating a completely continuous one-shot film, there can be some barriers to storytelling that movies of more 'classical editing' styles do not have to worry about as much as they are able to use cuts to showcase surroundings (Berliner and Cohen 49-50). For *1917* there had to be active thought put into how the camera was going to move to showcase the scene and maintain a fluid, natural feeling for viewership experience. *1917* was able to do this through a variety of 'attention cues'. Attention cues used by *1917* include object attention such as the panning of the camera–the shot following the rat in the German bunker–and sound–the creaking of the bed by Blake in the German bunker (Flight and Ramsden). The use of 'attention cues' in *1917* further highlights the importance of choreography in the creation of *1917*'s one-shot effect as it facilitated the flow of the camera in a way that was not jarring or potentially harmful to the viewing experience.

However, when the choreography was unable to facilitate the desired effects of the director Sam Mendes, CGI and post-production were utilized. CGI was not only utilized to 'blend' cuts but was utilized to hide parts of production and redesign sets (Universal and Deakins). Due to the complex nature and size of the rigs, or even cranes, needed to allow the camera to capture the shot it meant that it was inevitable that they would be seen in the shot. The way the filmmakers dealt with this was through a two-part process. The first part was to film each scene twice. The first time they filmed a scene it would be the actual shot with the actors. The second time they filmed would be just the background without any of the actors. The camera

would follow the same movement in both run-throughs, with the second one being used as a reference in case there was anything that needed to be erased in post-production editing (Universal and Deakins)(Cram 175-176). Essentially the two takes provided the editors with two 'mattes' that they could then render together in post-production if needed (Foster chapter 19). It is at this point that the camera motion served a disservice to the post-production editors as it is easier to create and put together mattes when the camera is stationary, which in *1917* is incredibly rare (Foster chapter 19).

While CGI throughout *1917* is utilized to erase aspects of a scene or contribute to transitions, *1917* also utilizes a collaboration between CGI and physical effects. The scene where a German plane crashes into a barn near Blake and Schofield utilizes both blue-screen CGI and practical effects. As the plane is flying through the sky it is a CGI image, but the actual crash is created through a full-size model on tracks that then actually crashes into the barn while on fire (Universal and Deakins). The reason Mendes and Deakins decided to utilize a combination of CGI was to help create the illusion of being far away to close up in a very quick time frame (Universal and Mendes). Furthermore, by actually dealing with fire in this scene it allowed for a simple and realistic shot. However, due to the nature of the one-shot, it again required clever choreography to ensure the safety of the actors within the scene. When Schofield goes to get water he draws the camera with him and away from the pilot on fire. The pan of the camera then allows a safety person off-screen to run to the burning actor, quickly extinguish his leg, and runoff, all before the camera pans back. The combination of physical and CGI does not stop at one effect followed by the other but is also used to extend physical effects.

In the night scene with the burning church where Schofield ends up running from a German soldier, the burning church itself is both there and not there. To create the appropriate

lighting a massive light tower was created to create light that would simulate the tone and movement of a massive burning church. The structure itself was around 50 ft high and hosted around two thousand 1k lamps to create the amount of light needed for the scene (Universal and Deakins). However, it wasn't until post-production that the light source was turned into the massive burning church seen in the final movie. Furthermore, post-production also had to add smoke and other atmospheric elements to truly create the illusion of a burning church (Universal and Deakin). Due to the size and brightness of this physical light effect, it meant that a high degree of precision was needed when filming the scene to avoid lens flare. The problem of being too bright was fixed very simply by one of the operators having access to a controller that could slightly dim the lights when the camera was facing directly at the church (Universal and Deakin).

1917 is also unique in the way it utilizes lighting. As opposed to most films that use lighting sources off-camera, *1917* relied almost solely on in-camera lighting. One of the reasons for this was to allow for the 360 movement of the camera. Another reason was around sustaining the reality and effect of reality within the movie. Drawing back to the burning church scene, lighting was one of the most important factors in designing and creating this scene. The scene is solely lit by flares that were specifically designed for this scene to last a certain amount of time (Universal and Deakins). The flares not only add to the realism of the movie, but they create shadows that give the effect that the land is moving. The moving shadows and layers of light from the flares helped fuel the unease and almost nightmarish quality of this scene (Murphy). Another example where lighting is coming from sources on camera is in the initial meeting with the General. The oil lamps are the only sources of light for that scene and are actual lamps just with the oil replaced with an electric bulb (Universal and Deakins). *1917* didn't just face lighting problems when attempting to make a scene lighter – at night or in a bunker – but also in broad

daylight. For the movie to maintain continuity it was decided that filming would only take place during cloudy weather (Universal and Deakin).

Outside of lighting, CGI, and the collaboration of CGI and physical effects, the last main on-camera 'special effect' to be considered is the role of physical effects individually. Physical effects on their own had a much more subtle role than one might have originally thought in relation to the overall effect of the movie. Only three scenes host significant physical effects outside of set design (Mendes). One of those scenes is the previously mentioned plane crash. However, the other two consist of the final bunker running scene with bombs going off in the background, and the scene within the German bunker when the rat sets off the tripwire and the bunker starts to collapse. Focusing on the German bunker scene there is a clear prominence of physical effects, with the explosions that are ongoing throughout the scene. However, a more subtle physical effect is the sand and dust falling from the ceiling. The falling sand and dust is a simple effect that does a significant amount to emphasize the collapsing bunker.

Furthermore, the sand and dust also help with the invisible cut into the next scene. As Blake and Schofield are going through the hallway and the camera is following them, the viewer can see light at the end of the tunnel (Universal and Mendes). The transition happens partly due to the light and exposure level, as well as the sand and dust obscuring what is actually on the outside of the bunker–which in this case is just a sound stage. Physical effects can thus aid the transition between cuts as mentioned in the above example. In the bunker, there are two other transitions aided by physical effects. The first transition is the initial explosion and the second when a significant amount of sand and dust falls from the top of the bunker (Chalamet). Another physical effect transition occurs in the plane crash scene when the smoke briefly obscures the camera.

As previously mentioned, obscuring the camera is the best and easiest way to create a continuous transition with most of *1917's* transitions occurring this way. There are exceptions for when Schofield jumps off the bridge and the one or two where the characters are still clearly in the frame. It is also worth noting that 1917 is not the first 'one-shot' movie to exist and it is predated by other movies such as Alfred Hitchcock's *Rope* (Alfred Hitchcock, USA 1948 80min)(Vox). *Rope* was released in 1948 and is an 80-minute long movie of the psychological thriller genre that was edited to look like one continuous shot. The one-shot idea came from Hitchcock's desire to experiment with film and the way a film is edited (Pichel and Hitchcock 418). Compared to *1917* the cuts are a little more obvious because of how the camera had to be completely obscured to create an 'invisible cut'. The difference in cuts is thanks to the development of film technology and digital film technology requiring a cut to not actually be a physical cut of the film, and the advancement in digital After Effects (Vox). However, ultimately the same cutting technique is used just at different levels between the two films. Furthermore, both *Rope* and *1917* faced the same problems concerning place setting and both used the previously mentioned 'attention clues' to draw the camera around the scene rather than cutting to a completely different shot (Pichel and Hitchcock 419)

Rope and *1917* both prioritized the style of editing in the production of the movie, with the style of editing becoming an overarching effect of the film's storytelling. The main effect that continuous editing has on the narrative of the film and the viewing experience is that of unity of time and unity of space (Pichel and Hitchcock 417). Unity of time and place comes from the fact that the film never goes backward, and in the case of *1917* no scene is repeated as the soldiers keep moving forward. Immersion is the overarching effect created through continuous editing as the viewer is experiencing the movie at the same time the character is (Universal and Mendes).

The reason that *1917* was able to utilize physical effects for transitions also stems from the development of digital film, which at the time *Rope* did not have access to.

Overall Sam Mendes and Roger Deakin utalize both physical effects and continuous editing to create a truly immersive experience. Through careful and precise planning *1917* became a cinematic experience like very few others. The ‘one-shot’ effects were facilitated by incredible attention to detail when choreographing each scene, making sure that each scene had space for the actors and the camera. Furthermore, the ingenuity in rigging the camera and camera placement allowed for the experience to have a deeply personal feeling. Mendes and Deakin were able to overcome the hurdles of a 360 plane of field for the camera by implementing lighting practices that were solely within the scene. And utalising the support of CGI to fill in when lighting sources couldn't be fully replicated – the burning church. The real star of the movie is the creation of the ‘invisible’ cuts which ultimately allowed for the illusion of a continuous ‘one-shot’ film. Created through orchestrated obscures of the camera from set choreography or physical effects, part of the success of the transitions is thanks to the developments in digital film technology. The developments allowed for smoother and more hidden transitions in comparison to older ‘one-shot’ movies such as *Rope*. Ultimately without this collaboration of effects, transitions, choreography, and ingenuity *1917* would have just been another war movie to add to the ever-growing pool and would not have won the Academy Award for Best Visual Effects (Academy of Arts and Sciences).

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