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Synchronization Functions of "Mickey-Mousing" in Animation Film Rhapsody Rabbit

Alvriza Mohammed Fadly[1)], Hery Supiarza[2)]*, Zakiah Pawitan[3)]

[1),2)] Film and Television Study Program, Faculty of Art and Design Education, Indonesia University of Education, Indonesia
[3)] Fine Art Education Study Program, Faculty of Art and Design Education, Indonesia University of Education, Indonesia
*Corresponding Author:
Email : herysupiarza@upi.edu

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ABSTRACT
Synchronization between visual animation and music has been widely known as mickey-mousing. Notable old animation films have used this particular technique to reinforce action with a musical flourish and convey a certain meaning. Furthermore, animation music is commonly based on popular music, such as The Hungarian Rhapsody No.2 in Rhapsody Rabbit. The music is utilized not just as a scoring aspect but to dictate every Bugs Bunny's action when playing the piano. This research aims to study the implementation of the mickey-mousing technique in Rhapsody Rabbit film. It uses a qualitative content analysis approach to analyze visual and aural aspects—primary data is sourced from the Rhapsody Rabbit film and the Hungarian Rhapsody No. 2 music sheet. Secondary data is collected from literature studies related to the topic. Data collection is conducted through observation, interview, and documentation study. The data is analyzed using Klaus Krippendorf's content analysis technique which divided into six steps. The result of this study is that the mickey-mousing technique is implemented through a combination of a fast pace of visual and musical play altogether. Animation adapts to several parts of the musical composition so that articulation, illustration, and accentuation occur as a function of the mickey-mousing technique.

KEYWORDS

Animation
Mickey-mousing
Synchronization

INTRODUCTION

Animation film was practically formed as a cinematic esthetics element and historically impulses by cultural growth (Kurnianto, 2015). Cinematically, animation visual correlates with sound in most of artworks by considering them as intertwined elements that contribute to the aesthetic morphology of actions in animation, where movement and sound work together to characterize the animated character. By creating exaggerated impressions of body language, voice tone, and facial expressions to distinguish character movement, animation advantages to give unique traits in a balanced manner (Wiflihani, 2021; Wikayanto et al., 2023). In film practice, a particular technique of matching animation visual with music is commonly known as 'mickey-mousing'.

Mickey-mousing term in film studies was coined by the producer David O' Selznick referencing the composer Max Steiner, a tight synchronization, mirroring, and paralleling of action with scoring music. This technique is favorably used in animation due to the heavy relationship between traditional practice of audio-visual creation, by matching music rhythm or exact segmentation of a piece into the picture, viewing as the sound participating within visual (Wegele, 2022). Its function serves the animation principle by reinforcing a specific action of characters with musical elements, creating an illusory auditory (Beller, 2015). The term of mickey-mousing notably refers to the Walt Disney's important figure Mickey Mouse.

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Walt Disney, notably known as one of the biggest Hollywood animation studios, created Mickey Mouse's first short film entitled "Steamboat Willie". It was when mickey-mousing first appeared as a technique to imitate every produced sound from Mickey Mouse's actions throughout the film. For example, the main character plays with part of the physical body of an animal character by representing them as musical instruments to play a song. Aside from developing a unique visual animation, Disney applies characteristics aspect and montage through musical flourish (Calderón et al., 2016; Horsman, 2015; Wolf Ann, 2015). Due to the heavily usage of music as the main sound design aspect in most Disney's artworks, mickey-mousing became a new experience within next evolution and contributed to music film studies, specifically in cartoon music.

The phenomenon of mickey-mousing was spreading thoroughly and adopted by several entertainment industries, such as Warner Bros. with Carl Stalling producing one of their famous projects, a short serial cartoon show, Looney Tunes and Merrie Melodies. It was created similarly to Disney's animation, which heavily uses music based on the scoring style and interpretation of the composer (Lazarescu-Thois, 2018). A closer practical of the technique can be found in one of the episodes called Rhapsody Rabbit, where Bugs Bunny the main protagonist, is depicted as an acrobatic pianistic who follows musical harmony (Edmondson, 2015). Music practice in animation refers to western music genre periodization which is considered as treatment for the storytelling of the film. From the brief description of music practice in animation, early cartoon commonly used popular music which was taken from western music genre periodization.

Early music cartoons follow the Western music genre periodization. In contrast, popular music has contributed significantly to massive animation production due to the easily digestible melody and synchronization with fast animation. Several pieces in the previous animations are repeatedly composed and reused according to the creative team's production. It is similar to composing a music based on poem where the musician has to deeply interpret in accordance to the piece (Supiarza & Sarbeni, 2021). Songs with identifiable motifs allow animation and film composers to convey by matching the music with visual ideas, synchronizing both cinematic and increasing the sensation aurally and visually (Goldmark, 2002, 2005). Music and other sound design aspects are also independently directed to a specific usage If it is aligned with the animation film context, the audience indirectly interprets music through sound identification (Ortolani, 2015). Further details regarding examples of music piece notably used in animation works is explored through filmographies. One of the examples of popular music which appears in cartoons is Franz Liszt's Second Hungarian Rhapsody.

After reviewing animation film and classical music histories, we found that several aptitudes can be established through the directors' and composers' filmography. For example, The Hungarian Rhapsody No.2 by Franz Liszt is a romantic musical piece that appeared in many animation works, such as Rhapsody Rabbit from the Merrie Melodies show. Previous research by (Gonin, 2012; Koff & Coser, 2001; Miller, 2006; Verdi, 2014) revealed that the piece's ability as an aural aspect enables the creation of imagination and fantasy to support the film's visual elements as well as synchronize with the action or movement of the character. However, further explanation of the relationship of audio-visual matching has yet to be explored. Furthermore, the study of a mickey-mousing topic in Indonesia is rarely found. Therefore, conducting a new study to understand the knowledge of mickey-mousing in sound design films is essential. Based on the purpose and insufficiency of mickey-mousing study in Indonesia film studies, this research provides a novelty relating to audio-visual synchronization contribute to the Indonesia art and design education primarily for academician and film music practitioners.

This research aims to analyze the implementation of the mickey-mousing technique in the Rhapsody Rabbit show by applying the qualitative content analysis method. Hence, the research question is about implementing the mickey-mousing technique in the Rhapsody Rabbit animation film. Five theories are used on the study's foundation to comprehensively examine the subject. The leading theory refers to animation film with 12 principles of animation drawing coined by (Thomas & Johnston, 1995) contributing to identifying drawn gestures in sketches. The second theory administers sound design film theory (Dakic, 2009), revealing three main aspects of film sound: music score, foley, and sound effects. Both main theories are used to analyze visual and sound aspects

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of the animation film. The analysis of the study is extended by using the remaining supporting theories. Supporting theories of this research begin with musicology in reading sound aspects. Referred by (Wright, 2016), understanding aspects of sound in reading music composition is mandatory, which commonly features pitch, melody, rhythm, dynamics, tempo, and timbre. In the film context, music is utilized multifunctionally to synchronize audio with visuals to enhance the cinematic experience (Samosir et al., 2019; Supiarza, 2022). Subsequently, song illustration (Kusumawati, 2009) also holds a similar role by creating and accompanying a coherent situation with the music through on-beat and off-beat rhythmic patterns. It supports the accentuation of every movement actioned by existing characters as it should be (Kholid, 2016). The technique of mickey-mousing in the Rhapsody Rabbit animation film not only enhance synchronization timing and rhythm but also illustrate how precise musical cues can amplify actions or emotions, creating a seamless blend of audio and visual that exemplifies the technical artistry of classic animation.

METHOD

This research examines the mickey-mousing technique applied in the Rhapsody Rabbit film. Therefore, a content analysis method with a qualitative approach is utilized. According to (Krippendorf, 2019), content analysis is a research method used to discuss specific aspects of an object in accordance with the context of the usage. Contextually, the chosen objects of this research are animation, film, and music. Content analysis method provides a detailed coding of film's content, researcher could break down the animation and music piece into measurable units. This helps in identifting patterns of mickey-mousing techniques, providing a clear picture of how and when it is used throughout the film. Furthermore, It also integrates multimedia elements since mickey-mousing involves the synchronicity of audio and visual, it is suitable to analyze how both elements correlates to create specific effects.For instance, the main theoretical framework chosen for this research, animation and twelve principles of animation sketch and sound design film theory require an understanding of specific meaning of how these aspects interract. Supporting theories such as musicology and music film theory further enrich the analysis by providing insights into the relationship between music and visual action.

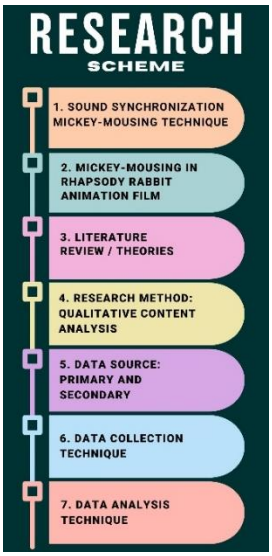

Figure 1. Research scheme
(Source: Created by Alvriza Mohammed Fadly, 2024)

Data sources of research are split into two parts; the primary data is the Rhapsody Rabbit animation show as a visual aspect. The data will be imported into the Adobe Animate application and processed through animation drawing using the rotoscope technique to create, assemble, and analyze sketches frame by frame (Tarigan, 2022). The secondary primary data is The Hungarian Rhapsody

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No.2 by Franz Liszt's music piece as a sonic aspect, considering the movie uses the song as a scoring music aspect. Secondary data are collected through literature study with relevant topics from experts specifically discussing music in film and mickey-mousing in animation artworks.

Data collection is gathered through observation, interview, and documentation study. Observation is conducted by carefully watching the animation film, the criteria of each scene is selected by the presence of music-action synchronization, where musical cues match or mimic the visual actions including range that show different uses of mickey-mousing such as types of action (e.g., walking, jumping, gestures) and emotional contexts (e.g., humor, tension). Interview is structurally conducted for data analysis by having a discussion with animation music expert. In this study, the researcher interviewed Professor Daniel Goldmark through Zoom Meeting platform on April 10th 2024. Professor Goldmark is the head of Popular Music Studies in Case Western Reserve University and an expert in cartoon music with literary works such as "The Cartoon Music Book", "Tunes for Toons: Music and The Hollywood Cartoon" and "Funny Pictures: Animation and Comedy in Studio-Era Hollywood." Lastly, documentation study is managed by accumulating parts of every scene and song composition aligned within the film. The researcher will combine selected scenes and music compositions in order to analyze the mickey-mousing technique implemented inside.

The data analysis technique uses Klaus Krippendorf's content analysis technique, which is divided into 6 stages: unitizing, sampling, recording/coding, reducing, inferring, and narrating. Unitizing is an observation stage carried out by the author by simultaneously paying attention to the animated film and score. Sampling is a stage of simplifying research by summarizing the results of observation units; the author will screen capture certain scenes related to the mickey-mousing technique. After collecting samples, the author conducted the coding stage to record the results in tabular form. Meanwhile, after processing the coding, the author reduces the data again in the reducing stage based on significant results that can be explained descriptively. All data processed will be concluded by the author through the inferring stage, then ending with the narrating stage to explain the findings to answer the research questions.

RESULT AND DISCUSSION

Mickey-mousing technique is developed through earlier cartoons depicted in several artworks where the music and animation are synchronized one to another. All types of audio-visual matching are originated from Disney's Steamboat Willie (Horsman, 2015). Furthermore, Disney was inspired by Aesop's Fables Studio in the same year in composing music for their cartoon because the sound art partially involved in the storytelling. Another studio such as Warner Brothers adopted Disney's works in several terms of cinematic aspects, as described by Professor Daniel Goldmark:

Figure 2. Researcher interviewed Professor Daniel Goldmark (10 April 2024)

> Cartoon where we… Steamboat Willie is the first cartoon where we see the kind of synchronization between music and animation. But it really, I mean, so it takes a few before they really give a hang of it. I often point to Skeleton Dance from 1929 where we really get to see it happening, where…, the music and the action are completely in sync with one another. You know, the skeleton rises from behind the tombstone, and we hear the music go up, or the dancing, or whatever it is. So, I wouldn't say it actually originates from Steamboat Willie, but… it's… you know, starts around that time. They were the only studio to really focus on music in that way. In 1928, Aesop's Fable Studio was doing some music, which is partially what inspired Disney to put music in his cartoons. But they

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> weren't doing things where the music is matched the action. He wanted it to sound better, he wanted to actually be part of the story…And so I think it gets tied to Disney in part because they just did it so well, and they were really the first ones to do it by 1930. We can see Warner Brothers cartoons that they're all trying to do what Disney did, not just in terms of characters, good animation, but also really compelling, you know..., the music that really made you want to brought you into the story (Interview with Professor Daniel Goldmark, 10 April 2024).

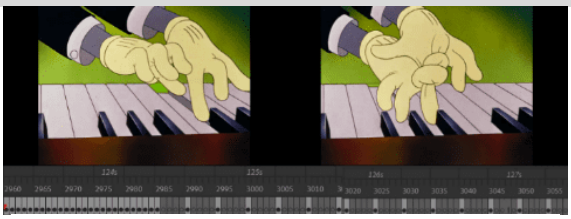
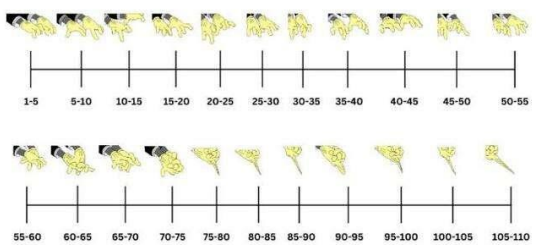
From informant's commentary, it is evident that whole synchronization between music and animation always refers to Disney artworks especially from Mickey Mouse cartoons. In accordance to animation principles coined by (Thomas & Johnston, 1995), it discusses about the meaning of animators at Disney on how to create chracters that dominantly time the audio with every animation gestures. Scoring music as an audio aspect enables the animator or composer convey specific meaning by illustrating sketch with sound art (Dakic, 2009; Supiarza, 2022). Another animation studio such as Warner Bros utilizes music as a compelling element for the artworks, adopting and enhancing Disney practical framework. In this research context, the researcher uses Rhapsody Rabbit animation from Warner Brothers' Merrie Melodies show to analyze further about the synchronization between The Hungarian Rhapsody No.2 scoring music with the animation.

Mickey-Mousing Technique Implementation in Rhapsody Rabbit Animation Film

The researcher collected six scenes through documentation study and content analysis. The data was collected by observation to encompass every critical moment within the animation artwork connected with the synchronization technique. Each scene has a different interpretation of the interaction between film and music. The description between each sessions is organized by describing the selected scene, discussing the animation principles followed by the music composition that matches with the animation as well as additional expert commentary. Whole sources are summarized and intergrated into the analysis.

First Scene

The first scene of the animation is located in the earlier stage of the story, where Bugs Bunny starts The Hungarian Rhapsody No.2 piece calmly and thoughtfully. The main character then enters a melodic scale composition and plays them rapidly with his hands until the fingers are tightly intertwined—bugs struggle to unattached them until they return to a normal state. The following audio-visual breakdown can be organized in the figure below.

Audio-visual breakdown	
Visual	
Sketch	
Animation	Straight ahead and pose to pose and exaggeration

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Scores	
Sound Aspect	Scoring and sound effects

Figure 3. Audio-visual breakdown of the first scene

Animation drawings in the first scene have 110 frames in total, ranging from frame 2960 to 3070. Based on the sketches served on the timeline, the animation principles theory of (Thomas & Johnston, 1995) is applied by using the straight-ahead and pose-to-pose principles accordingly connected to fast piano performance; Bugs Bunny's hands are drawn one to another from frames 1 – 50. This application aims to create a realistic animation movement while playing a complicated composition (Kim, 2015). In order to enhance and reinforce the animation synchronicity, the following animation frames applies principle of exaggeration.

Spliced animations from frames 50 – 110 are included with the use of the exaggeration principle referring to excessive play of the main character's tightened hands after ending the composition. Through this principle, animation has a humorous effect by dramatizing unrealistic animation movements (Thomas & Johnston, 1995). Overall, applying both principles in this scene shows a rapid hand-playing piano by doing so to add a comical effect through an abnormality in playing the music (Kwon & Lee, 2007). Referring to the musical arrangement, the visual animation aligns with musical scale and expression.

The music composition in the 24th bar has two main sound design aspects that are synchronized with the animation, scoring and sound effects (Dakic, 2009). Music scoring aspect refers to the melody scale written in the treble clef, there is the proximity of the progression of notes from one note to another in narrow intervals (Kusumawati, 2009). The dynamics of *Crescendo*, a change in sound from soft to loud, supports the melody scale playing to give a quality sound (Wright, 2016). Further, a trill ornament synchronizes with animation principle of exaggeration, conveying meaning of repeated notes with recurring animation sketches. Moreover, the audio-visual matching of the following scene is described by Professor Daniel Goldmark:

> It's a little different for Rhapsody Rabbit which it's close relation in that mickey-mousing. You've got music that is mimicking action. But here the music already exists. They are trying to capture somehow the music, which in this case, The Hungarian Rhapsody. They're making fun of concert pianists and classical music where all are about performance. What happened if his fingers get tangled up? A lot of these scenes are the writer and the director thinking of different ways that they can. They're trying to imagine what does the music look like and have to animate to it (Interview with Professor Daniel Goldmark, 10 April 2024).

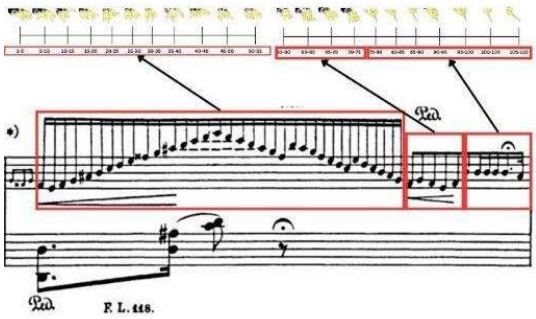

Figure 4. Synchronization of audio-visual in the first scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

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Based on the interview with the informant, it is evident that mickey-mousing in the first scene presents a unique case where it is composed specifically to mimic the on-screen action and involve comedic scenarios such as tangled up hands of the main character. It highlights the satirical nature of Rhapsody Rabbit, suggesting that the animation is not just synchronized but also to enhance the humor and narrative of the film. The writer and director of Rhapsody Rabbit had to envision what the music would "look like" and then animate accordingly. The appliances of animation principles coined by (Thomas & Johnston, 1995) adapts the scoring arrangement by adding sound effects in accordance to ornament (Dakic, 2009; Wright, 2016). The music illustrates the animation through both sound design aspects that depict excessive precision and speed of movement (Kusumawati, 2009). Overall, the mickey-mousing technique is applied in the first scene by adapting the animation with the selected music composition simultaneously fast, precise, and immediate.

Second Scene

The second scene reveals Bugs Bunny playing the composition playfully and moving back and forth. The character appears to be using one hand instead as if enjoying the music and invites him to dance. His movement is combined with cheerful music, harmonizing visual and audio. The subsequent audio-visual analysis is arranged in the figure below.

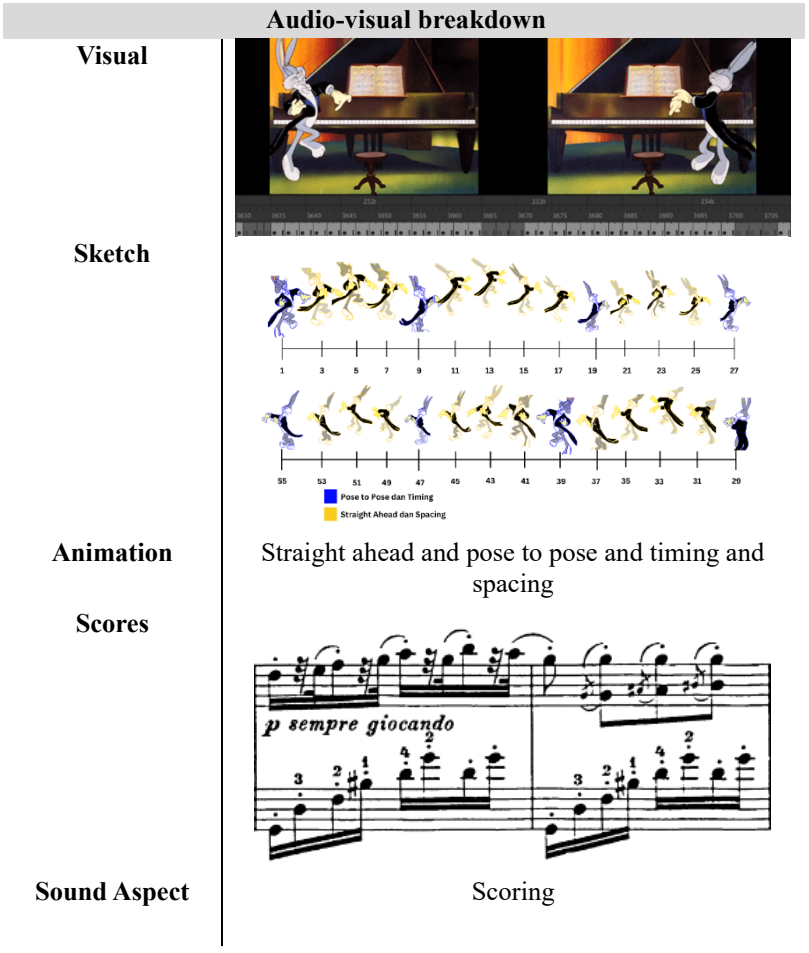

Figure 5. Audio-visual breakdown of the second scene

The visual series of the animation depicted in the second scene totals 75 frames ranging from 3630 to 3705. Based on the animation sketches depicted, the application of animation design referred from (Thomas & Johnston, 1995) leads to the principle of straight ahead and pose-to-pose, timing

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and spacing. The critical position of the stepping Bugs Bunny is arranged in advance so that the depiction of the movements in the In-between animations can be customized. With the principle of timing and spacing, animations are drawn on twos to produce proper motions as well as enhance motion placement and movement speed of character animations in sync with the music being played (Whitaker & Halas, 2013). Concerning alignment between animation with the arrangement, it often includes accents to emphasize the character's movements.

The musicality of bars 51 – 56 within the composition significantly utilizes scoring aspect and functions as accentuation of character movement (Dakic, 2009). Examining at the melodies on the treble clef, the notes are mark with *staccato* accent which referring to music dynamics, tones are sounded briefly and separately (Wright, 2016). The nature of the dynamic has the impression of stomping so that the animation and music become rhythmic. The film animates the sound element by stomping the main character's steps to create harmony between music and movement (Beller, 2015; Olsen & Thompson, 2023). Relating to the synchronicity of this scene, Professor Daniel Goldmark stated:

> It can follow where the beat of the music becomes something that is very closely followed in the animation. So, it's not specific rhythms, but larger tempo. Because it is animated so well, he's doing sort of dance to the music (Interview with Professor Daniel Goldmark, 10 April 2024).

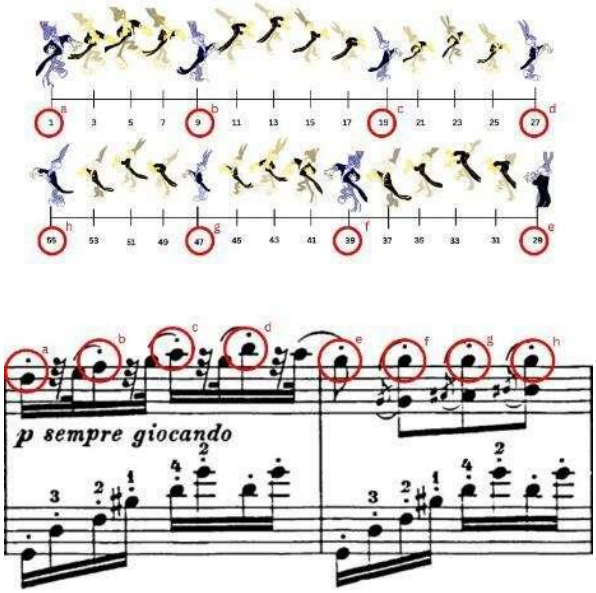

Figure 6. Synchronization of audio-visual in the second scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

Citing from informant's commentary, we viewed that the scoring music is functioned as illustration and articulation. The main character's poses somehow timed and spaced to the tempo of the arrangement, articulating every motions (Thomas & Johnston, 1995; Dakic, 2009). In addition, a musical expression written as *sempre giocando* can be noticed below the treble cleff, meaning it is played cheerfully. Bugs Bunny's movement is illustrated through musical expression as a form of dance. Instead of following a specific rhythm, the scene utilizes mickey-mousing to choreograph dance movement, enhancing the emotions through musical cues (Kusumawati, 2009; Wright, 2016).

Third Scene

The third scene shows Bugs Bunny being disturbed by the presence of the Mouse character. There is a visual joke about the conflict between the two characters—Bunny attempts to cover his piano keys so Mouse cannot see him playing. The Mouse character moves to disturb Bugs Bunny's

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concentration while playing. When Bugs looks back at the piano, Mouse disappears and surprisingly appears inside his hand. Then, Mouse jumped out of Bugs Bunny's hand and started running from him while sounding the piano keys. Before re-entering the piano, he waves his hand with a mocking expression to dramatize the conflict between the antagonist and the protagonist. The following figure presents a detailed breakdown of the audio-visual analysis.

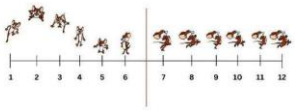
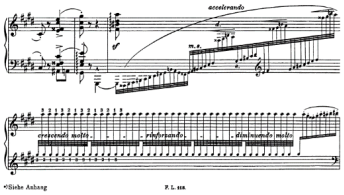
Audio-visual breakdown	
Visual	
Sketch	
Animation	Straight ahead and pose to pose and timing and spacing.
Scores	
Sound Aspect	Scoring

Figure 7. Audio-visual breakdown of the third scene

The animation illustrations in the fourth scene range from frames 5640 – 5805, divided into two parts. According to (Thomas & Johnston, 1995), animation principles use three main principles: squash and stretch, straight ahead and pose to pose, and timing and spacing. In the first part, the scene's highlight focuses on the expressions of Bugs Bunny and Mouse, who react consistently. This particular visual utilizes squash and stretch principle of animation in order to generate facial muscles depicting certain emotions (Martyastiadi, 2018). Then, the scene continues with the Mouse character jumping out of his hand and landing on the piano keys. Animation is applied based on the principles of pose to pose by marking the exact gesture of the character's placement when landing onto the piano (Moon & Kim, 2014). The following scene transitioned to the Mouse rapidly sprinting while simultaneously sounding the music notes.

Continuing to the second part where it underscores Mouse runs around on the piano keys and waves at Bugs Bunny before re-entering the piano. In this case, animation combines the principle straight ahead and pose-to-pose and timing and spacing, detailing every gestures synchronize to produced musical cues (Thomas & Johnston, 1995). The seamless integration of these animation principles ensures each movement aligns with the tempo and rhythm of music which functions as accentuation and illustration.

The scoring music in bars 82 – 84 is functioned as accentuation and illustration translated into the animation visual. This composition construction is characterized by a fast-paced musical playing that involves the transfer of one note to another (Dakic, 2009). When examining at the initial three notations, there are dynamic *staccato* and *marcato*. *Marcato* is an accent which produced a louder version of sound thant usual accent where *sforzando* means a sudden accent but the note is played along as the scoring goes (Wright, 2016). Both dynamic thickens the contrast reactions of the two

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film characters and continues withs *sforzando* towards accentuate the Mouse's jump. Conversely, staccato dynamic touches on Bugs Bunny's instant reaction.

Dynamic *staccato* represents an image of Bugs Bunny's expression when he is surprised to see the existence of his opponent's figure briefly. In contrast, Mouse's nosy expression seems to be thickened by articulation *marcato*, which was sounded loudly. Coinciding with that moment, Mouse jumped on the piano keys in sync with the articulation *sforzando* (Wright, 2016). The music's dynamic aspect functions as an accentuation by amplifying the emotions of opposing characters through musical dynamics that represent the two characters differently (Olsen & Thompson, 2023). The overall dynamics contribute to narrative of collision between two characters where it leads to the Mouse running as the main spot.

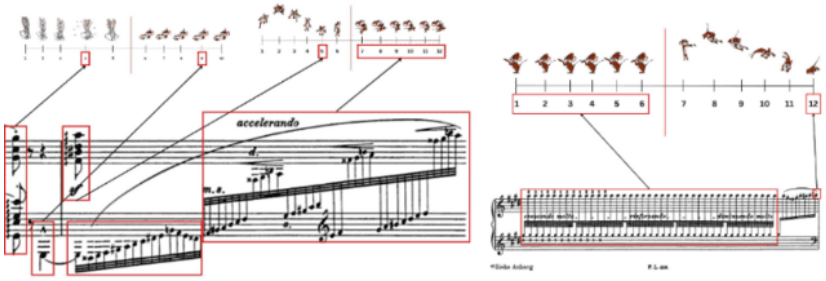

Figure 8. Synchronization of audio-visual in the third scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

The continuity of the third scene notices the Mouse running quickly over the piano keys and waving goodbye to Bugs Bunny. Synchronization occurs based on musicality techniques *glissando*, in musicology this term refers to producing sound wholefully by sliding upward or downward between notes (Wright, 2016). In the context of this animation scene, the technique illustrates the equally fast depiction of the Mouse's rapid gesture, the musical manifolds on beat rhythm because it is catching every single notes and giving cartoonists rise to antics (Kusumawati, 2009). According to Professor Daniel Goldmark, the music correlates with animation gestures as he revealed:

> It's a gesture (character movement) because we're not getting every notes. It's this large portion of brewery where it's this wave or wash of sound rather than a specific note or group of notes. That's part of what makes mickey-mousing is so interesting is that it doesn't have to be a specific or group of notes, it can be a sound, and they can connect that sound with a visual (Interview with Professor Daniel Goldmark, 10 April 2024).

In accordance to researchers' analysis and informant's commentary, we viewed the synchronization on this scene based on musical technique, which is *glissando*, as a wave sound that connects with animation visual referring to Mouse running on the piano. The totality of synchronization in the third scene is detailed through the nature of the fast depiction of animation harmonized with the elements of fast sound. Combining music with movement is heavily inclined to accentuation music because it aims to dictate every movement of the two film characters (Beller, 2015). The mickey-mousing technique is applied by combining the principles of animation, elements of sound, and the nature of music.

Fourth Scene

The fourth scene, the piano played by Bugs Bunny is depicted as a typewriter. The protagonist completes each of the four bars of composition, and the piano shifts to the right until it reaches the end, then returns to its original position. Throughout this scene, the primary focus is on the visual gag of Bugs Bunny's action, giving the scene a comical feel. After that, Bugs Bunny continues with the composition, which has a very high pitch. The character sounds the piano keys with his head. The detailed information of animation and music can be examined on the following figure.

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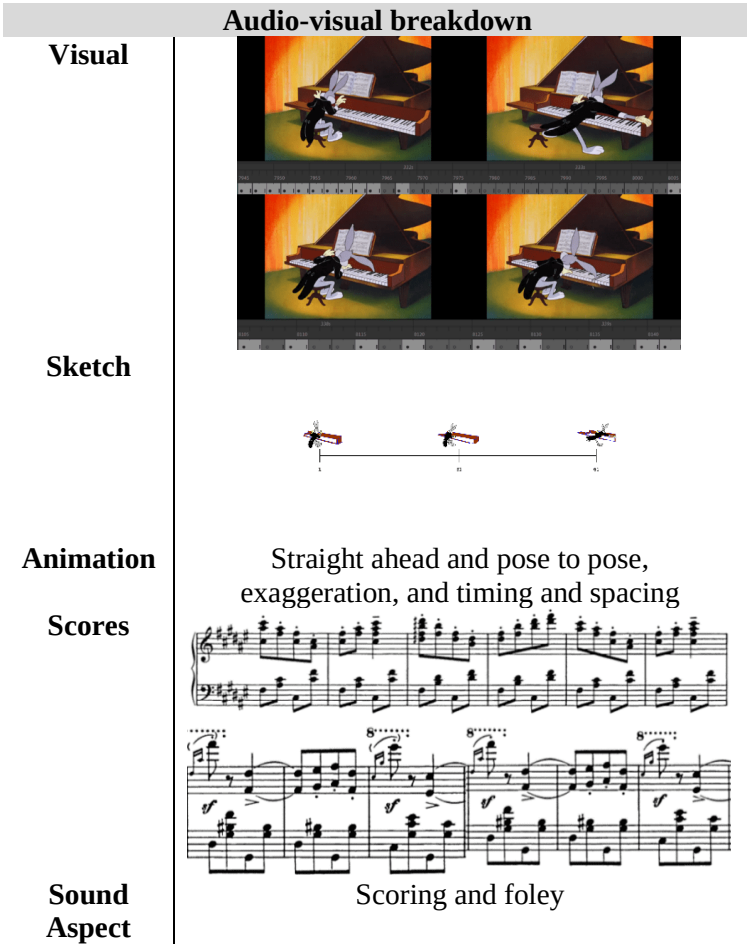

Figure 9. Audio-visual breakdown of the fourth scene

The animated portrait of the third scene is measured from frames 7945 – 8140 by dividing it into two parts when sound synchronization occurs. In the first footage, which ranges from frames 7945 - 8005, the main animated movement highlights an objectified piano as a typewriter. In this case, it is based on the straight-ahead and pose-to-pose principle by emphasizing the piano that moves continuously. Furthermore, in order to create a comical animation, the exaggeration principle is applied to visualize a typewriter piano that is not depicted as an actual musical (Thomas & Johnston, 1995). The subsequent of arrangement based on the first image utilized as illustration

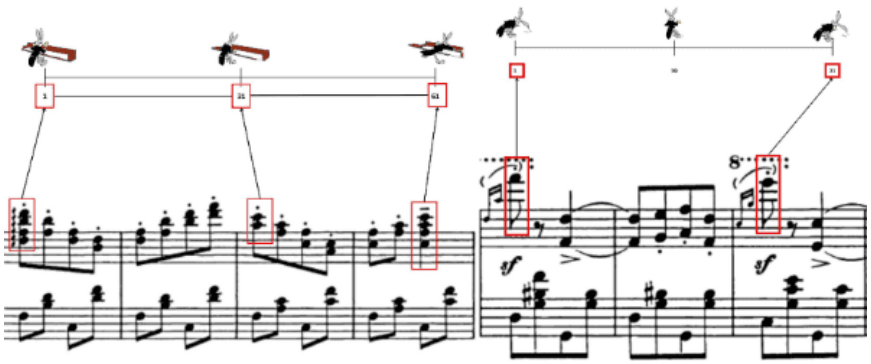

Figure 10. Synchronization of audio-visual in the the fourth scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

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Musical compositions scoring Bar 196 – 201 in the first trailer of the third scene are active as an accentuation of visual cuteness that highlights the representation of typewriters through piano objects. Most of the melodies are articulated staccato, which means they sound short and released (Wright, 2016). Furthermore, sound synchronization occurs not based on the main character's movements but to illustrate something abnormal. It is based on the musical concept of affection and joy with notes flowing in a fast style; when referring to musical composition, the overall melody is played on high notes, and timbre produces a cheerful sound color (Kusumawati, 2009).

The second footage, which ranges from frames 8105 – 8140, refers more to the principle of timing and spacing. Bugs Bunny's accuracy when playing high notes is a musical accentuation on the character's movement in playing the piano with a slight exaggeration (Thomas & Johnston, 1995). When looking at the musical composition of the scoring bar 202 – 204, the tone sounded *staccato* and articulated in a high-timbre (Wright, 2016). It can be concluded that the synchronization of sound with the image is based on the dynamic and colored elements of sound and the emphasis on high notes amplified by the movement of the characters in the scene (Knight-hill, 2020). As explained further by Professor Daniel Goldmark, he asserted:

> This is the example of the music coming first, where they've picked this part of the... One of the reasons Hungarian Rhapsody works so well is because it has all these tiny little motives. These little musical moments that each one happens and then moving to the next one. Each one is a moment for a joke or gag, the keyboard move like a typwriter and then you have to push it back. The second one he hits is with his ear. In both cases they're taking something they hear in the music and animating to it (Interview with Professor Daniel Goldmark, 10 April 2024).

Referring to the informant's commentary, we would respond that the animation highlights the matching between music and images. The filmmakers chose a specific segment of The Hungarian Rhapsody because of its composition, which presents motifs as an opportunity for visual joke. The first part of actions synchronized to the music illustratively, while it does not underscoring the exact movement of the main character, the music functions to emphasize the visual gag produced within the animation (Kusumawati, 2009). The second part accentutate the visual to the music, where the pianist should produced a high notes with broader range. Each of these moments are based and emphasized by musical motifs which enhance the audio-visual harmony (Dakic, 2009; Kholid, 2016).

Fifth Scene

The fifth scene highlights Bugs Bunny's movement of jumping onto the piano and sounding a high note, then returning to playing to a lower note while walking on tip-toe. His expression of passion is reflected in playing music. However, as the tone changes, his movements are capricious. The scene depicts Bugs Bunny's acrobatic and expressive pianist skills. Contemplating of visual and audio alignment, both aspects are described respectively in order to understand the whole examination.

The visual presentation of the fifth scene of the animated film has a total of 59 frames that are related from frames 8475 – 8538 by applying the illusion of animation based on (Thomas & Johnston, 1995) which emphasizes animation principles more straight ahead and pose to pose, timing and spacing and exaggeration. As a foundation of principles straight ahead and pose to pose, the animation sets the key pose of the character Bugs Bunny when landing while sounding the piano 10 frames away from frames 1 – 16 – 26 so that the pose of the jumping character is depicted continuously. Furthermore, Bugs Bunny's timing, when in sync with sounding musical notes, became the basis for applying the principle of timing and spacing to align aspects of aural and visual (Whitaker & Halas, 2013). The sketches collides with the scoring music is briefly written on the following figure.

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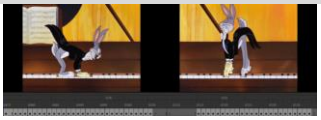
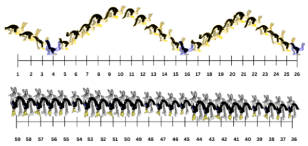
Audio-visual breakdown	
Visual	
Sketch	
Animation	Straight ahead and pose to pose, timing and spacing, and exaggeration.
Scores	
Sound Aspect	Scoring

Figure 11. Audio-visual breakdown of the fifth scene

Music scoring arrangement ranging from bars 274 – 281 in the fifth scene of the film utilize elements of dynamics synchronized with movement (Dakic, 2009). Instead of giving foley or sound effect aspect for synchronicity, Bugs Bunny's action is accentuated by *marcato* and *sforzando* because dynamically, the two articulations can produce loud sounds and accentuate the actions of Bugs Bunny (Schneller, 2023). In addition to serving as a thickening of the cast, the timbre tone produces an impression of pleasure as the character plays with similar expressions (Supiarza, 2022). The complete continuity of image and audio are heavily based on music accentuation due to the visual treatment.

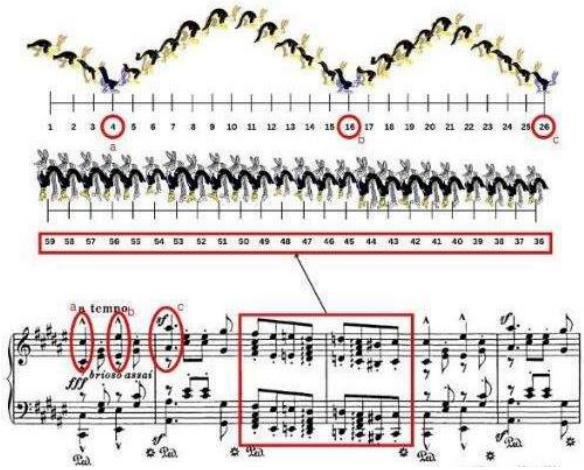


Figure 12. Synchronization of audio-visual in the fifth scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

Sound synchronization combines the three principles of animation with dynamics and musical accentuation elements. The precision of Bugs Bunny's pose and the timing of the jump are in harmony with the notation that articulates the *sforzando* and *staccato*, the goal of which is to thicken

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the expression of movement and the intensity of the musical sound so that it can blend harmoniously. Although it does not play the composition in its entirety, some elements of the music can support the need for animation to be in harmony. In addition, the matching between both cinematic aspect is stated by Professor Daniel Goldmark:

> This is another example of them hearing something in the music, and then came up with Bugs' action. So again, I think this is a moment where the music comes first, but because it's so animated so well, and that's sort of the trick of mickey-mousing is that it is supposed to be like this movement makes that sound. I think in essence, they are creating mickey-mousing where it is not mickey-mousing, because of the pre-existing music. He's doing sort of a dance to the music but they did it so well (Interview with Professor Daniel Goldmark, 10 April 2024).

Citing from the informant's commentary, we interpret that this scene highlights the intriacies of animating to pre-existing music, as if the composer or the animator writing the story while hearing the romantic piece. Despite it, the animation is executed in such a way that it effectively mimics the sound of Bugs Bunny's actions on the piano keys (Thomas & Johnston, 1995). This is the essence of mickey-mousing – creating a visual representation of sound through movement by creating key poses and timed it into the selected piece. While it may not fit the traditional definition of mickey-mousing, it still embodies the contexual of synchronization of both aspects of cinematics (Ryu, 2013; Whitaker & Halas, 2013). The synchronicity ocurs by creating specific gesture as a form of call to response to the music piece.

Sixth Scene

The sixth scene features Bugs Bunny excessively playing the song. Nimbly took all the piano keys and then put them back according to the rhythm set by the song. The extreme movements are witty, as if the character enjoys the game with gusto. The whole scene highlights Bugs Bunny's character's eccentric nature and playfulness. The interaction between the sketches and the music is briefly outlined in the following figure.

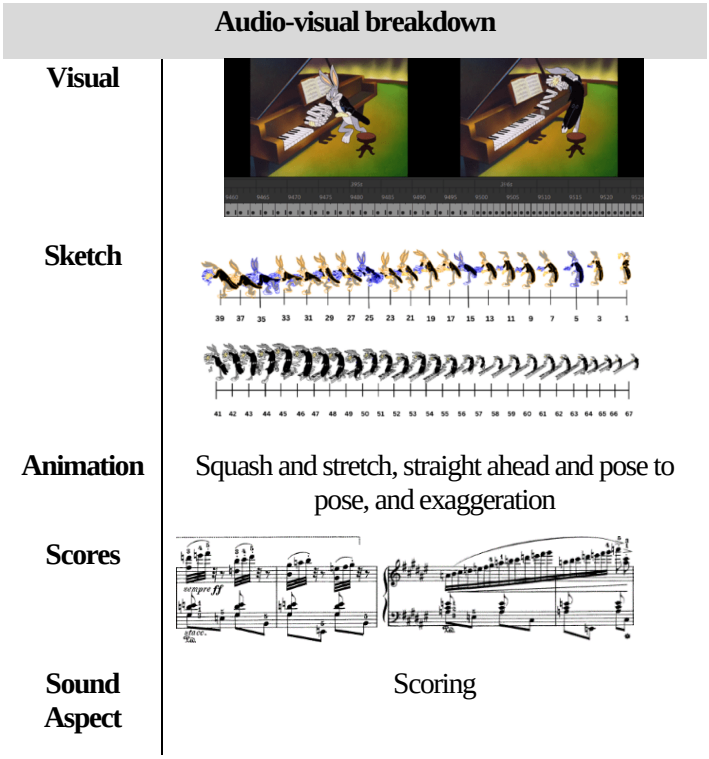

Figure 13. Audio-visual breakdown of the sixth scene

The animation design in the twelfth scene totals 67 frames at a distance from frames 9460 – 9525, an animation concept based on (Thomas & Johnston, 1995) using three principles. Application of the principle of

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squash and stretch focuses on the object of the piano keys being picked up and placed back elastically; the purpose of using this principle is so that the object seems to expand (Wang et al., 2006). The main highlight of the animation in this scene centers on Bugs Bunny's eccentric movements; the animation refers more to the principle of straight ahead and poses to pose and timing and spacing, which aims to coordinate the movements of the character so that it can be in sync with the music (Whitaker & Halas, 2013). As a form of antics, principles of exaggeration strengthen the overall application of animation to give the audience a comical touch (Bai et al., 2016). As it is revealed by Professor Goldmark:

> I think it's a gesture, because it's very a distinctive sound. It's not just one note, it has kind of sweeping movement to it. And so it might make it more, it may be that people can visualize, they can see in their minds (Interview with Professor Daniel Goldmark, 10 April 2024).

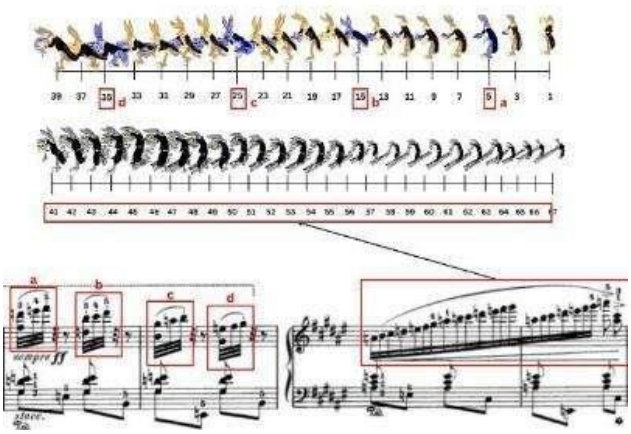

Figure 14. Synchronization of audio-visual in the sixth scene
(Source: Created by Alvriza Mohammed Fadly, 2024)

Based on the interview above, it is revealed that audio-visual synchronization based on call on response. It can be illustrated on the image above. The form music scoring composed from bars 379 – 392 sung in the sixth scene functions music as an accentuation supported by elements of dynamics and musicality techniques (Kusumawati, 2009). This piece of music is separated to focus on specific musical gestures, as Bugs Bunny picks up an animated piano. Each gesture adapts the composition, gives the film visuals a compelling image, and is reintegrated into audio-visual antics (Dakic, 2009). Elaborated from Professor Goldmark's literature whereas discussing this particular scene, Friz Freleng as the director adapts a a single gesture from the composition by giving it a unique visual image for the cartoon and then reingetrates it into a series of audio-visual gags. The independence of each gesture makes possible a dissection of motifs (Goldmark, 2005). Based on the discussion, this research becomes an additional repertoire that explores the synchronization between popular music and traditional animation.

CONCLUSIONS

Based on the results and discussion presented by the author, the conclusion that can be drawn is that the implementation of mickey-mousing techniques in the animated film combines the depiction of animation and music that are equally fast, this specific occurance is applicapble on the case study of Rhapsody Rabbit animation show. The principles of straight-ahead and pose-to-pose animation and timing and spacing play a significant role in synchronizing movements or events in the film by measuring the timeliness of the momentum of moving poses in sounding music. Exaggeration is applied to reinforce animation with music to create the impression of humor. Simultaneously, the musicality of The Hungarian Rhapsody No.2 composition illustrates, articulates, and accentuates rapid animated depictions such as choreographing every Bugs Bunny's movement as if it viewed as dancing ballet. The creative team of the animation tends to convey certain meaning in supporting the animation.

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The research also highlights the importance of supporting sound design concepts in animated depictions. Music accentuation and illustration can reflect the aesthetic aspects of animation and the overall storytelling of animation to create quality audiovisual works. Overall, this research's theoretical and practical implications make a valuable contribution to future film animation and sound design research.

Reviewing the results of the study can put forward theoretical and practical implications for the latest research that will come. Theoretically, this research provides a deeper understanding of how animation principles are applied in practice to produce dynamic animation. These principles become the primary guide for animators to determine the poses or critical moments of animation that match the rhythm and feel of the music. This contributes to creating harmony between animated movements and musical elements in films.

This research acknowledges The Hungarian Rhapsody No.2 as a popular music prominently used in animated cartoons, nevertheless it is not explored further regarding how the music piece is applied in different shows. In addition, principle of exaggeration as a technique to reinforce animation with music is briefly dicussed yet not detailed accordingly. It is recommended to conduct a coherent analysis of popular music usage as a main aspect of sound design synchronize to the visual animation based on different music periodization. Additionally, this research can be developed in examining historical perspective of mickey-mousing in animation film.

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