

Recondite Harmony: The Operas of Puccini

Chapter 9: *Madama Butterfly*: transformations

The metamorphosis of a butterfly has four stages,¹ but Puccini's *Madama Butterfly* had more: its principal versions result from the disastrous first performance at the Teatro alla Scala in Milan (17 February 1904), followed by revised versions at the Teatro Grande in Brescia (May 1904), the Opéra-Comique in Paris (December 1906), the Metropolitan Opera in New York (February 1907) and the Teatro Carcano in Milan (December 1920).² But the transmutations of *Madama Butterfly* are not limited to post-première additions and subtractions: transformations, both dramatic and musical, are so deeply embedded in the structure of the work that they take on a thematic quality of their own. The plot³ can be seen as the growth of a young Japanese girl into her own conception of an American wife and mother, finally emerging as a full-fledged tragic heroine. But this opera also marks a dramatic change in Puccini's mature style away from both the use of the Motivo di Prima Intenzione⁴ and his adherence to unequivocal tonal closure at a work's end.

¹ The stages are egg, larva, pupa and adult.

² Only five days after the première, Puccini had decided on the revisions he would make. In an unpublished letter to Ippolito Bondi of 22 February 1904, the composer writes: "The reaction here of the public has started and the gesture of withdrawing the opera after the première has had an effect. Now I will make a few cuts in the first act and divide the second in two parts. Thus the equilibrium will be there. Certainly it pains me that part of the intermezzo will be abolished: the melody in 12/8 is going, but remaining are the humming chorus (where the second act finishes) and the dawn where the third act begins. With a few attacks, etc., I will put (now that there are) two or three more words for the tenor in the third act and bye-bye. [...] All these little things I saw during the last rehearsals but then, with the time so restricted, I couldn't do them." [La reazione qui e' cominciata nel pubblico e il gesto del ritiro dell'opera dopo le première ha fatto colpo - ora farò qualche piccolo taglio al I^o e dividere il 2^o in 2 parti. Così l'equilibrio ci sarà - certo mi duole che l'intermezzo venga in parte abolito - la melodia in 12/8 se ne va ma rimane il coro a bocca chiusa (dove finisce l'atto II^o) e l'alba dove cominciare il III^o - con qualche attacco etc. metterò (già che ci sono) 2 o 3 parole di più' il tenore nel 3^o atto e ciao [...] tutte queste piccole cosuccie le avevo vedute alle ultime prove d'insieme ma allora per il tempo ristretto non potevo farle.]

³ the story was derived from both John Luther Long's short story "Madame Butterfly," published in *Century Magazine* (1898) and David Belasco's play, *Madame Butterfly: A Tragedy of Japan* (1900).

⁴ See Chapter 3 above. The concept is also discussed in Deborah Burton, "A Journey of Discovery: Puccini's 'motivo di prima intenzione' and its applications in *Manon Lescaut*, *La Fanciulla del West* and *Suor Angelica*," *Studi Musicali*, 2001/2: 473-499.

The score, as a whole, exhibits a gradual reshaping and freeing of musical style even more marked than that of *Manon Lescaut*. Puccini, who originally conceived of two long acts with parallel beginnings and endings:⁵ wrote the openings of Acts I and II in strict fugal counterpoint.⁶ But by the end of both original acts, the sonic landscape has shifted to one of progressive, modernistic irresolution. (It was not until the Paris version that the opera was divided into three acts.) So if the opera commences with Western music's strictest rules, its most basic one (that of final tonal resolution) is put in doubt by the end.

contrapuntal subjects

In the later nineteenth century, fugues were most often associated with the sacred and the "learned" styles. Lavignac, writing in 1899, notes that "the fugue is not an operatic form: it can never be dramatic. Its home is the church."⁷ However, there were still exceptions, such as the prelude to Gounod's *Roméo et Juliette*, and the finale to Verdi's *Falstaff*. Wagner also used a fugal exposition in the prelude to *Die Meistersinger*, an opera that the younger composer knew well, having made cuts to it for the Milan production at Ricordi's behest.⁸

The profession of *maestro di capella* for which Puccini had been destined required highly developed skills in contrapuntal writing.⁹ In Lucca, his studies at the Istituto Musicale

⁵ A similar point was noted by Michele Girardi, *Puccini: His International Art* (Chicago: Chicago University Press, 2000), 235-6.

⁶ The first is a fugal exposition for four voices, while the second is a three-voice fugato. Puccini's interest in fugal counterpoint did not wane after *Butterfly*: he wrote to Luigi Illica on 7 June 1904 in regard to Victor Hugo's *The Hunchback of Notre Dame*, that he was composing "a stupendous, new, grandiose musical picture, with a fugue in the style of Bach, and a gothic fugue for chorus." [Un quadro musicale stupendo, nuovo, grandioso, con fuga alla Bach, e per corale fuga gotica.] Eugenio Gara. ed. *Carteggi Pucciniani*. (Milan: Ricordi, 1958), 275.

⁷ Albert Lavignac, *Music and Musicians*, translated by William Marchant (New York: Hold, 1899), 339.

⁸ See Chapter 1 above, note 24.

⁹ For an in-depth study of Puccini's early musical training see Nicholas Baragwanath, *The Italian Traditions & Puccini: Compositional Theory & Practice* (Bloomington, IN: Indiana University Press, 2011), chapter 2. Verdi

“G. Pacini” (of which his father had been director until his death in 1864) were divided into three sections: vocal, instrumental and composition, which included solfeggio and vocalization; instrumental studies; and theoretical and practical harmony, counterpoint and composition. Among other topics, this last included work in simple and imitative counterpoint, including canon and fugue. In all, Puccini had three years of thoroughbass and contrapuntal studies, even receiving a prize for composition and counterpoint.¹⁰ Given this rigorous education, it is not surprising that he scored highest on the Milan Conservatory’s entrance exam. Earlier in the same year he took this test, Puccini’s *Messa* was performed in Lucca by members of the Istituto Pacini; its “Cum sancto spirito” was singled out by the *Provincia di Lucca* (as Julian Budden has noted¹¹) as a “a grand fugue with moustaches” [fugone coi baffi], implying that it included many showy contrapuntal devices.

The fugal openings of *Madama Butterfly*’s original acts begin in an almost formulaic manner, and are hardly recognizable as creations of the same musician who composed quite sophisticated fugues in his youth. A fugue that Puccini wrote for an examination at the Milan conservatory, for example, has a subject (in minor and with rising stepwise sequences) not dissimilar to the opening theme of *Butterfly*’s Act II. Here are the two themes: [Exx. 9.0a and b]

recommended that students should study fugue, in a letter to Francesco Florimo of 1871. Quoted in Baragwanath, *The Italian Traditions*, 47.

¹⁰ Battelli, Giulio, “Giacomo Puccini all’Istituto Musicale ‘G. Pacini?’” in *Giacomo Puccini: L’uomo, il musicista, il panorama europeo. Atti del Convegno internazionale di studi su Giacomo Puccini nel 70o anniversario della morte*. Eds. Ravenni, Gabriella Biagi and Carolyn Gianturco. (Lucca: Libreria Musicale Italiana, 1997: 4-5, 14.

¹¹ Julian Budden, “The Musical World of the Young Puccini,” *The Puccini Companion*, William Weaver and Simonetta Puccini, eds.: (New York: W.W. Norton, 1994): 55.

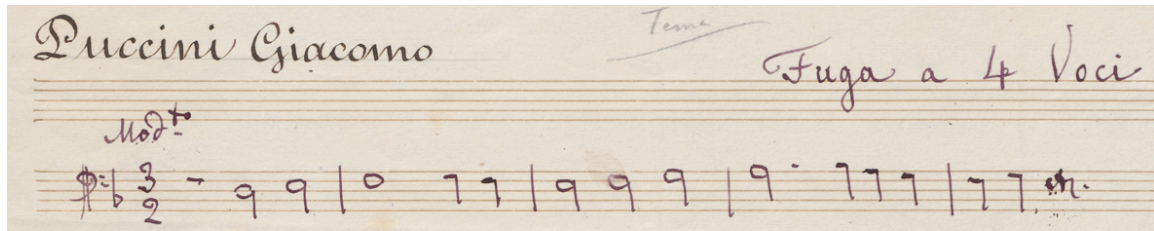
Ex. 9.0

a. *Madama Butterfly*, opening theme of Act II



b. Fugue subject assigned to Puccini for an examination, Biblioteca del Conservatorio G.

Verdi, Milan, Manoscritti Aut. 30.8, 30.9



In the student work, Puccini's solution employs a tonal answer, a countersubject (a swath of which is the basis for several *stretti*), invertible counterpoint, modulations to VII, V, III, and v, a dominant pedal point, a *stretto maestrale* of the subject at the distance of two bars, and a final *stretto* at the distance of only one bar. After examining this manuscript in comparison with Puccini's draft pages, Adriano Bassi concludes that the fugal style must not have been very challenging for the young student, since there are few corrections in the draft copy.¹²

We might surmise then that the simplicity of the fugal writing in *Madama Butterfly* was intended perhaps to signal, rather than embody, the contrapuntal style.

¹² Adriano Bassi, "Puccini studente a Milano: analisi dei suoi lavori scolastici" *Civiltà Musicale*, V/2 (June 1991): 11: "[the fugue shows] agility in the dialogue between the voices, as well as following the classic layout of the fugue. Further, it is interesting to establish that for the young man, the contrapuntal style is undoubtedly easy, since there are few corrections in the draft copy (incomplete), sign of a clear vision of the playing-out of the parts. Finally, another testimony to his innate musicality is given to us by the recopying of the final copy [begun] just before the first of the final "stretti," a signal of a now-habitual affinity with this form." [la scioltezza nel dialogo delle voci, pur seguendo lo schema classico della fuga. Inoltre e' interessante constatare che per il giovane, lo stile contrappuntistico e' indubbiamente facile, poiche' nella brutta copia (incompleta) esistono poche correzioni, segno di una visione chiara del gioco delle parti. Infine un'altra testimonianza della sua musicalita' innata ci e' offerta dalla stesa effettuata direttamente in bella copia poco prima degli "stretti" finali, sintomo di una ormai abituale affinita' con questa forma.]

In *Madama Butterfly*, explicit contrapuntal writing is not limited to the opening fugal sections, however. Puccini provides written evidence in his sketches that he was thinking in these terms. In Figure 7 of the sketches for *Madama Butterfly* housed at the Accademia Filarmonica in Bologna, Puccini writes “tema di polifonietta” [theme of the little polyphony¹³] [Ex. 9.1a]. This is an early version in A minor (modulating to C major) of the theme that now appears at I/55/0 in F minor. In the final version, the falling eighth-quarter figure in the second bar has been transmuted from scale degrees 2 and 6 (the tritone B-F, which helps effect the move to C major) to the lowered 2 and lowered 5 scales degrees of F minor (the perfect fifth Gb-Cb). Since F is still heard as a bass pedal, this change converts a completely diatonic model into a bitonal complex of two keys, F minor and Cb, a tritone apart [Ex. 9.1b]. In addition, the final version’s upbeat sixteenth notes now more closely mimic the fugal theme opening the opera.

Ex. 9.1:

a. *Madama Butterfly*, transcription of sketch Figure 7, Accademia Filarmonica, [Schickling 74.A.2/3] with annotations¹⁴

The image shows a musical score for the 'Tema di polifonietta'. It consists of two staves: a treble clef staff and a bass clef staff. The music is written in A minor, which modulates to C major. The score is divided into two sections: 'A minor' and 'C major'. The 'A minor' section is the first two bars, and the 'C major' section is the last two bars. The 'tritone B-F' is indicated above the second bar. The score includes various musical notations such as eighth notes, quarter notes, and chords.

¹³ Puccini also refers to this theme as “polifonietta” in Figure 12 of the sketches (Schickling 74.A.2/5) where he writes “and develop as a the little polyphony” [e svolgere a polifonietta].

¹⁴ Facsimiles of the original sketches from this collection appear in Arthur Groos, ed. *Madama Butterfly: fonti e documenti della genesi* (Lucca: Centro Studi Giacomo Puccini, 2005), 143-192.

b. *Madama Butterfly*, I/55/0

Another sketch (Figure 16 in the same collection) shows Puccini reworking the “marcetta” [little march] theme (first heard at I/14/0 of the final version as the wedding officials and guests arrive) into a “canone a 4”—one of the theme’s variations, as he notates above the staff. [Ex. 9.2] In the current performing score, we hear only a two-voice canonic incarnation of this theme, at I/61/3,¹⁵ which he worked out on the same page of sketches in a different key.

Ex. 9.2: *Madama Butterfly*, transcription of sketch Figure 16, Accademia Filarmonica, [Schickling 74.A.2/7]

Near the beginning of the current second act, at II/2/5, the act’s opening fugal theme is heard in *stretto* and projected onto the whole-tone scale at the second and third entrances. [Ex. 9.3] And in Act III, we hear canonic imitation of the D major theme from

¹⁵ When the “marcetta” theme returns at I/63/0, it is accompanied by a complete rising Db major scale, another instance of Puccini’s elaboration of the traditional rule of the octave.

Butterfly's vigil (III/6/0) at III/9/0, which is later transposed to G major at III/14/0, F major at III/20/6 and Eb major at III/45/1 [Ex. 9.4].

Ex. 9.3: *Madama Butterfly*, II/2/5, opening fugue subject in *stretto*, with whole-tone projections

Ex. 9.4: *Madama Butterfly*, III/9/0, canonic imitation

When parts of the original version were removed, some imitative counterpoint disappeared as well. There were two excised instances of “The Star-Spangled Banner” leitmotive that showed imitation, which were at I/66/11 (in minor) and I/73/0.¹⁶ [Exx. 9.5a and b]

¹⁶ I/73/0 is now twenty-six measures after the original rehearsal marking.

Ex. 9.5: *Madama Butterfly*, excised appearances of “The Star-Spangled Banner” leitmotive with imitation, and annotations

a) I/66/11, original version

The musical score for Ex. 9.5a is in 3/4 time, G major. It consists of two staves: a treble clef staff for the right hand and a bass clef staff for the left hand. The right hand plays a melody of eighth and quarter notes. The left hand provides harmonic support with chords and moving lines. A section of the left hand, starting around the fourth measure, is labeled 'imitation'.

b) I/73/0,

original version and rehearsal number

The musical score for Ex. 9.5b is in 3/4 time, G major. It consists of two staves: a treble clef staff for the right hand and a bass clef staff for the left hand. The right hand plays a melody of eighth and quarter notes. The left hand provides harmonic support with chords and moving lines. A section of the right hand, starting around the second measure, is labeled 'canonic imitation'.

Examples of imitative counterpoint are found throughout the opera, in various dramatic situations, and so any easy association of the technique with any one character or setting would be strained at best. Aside from connotations of the sacred, fugues have been used to signify pedantry (as in Wagner’s *Beckmesser*) or predictability, neither of which seems particularly appropriate to the narrative at hand. In regard to the opening fugal passage, Leibowitz feels it represents both gaiety and fatality,¹⁷ Ashbrook¹⁸ sees Japanese talkativeness, while Girardi¹⁹ believes it denotes American efficiency. Many instances point

¹⁷ René Leibowitz, “L’arte di Giacomo Puccini,” *L’Approdo Musicale* 6/11 (April-June 1959): 26: “let us think of the disturbing fugato with which *Madama Butterfly* begins [...] which seems to characterize both the gay aspect as well as a certain idea of fatality that appears from the beginning of the drama.” [pensiamo all’ inquietante fugato con cui inizia *Madama Butterfly*, e che sembra caratterizzare tanto l’aspetto gaio quanto una certa idea di fatalità che appare fin dall’inizio dell’azione].

¹⁸ William Ashbrook, *The Operas of Puccini*, 2nd ed. (Ithaca: Cornell University Press, 1985), 121: “The little fugato tune that opens the opera can almost be seen as a calligraphic line; its characteristic opening squiggle recurs at many points to emphasize the jocular talkativeness of the Japanese characters.”

¹⁹ Girardi, *Puccini*, 217. “in the opening fugato the strings characterize American efficiency”

to a possible association with physical rushing around.²⁰ If this were so, Puccini could be making a transmedial pun—a talent he shows off frequently in his letters—with the meaning of the word “fugue” as “chase.”²¹ The same, however, does not hold true for the (slower) fugue subject that opens the second act.

In the absence, then, of any definitive leitmotivic association to the fugal style, one might hypothesize that Puccini initiated both acts of the opera in this way to establish exemplars of old-fashioned compositional “learnedness” —which would ultimately be overturned by a modern style. Perhaps he also wished to demonstrate his skills and thus inoculate the work from critics who would attack, among other aspects of the score, the harmonically advanced conclusion. Unfortunately it did not.²²

musical transformations

Motivic development is a species of musical transformation that appears in all of Puccini’s mature operas, and *Butterfly* is no exception. Usually it takes the form of manipulation of small motivic cells, rather than longer themes. Rather than retrace paths

²⁰ The opening theme appears at: I/12/0 where the servants get up and run into the house (“i tre si alzano e fuggono rapidamente rientrando in casa”); at I/19/0 where Goro and the servants arrive quickly at I/27/13 where Goro runs away; at I/57/3 [1904 version] where Goro signals the servants to hurry; at I/118/1 where Suzuki helps Butterfly change clothes; and at II/17/10 after Goro has just disappeared in the garden. The only other instances occur at I/114/0 when Pinkerton is surprised by Suzuki’s prayers (“sorpreso per tale sordo bisbiglio”), and at II/29/3, 8 where Suzuki promises to tell Butterfly about Kate. In the first instance, Suzuki is hurriedly saying her prayers, and in the second she is probably thinking about rushing to tell Butterfly.

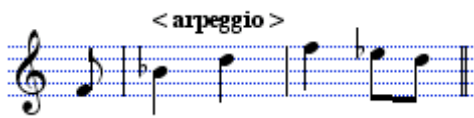
²¹ If one were to accept Puccini’s double entendre for “fugue” as viable then it might also be useful to look at the other moment when “fuga” appears in the text: as Butterfly expresses her shock that in foreign lands butterflies are caught and pinned to a board, Pinkerton explains it is to prevent the creatures from escaping (“non fugga più”). Since Butterfly’s impaling herself with a dagger at the end is such a central element of the narrative, it is unlikely but not completely inconceivable that Puccini would elevate this pun to a more structural level. In regards to Puccini as punster, when composing *Tosca*, he wrote to Illica that “Giacosa is playing a chess game with Ricordi, prolonging the Toscano black on white” [Giacosa fa la partita a scacchi con Ricordi, proloungando il nero sul bianco toscano.] This is a quintuple pun: it refers to Tuscan (= about *Tosca*), the black and white of a chess game, the black on white of writing on paper, Giacosa’s drama *Una Partita a Scacchi* [“*A Chess Game*”], and the Tuscan black and white geometrical architecture. Gara, *Carteggi pucciniani*, 148.

²² The critics were indeed quite harsh, but not because of the unresolved ending. The premiere’s fiasco started near the beginning of the opera.

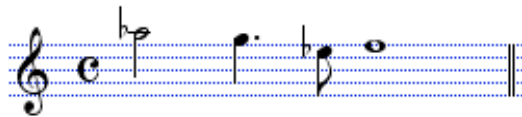
others have trod,²³ we will focus here on only two motivic fragments from the opera: the arpeggio figure, labeled motivic cell A, which is derived from the opening of “The Star-Spangled Banner” and associated with Pinkerton (shown below in “Amore o grillo,” I/29/0), and Butterfly’s entrance motive, or motivic cell B. [Exx. 9.6a-c]. When we first see the product of the couple’s union, their son, brought forth in the second act, these two motives are combined. [Ex. 9.6c]

Ex. 9.6: *Madama Butterfly*, motivic cells

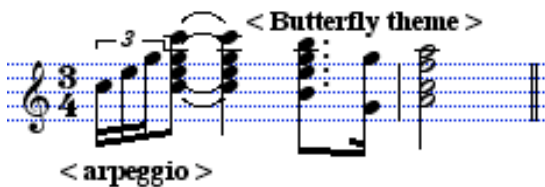
a. motivic cell A, in “Amore o grillo,” I/29/0



b. motivic cell B, Butterfly’s entrance motive, I/39/0



c. motivic cells A + B, entrance of their child, II/50/0



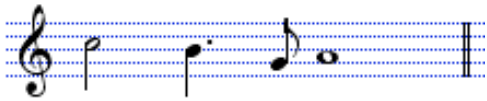
Puccini can also use brief motivic ideas to create an overall musical “atmosphere,” without clear semantic ties to identifiable aspects of the narrative. For example, the motivic shape of Butterfly’s entrance motive (falling step, falling third, rising step) is also present in the melodies of Pinkerton’s “Dovunque al mondo” (I/21/6), in the love duet (I/133/4) and

²³ A concise listing of those writers who have identified Puccini’s “motivic cell” or “mosaic” technique can be found in Nicholas Baragwanath, “Analytical Approaches to Melody in Selected Arias by Puccini,” *Music Theory Online*, 14/2 (June 2008), which can be accessed at: <http://www.mtosmt.org/issues/mto.08.14.2/mto.08.14.2.baragwanath.html#FN4REF>

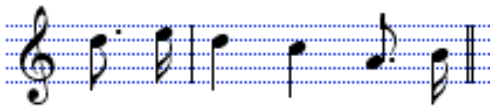
prior to the vigil (II/11/12), although the precise interval sizes (major or minor) can be varied.²⁴ In addition, the beginning of the humming chorus (II/90/0) is an inversion of the first three notes of Ex. 9.6b (major third+1/2 step). The following example shows all of these instances transposed to C [Exx. 9.7a-e].

Ex. 9.7: *Madama Butterfly*, motivic cell B and its variants, transposed to C

a. Motivic cell B



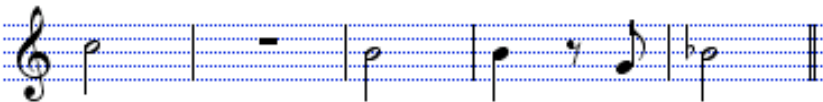
b. Pinkerton's "Dovunque al mondo," I/21/6



c. Love duet, I/133/4



d. Suzuki and Butterfly before vigil, II/11/12



²⁴ Some of these were also noted by Francesco Rocco Rossi, "Genesi e dialettica dei *Leitmotive* nel duetto d'amore di *Madama Butterfly*" paper presented at *Madama Butterfly: L'orientalismo di fine secolo, l'approccio pucciniano, la ricezione*. Convegno Internazionale di Studi nel primo centenario di *Madam Butterfly* (Lucca - Torre del Lago, 28-30 May 2004).

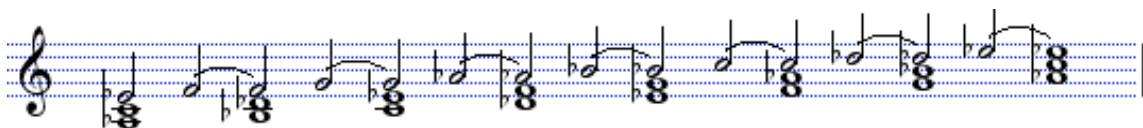
e. opening of humming chorus, II/90/0



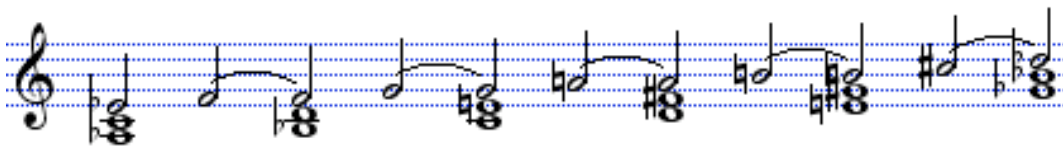
One salient aspect of Butterfly’s entrance motive, however, is that it serves as the melodic crest of a rising sequence derived from a traditional 5-6 linear intervallic pattern, a staple of the thoroughbass and contrapuntal traditions.²⁵ Puccini’s transformed version—an example of an *indosso* or *direct conflation* described in chapter 2—now traverses all six steps of the whole-tone scale, from Ab to Gb, and is adorned with augmented triads. A hypothetical tracing of this metamorphosis is shown in Exx. 9.8a-d: starting with a diatonic 5-6 sequence in Ab Major, the melody is projected onto the Ab whole-tone scale, chromatic passing tones that create secondary dominants are added, and then additional chromatic passing tones are included in the middle voice creating augmented triads. Finally the melody is situated above.

Ex. 9.8, *Madama Butterfly*, hypothetical derivation of Butterfly’s entrance theme

a. diatonic 5-6 sequence in Ab Major

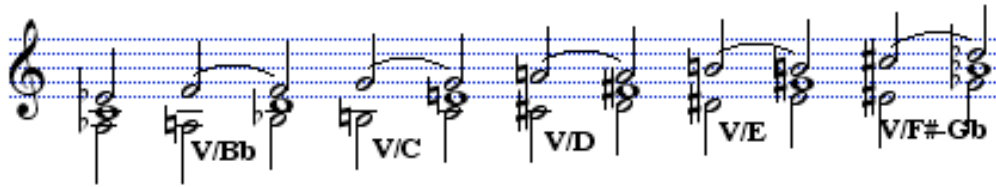


b. 5-6 sequence on the Ab whole-tone scale

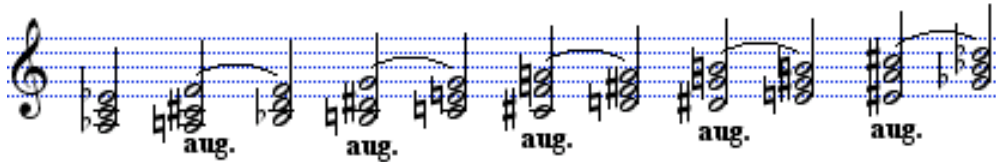


²⁵ Bonifacio Asioli, in his *Il Maestro di composizione* (1832), which was in use at the Milan conservatory when Puccini attended, shows such a rising 5-6 sequence as a harmonization of the scale, in his “Fundamental triads of the descending third and ascending fourth.” Quoted and reproduced in Baragwanath, *The Italian Traditions*, 178. Also see David Damschroder, “Schubert, Chromaticism, and the Ascending 5-6 Sequence,” *Journal of Music Theory*, 50/2 (Fall 2006): 253-275.

c. chromatic passing tones create secondary dominants



d. additional chromatic passing tones in middle voice create augmented triads



While Puccini has used the 5-6 pattern in other operas,²⁶ nowhere has he given it the prominence that it has in *Madama Butterfly*. Not only does it appear in Butterfly's entrance music (which is recalled in the love duet, at I/134/0, and when she sees his ship has returned, at II/70/0),²⁷ but both original acts end with a non-resolving 5-6 motion.²⁸

From I/136 to the end of the first act, F major is established as the concluding tonality through an F-major leitmotivic iteration and repeated motions F-C-F in the bass. The leitmotive is derived from Butterfly's "To seguo il mio destino," [I follow my destiny] which has a prominent C-D-C neighbor motion (that is, a pattern of 5-6-5 over F). So when we hear the unresolved D at the act's conclusion, we are expecting a return to C, which never arrives. [Exx. 9.9a and b]

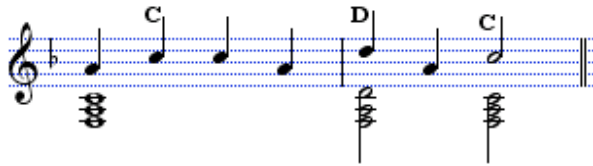
²⁶ See Chapters 3 and 7 above on the use of the 5-6 pattern in *Manon Lescaut*.

²⁷ The rising sequence is particularly apt for Butterfly's entrance, since she is climbing a hill. But the ascending pattern also fits well with the increasing passions of the love duet, and her recollection of that when she believes he has returned.

²⁸ Gustav Mahler's *Das Lied von der Erde* also ends in a similar manner, with an unresolved A over C major, but it dates from later, 1907-9.

Ex. 9.9: *Madama Butterfly*, end of Act I

a. leitmotive in F major with C-D-C neighbor pattern, I/136/0



b. conclusion of Act I, I/136/9, unresolved 5-6

Although this final verticality could also be considered an F added sixth chord, it is unlikely that it could be heard, after strong dominant-tonic motions in F, as simply a D minor 6/3 chord.

A similar musical event occurs at the end of the opera. B minor is fully established from III/55/0; ten bars later, a bass *ostinato* begins that alternates between tonic and dominant (B and F#) until III/57/0 when the dominant F# is prolonged in the bass and then the soprano (accompanied by whole-tone fragments that include the leading-tone A#, thus acting as dominant substitutions). At III/58/1, B minor is reached once again and the final cadence is a unison dominant-tonic motion, F#-B, in all parts. But Puccini appends what appears to be a G major 6/3 chord after this. The final high G is preceded in the same register by a sustained F#, heard from III/57/2 - 58/0, which strengthens the aural impression that, again, it is a 5-6 motion, inviting a resolution back to F#. But it never arrives. [Ex. 9.10]

Ex. 9.10: *Madama Butterfly*, conclusion of opera

In addition to these prominent moments,²⁹ there are many other instances of the 5-6 transformation (or its reverse, the 6-5) in this opera. Occasionally it takes the form of a simple unresolved local neighbor note, such as the E to F# motion over A at I/116/6. However, most 5-6/6-5 motions entail a harmonic shift, such as at “Ah triste madre!” (III/38/11), where A minor becomes F major 6/3, and G# minor becomes E major 6/3.³⁰ One of Puccini’s sketches for *Butterfly* shows a 6-5 harmonic change from Eb major to G minor when the Eb moves to D [Ex. 9.11].

Ex. 9.11: *Madama Butterfly*, transcription of sketch Figure 17, Accademia Filarmonica, [Schickling 74.A.2/8], with annotations

²⁹ The identical sonority to the first act ending is also heard at I/64/24, and a transposition of it to Gb major is heard at I/41/4.

³⁰ This pattern also occurs earlier, at II/89/12, with G# minor transforming to E major 6/3 and G minor changing to Eb major 6/3.

These last examples also demonstrate an essential feature of 5-6/6-5 motions: in a diatonic context, they involve a mode change from major to minor, or the reverse.³¹ As such, these shifts can have affective associations suggesting surprise, change of mood, etc.³²

When a 5-6/6-5 linear motion occurs over a constant bass note, the root of the newly created triad will be related by major or minor third from root of the original chord. In these cases, two of three notes are common to both chords. Harmonic motion between chords related by shared tones has been referred to as “common-tone tonality,”³³ which blossomed in earlier 19th-century opera.³⁴

Many of *Madama Butterfly*'s harmonic shifts can be read through this analytic prism. For example, at I/134/0, C# minor changes to A major 6/3; this is enabled by the G#, fifth of C#, moving up a minor second to A, with C# and E remaining as common tones. This could also be explained as a diatonic 5-6 motion, or simply as a move to the diatonic submediant chord. However, just prior to this example, at I/133/0, Db *major* moves to A; although Db is enharmonically equivalent to C#, we are now dealing with a different situation, as only one tone is shared (C#/Db) and there is no mode change. These two chords are not related diatonically, but chromatically.

For both diatonic and chromatic common-tone shifts, transformational analyses have proven to be effective tools. James Hepokoski has discussed “Un bel dì” from *Butterfly*

³¹ For example, a diatonic 5-6 motion would change C major (CEG) into A minor 6/3 (CEA), and C minor (CEbG) into Ab major 6/3 (CEbAb).

³² The same sort of surprise can result if a motion from scale degree 5 to scale degree 6 occurs in a bass line. The harmony that results is often a deceptive cadence: the harmony moves from the dominant V to vi (or VI in minor) instead of the expected tonic. Here too the mode shifts surprisingly.

³³ The term was coined by David Kopp in *Chromatic Transformations in Nineteenth-Century Music* (Cambridge: Cambridge University Press, 2002). The term has also been used by William Rothstein, “Common-tone Tonality in Italian Romantic Opera: An Introduction” *Music Theory Online*, Volume 14, Number 1, March 2008.

³⁴ As Rothstein writes, “in chromatic third-relations it was Rossini who set the pattern for the rest of Europe to follow.” Rothstein, “Common-tone Tonality,” §7. The earliest known theorist in Italy to speak about common-tone progressions as a preferred musical procedure was Galeazzi (1758-1819) who writes of *harmonic connection* [comunicazione armonica]. Francesco Galeazzi, *Elementi teorico-pratici* (1796) Vol. II, part IV/1, sec. 102.

using such techniques:³⁵ he writes that the harmonic motion in that aria from Gb major to Bb minor is a result of an L (*Leittonwechsel*) operation³⁶ that moves the tone Gb down a half-step to F.³⁷ Of the numerous third-related common-tone shifts in *Madama Butterfly*, many are of the L variety and can also be understood diatonically.³⁸ R (Relative) transformations (such as at III/10/0, where B minor moves to D major) also stay within a key. Non-diatonic third-relations that move into chromatic space can be found at II/71/11 (Db major to F major) and II/89/7-9 (C major to E major 9).

If we view the concluding harmonies of *Butterfly*'s first and last acts as deriving from a traditional linear pattern, both moments would be unresolved 5-6 motions. In the Neo-Riemannian view, however, Act I's final D minor sonority following F major would be considered an R (Relative) motion, while the opera's conclusion, G major after B minor, would be an L. In Kopp's variety of transformational analysis, both would be considered relative motions, but Act I's conclusion would be labeled with a lower-case r, while Act III's would be upper-case R.

Let us look more closely at the passage following II/89. It begins in C major, followed by two gestures to Eb major 9, and, at II/89/7-9 as noted above, C major moves

³⁵ Baragwanath sees traditional elements in "Un bel di": "The main theme or motivo of "Un bel di" from *Madama Butterfly* (act 2, R12) may be regarded as [...] a vocal variation upon the scale, with the guiding line doubled at the octave below and the remaining parts outlining a slightly modified version of the most hackneyed contrapuntal schema imaginable: the attachment of the movimento of the fourth down and step up to the descending soprano scale (familiar to modern listeners as 'Pachelbel's Canon')." Baragwanath, *The Italian Traditions*, 270-1.

³⁶ The three basic operations of what is known as Neo-Riemannian transformational theory are: L (*Leittonwechsel*), which moves the bottom note of a major triad down a semitone or raises the top note of a minor triad up a semitone (C major to E minor, or C minor to Ab major), R (Relative), which changes a triad into its relative one (C major to A minor), and P (Parallel), which changes a triad into its parallel mode (C major to C minor). There is also the S (Slide) relation, in which two chords of different mode share a third (C major and C# minor).

³⁷ James Hepokoski, "Un bel di? Vedremo!: Anatomy of a Delusion" In *Music, structure, thought : selected essays* (Farnham ; Burlington, VT : Ashgate, 2009): 167-94?. Reprinted from: Arthur Groos and Virgilio Bernardoni, eds. *MADAMA BUTTERFLY. L'orientalismo di fine secolo, l'approccio pucciniano, la ricezione*. Atti del convegno internazionale di studi, Lucca-Torre del Lago, 28-30 maggio 2004: 237.

³⁸ For example, at II/47/11, Ab minor moves to E major, an enharmonically re-spelled Fb major; similarly at II/69/19, F# minor moves to D major; and at III/24/0, A minor moves to F major. All of these can be understood as diatonic motions from the tonic to VI.

to E major 9—both chromatic mediant relationships. Then, at II/89/12 we get a chromatic sequence (which includes some 5-6 motions, as seen above), but which ultimately traverses the distance from F major 6 to F in root position (with some leitmotivic whole-tone additions). This in turn, at II/90/0, moves to clear Bb major. In essence, then, the overall motion is from C to F to Bb, a very traditional pattern of descending fifths.

Hepokoski suggests that the criteria for utilizing a transformational over traditional analysis includes the absence of a functional diatonic system and the sovereignty of maximally smooth voice-leading.³⁹ But here we have a situation where smaller-scale motions are chromatic while the larger-scale one is diatonic. This instance of Puccini's "layering" (which is discussed in Chapter 2) demonstrates the structural complexity of this work and the difficulties encountered in trying to apply only one analytic paradigm.

There are also several chromatic passages in this work, such as that at III/55/10, where one chord transforms into another but in ways that transformational theory cannot (yet) explain: here, B minor melts into an augmented triad, which becomes D major, then D minor, G major-minor 6/5, and finally a C# half-diminished seventh chord. In the end, though, an efficacious way of understanding this passage is simply as a harmonized descending chromatic line, from scale degrees 1 to 5 (at III/57/2) over a tonic pedal—a standard keyboard schema.

So how then should we view the opera's closing moment of musical non-final finality? Is the unresolved G a coda-like appendage to a conventional dominant-tonic motion? Perhaps. But, instead, if it is a little flutter of atonality, a brief rending of the tonal

³⁹ Hepokoski, "Un bel di," 237: "In the view of neo-Riemannian theory, these color shifts operate on their own terms, apart from those of the functional diatonic system. They inhabit a different harmonic world, offering an otherness to normative tonality."

fabric, this tiny shift in the musical universe could be the one that led to later, broader non-resolutions—in short, a Butterfly Effect.