Ariadne's threads: Puccini and Cinema[1]

"There remains but one way of reviving the taste for symphonic music among our contemporaries: to apply to pure music the techniques of cinematography. It is the film-- the Ariadne's thread--that will show us the way out of this disquieting labyrinth."

Claude Debussy, 1913[2]

"any diegetic topography [can] be reduced to the linear model."

Nöel Burch, 1990[3]

Ariadne's thread, given to Theseus to retrace his steps out of the labyrinth, plays with the boundaries of space and time: it simultaneously creates a line within the space of the maze itself, offering a step-by-step sequence of events that Theseus must follow to escape, and, as he gathers up the thread after killing the Minotaur, it reverses the forward course of his original journey, back in time.

* * * * *

Recently, a search of the Internet Movie Database for "Giacomo Puccini" yielded 219 hits as composer for film and television productions that range from the recent James Bond thriller *Quantum of Solace* (2008) to *Fatal Attraction* (1987) to *The Jerry Lewis Show* (1963) to *It's a Wonderful Life* (1946) to *Rose-Marie* (1936),[4] even though Puccini never composed for silent films, and did not live to see the days of soundtracks.[5] Unlike many of his contemporaries, such as Umberto Giordano, Pietro Mascagni and Sigmund

Romberg,[6] and despite being a cinephile who had received offers to write for films,[7] he neither wrote nor arranged his music for the cinema. Yet perhaps in a way he did. Or rather, Puccini's operatic scores have "cinematic" qualities that not only make them useful for soundtracks, but can also usurp narrative functions now usually carried out by filmic techniques.

Or is it more appropriate to ask whether soundtracks have Puccinian qualities?[8] This essay, building upon the work of Leukel[9] and Leydon, follows the thread of the simultaneous development of late 19th- and early 20th-century Italian operatic compositional trends[10] and the birth of cinema, hypothesizing musical "cognates" of cinematic techniques in Puccini's music, and explores the possibility of causation in either direction. Finally, through the later writings of Adorno, Eisler and others, it examines the narrative functions of film music and the operatic score. So let us now return to the beginning.

* * * * *

They breathed the same air. Thomas Edison, who originally dreamed of the motion picture as an adjunct to his phonograph,[11] knew Puccini[12] and recorded opera stars.[13] In 1894, when touting his company's sound-motion invention, Edison expressed it thus: "I believe in the coming years [...] that grand opera can be given at the Met at New York without any material change from the original, and with artists and musicians long since dead."[14] As early as 1909 a film of a waterfall (with accompanying recorded "natural" sound) was used as part of the set at the Stockholm Opera.[15] And when Debussy and Mascagni traded insults about each other's operas, they did so in reference to the cinema.[16]

Accompanying music was present almost from the beginning of film, originally needed to mask the sounds of the noisy projectors, which were later placed within isolated booths. But even without music, most silent film would not have been actually silent.[17] Lecturers explaining the action were common, and sometimes there were even live sound effects. In 1907, the *Kinematograph and Lantern Weekly* reported, "[at a London show] wonderfully realistic effects are introduced. In fact, two men are behind the screen doing nothing else but produce noises corresponding with events happening on the curtain. These effects absolutely synchronise with the movements, so that it is difficult to believe that actual events are not occurring."[18] In Paris, from around 1904, the public was even able to attend experimental presentations of cinema with sound (both dialogue and singing).[19] These early attempts to create an enveloping sound-world akin to a real one were also the first steps towards bringing the audience member into a closed narrative framework into which actual reality would not intrude.[20]

Opera was there from the outset as well. The Italian music publisher Lorenzo Sonzogno, co-director of the homonymous publishing house from 1909, founded a film studio called Musical Film in order to produce filmed versions of the operas in his company's repertory.[21] A few years earlier, Edison had distributed a film of the second act of Flotow's opera *Martha* with this suggestion: "Managers can [...] obtain a quartette of church singers to remain behind the scenes and sing the parts and produce a remarkably fine entertainment."[22] This film was also released with synchronized phonograph records or cylinders.

The desire for exotic places and pleasures was common to both art-forms as well. In 1904, the year of Puccini's *Madama Butterfly*, visitors to the Universal Exhibition in

St. Louis were able--perhaps after they had tasted the first ice-cream cones--to hear and see an experimental film with sound by Oskar Messter,[23] and to ride in the first Hale's Tour, a motionless train around which filmed landscapes and sights of faraway places were projected:[24] so popular were these "train rides" that in a year, there were more than 500 in the United States alone.[25] And the Lumière brothers, who are normally credited with creating the first films, sent cameramen all over the world to film exotic subjects, in the process helping to develop native cinemas in Russia, Australia and Japan.

At the Paris World's Fair in 1900--which Puccini attended, as did Edison's roving cameraman James White--the Lumière brothers gave a demonstration of their new Cinematagraphe,[26] and the French engineer Grimoin-Sanson demonstrated his panoramic Cinéorama: ten cameras, mechanically linked together, had been placed in a circle and simultaneously shot footage, which was then projected by ten projectors in a spherical auditorium. These images were colored as well, giving an even greater sensory pleasure to this "trip."[27]

But one overriding goal shared by most early cinematographers[28] and verismo composers was a desire to reproduce living reality.[29] The *veristi* were inspired by the writings of Giovanni Verga and Luigi Capuana, and by the *naturalisme* of Emile Zola, who wrote "instead of imagining an adventure, complicating it, and arranging a series of theatrical effects to lead to a final conclusion, we simply take from life the story of a being, or a group of beings, whose acts we faithfully set down."[30] This statement and his preface to the second edition of *Therese Raquin*, in which he writes, "I devoted myself to copying life exactly and meticulously,"[31] are mirrored in the prologue to Leoncavallo's 1892 *Pagliacci*: "The author has sought [...] to paint for you a slice of life."[32]

But films did this better.[33] Zola's "group of beings" were literally the stars of blossoming cinema: in the early short films of the Lumière brothers, called "actualités," a camera was simply placed down and whatever occurred within its range was photographed. As Lumière stated, "I never did what they call 'direction.'"[34] The images of reality shown in these early films had no planned narrative, and little imposed structure, without even a nod to a formal closure: in effect, they were more verité than verismo.[35] Nevertheless, Puccini's experiments with musical non-closure--such as the unresolved 6-5 suspension at the end of *Madama Butterfly* (1904) or the unresolved C ninth chord at the end of the first act of *La fanciulla del West* (1910)—point in this same direction, albeit with very different motivations.

There is, however, a closer tie between Puccini's musical style and early cinematic practices: contemporary audiences for both had trouble following the narrative threads. The composer's so-called "mosaic" technique, in which small bits of music are fused together and connected in various ways to follow the dramatic action at every twist and turn, caused the same sort of audience confusion that the juxtaposition of short lengths of film originally did. Puccini's music was criticized, by listeners raised mostly on set-pieces, for its deficient unity, its fragmentation and its disconnectedness[36] at the same time that early film audiences were clamoring for lecturers to explain the connecting narrative that made sense of the constantly shifting visual images they were watching.[37]

Reviews of Puccini's music stressed a confusing fragmentation from the start. An 1884 review of his first opera, *Le villi*, reads: "The music [...] is fleeting, nervous."[38] But even twenty-three years later, the reactions had not changed much: when the

Metropolitan Opera produced several of Puccini's operas in 1907, with the composer in attendance, the critic for the *New York Times* described the novelty of these works from a representative of the Giovane Scuola:

> The musical treatment was [...] fundamentally strange. The broad delineation of moods is not enough. [...] the music [is] short-breathed and paragraphic in its minute commentary upon the passing word, the detail of action, with occasional pauses for lyrical expansion at points of emotional climax. Music, text and action are knit more closely together than was ever attempted by the Italian composers of an earlier generation.[39]

Similarly, early film audiences were baffled by the quick succession of moving visual images, which they initially perceived as isolated animated paintings or postcards, without any overarching narrative path--an impression abetted by the front-and-center immobility of the heavy early cameras. In short, there was no accepted proairetic code. And as the technology developed, even though it became possible for films to be shot in longer spans of time, the increased flexibility led to even more fragmentation.

What needed to be developed, then, was a generally accepted syntax of filmic linkages, such as dissolves, fade-ins, fade-outs and superimpositions, to indicate the nature of spatial and temporal relationships with which to carry forward the narrative thread. Noël Burch labels the new filmic codes "Institutional Modes of Representation" (IMR), as opposed to the primitive modes (PMR) of earlier film.[40]

That similar linking techniques could be applied to music was given explicit voice by Debussy in 1913, as quotation above demonstrates. But perhaps he spoke of the need to redirect the path of "symphonic music," because musical equivalents of cinematic

techniques could already be found in opera. It is possible, in fact, to find in the music of Puccini a multitude of methods by which his "mosaic" bits are joined together, which could be seen to parallel the new techniques of cinematic narrative: however, these musical "cognates,"[41] for the most part, predate their filmic counterparts.

Below is a sampling of visual cinematic techniques (in alphabetical order) that suggest musical cognates from Puccini's *oeuvre*.[42]

• Closeup/Cutaway - a shot of some detail, or landscape, that is used break up a matching action sequence. An early example of a close-up is from *Grandma's Reading Glass* by George Albert Smith (1900). [Ex. 1]

< insert Ex. 1 here >

In *Tosca* (1900), Act I/4/0,[43] Angelotti has been searching for the chapel key, but after an E dominant 4/3 chord on which the accompanying theme comes to rest, he makes a "gesture of discouragement" set to its own music, followed by the first theme continuing on from the same E dominant 4/3. [Ex. 2]

< insert Ex. 2 here >

• Direct cut - no transition between images. In *Manon Lescaut* (1893), Act I/22/11, when Manon enters, there is a direct shift from A major to F major, with no cadential move or clear transition between these keys.[44] [Ex. 3]

<insert Ex. 3 here>

• Dissolve - a transition between two shots in which one image fades away and another one simultaneously fades in. In *Manon Lescaut*, Act III/10/5, we hear Manon's descending, stepwise four-note theme fragmenting as she becomes quiet and a lamplighter enters singing a song.[45] [Ex. 4]

<insert Ex. 4 here>

• Double Exposure/Superimposition - this occurs when an exposed piece of film is re-shot with a second image on top of the first. An example from 1900 cinema is *A Nymph of the Waves*, produced by the American Mutoscope and Biograph Company, in which a woman appears to be dancing on the sea. [Ex. 5]

<insert Ex. 5 here>

In *Edgar* (1889), III/Z/0 of the original version,[46] and *Il Tabarro*, 85/0, we find dissonant pedal points creating bitonal clashes.[47] In effect, these two clashing keys illustrate two simultaneous tonal worlds, superimposed one on the other. Very similar to each other, these passages also bear some relation to Wagner's *Tristan und Isolde*, Act II, scene 1. [Exx. 6a and b]

<insert Exx. 6a and b here>

• Fade - a transition from a black to image ("fade in") or the reverse ("fade out"). In *Tosca*, Act III/31/4, soldiers enter to long crescendo; after the execution of Cavaradossi, at Act III/36, the soldiers depart to a long diminuendo and fragmented theme that ultimately fades out. [Ex. 7]

<insert Ex. 7 here>

• Intercutting/Alternating syntagm - repeated alternation between shots implying simultaneity. In *Gianni Schicchi* (1918), at 42/2, Schicchi exclaims that nothing can be done about Buoso's will; without a transition, the young lovers Lauretta and Rinuccio lament the situation. Ten bars later, at 43/1, Schicchi repeats his exclamation and the lovers reiterate their lament.[48] [Exx. 8a and b]

<insert Exx. 8a and b here>

• POV ["Point of View"] Shot - a shot taken from the perspective of one of the

characters. In *Tosca*, Act I/25/0, Tosca makes a stormy entrance, but it is accompanied by

lyrical Ab major music: in effect we are seeing, or rather hearing, the heroine from the

point-of-view of her lover Mario. [Ex. 9]

<insert Ex. 9 here>

• Reaction Shot - a shot of someone looking off screen or at another character without

speaking. In *Il Tabarro*, at 83/10, immediately after his unfaithful wife has left, Michele

reacts to her lies by calling her a "slut,"[49] set to a tritone shift (Eb major to A minor) in

the music. (This moment is quickly followed by a "superimposition" in which a pair of

strolling lovers pass by singing "Bocca di rosa fresca" in C major, with the A minor of

Michele's reaction still sounding below.) [Ex. 10]

<insert Ex. 10 here>

* * * * *

Twenty-three years after Puccini's death, at a time when the musical soundtrack

had been firmly established as an element of film, it is possible to see a causal

relationship clearly flowing from opera to soundtrack. Adorno and Eisler, in their 1947

book *Composing for Films*,[50] criticized the standardized musical effects of contemporary

cinema, and called for improvements in the musical soundtrack--"improvements." Many

of these recommendations, however, could also describe late 19th-century Italian opera

scores. For example, they wish for more frequent instrumental passages: "interruption of

the action by a developed musical episode could be an important artistic device."[51] After

Wagner's enormous influence grabbed hold in Italy, orchestral intermezzi were most

common in the younger generation's operas: Puccini's *Le Villi*, the original version of

Edgar, and *Manon Lescaut*, and Mascagni's *Cavalleria Rusticana* all have them, while Puccini's more mature works, such as *Tosca* and *Madama Butterfly* have extended instrumental passages.[52] When Adorno and Eisler call for more noise to be included in musical scores, so that "music can dissolve into noises, or noises can dissolve into music, as though they were dissonances,"[53] the car horn employed in Puccini's *Il Tabarro* springs to mind.[54] These authors also imagine a long sequence combining music and noise: "For instance, the screen shows a view of roofs in a city. All the bells in the city begin to ring while ever new masses of roofs and steeples are projected. [...] The accompanying music is characterized by monumental coldness, and uses bells as an ingredient"[55]--an almost literal description of the opening of Act III of *Tosca*. It seems likely then that versimo opera was a source of inspiration, at least to these writers, for the later-developing art of filmscoring.

But, more fundamentally, Adorno and Eisler note that symmetrical musical forms do not "fit" irregular, realistic action: "visual action in the motion picture has of course a prosaic irregularity and asymmetry. It claims to be photographed life [...] as a result there is a gap between what is happening on the screen and the symmetrically articulated conventional melody. A photographed kiss cannot actually be synchronized with an eight-bar phrase."[56] In essence they are calling for something akin to Wagner's musical prose, unpredictable and asymmetric, but employed now to better ally itself with realistic drama, not Nordic myth--in short, the flexible, Wagner-inspired music of the verists.

Adorno and Eisler characterize feature films as episodic, every film being "articulated into chapters, rather than acts, and [...] built upon episodes." Therefore, they argue, the soundtrack should also be comprised of short, flexible forms that match the

brief visual sequences: "Such sketchy, rhapsodical, or aphoristic forms are characteristic of the motion picture in their irregularity, fluidity, and absence of repetitions."[57] Ideally, they would like to see the soundtrack built from elements that are "self-sufficient or capable of rapid expansion [...] Quickly changing musical characterizations, sudden transitions and reversals, improvisatory and 'fantasia' elements should be predominant"[58] and "the music must be flexible, so that occasionally whole bars or phrases can be omitted, added or repeated."[59]

These are precisely the chief qualities of Puccini's "mosaic" technique ("flexibility" was even the term used by one critic to describe the music of *La fanciulla del West* at its premiere.)[60] In addition to the various techniques Puccini uses to link fragmentary musical passages, his mosaic cells themselves can also be expanded or contracted as needed, to trail the drama in minute detail. For example, in Act I of *Manon Lescaut*, the heroine enters, descending from a carriage, when her theme is first heard: it is a descending stepwise second that will later become paired with her two-syllable name "Manon." Later in Act I, when she introduces herself with her full name, the motive is now presented as a descending stepwise fourth,[61] and as she is dying, at the end of Act IV, her theme, now in minor, is again reduced to only two chords. [Exx. 11a-c]
<insert Exx. 11a-c here>

And in *La bohème*, as the curtain rises on the artists' garret, we hear a theme that is rhythmically and harmonically vibrant but unstable, setting the opening mood. When this theme returns at the beginning of Act IV, along with the garret location, the length has been cropped from thirty-nine bars to only ten. The audience, now familiar with the location and the mood, needs only a brief reminder to establish place and atmosphere.

But the relationship of music and filmed image is "not one of similarity but as a rule, one of question and answer, affirmation and negation, appearance and essence,"[62] argue Adorno and Eisler, thus lambasting the easy, synchronous illustration of physical dramatic events known as "mickey-mousing."[63] Rather, it is the gestural element that is the "concrete factor of unity in music and pictures."[64] The soundtrack should "justify" or give stimulus to the moving images on the screen.[65]

There is a long tradition of operatic musical gestures echoing visual ones, which have been brilliantly examined by Mary Ann Smart.[66] And Puccini's music can certainly illustrate physical action in a direct, one-to-one manner (such as the martial music for the parade at the end of *La Bohème*'s Act II, or the light falling snow at the opening of the next act, accompanied by delicate descending open fifths), but it can even do so for off-stage events. For example, in the first act of *Madama Butterfly*, as the young bride and her friends approach her new home with Pinkerton, we hear their voices offstage: they are climbing the steep hill in a slow procession, accompanied by a slow, rising sequence. [Ex. 12]

<insert Ex. 12 here>

In doing this, Puccini is aurally pushing past the walls of the stage: this off-stage event (and other similar ones such as Colline falling down the stairs in Act I of *La bohème*, or the Gavotte played in Act II of *Tosca*), which would be visualized in a movie, are made vivid in the spectator's consciousness through musical illustration.

And the gestures in Puccini's scores go beyond illustrating surface events. A more nuanced employment of Adorno and Eisler's mid-20th-century use of the term "gestural" had already been applied to emotional "gestures" in Puccini's music in his

own time. Contemporary music theorist Domenico Alaleona, who knew the composer

and analyzed some of his work, writes:

> Puccini--a true musician--was a fortunate creator of "motive-gestures" [...] By
>
> saying 'motive-gestures' we mean not only exterior gestures, but also, and above
>
> all, the motions of the spirit; not only the 'external dance' ('dance' in the usual
>
> sense of the word), but also that which I call (using an expression that is strange
>
> but not without meaning) 'internal dance': that is, the game, the contrast, the
>
> tumult of sentiments and passions.[67]

<div align="center">* * * * *</div>

The term "Ariadne's thread" can be used to denote a problem-solving system, in

which logical steps are exhaustively applied to systematically explore all possible

alternatives or routes, backtracking when necessary. Many scholars who have explored

the nature of film music often seem to practice an Ariadne-like, step-by-step search, and,

in the process, become enamored of enumeration. Perhaps it is the paucity of clear

sightlines in this subject that makes so appealing the creation of straightforward listings

of every possible use of a soundtrack. Several of these are presented below.

Adorno and Eisler refer to the functions of the soundtrack as illustrating physical

stage action, and setting the local or historical color,[68] which resonates in a proposal that

Arnold Schoenberg drew up in 1940. Addressed to the Academy of Motion Picture Arts

and Sciences, for a "School for Soundmen," Schoenberg made lists of what he planned to

teach. For example, he proposed instruction for composers and orchestrators on "how to

illustrate actions, moods, characters, etc.," while arrangers would be advised as to "how

to change music in order to fit better as illustration" and "how to use motives or themes or whole melodies of 'free' compositions."[69] [Ex. 13]

<insert Ex. 13 here>

A few years later, Raymond Spottiswoode enumerates a soundtrack's functions thus: 1. imitation 2. commentary; 3. evocation; 4. contrast; 5. dynamic use.[70] While a more recent list of functions is that of Douglas Gallez, who proposes illustrative functions for six types of soundtrack material:[71]

1. introductory or descriptive (which establishes general moods, provides introduction as to setting, period, and location)

2. mood (background) (which intensifies the mood through imitation or evocation; it can provide ironic contrast of mood with asynchronous counterpoint.)

3. realistic (source) (which provides a sense of realism by using incidental music, and integrating production numbers into the narrative.)

4. dynamic (which emphasizes the rhythm of the cuts, provides continuity by connecting dialogue with neutral filler, or by carrying on development of thought; it advances the action psychologically by providing transitions, building climaxes, and preparing further action.)

5. imitative (onomatopoeic) (which imitates mechanical or natural sounds, or imitates human speech or utterances.)

6. suspensory and terminal (which suspends action, or terminates film)

Richard David's 1999 accounting of film music's functions, however, is grouped into three broader basic categories, the physical, the psychological and the technical:[72]

• physical functions: 1. setting the location, 2. setting the time period. 3. mickey-mousing 4. intensifying the action

• psychological functions: 1. creating the psychological mood, 2. revealing the unspoken thoughts and feelings of a character, 3. revealing unseen implications, 4. deceiving the audience

• technical functions: 1. creating continuity from scene to scene, 2. creating continuity of the entire film

(A table is provided in Appendix B that juxtaposes some of these various theoretical rubrics.)

To complicate matters further, many of these enumerated illustrative functions overlap with those Burton has suggested,[73] but for narrative functions of music in opera:

1. presenting atmosphere or mood;

2. presenting local or historical color;

3. presenting emotional content and character;

4. presenting physical stage action;

5. presenting verbal and textual content (including stage directions), and

6. presenting and/or identifying characters, objects, events or thematic ideas.

7. providing framing and/or continuity

8. providing "commentary" (in which the music has an indirect rather than direct relationship with the image, as when joyful music accompanies a tragic scene, or suspenseful music accompanies a tranquil image)

These enumerations overlap and cover much of the same ground, but via diverging paths; each offers to guide us, if we accept their step-by-step analyses, to

understanding of what a soundtrack or an operatic score actually does. But then,

wherein lies the difference between the two art-forms?

<p style="text-align:center">* * * * *</p>

"The role of music would seem to be the tonal illustration of the pictures on the

screen...usually (particularly in the early years of this art) music in the cinema strove to

be descriptive; it wanted to incarnate in tone the moods evoked by the pictures."

- Leonid Sabeenev (1929)[74]

"the orchestra follow[s] the drama, underlining it and, like a background, putting it into

relief, or illuminating it like a harmonic ether, or reinforcing it through modulations,

delineating every nuance of sentiment, and, finally, musically setting the scene, painting

the characters, just as the novelist does."

- Alessandro Cortella (1892)[75]

These two quotations--the first about film music and the second about verismo

opera--both use imagery that cross-pollinates among the arts: music is said to describe,

illustrate, illumine, incarnate, underline, set the scene, paint. Both musical genres seem

to gain functionalities in the nebulous nexus that is the multivalent art-form. Music yoked

to the visual and the textual seems to take on some of the characteristics of each.

Yet even though an operatic score and a soundtrack are elements of mimetic and

multivalent media, they differ in the power they wield over the finished product. To

borrow Edward T. Cone's phrase, the music in the opera is the "controlling

consciousness,"[76] unlike film, in which the visual, has the upper hand.[77]

One reason for a soundtrack's lack of control over the ultimate *dianoia* might be found in the fact that it is (usually) not continuous, while operatic scores are. Most soundtracks are also composed after the film has been shot and edited, filling in after much of the narrative weight has been lifted by the *opsis* and *lexis*. As film director Sidney Lumet has said, "Music, one of our greatest art forms, must be subjugated to the needs of the picture. That's the nature of movie making."[78] And, as Lawrence Kramer notes, "we do not, as we watch [a film], usually experience the kind of full displacement of narrative by music so common at the opera, once our distance from the screen collapses, the rhetoric of the camera is altogether compelling."[79]

Film music is destined to accompany, directly or indirectly, the succession of visual images that, once edited, are not usually emended. Its historical roots lie in the movie organist's collections of "mood music," such as Rapée's well-known *Motion Picture Moods*,[80] or Ernst Luz's 1912 system of "Motion Picture Synchrony," by which musical "cue sheets" depicting various moods were assigned colors, enabling thousands of musicians working in the Loew's theaters to more easily find the appropriate accompaniment to films already finished, copied and distributed.

In opera, on the other hand, it is the music that controls the speed of every stage movement, the rhythm of every line of dialogue, the range of every vocal expression. The veristic composer in particular decides how much time it will take for a singer to carry out the numerous stage directions, and in what manner.[81] Like the camera too, operatic music can alter its functions as easily as cinematic points of view (POVs) shift us from cityscapes to close-ups. Just as visual POVs in film can put us in the shoes of heroes, villains or omniscient narrators, operatic music can do the same, switching easily

between expressive emotional content, setting the scene, or illustrating physical action. When we hear quickening rhythmic thuds in music we are suddenly inside a character's body, listening to her heartbeats speed up, and when we hear castanets and guitars, we are in Spain. Thus, operatic music carries much of the narrative weight, Kramer's "full displacement of narrative by music."

Burch's three-fold categorization of visual cinematic space--alterity, proximity, and overlap--might also serve well as a model for operatic tonal spaces. Burch proposes *alterity* to denote the space in one shot that is separate and distant from the space in the following shot; *proximity* indicates that two successive shots do not share a common space but are closely situated or contiguous; *overlap* entails two successive shots sharing some common space.[82] Thus, a complete tonal shift could suggest alterity, a move to a related key might indicate proximity, and a smooth common-tone modulation, or even bitonality, could imply overlap.

But if the camera controls the narrative functions, as we have seen in carried out by music in opera, then, why is music still used in films? Film scholar Rick Altman has challenged some basic assumptions about the use of music in film, one of which is that music enhances the naturalism or reality of the film. He asks the question, "If an image of a door closing without sound is unnatural, in what way does the sound of an oboe restore nature's order?"[83]

A possible response to Altman's query could lie in music's unique quality-- distinguishing it from both novels and film--to allow events occur simultaneously without a loss of comprehension. The problem of representing simultaneity in early film was a central one, which came to be resolved by the artificial construction of intercutting.

Simultaneity had previously been shown literally, with several actions occurring in a

single image, as in the 1914 film *The Bank Burglar's Fate* by John Adolfi, in which we

see what the burglar is watching by means of a reflecting window. [Ex. 14]

< insert Ex. 14 here>

But today, that is rarely the case. If we watch images of X talking, intercut with ones of

Y listening, we believe that they are in the same conversation, in the same space, at the

same time; but early audiences could and did not make that assumption. The newer

technique of intercutting, called the "alternating syntagm" by Burch, began the process of

linearizing cinematic space and time, joining bits of disconnected celluloid into a single

strip of film, and making a narrative thread that we have learned to follow through a

maze of disjointed images.[84]

There is no need for a musical equivalent of the alternating syntagm

(although it can be done, as in Examples 8a and b above.) In a single musical passage,

one can hear rhythm ("heartbeats") along with instrumentation ("guitars"). It is thus

more life-like in the sense that, in the real world, events occur simultaneously: one can

be joyful, while walking, while in Spain. Music can suggest emotion, pace, and setting all

at once. And polyphony can combine independent voices, carrying their own

implications. So even in sound films in which the visual and the texted dialogue are front

and center, music can supply Adorno's "essence." And we hear music "with other ears":

a musical idea can be perceived as background, where it does not compete for attention

with dialogue or sound effects, but can even enhance or illuminate them.

Thus the music in film, which can be polyphonic and multi-layered in

itself, is also one voice in the multi-threaded, polyphonic narrative of a complex art-

form.[85] And this "polyphonic narrative" can be synchronous or asynchronous: a soundtrack that illustrates the visual and textual as directly as mickey-mousing does would be synchronic, or even isochronic, with the film; one that commented upon the scene or revealed new information to the audience would be asynchronic.

* * * * *

From a near-simultaneous starting point in time, verismo opera, film and soundtrack have moved with similar aspirations, through an intertwined history, along apparently similar yet divergent paths. In following the threads of the cross-pollinations among these, we hope to have made some progress in unraveling the convoluted subject of how operatic scores and soundtracks function.

Appendix A: chronological table of Puccini and early film history

Date	Puccini	Film history
1883	(to 1884) *Le Villi*	
1886	(to 1889) *Edgar*, experiments with proto-bitonality	
1888		WKL Dickson invents motion-picture camera (Kinetograph) for Edison
1889		at Paris Exposition, Edison shows electrical inventions, including phonograph
1890	(to 1893) *Manon Lescaut*; experiments with lack of dramatic/musical closure	
1894	(to 1896) *La bohème*, bitonal clash at end of Act II	Edison's Kinetoscopes (peep-show devices) marketed, New York Kinetoscope parlor opens
1895		Lumière brothers give first commercial demonstration of cinématographe, a lighter and more portable camera/projector, at Grand Café in Paris; Italian Filoteo Alberini patents the Kinetografo Alberini.
1896	(to 1900) *Tosca*	Edison starts National Phonograph Co. to make phonographs popular; Edison's Vitascope projector introduced, itinerant projectionists work until 1904; (to 1898) Smith and Williamson begin producing trick films featuring superimpositions; (to 1913) Georges Méliès, a professional magician, begins to makes short narrative films with trick photography; Pathé Frères company founded.
1897		primitive large-scale narrative filmed of boxing match: series of one-minute Kinetoscope films seen in series, totally 15 minutes.
1899		Hollaman's and Eaves' 1899 film of second act of Flotow's *Martha*, released with synchronized recordings.
1900	Puccini attends Paris Exposition; probably sees Lumière film exhibition	Edwin Porter joins Edison; at Paris Exposition, Edison employee (James White) shoots documentary footage (Eiffel Tower elevator, moving sidewalk, etc.); also at Paris Exposition Grimoin-Sanson's Cinéorama opens, and Lumière brothers' projection of a film on 99'x79' screen; Smith and Williamson use closeups in

Year	Puccini	Film
		narrative;
1901	(to 1904) *Madama Butterfly*	
1902		Méliès makes "Le Voyage dans la Lune," 14 minutes in length, first film with international distribution, camera does not move; Porter makes "The Life of an American Fireman" which shows same event from multiple POVs; Pathé acquires Lumière patents
1903	Puccini hears *Pelléas* in Paris	Porter makes *The Great Train Robbery* first narrative film to have continuity of action, parallel editing, rear projections, pans, different camera positions, first box-office success.
1905		Nickelodeon boom to 1907; permanent establishments open; "nickel madness"
1907	Puccini in New York at Astor Hotel (W. 44th St.) for performances of *Madama Butterfly* and others of his operas.	multiple-reel films appear in US; Three hundred licenses for nickelodeons were issued in Manhattan; French serial pictures popular; National Phonograph Company opens NYC office; 200,000 people a day see films in Manhattan.
1908	(to 1910) *La Fanciulla del West*	Sixteen production companies join to create Motion Picture Patents Co., exclusive contract with Eastman Kodak for film; film d'art movement [filmed theatrical shows] in France starts with *L'Assassinat du duc de Guise*, score by St. Säens; in Italy, epic *Gli ultimi giorni di Pompei* is 6 reels long; DW Griffith begins directing at Biograph; uses multiple camera set-ups, intercutting (illusion of simultaneity), camera movements.
1910	Puccini in New York at Knickerbocker Hotel (W. 42nd St.) for premiere of *Fanciulla* at Met.	US motion-picture attendance reaches 26 million per week; musical accompaniment to motion pictures becomes standard.
1911		Camera moves closer to the ¾ shot; less need for exaggerated acting
1912		multiple-reel films ("features") achieve acceptance with *La Reine Elizabeth* with Sarah Bernhardt; Guazzoni's spectacular *Quo Vadis?*, with huge sets and 5000 extras, is shown across the US.
1913	Italian film company Cines wants Puccini for film project, which	successful episodic crime serial *Fantômas*

falls through.

1914	(to 1916) *La Rondine*	
1915	(to 1916) *Il Tabarro*	Griffith experiments with narrative techniques in *The Birth of a Nation*; Cecil B. De Mille uses effect lighting in *The Cheat.*
1916	Puccini appears in a cameo in film *Cura di baci*.	
1917	*Suor Angelica* (to 1918) *Gianni Schicchi*; possible film project with writer Ferdinando Martini Amleto Palermi for Cosmopoli Films wants to do a film version of *Bohème* with selections from opera, no financial accord is reached	
1920	(to 1924) *Turandot* (incomplete)	
1924	In last days in Brussels, attends cinema	

Appendix B: rubrics of illustrative musical functions

Burton	Schoenberg (1940)	Adorno/Eisler (1947)	Gallez (1970)	David (1999)
presenting atmosphere or mood	how to illustrate moods		establishing general moods	creating the psychological mood
presenting local or historical color		geography and history	provides introduction as to setting, period, location; realistic (source) music	setting the location; setting the time period
presenting emotional content and character	how to illustrate characters			revealing the unspoken thoughts and feelings of a character
presenting physical stage action	how to illustrate actions	illustration: music must follow visual incidents and illustrate them		mickey-mousing
presenting verbal and textual content			imitates human speech or utterances	
presenting or identifying characters, objects, events or thematic ideas		leitmotifs: trademarks, so to speak, by which persons, emotions, and symbols can instantly be identified		
providing framing / continuity	transition from one mood or character to another		dynamic music (emphasizes rhythm of cuts, provides transitions, building climaxes, preparing further action); suspensory and terminal music	creating continuity from scene to scene; creating continuity of the entire film
providing commentary				revealing unseen implications; deceiving the audience

Abstract

Unlike many of his contemporaries, such as Giordano, Mascagni and Romberg, and despite being a cinephile who had received offers to write for films, Puccini never wrote or arranged his music for the cinema.   Yet perhaps in a way he did. Or rather, Puccini's operatic scores have "cinematic" qualities that not only make them useful for soundtracks, but can also usurp narrative functions now usually carried out by filmic techniques, such as dissolves, fade-ins, fade-outs and superimpositions, to indicate the nature of spatial and temporal relationships with which to carry forward the narrative thread. Noël Burch labels these filmic codes "Institutional Modes of Representation" (IMR), as opposed to the primitive modes (PMR) of earlier film.

The term "Ariadne's thread" can be used to denote a problem-solving system, in which logical steps are exhaustively applied to systematically explore all possible alternatives or routes, backtracking when necessary. Many scholars who have explored the nature of film music often seem to practice an Ariadne-like, step-by-step search.

This article, building upon the work of Leukel and Leydon, follows the thread of the intimate and intricate relationship between late 19th- and early 20th-century Italian operatic compositional trends and the birth of cinema during the same period, hypothesizing musical "cognates" of cinematic techniques in Puccini's music. Finally, it explores, through the writings of Adorno, Eisler and others, the narrative functions of film music and the operatic score.

Notes

---

[1] A version of this article was presented at AMS/SMT National Conference, Nashville, October 2008. All translations are by the author, unless otherwise noted.

[2] *SIM bulletin* (1 November 1913). Quoted in translation in Rebecca Leydon, "Debussy's Late Style and the Devices of the Early Silent Cinema," *Music Theory Spectrum* (Fall 2001) 23/ 2: 223.

[3] Noël Burch, *Life to those Shadows*. Trans. Ben Brewster. Berkeley: University of California Press, 1990, 157.

[4] A small sample of Puccini's list on www.imdb.com would also include: *Casablanca* (1942), *East of Eden* (1955), *Fitzcarraldo* (1982), *Hannah and Her Sisters* (1986), *Home Improvement* (1991), *G.I. Jane* (1997), *Babe: Pig in the City* (1998), *Buffy the Vampire Slayer* (1998), *Bend It Like Beckham* (2002), *Rocky Balboa* (2006) and *Mr. Bean's Holiday* (2007). Puccini has one other listing on the website, as an actor in the 1917 silent film *Cura di baci* for which his one-time librettist Carlo Zangarini adapted the screenplay. Puccini's count approaches Verdi's 279, while Mascagni has twenty-one and Catalani only twelve. Wagner's total is 647 hits, but 301 of those are for the "Bridal Chorus" from *Lohengrin*, and another 119 are for the *Ride of the Valkyries*: both of these selections had been popular film accompaniments at least since 1919 when Giuseppe Becce included them in his collection *Kinothek* for movie-house organists and pianists.

[5] See Appendix A for a timeline of early film history and Puccini's career.

[6] Saint-Säens wrote the first original film music for the Films d'Art Company's *L'assassinat du Duc de Guise*. In 1927, Hindemith was hired to write the first score for an

animated film: "Krazy Kat at the Circus," which was recorded on a mechanical organ. (Marian Hannah Winter, "The Function of Music in Sound Film," *The Musical Quarterly*, 27/2 (April, 1941): 147, 150.) Schoenberg began to compose for film, but left only some sketches of motives. (Sabine M. Feisst, "Arnold Schoenberg and the Cinematic Art," *The Musical Quarterly* 83/1 (Spring 1999): 93ff.)

[7] Puccini was approached in 1913 by the Italian film studio Cines, which had produced the groundbreaking nine-reel spectacle *Quo Vadis?* the year before. The studio's grounds, destroyed in World War II, ultimately became Cinecittà. Eduardo Rescigno. *Dizionario Pucciniano*. (Milan: Ricordi, 2004), s.v. "cinema." It is also reported that Puccini attended the cinema in Brussels shortly before he died. Dante Del Fiorentino, *Immortal Bohemian: An Intimate memoir of Giacomo Puccini.* (New York: Crown, 1954), 215.

[8] For an important study of the roots of the soundtrack in 19th-century melodrama, see Emilio Sala, *L'opera senza canto: Il melo romantico e l'invenzione della colonna sonora* (Venice: Marsilio, 1995).

[9] Jürgen J. Leukel, "Puccinis kinematographische Technik," *Neue Zeitschrift für Musik*, 143, nos. 6-7 (June-July 1982): 24-26.

[10] In relation to early film and *Carmen*, see Gillian B. Anderson, "Geraldine Farrar and Cecil B. DeMille: The Effect of Opera on Film and Film on Opera in 1915," in *Carmen: From Silent Film to MTV*, ed. Chris Perriam and Ann Davies, (Amsterdam/ New York: Rodopi, 2005), 23-36.

[11] As early as 1888, Edison thought of Muybridge's zoopraxiscope in combination with the phonograph: the latter wrote, of their meeting on 27 February, that Edison desired "to

combine, and reproduce simultaneously, in the presence of an audience, visible actions and audible words." Eadweard Muybridge, *Animals in Motion*, ed. Lewis S. Brown. (Mineola, NY: Dover, 1957), 15. [Original title: *The science of animal locomotion (zoopraxography) : an electro-photographic investigation of consecutive phases of animal movements* (Philadelphia : E. Muybridge, [1891]).

[12] Edison sent Puccini a grammophone, with a note reading: "Men die and governments change, but the songs of *La Boheme* will live for ever."

[13] Edison's hand-written evaluations of opera stars from experimental disc recording sessions from 1910-12 could be quite caustic. For instance, his responses to Giovanni Albanese were simply "Don't care for him" and, for Heinrich Hensel, "Rotten. Never use this voice." But Giovanni Martinelli was deemed "a far better singer than Caruso is now."   Raymond R. Wile, *The Edison discography (1926-29)* (Denver: Mainspring Press, c2008), n.p. See also http://www.mainspringpress.com/edison_opera.html.

[14] Thomas Edison, *The Century*, June 16, 1894. Quoted in W.K.L. Dickson and Antonia Dickson, *History of the Kinetograph, Kinetoscope and Kineto-Phonograph* (New York: Dunn, 1895), 55. A similar quote, in which he promised to reproduce color as well, appeared in the *New York Times* in 13 May 1891: "My intention is to have such a happy combination of photography and electricity that a man can sit in his own parou and see depicted upon a curtain the forms of the players in opera upon a distant stage, and hear the voices of the singers. [...] Each little muscle of the singer's face will be seen to work, every color of his or her attire will be exactly reproduced."

[15] Mats Björkin, "Remarks on Writing and Technologies of Sound in Early Cinema," in *The Sounds of Early Cinema*, ed. Richard Abel and Rick Altman. (Bloomington: Indiana

University Press, 2001), 32.

[16] In 1908, Mascagni said, ""[*Pelleas*'s] music makes one think of those cinema musicians who play their little airs modestly and timidly, while the most extraordinary episodes unfold on the screen"; Debussy, five years later, offered his opinion of Italian one-act operas, such as Mascagni's *Cavalleria Rusticana*, "Inspired by scenes in the realistic cinema the characters throw themselves at one another and appear to wrench melodies from one another's mouths. A whole life is packed into a single act: birth, marriage, and an assassination thrown in." Mosco Carner, "Debussy and Puccini," *The Musical Times*, 108/ 1492 (June 1967): 502. In fact, though, one-act verismo operas predate such cinematic dramas by a decade or more.

[17] Altman has shown that some silent films were indeed shown in silence. Rick Altman, "The Silence of the Silents," *The Musical Quarterly* 80/4 (Winter 1996): 648-718.

[18] *Kinematograph and Lantern Weekly*, 24 October 1907. Quoted in Abel and Altman, xi.

[19] Gaumont Chronophone and Pathé had developed systems of talking cinema. Burch, *Life to those Shadows,* 237.

[20] Burch writes, "The introduction of music was the first deliberate step towards what was to become the institution's interpellation of the film spectator as an individual." Ibid., 235.

[21] Rescigno, *Dizionario*, s.v. "cinema."

[22] Gillian B. Anderson, "The Presentation of Silent Films, or, Music as Anaesthesia," *The Journal of Musicology*, 5/2 (Spring, 1987), 260. The full citation from Edison Films is: "The second Act of this beautiful opera. Consists of five scenes, about 1,300 feet in

length. 1. Duet outside the Inn. 2. Quartette inside the Inn. 3. Spinning Wheel Chorus. 4.

Martha singing 'Last Rose of Summer.' 5. Good Night Quartette. This film shows a

quartette of well-known opera singers acting and singing their parts in this ever popular

opera. The subjects are taken with the greatest care and the films manufactured by the

Edison Manufacturing Company. Managers can arrange to produce this exhibition

throughout the country and can obtain a quartette of church singers to remain behind the

scenes and sing the parts and produce a remarkably fine entertainment, besides giving a

local interest to the same by utilizing local talent. If it is desired to do so, however, the

quartette can be engaged to travel with the exhibition. Other operas and plays in

preparation."

[23] It was probably a film, *Biorama Unter den Linden*, first presented in Berlin in 1896,

which was synched with phonograph discs. Burch, *Life to those Shadows,* 36.

[24] Ibid.

[25] Ibid., 39.

[26] The Lumière films were projected on a large 99 x 79 foot screen.

http://www.earlycinema.com/pioneers/lumiere_bio.html, accessed 9 August 2010.

[27] The Cinéorama was closed down after only three shows by order of the fire

department. Burch, *Life to those Shadows,* 39-40, and Martin Koerber, "Oskar Messter,

Film Pioneer: Early Cinema between Science, Spectacle and Commerce," in *A second

life: German cinema's first decades* ed. Thomas Elsaesser and Michael Wedel,

(Amsterdam: Amsterdam University Press, 1996), 56.

[28] A notable exception is Georges Méliès, a professional magician who used the new

technology to create cinematic illusions. He created more than 500 films between 1896

and 1913, including the 1902 *Voyage dans la Lune*, a 30-scene narrative based on the Jules Verne novel, "The Moon-Voyage." Gunning has taken a more nuanced view of the bifurcation of realism and fantasy in early cinema, pointing out that "realistic" cinema used visual tricks as well. Tom Gunning, ""Primitive" Cinema: A Frame-up? Or the Trick's on Us," *Cinema Journal*, 28/2 (Winter, 1989): 3-12.

[29] The goal of trying to capture life itself was echoed in the names of the first film companies, such as <u>Vita</u>scope and <u>Biog</u>raph.

[30] Emile Zola, "On Naturalism in the Theatre." Quoted in translation in John Lahr, "Pinter and Chekhov: The Bond of Naturalism," *The Drama Review*, 13/2, (Winter, 1968): 137.

[31] Émile Zola, *Thérèse Raquin*, trans. L. W. Tancock. (London: Penguin, 1962), 23.

[32] [L'autore ha cercato [...] pingervi uno squarcio di vita.]

[33] As Schoenberg wrote: "the crisis of the theater is, in part, caused by the films; this is also the reason for the situation in which the opera finds itself: unable to compete with the realism which is offered there." "Gibt es eine Krise der Oper? *Musikblätter des Anbruch* 8/5 (1926): 209. Quoted in translation in Feisst, "Arnold Schoenberg," 96.

[34] [mise-en-scène] Quoted in translation in Burch, *Life to those Shadows,* 19.

[35] There was also a widespread dream among the early filmmakers that they were not just representing life, but also conquering death: thus their choice of names for the companies were Vitascope and Biograph. An assistant in Edison's studios, Georges Demeny, said in 1892: "The future will see the replacement of motionless photographs, frozen in their frames, with animated portraits that can be brought to life at the turn of a handle. [...] We will do more than analyse, we will *bring back to life*." Burch, *Life to those Shadows,* 26.

A press report after the Lumière's first public demonstration in *Le Radical,* 30 December 1895 said, "we already can collect and reproduce words; now we can collect and reproduce life. We might even, for instance, see our friends or family as if living again long after they will have disappeared." [On recueillat déjà et l'on reproduisait la parole, on recueille maintenant et l'on reproduit la vie. On pourra, par example, revoir agir les siens longtemps après qu'on les aura perdus.] Quoted in translation and original in Ian Christie, "Early Phonograph Culture and Moving Pictures" in *The Sounds of Early Cinema*, ed. Abel and Altman, 8.

[36] Alexandra Wilson, *The Puccini Problem: Opera, Nationalism and Modernity*. (Cambridge: Cambridge University Press, 2007), 48. See also Ibid., 49-51.

[37] Burch, *Life to those Shadows,* 133.

[38] La musica [...] è scorrevole, nervosa.] *Il Teatro Illustrato*, IV/4, 2 June 1884, 94. Quoted in Marco Capra, "Tra wagnerismo, sinfonismo e giovane scuola: gli inizi della carriera di Puccini nel racconto della stampa periodica," in *Giacomo Puccini: L'uomo, il musicista, il panorama europeo*: *Atti del Convegno internazionale di studi su Giacomo Puccini nel 70o anniversario della morte*, ed. Gabriella Biagi Ravenni and Carolyn Gianturco. (Lucca: Libreria Musicale Italiana, 1997, 23-48.

[39] Richard Aldrich, *The New York Times*, 3 February 1907.

[40] Burch, *Life to those Shadows,* 7. An important innovator in these techniques was D.W. Griffith, whose personal role model was the playwright David Belasco. Belasco's naturalism, experiments with lighting and special effects also attracted Puccini who based *Madama Butterfly* and *La fanciulla del West* on Belasco's dramas.

[41] The term is also employed in Leydon, "Debussy's Late Style," 218.

[42] One other possible cognate is the "tracking shot," in which the camera moves slowly in one direction, away, towards, up or down: this might be compared to the first act "Te Deum" of *Tosca,* I/80-89, in which Scarpia holds the musical center as the stage fills slowly with choirboys, priests, etc., and the dynamics grow accordingly. A musical prelude, with which Puccini opened most of his operas, could also be compared to the "emblematic shot," an example of which is the last image of *The Great Train Robbery* (1903), in which a bandit fires a gun at the camera.

[43] Locations in the musical scores are indicated by act/rehearsal number/ measures after, so that the first bar of the opera would be labeled I/0/0.

[44] A major and F major share the common-tone of A, and could be related in Neo-Riemannian theory by the L transformation of F major to A minor followed by the P transformation of A minor to A major. Nevertheless, the isolated F initially sounds like a conspicuous "wrong" note, particularly since the common-tone A is not heard simultaneously.

[45] Immediately after this, the lamplighter's song dissolves into a G minor tremolo that supports melodic dialogue between Manon and Des Grieux; the two melodies are then superimposed, and finally dissolving into yet another theme.

[46] This moment, in the revised current three-act version occurs at III/22/0. However, the incipient bitonality is resolved immediately to B major.

[47] In this regard, Leukel mentions *La Boheme* (1896), Act II/27, with its overlapping themes in E major (Musetta's waltz) and the parade in Bb major.

[48] Davis has written about this scene in regard to filmic techniques, although he compares it to a direct cut. Andrew Davis, *Il Trittico, Turandot and Puccini's Late Style* (Bloomington: Indiana University Press, 2010), 156.

[49] [squaldrina]

[50] Theodor Adorno and Hanns Eisler, *Composing for the Films*. London: The Athlone Press, 1994 [original edition 1947].

[51] Ibid., 11.

[52] Instrumental interludes are also found in other contemporary repertoires. See Christopher Morris. *Reading Opera between the Lines: Orchestral Interludes and Cultural Meaning from Wagner to Berg*. Cambridge: Cambridge University Press, 2002.

[53] Adorno and Eisler, *Composing*, 102. The authors may be referring to Honegger's *Pygmalion* (1938), which has well-known noise-music sequences.

[54] Among the discarded ideas for *Edgar* was a musical depiction of a battle, replete with gun blasts. Ferdinando Fontana "Lettere a Giacomo Puccini: 1884-1919," *Quaderni Pucciniani* (1992): 35.

[55] Adorno and Eisler, *Composing*, 102.

[56] Ibid., 8.

[57] Ibid., 92.

[58] Ibid., 93.

[59] Ibid., 109.

[60] In the 17 December 1910 issue of *Harper's Weekly*, Lawrence Gilman wrote that the music of *La fanciulla del West* was "nervous, and flexible."

[61] See also Example 4 above.

[62] Adorno and Eisler, *Composing*, 70.

[63] "Mickey-mousing" occurs when the music mimics the action exactly, such as descending pitches heard when a character falls.

[64] Adorno and Eisler, *Composing*, 77.

[65] Adorno and Eisler argue for a soundtrack that will go beyond a synchronous imitation of events on the screen. At the same time, however, they welcome even more precise means of doing so: "To obtain mathematical exactness [...] rhythmograms enable the composer at his desk to see, for instance, that clouds drift across the screen from the second quarter note of the first bar to the third quarter note of the fourteenth, and that between the first and the third quarters of the twelfth bar the heroine raises her hand. Thus he can write a score that follows every detail [...] with the utmost precision." Ibid., 109-110. Puccini and the other verists could only dream of such a device.

[66] Mary Ann Smart, *Mimomania: Music and Gesture in Nineteenth-Century Opera* (Berkeley: University of California Press, 2004).

[67] [Puccini—musicista vero—e' stato un felicissimo creatore di 'motivi-gesto' [...] Dicendo 'motivi-gesto' noi intendiamo non soltanto i gesti esteriori, ma anche e sopratutto i moti dell'animo; non soltanto la 'danza esterna' (danza nel senso abituale della parola) ma anche quella che io chiamo (con una espressione strana, ma non senza significazione) 'danza interna': cioe' il gioco, il contrasto, il tumulto dei sentimenti e delle passioni.] Domenico Alaleona, "Giacomo Puccini" *Rassegna Italiana politica, letteraria & artistica* (XV/LXXX, January 1925): 17-18.

[68] Adorno and Eisler, *Composing*, 12: "music must follow visual incidents and illustrate them either by directly imitating them or by using clichés that are associated with the

mood and content of the picture." and Ibid., 14: "when the scene is laid in a Dutch town, [...] the composer is supposed to send over the studio library for a Dutch folk song to use its theme as a working basis."

[69] For more complete information, see Feisst, "Arnold Schoenberg," 93-113.

[70] Raymond Spottiswoode, *A Grammar of the Film: An Analysis of Film Technique* (Berkeley: University of California Press, 1950): 50, 190-193.

[71] Gallez, Douglas W. "Theories of Film Music." *Cinema Journal*. 9/2 (Spring, 1970): 40-47.

[72] Richard David, *Complete Guide to Film Scoring* (Boston: Berklee Press, 1999), 142-145.

[73] Deborah Burton, "Orfeo, Osmin and Otello: Towards a Theory of Opera Analysis." *Studi musicali*, 33/2 (2004): 359-385.

[74] Leonid Sabeenev, *The Musical Times*, 70/1032, (1 February 1929): 113.

[75] [l'orchestra segua il dramma, lo sottolinei dandoglisi a rilievo come sfondo o illuminandolo come di un etere armonico o secondandolo con la manovra delle modulazioni, delineare ogni *nuance* del sentimento, infine intonare gli ambienti, caratterizzare i personaggi, cosi' come fa il romanziere.] Alessandro Cortella, "L'Arte italiana a Vienna" in *Il Teatro Illustrato*, XII/143 (1892). Quoted in Mario Morini, ed. *Casa Musicale Sonzogno*, vol. 1, 266.

[76] Edward T. Cone, *The Composer's Voice* (Berkeley: University of California Press, 1974), 3: "In the case of cinema, those of us who think of it as an independent art rather than as a branch of drama find its controlling consciousness in the moving eye of the camera."

[77] Schoenberg's potential collaboration with MGM for a soundtrack for Pearl S. Buck's *The Good Earth* collapsed in November 1935 when he demanded full control over the soundtrack. Feisst, "Arnold Schoenberg," 93.

[78] David, *Complete Guide*, 31.

[79] Lawrence Kramer, "Musical Narratology: A Theoretical Outline," *Indiana Theory Review* 12 (1991): 156. Quoted in Robynn J. Stilwell, "Sense & Sensibility. Form, Genre, and Function in the Film Score," *Acta Musicologica* 72/2 (2000): 235.

[80] Erno Rapée, arr. *Motion Picture Moods for Pianists and Organists: A Rapid-Reference Collection of Selected Pieces* (New York: Schirmer, 1924).

[81] Puccini often made cuts or extended passages after working with the singers in rehearsal.

[82] Burch, as cited in Tom Gunning, "Weaving a narrative: Style and economic background in Griffith's biograph films" *Quarterly Review of Film and Video*, 6/1 (Winter 1981): 11-25.

[83] Altman, "The Silence," 671.

[84] The editing process, by which one of several possible takes is chosen, is also an example of the Ariadne's thread process.

[85] In computer terminology, a "multithreaded" process allows an operating system to execute different programs, or parts of a program, simultaneously, through the imperceptibly quick stops and starts of an essentially linear process.