MARVEL SUPERHERO FILM: THE USE OF MUSIC AND SOUND DESIGN IN NARRATIVE TRANSITION ZONES

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ABSTRACT

Releasing every year since 2008, Marvel superhero films have taken over the box office as a family favorite cinematic experience. The public acceptance begs the question as to whether or not there is something special about this group of superhero films compared to others. After further analysis, it seems that a majority of these films draw the audience in through a specific combination of sight and sound. While screen writers follow the five traditional segments of plot: exposition, rising action, climax, falling action, and resolution, it is the moments between these segments of plot that draw the audiences attention. Composers have identified these transition zones and use music in various ways to provide critical information about character development, conflict, and resolution. Through the analysis of four Marvel films: Captain America: The First Avenger, Captain America: The Winter Soldier, Iron Man, and Iron Man 2, I aim to evaluate the success at which these composers guide the audience through each transition zone into new segments of plot.
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Introduction

Since 2008 The Marvel Cinematic Universe has released twelve superhero movies. This rapid explosion of film will only continue to expand as Marvel plans to release eleven more superhero films by 2019. With such a vast number of superhero films being released so quickly, it is impossible to avoid the legitimacy in the popularity of superhero film. Additionally, the audiences are being drawn from all spectrums; adults who read the comic books in their youth are attending to see how their favorite heroes are being portrayed and children are attending with their parents, establishing new generations of fans. Together they continue on to see the sequels and other linked films. Both the young and old sequels unite both young and old moviegoers to reenter the story worlds of their favorite characters.

In superhero films, script writers commonly segment the story into five major plot segments: exposition, rising action, climax, falling action, and resolution. However, there must be time when the exposition becomes the rising action, when the plot enters and exits the climax, and when the plot leaves the falling action and becomes the resolution. These are called transition zones; the function of these zones is to guide the audience from one plot segment to another (See figure 1). As part of the sound design, music is used in various ways to provide critical information about the character development, conflict, and resolution throughout these transition zones.
As shown in Figure 1, film narratives typically contain three transition zones: one between the exposition and rising action, one surrounding the climax, and one between the falling action and resolution. After each transition zone there is a decrease of energy in the narrative leaving the audience with a question. Following the first transition zone the audience is drawn into the plot by narrative ambiguity. For example, “What just happened?” “Who was that?” “Where will the hero go next?” “When will there be another attack?” Following the second transition zone the audience is left one central question, “What course of action will the hero take to stop this evil?” Finally, after the final transition zone, the audience is left wondering, “So the hero just defeated evil, now what?” Successfully having the audience ponder these questions triggers the expectation that there is a new segment of plot arriving with answers to their questions.

**Statement of the Problem**
For many years, iconic musical themes have been created for superhero films and analyzed by scholars. However, in recent years, Marvel has released a series of linked superhero films that suggests a relationship where the audience’s comprehension of plot progression is influenced by the sound design. Scholars have not yet seriously examined this aspect of the superhero film. This thesis focused on the sound design of these transition zones. I will identify these transition zones and analyze the music-to-image relationship for how it reveals the ways the composer guides the audience through these zones and musically suggest possible answers to the questions raised. According to David Bell, “musical underscore performs three basic functions:

1. To play the action in the scene
2. To play obliquely or play the subtext of the scene
3. To play against the action of the scene” (Bell 1)

Therefore, the composer will make decisions in these transitions zones to help reflect progression of the plot. By looking at the transition zones in Captain America: The First Avenger, Captain America: The Winter Soldier, Iron Man, Iron Man 2, I am able to analyze the success at which the composers of these films use the sound-to-image relationship to guide the audience through transition zones.

**Methodology**

The analysis of these transition zones were addressed according to the following categories: background versus foreground, application of the musical elements and function of scoring. The position of the music in the sound design is a critical choice made by the composer and director. When music is overwhelming the audience, it causes a very different sensation than when the music is dominated by the action or speech. When the music is given more importance,
it is impossible to ignore, and therefore has an impact on the audiences overall journey through the film.

Composers choose specific instruments to form the sounds they are trying to portray. Not only do they choose these instruments, but they also have to decide how the instruments are being played and what the instruments are playing. These choices are reflected through the manipulation of the musical elements in each musical cue. Melody, harmony, dynamics, and texture are some of the main elements that are used to influence the type of sound that the audience hears. A loud trombone will provide much different meaning to a scene than a soft violin playing the same music.

As stated earlier, musical scoring can play three functions in a scene. It can play the action in the scene, play the subtext of the scene, or play against the action of the scene. None of these actions are incorrect, but some actions can distract the audience from the narrative rather than enhance the audience’s understanding of the narrative.

Overview of Chapters

This thesis is divided into three main chapters. Each chapter includes: a general scene synopsis of the transition zone, a justification for why the scene is a zone of transition, and an analysis of the music to image relationship that guides the audience through the transition zones. The first chapter corresponds to the overview and analysis of the first transition zone in each film. The second chapter corresponds to the overview and analysis of each second transition zone; and the third chapter with the third transition zone.
Chapter 1

Transition Zone 1

The first transition zone establishes the hero as extraordinary. This can be comparable to the “supernatural aid” that is often seen in the hero’s journey. Additionally, the first transition zone draws the audience in through narrative ambiguity. After each first transition zone a set of characters has been introduced, but their significance to the plot has yet to be explained. In Marvel superhero films this transition zone typically occurs after two events: a transformation and a conflict. Entering the first transition zone the hero is a physically normal human being, but exiting the zone s/he has superior abilities that the average person around them does not. This

Figure 2: Plot and Transition Zone 1
ability attracts attention from power hungry forces who need to defeat the new hero standing in their way.

Figure 3: Captain America - The First Avenger Transition Zone 1

Captain America: The First Avenger

The first transition zone of Captain America: The First Avenger begins when Steve Rogers and Agent Peggy exit the taxi and enter a boutique shop. An older woman greets them and Peggy exchanges a password allowing the older woman to proceed to the register where she clicks a secret button unlocking a door to a military base. Peggy leads Steve into the base where they are greeted by Dr. Erskine along with Howard Stark.

Also in the bunker is Colonel Phillips with many different senators and dignitaries. Steve is told to remove his shirt and sit in the capsule. Dr. Erskine makes an announcement of the transformation procedure that will occur on Steve Rogers, increasing his size, strength, and
mental capacity. As he describes the procedure, nurses prepare the capsule with serums and give Steve a shot of penicillin. Then the serum infusion begins.

Dr. Erskine, tells Stark to begin and the capsule raises and then closes. The capsule begins to glow, with a few screams from Steve the procedure continues and then finishes. Steve exits the capsule much taller and stronger. Everyone celebrates the success of the procedure. A lone dignitary, who turns out to be Heinz Kruger, a German spy, hangs back while others marvel at Steve. Kruger then blows up the viewing room, steals a vial of serum and kills Dr. Erskine. Just before he dies, Dr. Erskine points to Steve’s heart.

As Kruger is running away he is pursued by Peggy. Peggy shoots and kills the getaway driver in the street forcing Kruger to steal a yellow taxi. Attempting to run Peggy over, Kruger drives full speed toward her and Steve pulls her out of the way just in time. He then begins to chase the taxi on foot. Leaping over fences and jumping from car to car, Steve begins to realize new muscular abilities from the procedure. The car eventually crashes and as Kruger exits the car he grabs a nearby boy as hostage. Steve continues to chase, them and Kruger throws the boy into the lake. After figuring out the boy can swim, Rogers dives into the water after Kruger who has entered a submarine. He breaks the windows and throws Kruger back onto the sidewalk. After being asked who he is, Kruger responds by saying, “the first of many.” He pulls a fake tooth which contains a cyanide pill and kills himself letting out “Hail HYDRA” before dying.

This is the first transition zone because there is a transformation from regular and meek Steve Rogers to superhuman savior. At the exit of the vehicle, Steve is a less than physically gifted human. He is given the serum and goes through the physical transformation, coming out bigger and much stronger than the average human he used to be. After the transformation there is a diegetic discovery of these new traits by Steve as he tests being able to run and jump over cars
and fences. Finally, there is an encounter between good and evil that is established. Steve now knows that there is someone he needs to stop. At the end of the scene, the audience is left with the narrative ambiguity that draws them through to the next plot point. They are left asking questions like, “what will Steve Rogers do next?” or, “who is HYDRA and why did they kill Dr. Erskine?” These questions

*Sound-to-Image Interactions*

Exiting the vehicle a low hum G in the strings appears almost immediately followed by upper strings on a high G. A second set of strings in octaves enters in the foreground of the sound design. An interjecting sequence plays while while Peggy speaks as they enter the Boutique store. Trumpets enter timidly play a first inversion C minor arpeggio as Peggy and Steve move through the first secret door. Percussion enters at the second doorway providing a processional feeling as the two walk to the laboratory.

The music also becomes more active with 16\textsuperscript{th}-note figures in the lower strings and 8\textsuperscript{th}-note figures in the horns. A gradual crescendo of the ensemble occurs as they approach the final door into the lab. Once those doors are open, the composer, Alan Silvestri moves the 16\textsuperscript{th}-note motive through different instrument groups until the doors open and the people in the laboratory all look at Steve. Here the music comes to a halt leaving only a suspended solo violin on a faint B, as isolated and lonely as Steve Rogers is at that moment. The trumpet fanfare enters after a timpani roll introducing the conversation with Dr. Erskine.

As the audience is introduced to Kruger a stinger chord is played in the horns in the background of the sound design, foreshadowing the untrustworthiness of his character. With the beginning of the procedure, a ticking clock is added to staccato strings creating an unsettling amount of anticipation. Dr. Erskine counts down from 3 and after 1 the procedure initiates. The
clock ticking fades out but more brass is added to the 16th-note figure. Snare drum enters as Stark adds the electricity to the capsule with ‘and 1’ ‘and 3’ rhythms. The accents on 1 and 3 move the musical gesture forward, but also carry the storyline from one part of the procedure to the next part. The driving figure creates more anticipation for the listener. Just as the procedure is about to be cut off, Steve shouts “No!” from inside the capsule and there is another stinger chord. Dr. Erskine whips his head around and though the audience is looking at the doctor, the entire audience is waiting for Steve to say something else. When the electricity shuts off the music cuts out as well until the capsule opens.

Here the main Captain America music is played by the horns in the foreground of the sound design. The melody and power from the horns matches the muscle and stature of the ‘new’ Steve Rodgers. The music then falls to the background as all start cheering. A march theme is then played in major underneath the dialogue between Steve and some of the medics. This theme is played in a quartet like style with a narrow range in voicing.

As the camera zooms in on Kruger, the music turns cold with low strings (cello and basses) playing an ominous G-E-flat-F# progression. The upper strings enter providing more dissonance as he flips open his lighter; the music cue ends with the explosion of the viewing room. The intensity is immediately brought back through an ascending line of the strings passing to the upper brass. As Kruger begins to escape the middle strings begin to play a 16th-note figure, adding agitation to the scene. Cutting back to the lab, Dr. Erskine is on the ground and with his last breath points to Steve’s heart. This is accompanied by faint upper strings, harp and mellow brass but, like Dr. Erskine’s last breath, quickly dissipates with a convulsive timpani roll tied to the anger in Steve Roger’s face. When Rogers enters the car chase scene, Silvestri begins a major-second rapid note figure in the low register of the upper strings. Through its prominence in
the foreground of the sound design, this figure holds the audience in suspense. As Steve gets closer and closer to catching up to the car, more brass instruments are added. It begins with just the trombone and concludes with trombone, horn, and trumpet playing an E-G-G#-B-E chord as Steve dives onto the top of the car.

When the car crashes the music cuts out and reenters with a pedal G in the low strings and somber chords/motifs in the middle and upper registers of the low strings. The main hero theme is played in the trumpets as Steve tries to run after the child who was thrown in the water. Kruger pulls his ship out of the water and a pulsing E is played in the basses with an E-E-F#-G motif repeating to build tension as Kruger is going to get away. When Kruger is thrown back onto the dock, there is silence in the sound design except for speech until a low g begins to pulse in the bass. Upper strings slowly fade in on a high B-flat-D then switch to D-G establishing g minor as Kruger begins to reveal the evil that is about to come upon Steve Rogers. On the single shot of Steve Rogers, low brass enters with the main hero theme G-C-F-E-flat-D. Strings enter in all registers holding G-D perfect fifths. The music overwhelms the audience forcing them into the next scene as they are left to contemplate and ask questions about the future of Steve Rogers and HYDRA.
The first transition of Captain America: The Winter Soldier begins after Captain America, Steve Rogers, meets with Defense Secretary of S.H.I.E.L.D Alexander Pierce. Rogers has been questioned about the death of Nick Fury and why Fury contacted him before his death. Rogers does not know the answers to these questions and the meeting concludes after which Rogers exits and enters an elevator. As he is descending floors in the elevator, more and more S.H.I.E.L.D. agents board the elevator at each floor it stops on. Rogers notices subtle clues: men sweating or anxiously inching towards their weapons.

The agents then begin to attack Rogers and try to pin magnet clip around his wrists in order to stun him with an electric rod. Rogers overpowers all of them and cuts the wires of the elevator dropping it down until its safety lock engages. Agent Sitwell, a secret double agent working for
HYDRA, watching from a monitor orders multiple other crews after Rogers. Rogers then breaks through the elevator glass and falls many stories through a glass ceiling to escape. He lands on his shield and runs off eventually emerging on his motorcycle. As he is beginning to cross the bridge to escape, a Quinjet cuts him off and proceeds to shoot at him. Rogers increases his speed into the Quinjet leaps off of his motorcycle onto the jet and throw his shield into the propellers destroying the engines. He then hops off the jet, landing with his shield and rides off narrowly escaping the now untrustworthy S.H.I.E.L.D.

This is the first transition zone because the end of this scene reestablishes Steve Rogers to the audience as Captain America. He now understands the evil that he is up against and realizes that he cannot trust anyone in the one place where he thought he found justice. Now he must begin the search for the heart of the corruption and fix it. There is no turning back from this point, literally and figuratively as he must continue on to bring justice and balance back to the world.

**Sound-to-Image Interactions**

As the elevator descends to each floor, composer Henry Jackman gives us hints about the men walking on with an articulated low C pedal tone for each group that enters the elevator. There is no action in the beginning of the transition point except the agents coming on the elevator, so the cue only incorporates one rearticulated pedal. The cue is effective at moving the story along because the underscoring is playing the subtle hints that Captain America is picking up on but that the agents do not know they are giving off. With the beginning of the attack Jackman brings back the action theme that has occurred earlier in the movie with synthesized percussion and a fast pulsating rhythm. Jackman also cleverly makes the score follow the environment that the story is occurring in real time. There is a cut to Agent Sitwell watching on a
monitor removed from the real action and the score cuts out then cuts back in when re-entering
the elevator. After the wires are cut Rogers opens the door to find more agents and a cue enters
with more traditional instruments: strings and brass that swell and burst as he breaks through the
glass of the elevator.

When beginning the escape on the motorcycle a snare drum enters along with other
instruments, creating a thicker texture. Jackman is slowly pulling the pieces together of a
traditional American hero as he is becoming established in the plot. All of the elements come
together as Rogers throws his shield into the engines, catches it in the air with the upper
woodwinds and brass on a high concert D, and lands with a shield smash on the ground. The
instruments drop an octave and then the low synth enters with the final period on the scene as
Rogers escapes.

Jackman is effective at guiding the story with the music but taking care in underscoring
the subtle hints of Rogers awareness. Jackman is able to play the subtlety in the text but then as
the story needs Captain America to emerge so does the score with playing the action of the shield
and intensity of the battle between Rogers and S.H.I.E.L.D. agents.
Iron Man

The first transition zone of Iron Man begins in a cave where Tony Stark has been captured. He and Dr. Ho Yinsen, a doctor who has helped save Tony’s life, have been secretly working all night to create an armored suit powered by the miniature arc reactor that is keeping shrapnel out of Tony’s heart. Yinsen goes over the ways in and out of the cave while adjusting and testing the armored suit.

Raza, head of the Ten Rings terrorist group who has captured Tony Stark and Dr. Yinsen, realizes through security camera footage that something strange is going on and sends his guards to check on the duo. The guards begin to open the door but Tony and Yinsen have strapped a bomb to the door and it goes off. This gets the rest of the guards and Raza’s attention. Tony and Yinsen begin the initial sequence of the suit. Yinsen realizes that they do not have enough time
for the suit to finish the initiation sequence. He grabs a gun and runs off to distract the other guards. The suit becomes fully powered, and Tony begins fighting his way out of the cave. The suit deflects all bullets and Tony easily overpowers any guards as he begins to escape the cave.

Tony reaches the exit of the cave where he runs into Raza. Raza shoots a small rocket that misses Tony. Tony returns fire with a rocket of his own and explodes the wall behind Raza knocking him unconscious. Yinsen, wounded, is laying off to the side. He reveals to Tony that he planned to die all along in an effort to help Tony escape. Tony thanks him for saving his life. Yinsen tells Tony not to waste his life.

Outside of the cave, more guards wait with machine guns and begin shooting. Again, the bullets do not work and Tony returns fire with flame throwers in each arm of the suit. Tony continues to destroy guards and their stockpile of stolen Stark Industry weapons as he moves farther away from the cave. Taking heavy fire, part of the suit’s leg is shot and collapses Tony to his knees. Tony finally gets up and activates the jets of his suit. He flies out of the area through all of the exploding weapons he has just set on fire. He lands in the middle of the desert and begins to look for help. Eventually, U.S. helicopters fly by, and a group of soldiers led by friend Lieutenant Colonel James “Rhodey” rescue him. When they land on U.S. soil, he is greeted by assistant Pepper Potts and driver Happy Hogan with looks of relief and passion.

This is the first transition zone because Tony Stark is captured as a result his character traits: extreme intelligence, arrogant, and proud. At the same time, some of those traits allow him to create a plan of escape and, without knowing it, the most powerful battle suit the world has ever seen. The audience is left with different questions about what has just happened in Tony Stark’s life, and what will happen in the future now that he knows people are trying to use and
kill him. The creation of the suit and the escape of Tony and Raza, leads the audience directly into the next section of plot with the expectation that the questions created will be answered.

*Sound-to-Image Interactions*

As Dr. Yinsen puts the armor on Tony the entire orchestra plus electric guitar play a familiar motif in a homorhythmic texture. As the suit is put completely on, solo instruments move out of the homophonic texture and into ascending, mostly chromatic, scales. As Raza sends guards to check on Yinsen and Stark, the music falls to the background of the sound design or there is no music at all. Music returns to the foreground when Yinsen sets off to buy Tony time. When the suit becomes fully charged, strings play very quiet harmonic A’a to B-flat’s. After Tony fights the first three guards, the motif from the beginning of the transition zone returns at the same pitch level but in the foreground of the sound design and with a much higher volume.

When Tony talks to Yinsen, the entire mood of the scene changes. Composer Ramin Djawadi supports this change by using long sustained strings at a low volume. As Tony leaves the cave the music switches back to the quicker pace and the electric guitar is heard over the orchestra. While Tony is under heavy fire, brass instruments are added in long tones in addition to the strings building more and more intensity as it is looking less likely that Tony will be able to escape. With Stark Industry weapons beginning to explode, the instruments are now at extreme upper ends of their ranges with the strings reaching higher pitches and volumes. They continue to climb until Tony flies out, during which the whole orchestra and electric guitar gain back that same motif from the beginning of the transition zone and completely takes over the foreground of the movie’s sound design. When the jets in Tony’s suit run out, the music stops.
The helicopters that find Tony trigger a full melody in the upper strings with full symphonic accompaniment and a countermelody in the horn section. The horns then take over the melody in a new key as the planes land in the U.S. against which the strings play a soft countermelody in the middle to lower registers of their instruments. The music has completely dominated the sound of the film portraying to the emotional relief that has overcome each main character now that Tony has been found and is safe at home.

Iron Man 2

The first transition zone of Iron Man 2 begins with Tony Stark in the bathroom before the Monaco 500 where Stark Industries is sponsoring a driver. Tony reads that his blood toxicity level is at 53% due to the poison spreading throughout his body continually frying the cores of his center piece. He decides to drive the Stark Industries car instead of the hired driver. Stark
begins racing, but in the meantime, Ivan Vanko is disguised as a pit crew worker. Vanko walks out onto the track and reveals that he is wearing a harness with the arc reactor he built after his father died. Attached to the harness are two large whips that have electricity running through them. Vanko slices a car that is coming towards him.

Happy and Pepper grab a suitcase, get into their car, and begin to drive out onto the track. As they race towards Tony, Tony is racing towards Vanko without knowing it. Tony turns the corner and Vanko cuts off the front of his car with the whips. Tony is sent flying in his car. Vanko continues to approach Tony’s car and cuts it in half. However, the car is empty and Tony begins to fight Vanko. As Vanko is about to hit Tony, Happy pins him to the side of the track with the car and he appears to be knocked out. Vanko comes to and begins to attack Happy and Pepper in the car. Tony is finally able to take the suitcase, which turns out to contain the Iron Man suit. Tony and Vanko viciously battle and Tony is able to defeat Vanko after wrapping himself in the whip and physically taking him down. Tony removes the arc reactor on Vanko’s harness and analyzes it while the police take him to captivity. The transition zone ends with a shot of Justin Hammer inside the resort watching the end of the battle with many other people. Everyone is staring at the scene with astonishment while Hammer has a look of fascination.

This is the first transition zone because Tony is forced to prove himself as the world’s hero once again. The first transition zone is all about setting the hero apart from every other character in the movie. In Iron Man 2, this is done in two ways: Tony is revealed to have poison in his blood and a new villain is introduced. The fact that the arc reactor, which is keeping Tony alive, is also killing him sets up a new personal conflict for the audience to keep track of throughout the movie. No one else has this problem except for Tony because of his own technology. Additionally, Tony battling and defeating Vanko for the first time proves to the world that even
though someone has come close, there is still no suit as powerful as Tony’s. However, the ending shot on Hammer’s face also lets the audience know that Hammer is looking for Tony to fail and interested in the person who almost caused that failure.

*Sound-to-Image Interactions*

In the bathroom, strings fade in on an E-B open fifth after Tony checks his blood toxicity. Along with the strings, an electric keyboard and harp outline C major to D major chords; as the scene changes the tonality lands back in E minor. In the background of the sound design, the electric guitar and other synthesizers vamp around E minor while all of the action is building up through the actors on screen. The sounds of Formula 1 racecars is overtaken by a theme once Vanko appears on screen. The low brass menacingly play G-E-A-G-F#-E while drums have eighth notes on the downbeat of each measure. The music moves to the middle of the sound design for more shots of racing and then as Vanko enters the track the music overtakes the audience’s attention again. As Happy and Pepper enter the track, brass, xylophone and strings play short agitated lines that fit together to reflect the panic of the situation at hand.

As Tony turns the corner, an ascending scalar figure is played throughout the orchestra. It begins in the low strings and brass with E-F#-G-A then move up to the middle strings and horns that play B-flat-C-C# and is finally taken over by the trumpets, voices, and violins that play D#-E-F#. As Vanko is attacking the car, the motif that played when Vanko attacked Tony’s Formula 1 vehicle is brought back in the trumpets. The guitar takes over with an ostinato playing [C-B flat-C-E flat]. Over of the ostinato the horn plays powerful long tones on C-G-F-C. The combination of the powerful brass horn sound and thick distorted guitar are purposefully aimed to demonstrate the new power Tony has with the suit on. The same theme repeats when Tony finally defeats Vanko. The last part of the transition zone is Vanko saying, “You lose” while the
orchestra is playing c minor chords and then the shot turns to Justin Hammer while the last C minor chord fades out.
Chapter 2

Transition Zone 2

The second transition zone forces the hero to take action. Up to this point there has been a growing conflict, or conflicts, that now need to be addressed. This is a result of occurring around the climax. Once the turning point is passed, the audience expects all of the action to move forward and towards a solution. Also, the hero will have a brief, yet, direct encounter with the villain that causes significant changes to the course of action that the hero will take in trying to defeat the villain later. An example of this could be discovering the villains true plans of evil, discovering who the villain really is, or, a battle with the villain that ends with physical and, or,
emotional pain to one of the sides. Following the second transition zone, each audience member is left wondering what the specific course of action will be and if it is possible to stop the evil.

Figure 8: Captain America - The First Avenger Transition Zone 2

Captain America: The First Avenger

In the second transition zone of Captain America: The First Avenger, Steve has stealthily made his way into the HYDRA base by taking out numerous guards. Inside, he sees that there are extremely powerful weapons being made by Schmidt and Zola with the technology of the Tesseract. Steve then finds the holding cells of the US soldiers and breaks them free. Here he is asked who he is and responds hesitantly, “Captain America.” Steve announces to the troops that he is looking for his friend, St. James Barnes. Steve gives the men orders to get out as quickly as possible and meet at the rendezvous point.
The men begin to escape and steal weapons from the HYDRA soldiers. Schmidt quickly figures out that prisoners have escaped setting off the alarm. When he discovers that Steve Rogers is one of the soldiers he begins the countdown for the self-destruction of the HYDRA base. Before their escape, Arnim Zola and Schmidt begin to escape, gather important documents and the Tesseract. Steve nearly catches Dr. Zola as he runs out of the operation room. He overhears a groan. Inside is Steve’s friend Bucky. Getting a quick look at the map of the other bases on the wall, he continues to escape with his best friend.

Outside the base, the US soldiers are continuing to overpower the HYDRA soldiers, taking their weapons and fighting to the rendezvous point. Inside, Steve and Bucky are forced upstairs onto the catwalks of the base where they run into Dr. Zola and Schmidt. Schmidt begins a conversation with Steve during which Steve throws the first punch. When Schmidt returns to standing, the skin right below his eye is stretched revealing red skin beneath his eye. Returning the favor, Schmidt throws a more than expected powerful blow denting Steve’s shield. Dr. Zola quickly separates the fighting by pulling a lever that pulls the bridges apart. Schmidt removes the skin on his head which turns out to just be a mask. He reveals that Dr. Erskine has experimented on him as well and that they have “left humanity behind.” Zola and Schmidt enter an elevator and escape while Bucky and Steve are left in the middle of all the explosions. They climb higher where they find a narrow support beam that they can cross to get out. Bucky successfully crosses but as he gets across the beam falls. Steve ends up having to leap across the gap. Mid leap, there is a fade to camp headquarters where the Colonel Phillips is pronouncing Steve and the other US troops dead.

Agent Carter enters the tent and Colonel Phillips begins to blame her for the loss of so many lives. As they are talking, soldiers outside of the tent are beginning to gather. The two
leave the tent to find out what is going on. The see Captain America leading the troops from the HYDRA site, loaded with weapons and tanks approaching the campsite. Captain America addresses the Colonel and then Agent Carter. During the conversation, Bucky leads a cheer with all of the other soldiers for “Captain America!”

This is the second transition zone because every moment after is a result of the information Captain America has learned. Captain America has seen a map of where HYDRA bases are located and is able to form a plan on how to attack them. Further, he has freed an entire group of military soldiers that could provide him with the support for this plan. And, finally, he has learned the true identity and plan of his enemy. Before he has known about the group HYDRA, but now he knows the leader of the organization. Until this point in the movie, Captain America has only been hearing, or seeing, what is happening in the world. Now he is going to be leading, fighting for justice, and defeating evil.

**Sound-to-Image Interactions**

Inside the HYDRA holding cells there is a lot of darkness with mist and hints of blue light from the Tesseract technology. A metal ticking, that continually gets louder and softer, paired with a high faint B-flat set the scene as the audience sees the cells. A vivid upwards slide screech initiates Steve’s entrance as he attacks the only guard on duty. Chordal swells in the middle strings and brass provide a feeling of ambiguity while maintaining the power of the brass.

A pulse in the basses and percussion enters as the soldiers are released from their cells. This pulse figure well represents the uncertainty yet liveliness of the situation. The scene quickly escalates with a high-pitched string screech leading to a door being kicked open. Immediately, a fast agitated rhythm is put in the upper strings and unpredictable syncopated rhythms are put in the percussion and brass as the US soldiers break out and begin to attack. A half-step glissando is
stretched out as Schmidt slowly becomes aware of the escaped prisoners. Into the action, there is heavy percussion matched with brass and big explosions. There is quite a contrast when the viewer moves back to Schmidt and Zola.

In the main office, Silvestri chooses to only use the ticking clock reverb and a short violin flutter. As Schmidt keeps his eye on the surveillance camera, he notices Steve fighting through HYDRA soldiers. The cue calls lower strings with fragmented legato motifs. Texture, instrumentation, and mood all diminish when Schmidt removes the Tesseract from where it was being stored. The instrumentation slims down to just upper strings, flute and the ambient hum of the Tesseract. The lack of bass in the sound design creates a trigger to the audience that something is different and draws their attention in more than before.

As Steve enters the room Dr. Zola ran out of, upper strings fade in on a high G. Middle and low strings enter with mysterious quarter notes. When the audience hears another voice, upper woodwinds enter repeating the motif in a major mode preparing the middle brass solo. A timpani roll transitions the audience to the map that appears on the screen with points of the other bases and as the audience gets a view from the perspective of Steve Rogers, low brass plays a motif in minor relating to the music associated with the villains of the film.

After some more battle scene shots, the camera focuses on the timer that has been counting down and is now at 0:02 seconds. Timpani rolls during the remainder of the countdown with a bang that is equally balanced in volume with the explosion where the cue then ends. The next cue enters as Schmidt punched Steve’s shield on the bridge. Nearly the entire orchestra enters with weight enhancing the visual power of the villain. As the two pairs continue to escape the self-destructing HYDRA base, low brass and strings pair with percussion to create a pulse increasing the intensity.
Focusing on Bucky and Steve, intensity continues to build as the music comes to match the speech and other effects of the sound design. Bucky gets across the ledge but the piece he walked on falls. Steve realizes that he is going to have to jump and backs up on the walkway. As he takes a breath before beginning to run and jump Silvestri has the middle brass play the first notes of the main heroic Captain America theme in an altered mode.

The troops all flood to the entrance of the camp which attracts the attention of Agent Carter and Colonel Phillips. The same fade-in on a high G as the opening of the cue as the camera moves forward to meet the entering soldiers. Trumpet initiates a choral cascade with the rest of the major brass instruments all underneath the high G in the upper strings. When only the troops from the battle are in the frame, the full main Captain America theme is in the foreground of the sound design.

Silvestri uses a heroic style march to influence the audience’s understanding of who these men are. Without other speech going on the audience is able to reflect on the events that just occurred and connect their prior knowledge of the march style to the survivors of the HYDRA base. The viewer now knows that Captain America has passed the first test as a hero and is willing to trust them. Using the entire length of the main theme establishes Steve Rogers as Captain America. Putting the music in the foreground of the sound design makes it unavoidable for the audience. This cue then takes the background of the sound design, but continues through the dialogue between Captain America and Agent Carter and Colonel Phillips. The audience member then gets a diegetic confirmation through other characters that Captain America is no longer a joke performance moving from place to place and is now an experienced leader they are willing to follow.
In the second transition zone of *Captain America: The Winter Soldier*, Captain America goes back to the hospital where Nick Fury passed away to retrieve the flash drive from the vending machine he stored it in. When he gets there, it’s gone. Agent Rominoff has it and they use it to try and find information on the Winter Soldier. This takes them to Wheaton, New Jersey where Rogers trained. They find a large secret lab in the basement of a misplaced building with an aged supercomputer. The supercomputer is running on the brain of Arnim Zola a scientist who worked with the head of HYDRA (an organization dedicated to world domination). Zola proceeds to tell them about how HYDRA has taken over. He was recruited by S.H.I.E.L.D. and poisoned the organization under the radar. He states that HYDRA has been aiding world crises throughout the last fifty years molding history to whatever they wanted to happen. He reveals
that there is a plan for a purification process before HYDRA takes over the world using the carriers from project Insight. He states that project Insight, “requires insight” in reference to the jump drive. But Zola confesses that he has been stalling them. A missile hits the building but Agent Romanoff and Captain America get away safely.

This is the second transition zone because everything that happens after this point is a direct result of knowing S.H.I.E.L.D’s (HYDRA’s) plan to take over the world. Captain America now knows the true villain and their plan for world domination and must stop it. They know who they must defeat and when they must defeat this person by, it is only a matter of time before the conclusion occurs. Everything before this scene was an attempt to find out who is out killing for HYDRA and why HYDRA is killing these people. Now the questions have been answered and the narrative can continue forward into the next section of the plot.

**Sound-to-Image Interactions**

It seems that being inside the brain of a scientist dictates the scoring for this transition point. The majority of the focus is on Zola who is the entire room, but only a screen and voice to us. To play the action in this scene, Jackman creates a stoic state of being in the underscoring. There is a single pluck of a synthesized string sound alternating between a B and a C. Though the audience is stuck in a sense of limbo, there is a vastness to this scene created by the large room with hundreds of rows of computers and the one computer that knows all. There is a very clear God reference on “I am” with a cluster chord to show how there is a monumental feeling to Zola, but also a feeling of distress. The intensity increases as Zola enlightens Rogers and Romanoff about the truth to S.H.I.E.L.D. A heartbeat motif is in a deep synth bass drum that comes to the forefront of the texture the more Zola reveals and ‘comes alive.’ Mid range brass
are added on long tones at the retelling of the story thickening the texture as the plot reveals more profound information to the duo.

Henry Jackman is extremely effective at not revealing too much until the plot advances. Though there is not that much physical action in this scene, there is a significant amount of emotional content and critical thinking. Jackman leads the audience through this by having less music playing. This portion of the plot is a monologue and cannot be covered up; to counteract not having volume Jackman uses texture and only moves on part in the texture at a time to create the feeling of something crawling down the back of your neck. The scene is uncomfortable the viewer waits for something and then finally the plot culminates with the reveal of HYDRA’s plan and the attack of the missile.

Figure 10: Iron Man Transition Zone 2
The second transition zone of Iron Man begins at the annual Stark Industry charity event. After having an intimate moment with Pepper, Tony goes downstairs to get drinks for the two of them. There he runs into Christine, the reporter he spent the night with before he left for Afghanistan. She reveals photographs of Stark Industry weapons being used by a terrorist group the previous day in Dr. Yinsen’s hometown of Gulmira, Afghanistan. Unaware of the situation, Tony speaks to his right hand man, and father’s former partner, Obadiah Stane to find out more. Obadiah reveals to Tony that he was the one who filed the injunction against Tony.

After returning home, Tony is sitting in his basement laboratory working on modifications to the right arm attachment of his Mark III suit. Furious about what he just learned, Tony watches new reports of the situation in Gulmira. He figures out that the terrorist group is the same one that captured him. He turns the hand repulsors into weapons and realizes new potential in the Mark III suit to right the wrongs his company has caused in Gulmira. When the rest of the suit is finished it is put onto his body by an automated robotic system and he flies off.

In Gulmira, Jericho missiles are set being set off and terrorist attackers are chasing and shooting at civilians. They round up the older men for execution. Tony arrives taking out the group of terrorists and setting the town free. He punches through a wall to grab the group’s leader, Raza’s chief lieutenant. Tony throws him in front of the civilians and let’s them do what they wish.

Tony continues to search for any of his weapons and is shot down by a tank. The tank shoots again as Tony gets up, but Tony dodges the shell. He fires a small missile at the tank and destroys it. He locates the remaining Stark Industry weapons and blows them up. As they explode, Raza arrives to see Tony destroying all of the weapons and get away.
This is the second transition zone because Tony learns that Obadiah has betrayed him and because he goes out and begins to fight for a cause. Originally, the suit was just created in order to help himself escape the cave and save himself. After seeing the turmoil that Gulmira is in, Tony decides to go find the products that have been stolen from him and destroy them. Tony makes a very conscious and calculated decision to begin taking back and clearing his name while helping others. Once this transition zone is over, the audience is left wondering how Tony plans to stop Obadiah, who clearly still has malevolent actions he is still waiting to carry out.

*Sound-to-Image Interactions*

The transition zone begins with diegetic music played at the Stark Industry charity event. A pianist is playing light jazz music while the event is happening. As Christine hands Tony the pictures of Gulmira the upper strings fade in on a lower register E and then a few seconds later, more tension is created by playing half-step below on D# until he gets to the last picture after which, the low strings, electric bass, and percussion enter on a low pedal D moving to a low pedal C.

Based on one of the central motifs the cellos have legato eighth notes outlining an e minor chord when Tony is confronting Obadiah about the photographs. Then the upper strings become stagnant on octave A’s while the lower strings provide some harmonic context using quarter note C-D and then landing on A with the rest of the orchestra.

The music falls to the background of the sound design as Tony is watching the news and modifying the right arm attachment of the suit. As he finally puts on the rest of the suit, the same motif from the first time he puts on the suit returns in the electric bass and drumset followed immediately by the strings.
In Gulmira as Tony is shot down by the tank shell. The music stops, it enters again on the same motif with the electric guitar and drumset at a higher volume and strings outlining chords. As he finally explodes the weapons, brass instruments enter outlining the same chords. Flying away, the distorted guitar ends on the seventh degree of the scale, symbolizing some unfinished business.

Figure 11: Iron Man 2 Transition Zone 2

Iron Man 2

The second transition zone of Iron Man 2 begins with Tony Stark in the CEO office of Stark Industries. After having a frustrating conversation with Pepper, he is about to leave when he notices the diorama of the 1974 Stark Expo from the old films he has been watching. He takes the diorama home to his basement workshop. He “rediscover” that the diorama is really a diagram for the structure of a new element his father could not produce because of limited
technology. JARVIS also identifies that the new element would be a good replacement for palladium helping to solve Tony’s other problems.

Tony begins demolition on the workshop and other parts of the house building a particle accelerator. Having been on lockdown, S.H.I.E.L.D. agent Coulson informs Tony that he will be reassigned to New Mexico, lifting the mobile constraints. With the particle accelerator now complete, Tony is able to create the new element and a new triangular chest arc reactor.

At Hammer Industries, Vanko is supposed to be working on modifications to the drones being used in the Stark Expo. Justin Hammer calls Vanko asking to stop by and see what progress has been made. Vanko reveals that the drones will be presentable but will not be able to demonstrate everything that Hammer requested. Additionally, Vanko is currently working on modifications to the whips from the first time he attacked Tony. Angry, Hammer returns to Hammer Industries and locks Vanko in a room with two guards while he goes to the Stark Expo for the presentation.

Tony receives a phone call from Vanko while he is cleaning in the basement workshop. Vanko has killed both guards that were supposed to keep an eye on him and threatens to kill Tony. After hanging up, Tony takes the chest piece with the new element core and switches it out with the one he currently has before all test data has been taken. It cures the blood poisoning and is more powerful than the previous designs.

This is the second transition zone because Tony is able to rediscover an element that will help him eliminate the poison in his blood and, eventually, defeat Vanko. Additionally, Tony’s conversation with Vanko helps Tony learn Ivan Vanko’s true plan for the Stark Expo Hammer presentation. After these two events, the narrative shifts towards answering questions that have been laid out for the audience prior to the transition zone. However, now a new set of factors has
been introduced in the story creating a new set of expectations. The audience is now expecting Tony to go save everyone at the Stark Expo and stop Vanko, but does not know how these events will occur. This is how the second transition zone sets up the rest of Iron Man 2.

**Sound-to-Image Interactions**

As Tony takes a closer look at the diorama of the Stark Expo, a synthesizer, voice, and cello all begin to play lightly in A minor carrying the audience to his drive home where the music begins to move to the foreground of the sound design. Percussion, horn, and middle strings are added with the melody in the horn. On the discovery of the element, middle and low strings end in B major but morph back to A minor when Tony is admiring the element the way he was admiring the diorama at the office. Composer, John Debney, then transitions into the demolition scene using distorted electric guitar, drumset, and violins in B minor. The electric guitar plays a repeated riff while the violins have short and separated rhythms layered overtop. The music cuts out during Tony’s conversation with Agent Coulson, but when he leaves, the same theme returns as the particle accelerator begins. The music slowly transitions from guitar, drumset, and violins, to all strings and brass. After the element is bound to the metal triangle, the “wonder” theme from the office returns.

In the cut to Hammer calling Ivan Vanko, low strings and brass take over with a repeating minor third G-flat to D-flat melody. When Hammer arrives at the warehouse where Vanko is working for him, the music cuts out for their conversation. The whole focus is on the dialogue that the two characters have. Then, when Vanko calls Tony, that same minor third theme returns in the low strings on F and D. Additionally, bass voices on the “ah” vowel, have halfstep descending glissandos to match the danger approaching the Stark Expo.
Chapter 3

Transition Zone 3

Figure 12: Plot and Transition 3

The third transition zone is the defeat of current evil. The hero, usually with some type of disadvantage, goes through one last battle with the villain. The hero is on his/her last hope and must draw upon all of the tools that s/he has discovered, or have been given to him/her, in order to win the battle at hand. This could mean that the heroes use weapons that have been made for them, or, take advantage of personal attributes from before the heroes were extraordinary. After the final transition zone, the audience is ready for conclusion. This entire time through the movie
the audience has been waiting for the hero to conquer evil. Now that evil is defeated, there is uncertainty as to what happens next.

**Figure 13: Captain America The First Avenger Transition Zone 3**

*Captain America: The First Avenger*

In the third transition zone of *Captain America: The First Avenger*, Captain America has just crash landed back on the flying wing and enters the cockpit looking for Red Skull. He approaches the seat only to find out that Red Skull is not in the chair. As he turns around Red Skull fires his gun powered by the cube energy, which Captain America deflects. They then begin to fist fight. After a few punches, Captain America knocks Red Skull into the yoke forcing the aircraft downwards. Both characters are sent flying up towards the ceiling as they continue to battle. Red Skull manages to get back to the pilot’s seat and turns on the autopilot. Pulling out a handgun firing the same cube-powered ammo, Red Skull begins talking to Captain America
about what he could be doing with this power and that he is choosing to represent a nation on his chest instead.

Captain America leaps for his shield to block the last shot and then throws it at Red Skull knocking him into the power source of the plane. A blue electricity spiders it’s way around all the metal beams in the cockpit. Then, Red Skull picks up the cube and a type of portal opens above him showing space; and also something that seems to be a different time. The peace is quickly interrupted when Red Skulls hand begins to deteriorate into the cosmos along with the rest of his body.

After Red Skull transports through time and space, the cube melts through every layer of the aircraft and falls to the sea below them. Captain America then takes the pilot’s seat. Looking at the course set on the autopilot he discovers the plane has be set on course for New York City. Captain radio’s the base and ends up speaking to agent Carter and informs her of the aircraft’s flight path. With many atomic bombs still aboard, Captain America informs Carter, who is presenting options for safe landings, that none of them will work. The only option is to land the plane in the water.

The conversation quickly transitions from mission to relationship as Steve says, “Peggy, I’m gonna need a rain check on that dance,” referring back to the taxi ride they had on the way to his transformation. She makes up a time and place, knowing that he will not be there. The plane slowly sinks into the water as the sun is setting. The closing scene takes the audience to Great Britain where many people are celebrating the victory and end of the war while Captain America’s four closest comrades take a drink in his honor.

This is the final transition zone because Captain America defeats the Red Skull and is able to land the aircraft out of harms way in order to save New York from a bombing. Captain
America’s chooses to use the powers that Dr. Erskine gave him for justice rather than power. Red Skull makes this clear to Captain America and it turns out that Red Skull’s desire for more power with the Tesseract backfires on the Red Skull, and sends him to another place in space and time. Captain America after this transition zone the rest of the narrative comes to a close. All questions are answered, and Captain America is still alive ready to help the world.

*Sound-to-Image Interactions*

As Captain America enters the cockpit, the only thing that can be heard is the hum coming from the cube as it “glows.” After the first shot of Red Skull’s canon, Captain America initiates the fight by charging at the Red Skull. The chaotic battle begins with a B-flat minor chord. Music takes an equal placement with the rest of the sound design, as brass and string instruments counter each other one after another with frantic lines in B-flat minor. This represents the visual action of the scene very well with the music demonstrating a blow by blow battle.

As the fight takes a turn when Red Skull is knocked into the yoke, there is a unison D-flat and F played by the instruments. The low brass takes over with a descending dotted eighth note to sixteenth figure in a heavy accented manner as the plane begins to rapidly decline in altitude. The music fades out on a g minor chord in the strings as Red Skull initiates the autopilot. Music is now in the background of the sound design as the dialogue between Red Skull and Captain America.

When Red Skull is knocked into the center power source console low brass comes to the foreground of the sound design with a descending tritone interval as Red Skull picks up the cube. The upper strings have four sixteenth notes and end on a suspended A-flat 6 chord. There is a calm aura coming off of the cube that this sixteenth note run aligns with visually. The “awe” aura is quickly interrupted with low brass descending f minor triad in second inversion. Brass have
two sixteenth notes followed by a suspended minor chord twice in a row as the Tesseract cube begins to react strangely. As the Red Skull begins to deteriorate into time and space, active runs in the woodwinds and strings aurally demonstrate the chaos currently happening. Once the Red Skull is gone, the music cuts back out and all that is heard in the sound design is the hum from the cube.

After the cube falls through the aircraft, strings come in in low registers with a march theme. Horns enter with the Captain America theme modified with drag triplets. After the autopilot destination is discovered, the music cuts out. When Agent Carter and Captain America are discussing possible solutions to landing the plane, low strings come in on a slow descending g minor scale. Middle and upper strings enter when Captain America states that this is his “choice.” Solo violin comes to the foreground of the texture as Captain America begins the descent into the water. All strings are playing slowly until the aircraft crashes leaving only one violin on a B-flat.

Strings and brass play the rest of the transition zone with a very flowing and sentimental melody. This leads into a solo violin that enters in the fade-to-white on the screen playing E-flat over a V chord in D-flat major and an A-flat over a I chord in D-flat major. When the I chord is sounded with a view of Great Britain flags and U.S. soldiers, the main Captain America theme is played in the horns. This is a very bittersweet moment as everyone on screen is celebrating, but the person who really caused this victory is not there.
Captain America: The Winter Soldier

The final transition zone of Captain America: The Winter Soldier is the battle between two best friends. On the bridge, as Captain America is going to replace the last chip, he is confronted by the Winter Soldier, his best friend Bucky. They begin to battle and the Winter Soldier wounds Captain America. Captain America is able to take out the old chip but cannot replace the new one before being confronted by the Winter Soldier again. The fight ends up going over the bridge ledge and landing down below as the chip falls out of Captain America’s hands. The fight continues below and Captain America manages to dislocate the shoulder of the Winter Soldier and get the chip back. As he is reaching to place the chip he is shot three times by the Winter Soldier from below. The Helicarriers deploy the algorithm and set their targets. Just as the countdown finishes, Captain America is able to insert the chip. The Helicarrier targets are then
overridden and set to fire their weapons at each other. Unfortunately, Captain America is not able to get off the Helicarrier but notices that Bucky is trapped underneath a large piece of metal that has fallen.

This is the last transition point because Captain America is at his lowest point. He only has one mission, to save the world and to be the hero. He must triumph over all obstacles in his way. Here Captain America must fight his most loyal friend that he thought he lost, he gets shot three times, and only has 30 seconds to complete the switch of the computer chips. All odds are against the Captain and yet she still manages to triumph over evil and save the world. Everything after this point comes to a conclusion. Individual character stories resolve and the world eventually sets back to the status quo that it was temporarily disturbed from.

**Sound-to-Image Interactions**

The beginning of this transition point opens with the screaming motive that is related to the Winter Soldier as they are standing on the bridge. When the battle starts, the action motive used in many of the fight scenes, including the elevator scene, is utilized again here. Strings are added to the same rhythm of the percussion and a C ascending to E-flat descending to B motive gets passed around in the mid-brass and strings. This theme is striking with its descending major third that does not sound major at all. Jackman seems to use this motive when the Winter Soldier is battling Captain America and hidden all along has been a beautiful relationship amongst chaos, just as the frantic percussion and tonality disguise the major in the descending major third.

The music that plays the from the beginning of the gunshots combines three motives from the entire film. The first being Captain America’s motive which is heard in the first transition with snare percussion and high brass. The second is the action motive with fast pulsating rhythms in the synthesized percussion. Finally, the screaming motive with the first and final
gunshots. Jackman is combining all of the heroic actions we have heard in relation to Captain America. This chaos can be viewed as the obstacles that he must overcome in order to defeat his enemies. Once he does this we hear a small tag of the heroic theme in thick brass texture that was a part of establishing Captain America in the first transition.

Figure 15: Iron Man Transition Zone 3

Iron Man

The third transition zone of Iron Man begins as S.H.I.E.L.D.’s agent Coulson leads Pepper and a team of S.H.I.E.L.D. agents into Obadiah’s research facility. They find the Mark I suit Tony used to escape from the cave that Obadiah pieced back together as a model for his new design. Moving through the laboratory, they find some schematics for a new suit and loose wires in a large empty storage cage. An enormous robotic suit like the designs on the screens lights up
and rises out of some empty chains. Pepper runs for cover and the S.H.I.E.L.D. agents begin to attack the suit, but fail.

On the way to the research facility, Tony identifies the amount of charge left to power his suit is minimal because he is using the Mark I center piece. He then calls Pepper who has made it out of the research lab. Obadiah emerges from the ground and prepares to shoot and kill Pepper. Tony arrives just in time and knocks Obadiah through the building and out onto the highway. The battle continues and it is revealed that Obadiah’s suit has been upgraded to fly. Tony request’s that JARVIS take him to maximum altitude. Obadiah begins to chase Tony in the air. Ice starts to build up on Obadiah’s suit and it freezes his suit causing Obadiah to fall back to earth.

Tony slowly descends back to the rooftop of the research laboratory because his suit is now running on emergency back-up power. He begins to take the suit off when Obadiah returns and continues the battle. On the roof, Tony comes up with a plan to overload the arc reactor which will send a shockwave strong enough to destroy Obadiah’s suit. He tells Pepper how to overload the reactor and to wait to set it off until he clears the roof. Pepper is ready, but Tony has not cleared the roof. He tells Pepper to overload the arc reactor even though he is still on the roof. Pepper questions Tony in fear that he will also die along with Obadiah, but then decides to go through with the plan. The arc reactor builds in power and sends a giant shockwave through the roof into the sky. The force of the shockwave knocks Tony off to the side and the power shoots through Obadiah’s suit draining all of the power and killing him. He falls through the roof of the research facility into the arc reactor causing it to explode. Tony’s mini-arc reactor flashes light, revealing that he is alive.
This is the final transition zone because Tony is able to defeat Obadiah and the copied suit with his natural intelligence. Throughout the transition zone, Tony’s suit loses so much power that it ends up having to run on emergency back-up power. Tony is forced to use what little of the suit he has left only to distract Obadiah because he has come up with a better way to defeat him using the environment around him. Tony is finally able to use this extraordinary talent to his advantage, whereas earlier in the movie it gets him into trouble. The story begins to resolve after this transition zone revealing to the world that Tony Stark is Iron Man.

*Sound-to-Image Interactions*

Entering the research facility there is no music. The lack of sound creates an emptiness that causes discomfort for the audience. I believe this is a choice to keep the audience on the edge of their seat. There is a sense that something is about to happen but no one knows what. When Obadiah reveals himself in the chains and begins to attack the S.H.I.E.L.D. agents, the music re-enters with A-flats in the Timpani and string basses before c minor where the upper strings enter in their lower registers.

When Obadiah states that his suit is upgraded, the low brass outline an e minor chord. During the pursuit, drumset and staccato strings steadily are used until Obadiah’s suit has frozen over. The music re-enters as he is falling to the ground. Matching the sense of pride Tony is feeling, middle brass are given a main melody while all of the other instruments are all just a part of the chords.

On Obadiah’s re-entrance upper brass have a piercing set of clustered 16<sup>th</sup>-notes. As Obadiah is being distracted by Tony on top of the roof, the horn quietly outlines f sharp minor chords. Pepper and Tony argue about pushing the button to overload the arc reactor and the music moves to the foreground of the sound design. The brass and middle string instruments play
the melody in G, A, B-flat, G while the strings have long tones that carry the scene to the moment Pepper pushes the button.

After cutting out during the explosion, the music returns with a single upper string tremolo G# right before the electric guitar and rest of the orchestra come in on a g minor chord. The upper strings take over the melody of G-B-flat-G-D as Obadiah falls into the arc reactor. The outlined chord gets passed to middle brass and then finally low brass on the last explosion. Upper strings play faint G-A-C-B in the harmonic register while the camera pans over Tony Stark. It is still a mystery as to whether he is alive.

Figure 16: Iron Man 2 Transition Zone 3

Iron Man 2

The third transition zone of Iron Man 2 begins in the Oracle biodome. Agent Romanoff reboots Lieutenant Colonel Rhodes’ Iron Man suit, again giving him control after being hijacked
by Vanko. Romanoff and Pepper have Hammer is arrested at the Expo for harboring Ivan Vanko. At the Oracle Biodome, a group of drones arrive and Lt. Col. Rhodes and Tony fight together to defeat them.

No more than a minute later, Ivan Vanko himself comes to battle Tony and Lt. Col. Rhodes. Vanko has a more advanced version of the Iron Man suit than his drones and the enhanced whips. Working together, Tony and Lt. Col. Rhodes defeat Vanko by firing their energy repulsors at each other re-creating the same explosion from Tony’s birthday party. The battle is now over. However, Vanko has rigged all of the drones to explode.

Tony locates Pepper and races to get her safely away from any drones rigged to explode. Just before the drone near Pepper explodes, Tony grabs Pepper and they land safely on the roof of a nearby building.

This is the final transition zone because Tony utilizes all of his resources in order to defeat Vanko. When it seems like Vanko’s whips have both Lt. Col. Rhodes and Tony trapped, Tony thinks back to the fight on his birthday party and remembers how powerful the explosion was after they shot at each other. Tony combines the new element in his suit, his intelligence, and Lt. Col. Rhodes all to defeat Vanko and save Pepper from the exploding drones. After this transition zone the audience is wondering what will happen to Tony Stark now that he has cured the poison in his body and defeated Vanko alongside his good friend Lt. Col. Rhodes.

As the drones land in front of Tony and Lt. Col. Rhodes, they each have a heavy percussive sound. The more that arrive, the more the sounds turn into rhythms and composer John Debney takes advantage of this by seamlessly beginning a cue with synthesized percussion that sound similar to the way the drones were landing. Once all of the drones are there, the cue cuts out and the battle begins.
Once Tony and Lt. Col. Rhodes defeat all of the drones, the scene cuts to Hammer being arrested and then quickly back to Tony and Lt. Col. Rhodes. Vanko enters the Oracle biodome and releases the electric whips that he has recreated. After Lt. Col. Rhodes’ first attempt to shoot Vanko fails, Tony begins to target Vanko. On the targeting screen, a cue with electric guitar enters playing eighth note strums on low G.

When Vanko head-butts Tony there is a large change in tonality as low brass loudly play a low D accompanied by middle strings softly playing F and A above creating a D minor chord. He wraps Tony in an electric whip and then move towards Lt. Col. Rhodes. When Vanko stomps on Lt. Col. Rhodes, the D minor chord moves to first inversion with a low F in the low brass and D and A in the middle strings. Tonal clusters in the strings, brass and synthesizer fill the middle ground of the sound design as Tony and Lt. Col. Rhodes fire their energy repulsors at each other to create the explosion.

The dust clears and Vanko’s minor third melody is played softly with Trombones in D minor as his centerpiece light begins flickering red. Vanko says, “you lose,” and Tony and Lt. Col. Rhodes begin flying for safety. As Tony races to get Pepper electric guitar has a sixteenth not ostinato of D, E, F, G, while upper strings have staccato eighth note tone clusters and brass crescendo until the explosion occurs. All of the sound design is then taken over by explosions and music. Strings plus middle and low brass all play long sustained chords while the Trumpets sound the melody. Tony and Pepper land and the music quickly ends with a soft low brass and strings quarter note D.
Conclusion

In each of the movies above, music is used as part of the sound design to comment on the narrative and help the audience member follow through the plot segments. I believe that the transition zones from one plot segment to another create checkpoints for the audience to consciously, or subconsciously ask themselves clarifying questions about the movie. To help the audience along this cinematic journey, the composer will make specific choices with the director about instrumentation, position, and intention of the film score. The composers for the films in this thesis, Alan Silvestri, Henry Jackman, Ramin Djawadi, and John Debney each have clear connections in their music-to-image relationships throughout each movie, but more specifically throughout each transition zone.

In *Captain America: The First Avenger*, Alan Silvestri clearly uses the heroic-style march for Captain America. During the first transition zone, this theme is played in the brass section, with the horn predominating, as Steve Rogers becomes Captain America through the serum injection. The Vienna Symphonic Library states, “the horn has always been a symbol of status or the independence of a community (e.g. as a symbol of knighthood)” (Vienna Symphonic Library).

In the case of the first transition zone, Steve Rodgers has begun to prove himself worthy after chasing down the HYDRA spy. The audience hears the heroic style march when viewing Steve Rogers, but a tonal cluster when viewing Kruger. This makes it simple to distinguish Steve Rogers as the protagonist with the aid of music. Because the music is paired so vividly to each
character, the viewer will naturally side with Captain America and is officially drawn into the
plot wondering what will happen next.

Through the second transition zone, the sound design changes between promoting the
dialogue and promoting the action in the scene. When Captain America and Schmidt are on the
bridge while the entire building is exploding, all the audience can hear for most of the time is the
dialogue. George Burt in the “The Art of Film Music” states,

“It is the nature of the story and how it is presented on the screen that is a determining
factor with respect to the amount of music that is needed.” (28)

In this part of the transition zone, it seems that the importance lies in the dialogue to move
the narrative along and the choice to put music in the background is an intelligent decision to
promote the narrative. It is the end of the second transition zone that allows for dramatic music to
move to the foreground of the sound design when Captain America leads his troops back to the
U.S. camp. The heroic march matches visually as he leads the group when they walk into the
camp while the brass, strings, and percussion overwhelm the audience with the full Captain
America theme. The audience at the end of this transition zone has no choice but to listen to the
music and identify Captain America to the theme that is being played. The question for the
audience then becomes, what will Captain America do next in order to stop the Red Skull?

In the final transition zone, music and action work evenly to demonstrate the battle between
the Red Skull (Schmidt) and Captain America. This would also agree to a point made in The Art
of Film Music that, “where dialogue and plot development have been suspended momentarily,
music is often needed to maintain a sense of dramatic connection” (Burt 4).

The best musical demonstration of this is as the battle begins. There is not much dialogue
and the plot development is only moving forward with each punch. Silvestri has the strings
compete with the brass moving higher and higher in pitch as Captain America and Red Skull fight. This increases intensity until Red Skull is taken to another place in time and space. Lastly, the intimacy of the strings as Captain America crashes the aircraft into the water is a significant reflection on what is currently happening in the narrative. Captain America has just sacrificed his love for Agent Carter for the good of the world. The Philharmonia Orchestra identifies that the violin “can tug at the heart strings,” and the “cello sound can create a melancholy mood” (Philharmonia Orchestra). Silvestri has used these similar ideas to not only demonstrate the loss of Captain America to the world, but also to Agent Carter.

Henry Jackman, composer for Captain America: The Winter Soldier, is able to use suspense to move or pause the audience from following in the plot development. In the first transition zone, Jackman is able to use the subtle cues Captain America is gleaning in the elevator to his advantage. As the each group enters, the low pedal C is used more as a signal than a musical gesture. As the attack begins, the fast pulsating synthesized percussion of the action theme in the movie represents the intensity in the film. This is a great example of a cohesive sound-to-image relationship that the audience will understand and follow. Burt argues that “a repeated rhythm can intensify a situation” (124). The percussion repetition is one level of intensity and as Captain America escapes, Jackman brilliantly moves the audience to the next level by adding other instruments. As Captain America is escaping on his motorcycle the visual situation has elevated with a hovercraft. To match this elevation, Jackman adds woodwinds, brass, and strings over the percussion rhythm with a heroic theme that will eventually come back later in the film.

The second transition zone is much more about the absence of music. Alberto Cavalcanti writes, “with sound we must have silence” (Sound in Films). In the general sense of filmmaking,
the sound design in the second transition zone understands that, sounds mean more if they are placed in specific locations rather than constantly throughout. As Agent Romanoff and Captain America are speaking to Dr. Zola there is very little music or sound at all other than the speech of the three characters. This is until Dr. Zola begins telling the heroes about HYDRA’s growth into S.H.I.E.L.D, then long stagnant brass tones are held underneath Dr. Zola’s speech. These long tones hold the tension of the new information Agent Romanoff and Captain America are learning. The visual tension is broken when the missile blows up the bunker. Just before the explosion, Jackman cuts the music out.

In the last transition zone, Jackman combines different musical themes that he has created to match the complexity of the fight between Captain America and HYDRA and Captain America and The Winter Soldier. During the beginning battle, the screaming motive created for The Winter Soldier plays at the same time as the action theme while the battle begins between Captain America and The Winter Soldier. When Captain America is able to separate himself from Bucky and place the last chip to scramble the targets, the same intense brass theme returns as the countdown nearly reaches zero. Jackman moves the audience through each section of the transition zone by adding musical themes associated with specific moments earlier in the movie. Subconsciously, the audience is able to pick up on this idea of intensity and complexity because Jackman has strategically placed cues to enter and exit on moments of impact.

In Iron Man, Ramin Djawadi adds the distorted electric guitar to the typical group of instruments used in a film score. The addition of the distorted electric guitar adds a grunge element that reflects Tony Stark and Iron Man as characters living a rockstar lifestyle. Tony Stark is often doing things he is not supposed to do and in a manner in which no one else would do them. It is not often that electric guitars are used in film scores as main instruments.
In the first transition zone, Djawadi helps the audience through the escape of the tunnel through the instrumentation. When Tony first uses the suit, the main Iron Man theme is played by the guitar and orchestra in a homophonic texture for the first time in the movie. This is a musical reflection of Tony entering the battlesuit for the first time. When Tony is talking to the dying Dr. Yinsen, the instrumentation completely changes because the battling has been put on hold; the music matches the sentiment of friendship that is being shown visually. This is one of the first times that the audience sees Tony care for another person and Djawadi reflects that with strings. Like in *Captain America: The First Avenger*, string instruments “tug at the heart strings” (Philharmonia Orchestra). The rest of the transition zone repeats the battle and sentimental idea. Tony fights the rest of his way to freedom which is heard in the score through drumset, guitar, and lots of brass. When he is found by Lt. Col. Rhodes and sent back home, a sense of relief is projected by the upper strings and mellow middle brass, which is supported by a slow harmonic rhythm in the rest of the orchestra.

The first half of the second transition zone is similar to the second transition zone of *Captain America: The Winter Soldier* in that there is a lot of dialogue revealing information to the characters as well as to the audience. To the same point, Burt’s idea about what is on screen being a determining factor applies once again. Djawadi treats the dialogue with care by only using strings and very subtle low brass. Stuart Fischoff has a set of rules for “music’s place in film’s,” and the second rule is that “the use of strings is effective under dialogue because they don’t fight the voices” (Fischoff 2005, under What Are the Rules for Music’s Place in Film). Djawadi has made a very smart move in choosing to score the beginning of the zone this way and also hints at the sudden tension that is created between Tony and Obadiah. To release that tension, Tony goes on his own terms to destroy the Stark weapons that have been taken from
him. When this happens, the electric guitar is once again brought back to prepare the audience for another battle scene. The rest of the transition zone is accompanied by guitar, strings, brass, and drumset like in the first transition zone.

The last transition zone of Iron Man is purely about the battle between Obadiah and Tony. In contrast to the final transition zone in Captain America: The First Avenger, there is little music in the background of the sound design to go with the battle between the protagonist and antagonist. However, I would argue that the sound effects from the battle suits take place of the music. This means that music is saved for specific moments to impact the audience’s understanding. For instance, the theme for Obadiah is used when he begins to chase Tony into the air and when he falls into the arc reactor after being hit by the shockwave. These are contrasting moments of freedom and failure, respectively, that Djawadi has created specific cues for to let the audience know that this character is either gaining power, or never coming back again.

In Iron Man 2, John Debney uses fixated moments in the transition zones to move the audience from one plot segment to another. In the first transition zone, Tony finally gets the suit from Pepper after Vanko attacks the car. Tony becomes Iron Man again when he puts the suit on. It takes a full 30 seconds for the suit to finally finish forming and Debney uses each second to make Iron Man seem as powerful as possible. Combining the robust brass sound with the electric guitar makes the audience see, hear, and in some theaters, feel the strength between Iron Man and Ivan Vanko. The Philharmonia Orchestra notes that, “The orchestra at its grandest and most powerful moments is often underpinned and given its power by the trombones” (Philharmonia Orchestra). Debney makes a clear choice to use brass to resemble power when Tony puts on the
Iron Man suit, allowing the audience to know that things are going to be different as we move forward in the narrative.

The second transition zone is fixated on a moment of wonder. Contrary to being fixated on power in the first transition zone, the second is all about the discovery and application of the new element. Debney captures this idea of wonder through the levity of strings, voices, and bell percussion. Suspending the audience in time causes curiosity in what Tony is “rediscovering” on screen. The first part of the transition zone resembles the wonder of discovery; but the last part resembles wonder through fear. During the phone conversation with Vanko, glissando minor thirds can be heard played underneath the conversation. They move slowly almost as if they are never going to end. Debney is clearly trying to accompany the fear of the unknown as Tony is not able to locate Vanko, but knows he will be attacking at the Stark Expo.

The final transition zone moves back to the idea of power. This begins with the entrance of each drone in the Oracle biodome. The heavy percussion that Debney uses suggests strength in each of these drones. Additionally, on Vanko’s headbutt on Tony the entire tonality changes to imply that there is something wrong. Seconds later, Tony and Lt. Col. Rhodes are both down on their knees wrapped in a whip from Vanko. Debney uses this to lead the audience to what seems to be the downfall of Tony and Lt. Col. Rhodes, until Tony comes up with a plan to defeat Vanko.

These four composers assist the audience in following the narrative that is visually shown in front of them. The music in combination with the sound design supplies a deeper connection to the film. I believe that these composers make strong sound-to-image relationships in each respective movie. This is important to the moviegoer because the cinematic experience is enhanced when sight and sound work together. Music can identify characters, setting, mood, and
emotion in a film without the dialogue needing to address it. More importantly, music is used at transition zone to help set up the questions of expectation at the change from one plot segment to another. Without this musical expectancy, viewers might not notice subtle visual cues that are provided on screen. To extend this research, the rest of the Marvel movies will need to be examined for the same transition zone concept. So far, the application has fit and I would expect the model to continue working on each Marvel film since 2008.
BIBLIOGRAPHY


William C. Broaddus

EDUCATION:
Bachelor of Music Education, Voice Concentration
College of Arts and Architecture
The Pennsylvania State University, Schreyer Honors College

STUDENT TEACHING:
Hershey High School/Hershey Middle School, Hershey, PA
High School Choir Grades 9-12
Middle School Choir Grades 6-8
- Taught: beginning men’s choir grades 9-12, intermediate women’s choir grades 9-12, auditioned mixed choir grades 9-12, 8th grade choir, 7th grade choir, 6th grade choir, group voice lessons grades 6-12
- Designed and lectured 6th, 7th, and 8th grade choirs in Music Literacy Unit
- Traveled daily between Hershey High School and Hershey Middle School to deliver instruction
- Recorded part-tapes singing and playing for each piece for all of the choirs

MUSICAL WORK EXPERIENCE:
Music 266 Choral Internship
Student Director
- Chosen by the university choral faculty from all of the music education and voice performance students.
- Independently auditioned and selected students from two of the five university choirs.
- Handpicked and rehearsed repertoire in preparation for semester concert

Camp Counselor
- Facilitated 81 music campers with 9 other counselors through a week of rehearsals, masterclasses, lessons, chamber ensembles, and operetta scenes

LEADERSHIP EXPERIENCE:
The Penn State Concert Choir Executive Board
President
- Presided over meeting meeting of the Executive Committee, the Executive Board, and the General Membership
- Confurred regularly with each officer to ensure completion of his or her duties
- Acted as liaison between the director and the choir
The Penn State Glee Club Executive Board
May 2014 – May 2015

Vice President
- Determined all club policies not specifically defined in the club constitution and provided social activities for club members
- Selected appointed officer positions that worked with the Executive Board

The Penn State Glee Club Executive Board
May 2013 – May 2014

Tour Manager
- Coordinated the transportation, performances, and activities of the 2014 Glee Club Tour throughout: New Brunswick, NJ; New York City, NY; Philadelphia, PA

OTHER WORK EXPERIENCE:

Pizza Hut
June 2012 – May 2014

Delivery Driver
- Delivered Pizza Hut cuisine to entire city of Lancaster, PA

Chipotle Mexican Grill
May 2014 – September 2014

Crew Member
- Hosted customers, prepared food, and managed the register.

AWARDS & SCHOLARSHIPS:

Bunton-Waller Scholar
- This program attracts students from various ethnic cultural backgrounds who have demonstrated academic excellence in high school and are eligible to attend Penn State

Penn State Bruce Trinkley Award for Artistry
- In honor of Bruce Trinkley to recognize undergraduate students who are in their third year and in the Penn State Glee Club demonstrating excellence in artistry.

Penn State Bruce Trinkley Award for Service
- In honor of Bruce Trinkley to recognize undergraduate students who are in their third year and in the Penn State Glee Club demonstrating excellence in service.

2015 ACDA-PA Conducting Competition Winner
- Selected as winner out of six participants in the entire state of Pennsylvania.

Deans List (6 semesters)
- Students complete a semester with GPA of 3.5 or higher.