On Shifting Grounds:
Meandering, Modulating, and Möbius Passacaglias

David Feurzeig

Passacaglias challenge a prevailing assumption underlying traditional tonal analysis: that tonal motion proceeds along a unidirectional "arrow of time." The term "continuous variation," which describes characteristic passacaglia technique in contrast to sectional "Theme and Variations" movements, suggests as much: the musical impetus *continues* forward even as the underlying progression circles *back* to its starting point. A passacaglia describes a kind of loop. [1]

But the loop of a traditional passacaglia is a rather flattened one, ovoid rather than circular. For most of the pattern, the tonal motion proceeds in one direction—from tonic to dominant—then quickly drops back to the tonic, like a skier going gradually up and rapidly down a slope. The looping may be smoother in tonic-requiring passacaglia themes (those which end on the dominant) than in tonic-providing themes, as the dominant harmony propels the music across the "seam" between successive statements of the harmonic pattern. But in both types, a clear dominant-tonic cadence tends to work against a sense of seamless circularity.

This is not the case for some more recent passacaglias. A modern compositional type, which to my knowledge has not been discussed before as such, is the modulatory passacaglia.[2] Modulating passacaglia themes subvert tonal closure via progressions which employ elements of traditional tonality but veer away from the putative tonal center. Passacaglias built on these themes may take on a more truly circular form, with no obvious start or endpoint.

This structural ambiguity is foreshadowed in some Baroque ground-bass compositions. The continuity of "continuous variation" can loosen the normal relationship between melodic phrasing and harmonic underpinning, to the point where directed forward motion is bent towards something more circular—as almost any point along the ground becomes a possible beginning or endpoint for a melodic phrase. The ground-bass songs of Henry Purcell represent the apex of this phrase-structure freedom.

The 4-bar ground of "Ah! Belinda," from Purcell's *Dido and Aeneas*, is harmonically closed, cadencing with a veritable "thud" on a dotted-half-note tonic after a rhythm of running quarters.

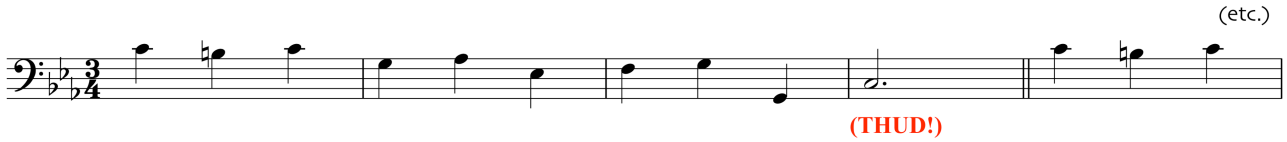

Fig. 1a Purcell, "Ah! Belinda" ground pattern

I choose this example because it would seem a limited and limiting theme: a particularly *poor* candidate for free-flowing, irregular phrasing. Yet that is exactly what Purcell achieves. The vocal melody phrases "at will," as if indifferent to the regularly recurring cadence point of the ground. The first vocal phrases (see fig. 1b) are of 7 bars (4+3) and 9 bars (4+3+2), with no phrase or phrase segment beginning or ending at the same point over the ground.

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[1] Throughout this article I use the term "passacaglia" in the ahistorical sense, i.e. as an umbrella term for pieces built on the principle of continuous variation over a repeating bass or a repeating harmonic pattern. This encompasses movements labeled variously passacaglias, chaconnes, and grounds, as well as other pieces not identified by their composers as belonging to any of these genres. Distinctions between the various terms are anyway problematic, as their specific meaning shifts according to era, national tradition, and composer.

[2] In Baroque ground-bass arias, it is not uncommon for the ground pattern to be transposed to the dominant or other closely-related keys for tonal variety. This is distinct from the internally-modulating themes that I am identifying with the term "modulatory passacaglia".

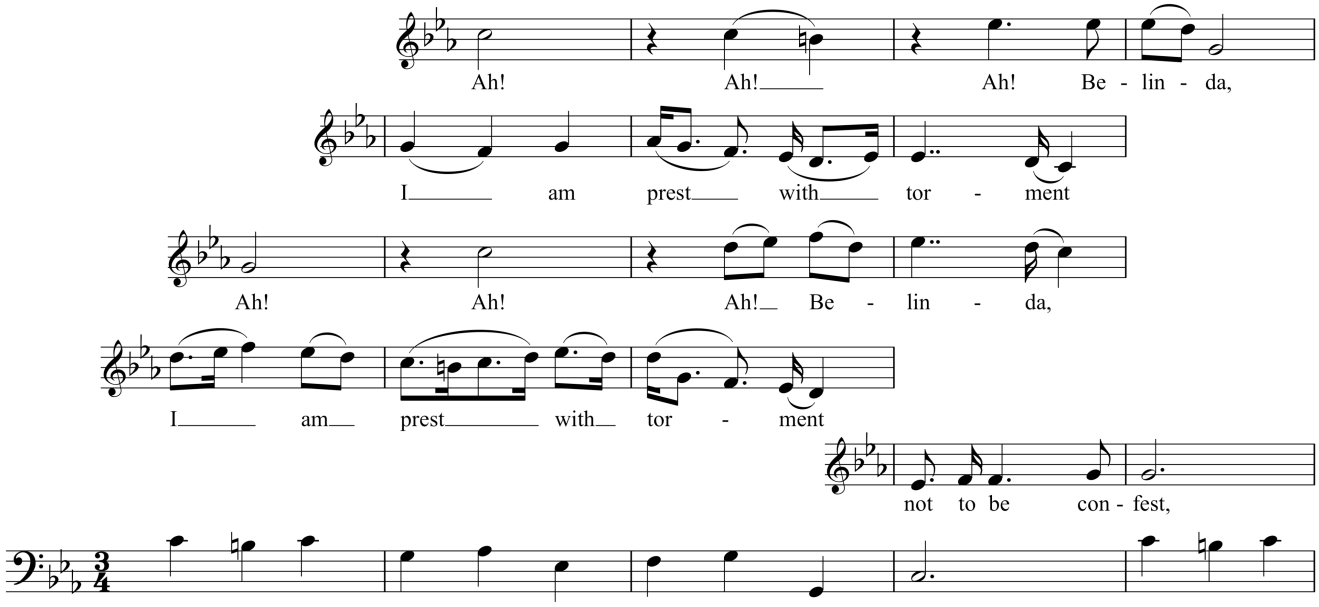


Fig. 1b Purcell, "Ah! Belinda" first period, aligned with the ground pattern AUDIO TRACK 1
No two phrases or phrase segments begin at the same point over the ground.

In fig. 1c I have arranged the 4-bar ground in a circle; the numbers refer to bar and beat location. Onto this I have mapped the start point of every phrase and phrase segment in the whole aria (not just the opening phrases of fig. 1b), showing its alignment with the ground bass pattern.

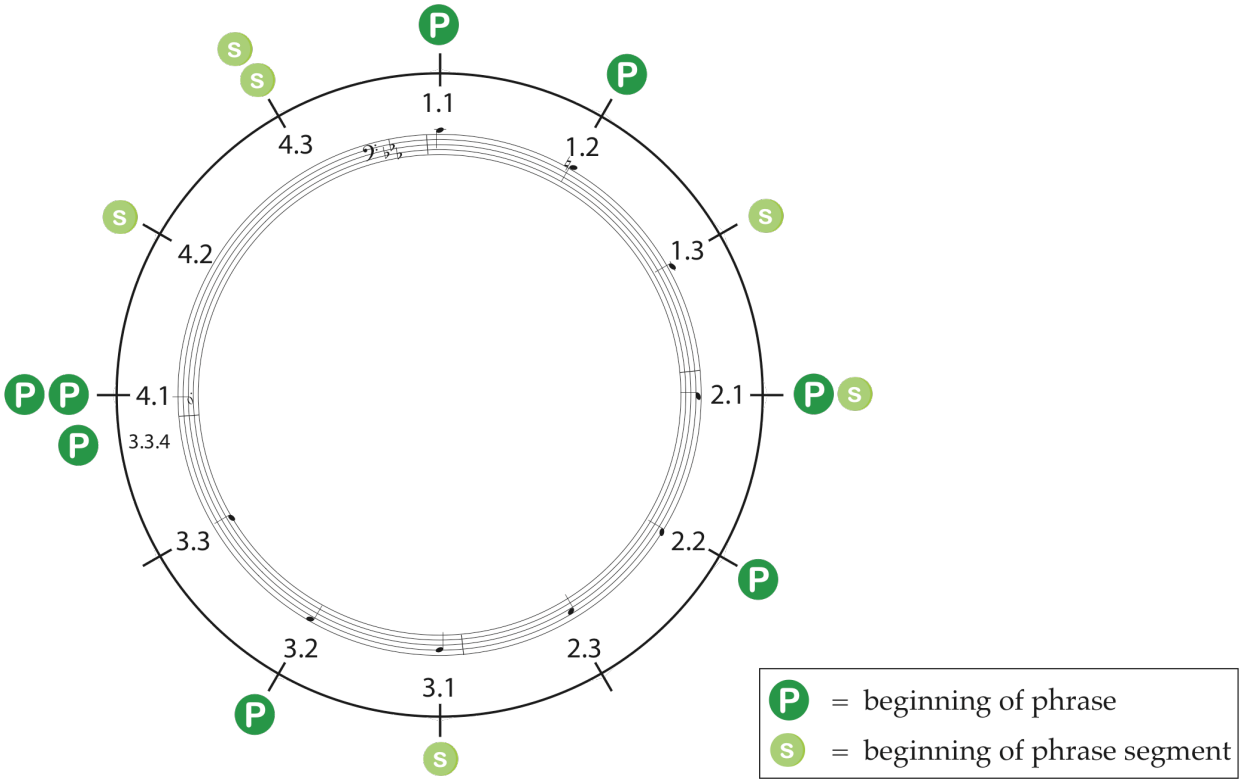
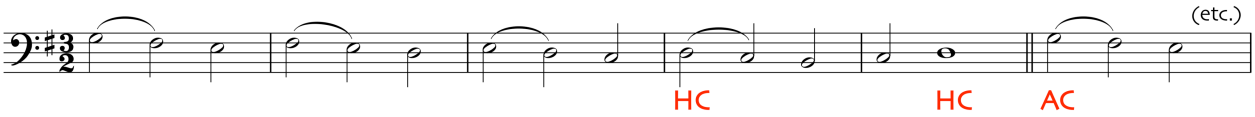


Fig. 1c Phrase and sub-phrase incipit points for "Ah! Belinda" (entire song) mapped onto the ground

The chart reveals a very even distribution of incipit points. The region from 9 o'clock to 12 o'clock (corresponding to bar 4) is the exception that proves the rule: the greater concentration of phrase beginnings here serves to counter the measure-long tonic in the ground that would otherwise sap the momentum of the song.[3]

In "Ah! Belinda" Purcell seems to relish the challenge of creating a free and supple line despite an unpromisingly square ground. More idiosyncratic for Purcell are 3-, 5-, or 6-bar grounds with a multitude of potential cadence points.[4] The 5-bar ground of "An Evening Hymn" (shown in fig. 2a) presents three cadence options, all of which Purcell exploits to create a line that floats exquisitely above the bass, transcending the fixed ground much as the poet imagines his sleeping soul to be released from the earthly realm into God's arms (and much as the poem avoids the metrical regularity typical of rhymed schemes in Elizabethan poetry).



Now that the Sun hath veil'd his Light,
And bid the World good Night;
To the soft Bed, my Body I dispose,
But where shall my Soul repose?
Dear God, even in Thy Arms, and can there be
Any so sweet Security!
Then to thy Rest, O my Soul! And singing, praise
The Mercy that prolongs thy Days.
Hallelujah! (William Fuller)

Fig. 2a Ground and text for Purcell's "Evening Hymn"

Figure 2b illustrates a particularly interesting hemiola-like treatment of the harmonic pattern, as Purcell creates an overarching syncopated shape by exploiting every *second* of the three cadence points, across two statements of the theme. This "passacaglia hemiola" subverts the seam between successive statements and creates a phrasing that competes with or syncopates against the phrase length implied by the ground pattern, just as the two consecutive metric hemiolas in the final 4 measures of the phrase subvert the barline and challenge the prevailing meter.[5]

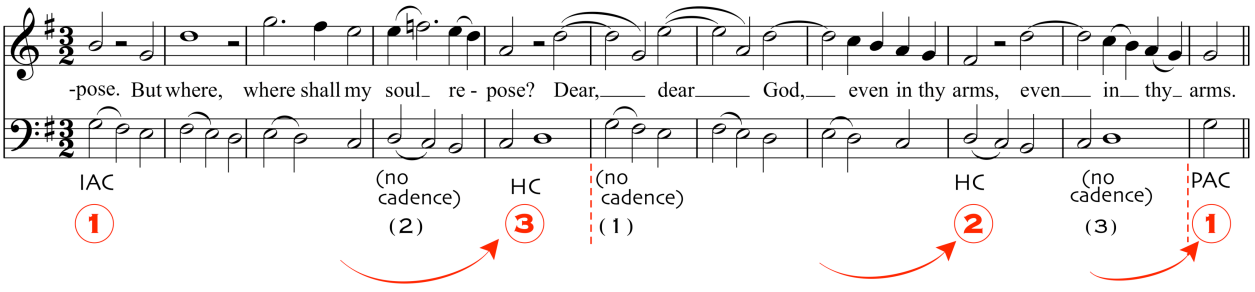


Fig. 2b Purcell, "Evening Hymn," mm. 21-31: cadence "hemiola" **AUDIO TRACK 2**

[3] My parsing of phrases is necessarily somewhat subjective, but the general evenness of the distribution would be approximately the same even with different analytic choices.

[4] A *relatively* high proportion of unusual pattern lengths is a trait of Purcell's ground bass output, but these do not by any means form a majority of his ground bass compositions. According to Hugh Miller, of 87 ostinato-bass movements, "the largest group are four-bar melodies. Next in order are two-bar grounds. The relatively large number of three-bar grounds is curious, there being ten of these. There are several grounds that end with the half-bar (lengths of ½, 1½, 2½, and 3½ bars). There are seven grounds of eight bars in length. Most of these are called chaconnes." Miller does not give the exact number of 5-bar or 6-bar grounds. Hugh M. Miller, 'Henry Purcell and the Ground Bass', *Music and Letters* 29/iv (1948), p. 342. [340-347]

[5] Harold Watkins Shaw examines an intriguingly fluid ground-bass composition from John Blow's "Second Musical Entertainment" for St. Cecilia's Day, 1684, focusing similarly on the subversion of phrasing implied by the ground pattern. 'Blow's Use of the Ground Bass', *The Musical Quarterly*, 24/i (1938), pp. 32-35. [31-38]

Purcell's most famous song, Dido's suicide lament from the same opera ("When I Am Laid in Earth") employs a very similar ground (fig. 3a), though Purcell does not take advantage of the second cadence point in this song.

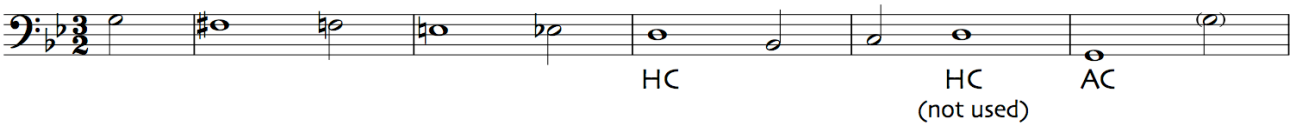


Fig. 3a Purcell, "When I Am Laid In Earth" ground, showing potential cadence points

In the aria's B section, shown in fig. 3b, the "phase shift" of the melody against the ground hints at 20th-C compositional procedure. In the second statement of the vocal phrase, the melody lags behind its original position relative to the ground, just as Dido is severing her ties to the temporal world.

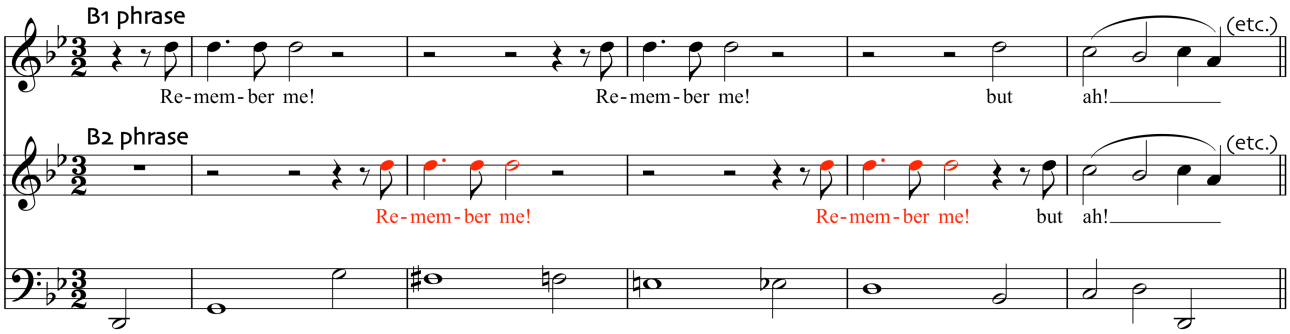


Fig. 3b "When I Am Laid In Earth," comparison of B section phrase incipits **AUDIO TRACKS 3 & 4**

In the Classical period, a predilection for periodic phrasing favored sectional over continuous variation. Even extremely short themes that form the basis of elaborate large structures (e.g. Beethoven's "Diabelli" Variations and Thirty-Two Variations in C minor) are treated mostly sectionally. Aside from some self-consciously neo-Baroque examples from the Romantic period, most famously the finale of Brahms' 4th Symphony, the passacaglia form fell into disuse until the 20th century, when it was rediscovered by neoclassically-minded composers, notably Britten and Shostakovich.

The extended tonal grammar of 20th-C practice made possible interesting extensions of the non-linear passacaglia impetus. The Largo from Shostakovich's Piano Trio in E Minor (fig. 4a) is an early example of the stealthily modulating theme. Beginning with a straightforward i-V in B-flat minor, the tonal syntax blurs as the progression continues with increasingly ambiguous functions and increasingly complex sonorities. Following the maximal ambiguity of bars 4-6, the sonorities resettle to root-position triads, as strong, consonant outer-voice counterpoint converges on an octave B-natural—supporting B-natural as tonal goal. The incomplete B-natural triad on the downbeat of the eighth and final measure of the theme, following as it does the harmonic smokescreen of bars 3-6, may even take on pretender status as *"the"* tonic. The octave F that follows on the second beat is like a bell that tolls to waken the listener—lost in a merely bleak B minor daydream—back to the terrifyingly tragic B-*flat* minor reality.

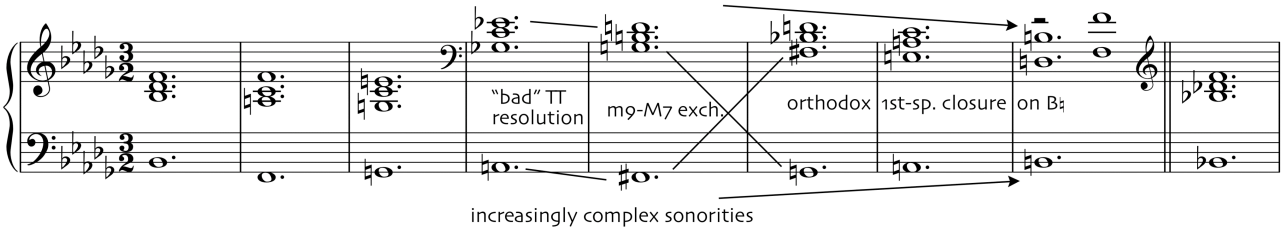


Fig. 4a Shostakovich, Piano Trio in E minor, Largo (theme) **AUDIO TRACK 5**

Note the curious illusion of endless descent in the voice leading beginning with the upper line (fig. 4b).

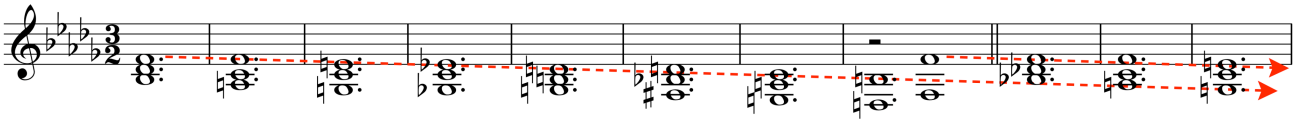


Fig. 4a Shostakovich, Shepard effect

This calls to mind the endless scale illusion discovered by Roger Shepard. Shepard synthesized tones of unusual spectrum, consisting of only octave harmonics. The strongest partial is placed in the mid-range of human hearing, with the strength of the higher and lower octaves falling away logarithmically from this central register. These fundamental-less tones have a definite pitch-class, but are ambiguous or subjective as to register. When presented with two Shepard tones, listeners hear the smallest of the possible intervals between them. For example, a C followed by a B will sound like a descending half-step rather than an ascending seventh. When a series of Shepard tones is arranged in a scale or glissando, the effect is of endless ascent or descent, like the stripes of a rotating barber pole.[6] **AUDIO TRACK 6** presents a minor triad composed of three different Shepard tones and subjected to a slowly descending glissando. As we will see, Shepard-like voice leading is a common feature of circular passacaglia themes.

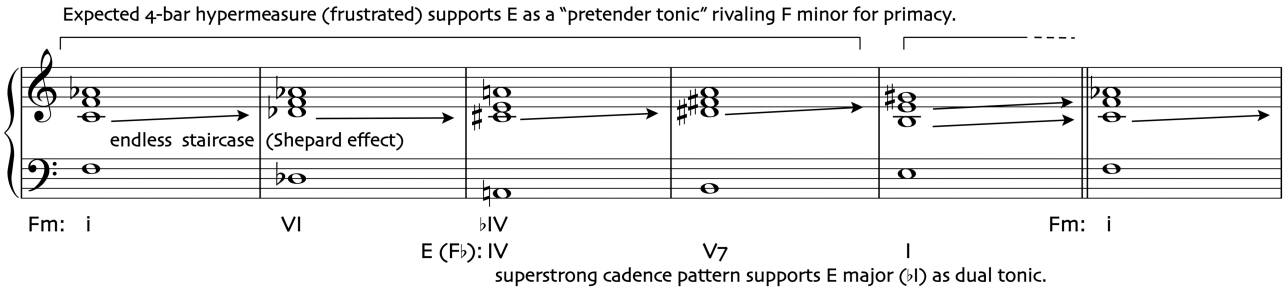


Fig. 5 Glass, "Spaceship" harmonies

A similar modulation, smooth on the way out but abrupt on the return, is effected in the progression of the "Spaceship" scene from Glass' *Einstein on the Beach* (fig. 5; **AUDIO TRACK 7**). This progression modulates *down* a half-step, tonicizing E major (or F-flat, ♭I) skipping back up to F minor on the turnaround. The turnaround is more abrupt than in the Shostakovich, though both feature common-tone voice leading between triads with roots a half-step apart. This is partly because the solid IV-V^7- I cadence establishes E so strongly. It may also be that the E chord arrives on what may sound like the downbeat measure of a probable 4-bar hypermetric scheme, but turns out to be an "extra" fifth bar; when the F minor follows the effect is of a hypermetrical double downbeat, analogous to the double E/F tonic. Also significant is that the ever-changing measure lengths and arpeggio figurations (not shown in my reduction) make each return to F minor, though hardly unexpected after innumerable repetitions of the progression, still jarringly unpredictable as to its precise moment. The rapidity of the cycle and the enormous number of iterations render the tonic truly indeterminate. Note here too the Shepard effect, rising in this case, from the tenor voice to the alto.

[6] cite SHEPARD, DEUTSCH

Both the Glass and the Shostakovich undermine the unitary tonic by replacing the half cadence of a traditional open passacaglia with a more conclusive cadence, but in a pretender tonic. However, the themes preserve some of the traditional sense of beginning and end, if modified. While the Glass is ambiguous even as to the perceived tonic of the pattern (EM or Fm), the hiccup between the two tonic candidates makes the cycle anything but seamless, evoking rather an unedited tape loop.

In this sense, the smooth circularity György Ligeti's passacaglia technique presents a more radical recasting of the passacaglia idea. Perhaps no composer has explored the possibilities of extended passacaglia geometries more than Ligeti. Among his passacaglia innovations is the endlessly transposing theme of the fourth movement of the Violin Concerto (fig. 6), which turns the passacaglia loop into a helix, analogous to the geometry of pitch-space itself.

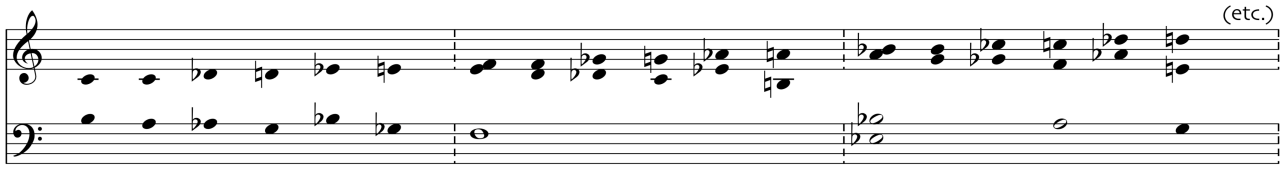


Fig. 6 Ligeti, Violin Concerto, 4th mvt., passacaglia pitches[7]

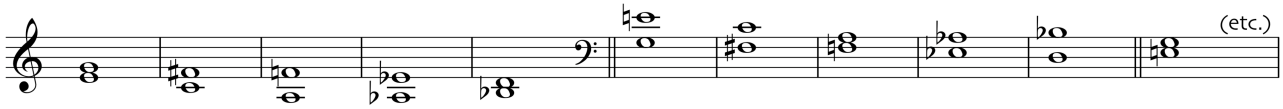


Fig. 7 Ligeti, Horn Trio, 4th mvt., passacaglia pitches

The theme of the fourth movement of the Horn Trio (fig. 7) maintains the same pitch classes throughout, but shifts register in a smoothly descending cycle. The 5 dyads of the theme alternate with their inversion forms, further obscuring the seam between passacaglia statements. The theme is tonally suggestive but not tonally determining: all the dyads are 3^{rds} or 5^{ths} (or their inversions), allowing multiple possible triadic completions. Any 3 to 4 contiguous dyads can be interpreted tonally, but no one tonal context convincingly subsumes the entire theme. The effect is of kaleidoscopically shifting overlapping tonal areas. Ligeti brings out various tonal possibilities through the contextualizing pitches of the freely composed voices.

A circular passacaglia which has received less analytic attention than these instrumental pieces is "Flying Robert" (no. 4 of Ligeti's *Nonsense Madrigals* of 1993), a setting of a Heinrich Hoffmann "Struwwelpeter" story in Victorian translation.[8]

[7] cite TAYLOR here

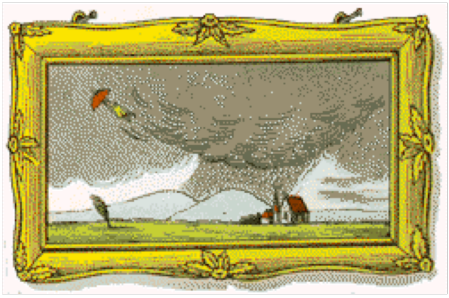
[8] cite the two choral dissertations here

from *Struwwelpeter* by Heinrich Hoffmann

The Story of Flying Robert

When the rain comes tumbling down
In the country or the town,
All good little girls and boys
Stay at home and mind their toys.
Robert thought, —"No, when it pours,
It is better out of doors."
Rain it did, and in a minute
Bob was in it.
Here you see him, silly fellow,
Underneath his red umbrella.

What a wind! Oh! how it whistles
Through the trees and flow'rs and thistles.
It has caught his red umbrella;
Now look at him, silly fellow,
Up he flies
To the skies.
No one heard his screams and cries;
Through the clouds the rude wind bore him,
And his hat flew on before him.



Soon they got to such height,
They were nearly out of sight!
And the hat went up so high,
That it almost touch'd the sky.
No one ever yet could tell
Where they stopp'd, or where they fell;
Only this one thing is plain,
Rob was never seen again!

Ligeti constructs a passacaglia theme (fig. 8a) that modulates from the D-A fifth up to the E-B fifth, while creating the illusion that the parts are continually descending—text-painting not only the endlessly falling rain but the protagonist's eventual doom. Each two-or three-note gesture seems to end lower than it begins. Only in the third fragment does the upper voice end higher than it starts; but the upper B is cleverly "masked" as an overtone of the tonicized B/E fourth below.

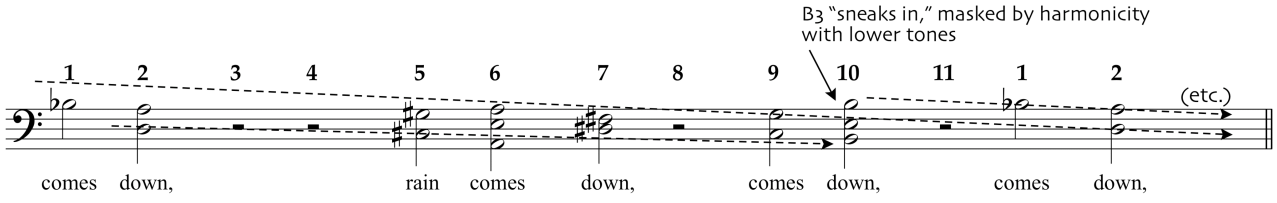


Fig. 8a Ligeti, Nonsense Madrigals No. 4, "Flying Robert" passacaglia pitches: Shepard effect **AUDIO TRACK 8**
Throughout his sketches, Ligeti numbers the eleven chord or rest elements as above.

Unlike most passacaglias, "Flying Robert" does not start with an unadorned statement of the theme. Instead, the madrigal begins *in medias res*, on an upbeat and in the middle of a lyric (fig. 8b). The baritones and bass, limning out the accompanying passacaglia pitches, complete the phrase "When the rain..." begun by the tenor melody, which consists of free (non-passacaglia) pitches.

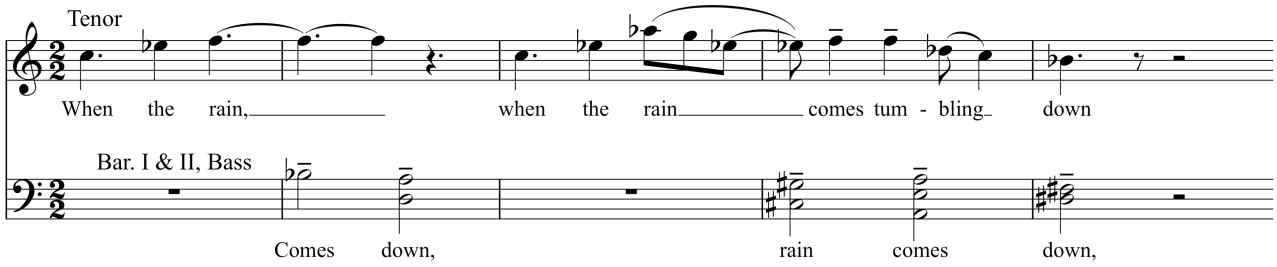


Fig. 8b "Flying Robert" opening (variants from published score as sung on the King's Singers' recording overseen by Ligeti) **AUDIO TRACK 9**

As in most of Ligeti's mature passacaglias, the theme becomes progressively overshadowed by the pitches of the free-composed voices as the madrigal progresses. At the climax, the theme has been reduced to metrically prominent but extremely fleeting pitches overwhelmed by a thick and highly chromatic texture, rendering the passacaglia effectively inaudible. However, Ligeti continues to respect the passacaglia structure strictly except for one discontinuity, which occurs just after the climax. Here the passacaglia theme breaks off following its second element (the D-A dyad), resuming from the start of the theme (B-flat) a few beats later.

AUDIO TRACK 10

[Add new score example here: climax, with passacaglia pitches marked]

The madrigal ends (or rather trails off) just after beginning a last iteration of the theme, which likewise proceeds only as far the D-A cadence. However, the final sonorities and rests can be analyzed as subsuming the elements 3 and 4 (both rests), as well as 5 and 6, of the theme (fig. 8c).

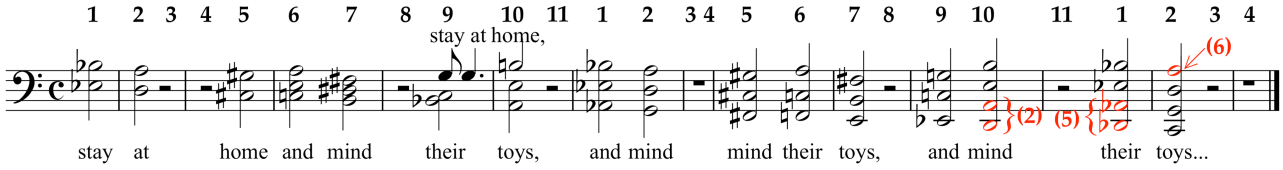


Fig. 8c "Flying Robert" ending (variants from published score as sung on the King's Singers' recording overseen by Ligeti) **AUDIO TRACK 11**

The final descent to the extreme low end of the vocal register and dynamic range (C^2, *pppp*) makes the madrigal vanish rather than end, underscoring the sense of temporal circularity. The gradual degeneration of the harmony into stacked fifths similarly dissolves the more directed and triadic motion earlier in the piece into a blank, entropic state. Figure 8d maps the key formal articulation points onto the passacaglia progression. This mapping suggests that D-A may be the proper "last element" of the theme, or (more fittingly) that there is no true start or end: "No one ever yet could tell/Where they stopped or where they fell."

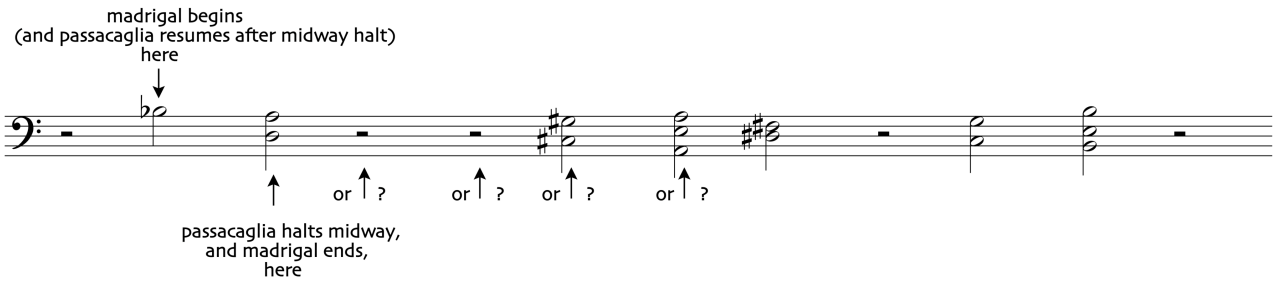


Fig. 8d "Flying Robert" beginning and ending points in relation to the passacaglia theme

Ligeti's achievements notwithstanding, the *locus classicus* of the circular passacaglia genre is surely Bill Evans' "Blue In Green", first recorded on the landmark 1959 Miles Davis album *Kind Of Blue*. The standard lead-sheet notation of the tune is shown in the top staff of ex. 9a.

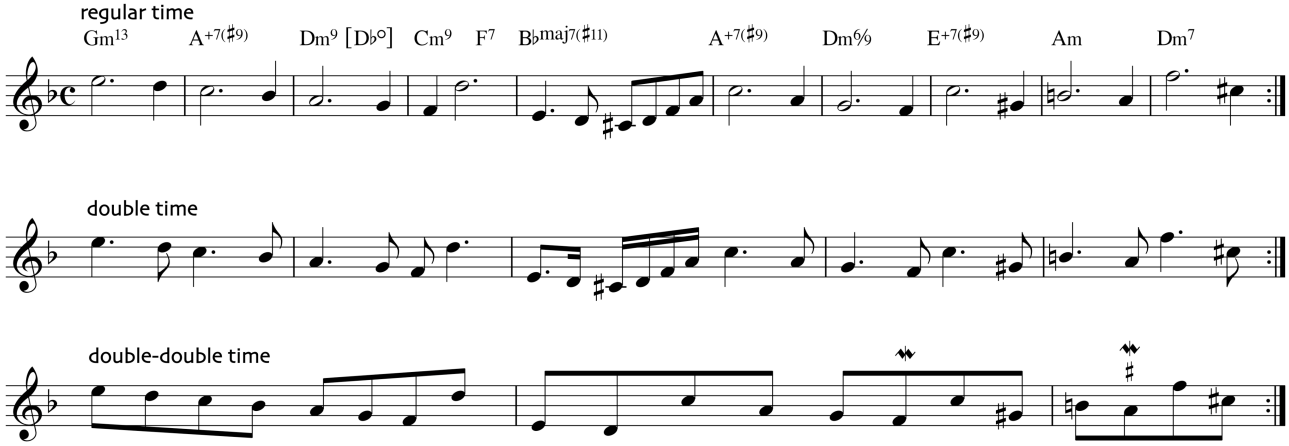


Fig. 9a Evans, **"Blue In Green"** lead sheet melody and successive rhythmic diminution

On nearly every harmonic arrival, indeed on nearly every chord change, the melody dissonates on the strong beat, blurring the harmonic structure. The only bass arrivals that support a consonant melody tone are the D minor chords of m. 3 and m. 10, which, however, are otherwise weakened. In bar 3, the melody cadences on the fifth and in the middle of a longer stepwise sweep. In bar 10 the melody arrives on the third, but the upward leap makes the gesture anything but cadential; and the previous chord is not the major dominant, but a tonicized A minor, rendering the D minor chord ambiguously tonic at best. This preceding A minor cadence (bar 9) is the closest thing to a PAC in the entire progression, but it too is undermined by a supermetrical suspended ninth. Neither A nor D is established as an unequivocal, unitary tonic.[9]

The most convincing melodic reduction is of intertwining Urlinien, one in D and one in A (fig. 9b). The A minor line begins in bar 1, with an upper neighbor that wraps around from bar 10. The D minor line suggests two alternative starting points, bars 10 and 3 of the theme as conventionally numbered. Here the loop of the traditional passacaglia has been transformed into a more nearly circular shape, or perhaps into a Möbius strip: the tune has an A minor and a D minor side, but progresses from one to the other with no discontinuity.

[9] Similar analytic thoughts on the harmony of "Blue In Green" are pursued in detail by Henry Martin in an unpublished talk presented as part of "Circular Thinking — A Roundtable On 'Blue In Green' and 'Nefertiti'" (SMT Montreal, November 2009).

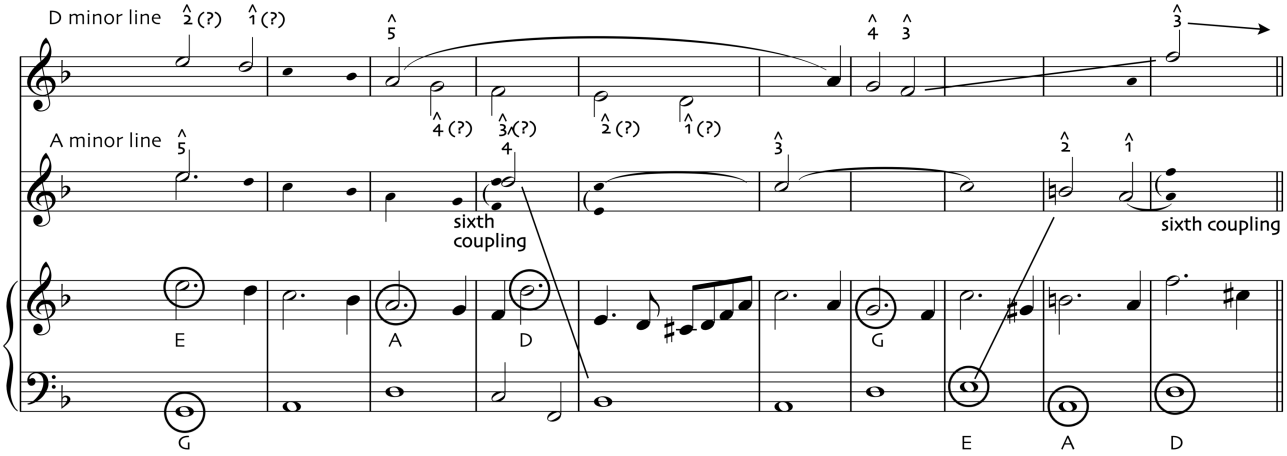


Fig. 9b "Blue In Green" melodic reductions: interweaving Urlinien
(reduction indebted to Steve Larson and Henry Martin)

The melody line includes artful register transfers that masquerade, at first, as upper-sixth couplings of a lower fundamental line. When the upper tones turn out to connect to a transferred A-minor Urlinie instead (fig. 9b, second staff) it is as if the ascents occurred "under the radar"; the effect is of a constantly falling line, a Shepard-scale Urlinie.

Note that the A minor Urlinie is a rhythmic augmentation of the first five notes of the melody (E-D-C-B[-flat]-A). This is just one aspect of a deep self-similarity at different temporal and pitch levels, a recursive structure that contributes to the composition's formal ambiguity. The unusual format of the performance, in which the harmonic rhythm (and likewise the melody, when it is presented) is augmented or diminished from chorus to chorus, calls attention to the interrelation of different temporal levels in the composition. There are three different rates of harmonic change in the recording as the harmonic rhythm shifts from whole, to half, to quarter notes, as indicated in fig 9a. (These time shifts are usually described as tempo changes, but I have transcribed them instead as changes in duration values against a constant metronomic tempo, in order to clarify the temporal ratios.) **AUDIO TRACK 12** is the first chorus, with Davis' trumpet stating the melody at the whole-note harmonic rhythm. **AUDIO TRACK 13** is a half-note-harmonic-rhythm chorus. **AUDIO TRACK 14** is a quarter-note-harmonic-rhythm chorus.

Fig. 9c summarizes the tempo structure of the recording.

chorus	solo instrument	harmonic rhythm
intro	piano	𝅗𝅥
1-2	trumpet	𝅝
3-4	piano	𝅗𝅥
5-6	tenor sax	𝅗𝅥
7-8	piano	♩
9-10	trumpet	𝅝
11-12 and tag	piano	♩

Fig. 9c "Blue In Green" tempo scheme

The table does not capture the subtlety of the shifts, however, as the speed and the time-feel of each section do not change in lock-step with the changes in harmonic rhythm. For instance, John Coltrane's second half-note-harmonic-rhythm chorus (no. 6) ends with rapid sixteenth-note flourishes, making it sound faster and busier than chorus 5. Evans' two quarter-note-harmonic-rhythm piano solos have very different characters: choruses 7-8 are in a breathless double-double-time feel, while choruses 11-12 have a relaxed, merely double-time feel, despite the rapidly moving chord changes.

This tempo strategy uncovers a significant relationship between steps, thirds, and fifths, a relationship analogous to the temporal augmentation between choruses (see fig. 9d).

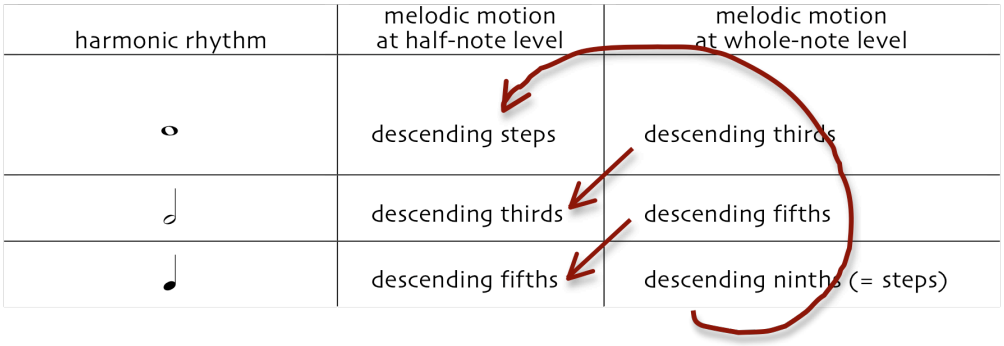


Fig. 9d "Blue In Green" relation between melodic motion and real (clock) time

These relationships are implicit in the theme itself, in the intervallic augmentation suggested by different hypermetrical and structural levels of the melody; the tempo shifts of the performance simply make these relationships overt. In the same span of time that the melody of the slowest choruses descends a step, the melody of the double-time choruses descends a third, and that of the double-double-time choruses a fifth.

Note the curious circularity of the process. From downbeat to downbeat, the melody at the slowest speed descends a third, at medium speed a fifth, and at the fastest speed a ninth. (These descents don't all line up literally at the downbeats, because the melody is more than an unadorned, steadily descending scale; the intervals named in the comparison describe rather the approximate average rate of descent.) But because of the octave equivalence of ninths and seconds, in a sense the doubly-sped-up line descends, paradoxically, no more rapidly than the original slow melody. That is, from measure to measure the "fast" (eighth-note) melody outlines the *background*-level descending line E–D–C–B–A at approximately the same absolute speed at which the slowest statement outlines the *foreground* stepwise descent E–D–C–B♭–A. In other words, the double-double-time tempo makes explicit the identity of the A-minor Urlinie and the opening melody (fig. 9e).

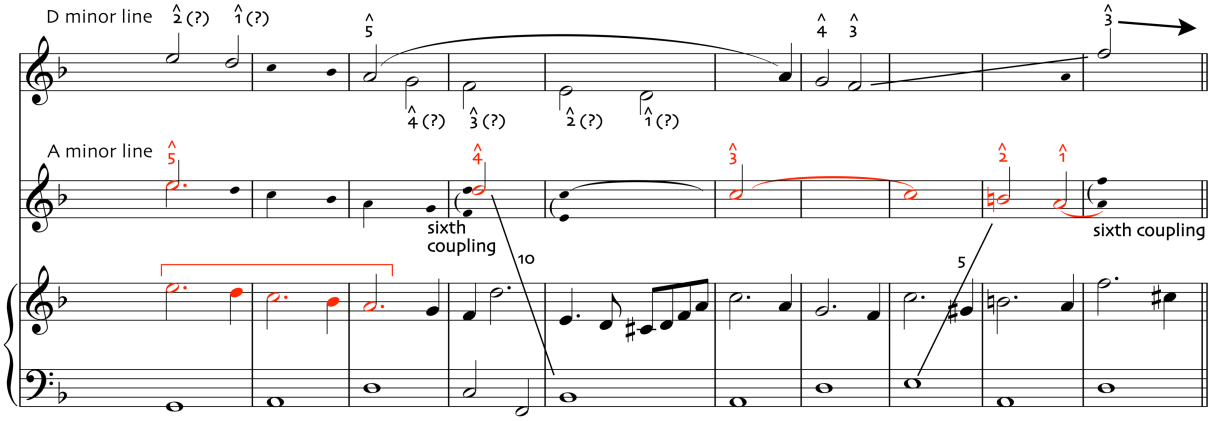


Fig. 9d "Blue In Green" Identity of foreground and fundamental lines

By accenting the notes that support the Urlinie in presenting the melody (almost unembellished) in the fast seventh chorus, Evans makes the relationship even clearer (fig 9f; **AUDIO TRACK 14**).

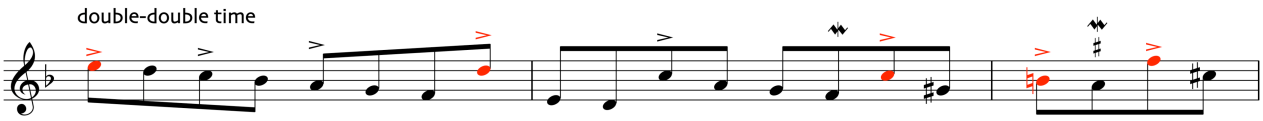


Fig. 9e "Blue In Green" seventh chorus, with articulation

The opening melody itself suggests the successive intervallic augmentation that is brought out by the metric diminution of the performance. By virtue of agogic and metric emphasis, the descending stepwise melody implies a descending-thirds pattern described by every *other* pitch.

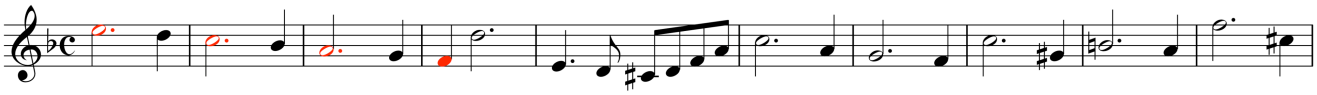


Fig. 9f "Blue In Green" seventh chorus, with articulation

The relationship between steps and thirds—that is, the idea that a seven-note scale is a reordering of a fully-voiced 13th chord, and vice-versa—is one of the core ideas of the modal jazz style pioneered on *Kind of Blue*. What the musicians called scalar or modal playing can equally be described as improvisation on prolonged extended-tertian harmonies.

At the next higher metric level, every *fourth* pitch yields a further augmentation to descending fifths (fig. 9g). This suggests an identity between melodic and harmonic motion, as the melody foreshadows the bass line of last part of the theme.

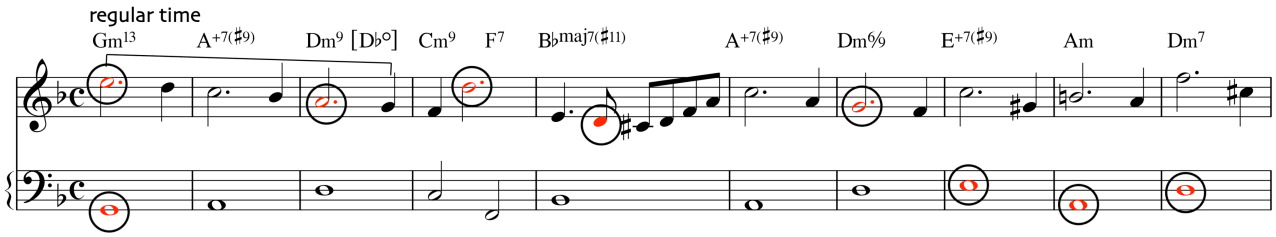


Fig. 9g "Blue In Green" relation between melody and bass line

Evans further explores the connection between tempo and intervallic augmentation in his intro (fig. 9h). Evans plays an intervallically augmented form of the main melody here, using thirds in place of steps, hinting at the composition's hidden interrelationships. Disregarding the initial G, these descending thirds are the pitches that will fall on successive downbeats of the theme at the whole-note harmonic rhythm.

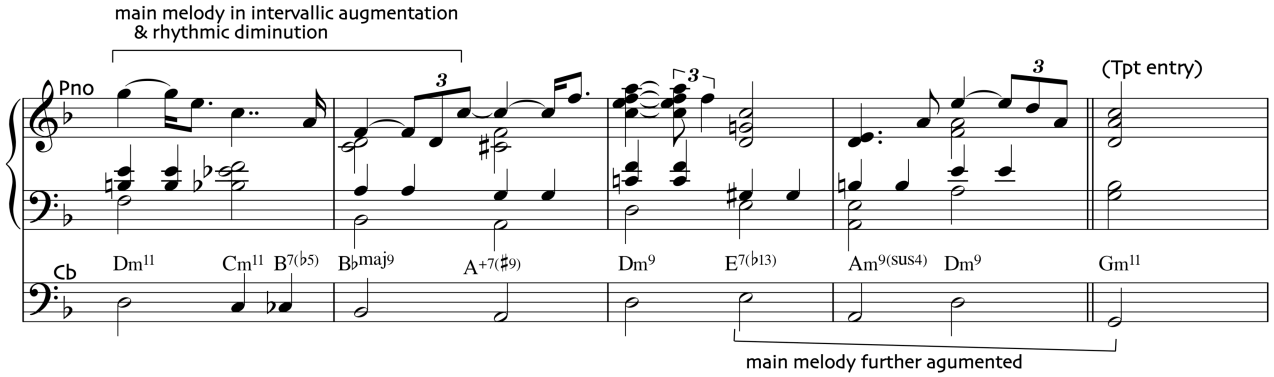


Fig. 9h "Blue In Green" introduction **AUDIO TRACK 15**

Note, however, that the introduction begins on the *third* measure of the harmonic theme (as reckoned from the normative 10-bar notation, as in the lead sheet in the top staff of fig. 9a)—i.e. at the start of the 5-4-3-2-1 descent of the D minor Urlinie. And by playing an augmented variant of the *beginning* of the principal melody here, Evans strengthens this point as a rival starting position for the progression. That is, both the intro and the main chorus that follows seem to start at "the beginning"—one at the start of the A minor fundamental line, one at the start of the D minor line—though they proceed from different locations in the passacaglia pattern. And while Evans' intro employs the same progression as the choruses that follow, it sounds surprisingly different from them, their identity masked by the "rotation" of what is a profoundly circular sequence.[10]

A case could be made that *this* (bar 3) is the normative start point, and that the theme as traditionally notated and as played in all the following choruses (starting on the subdominant G minor) begins *in medias res*. The final chorus of the piece, played by the piano in doubly diminished time, *ends* at this point in the progression as well (i.e. on the D minor chord of "bar 3").

Notice the close similarity between the ambiguous "proper" starting and ending points of *Blue In Green* (fig. 9i) and of "Flying Robert" (fig. 8d).

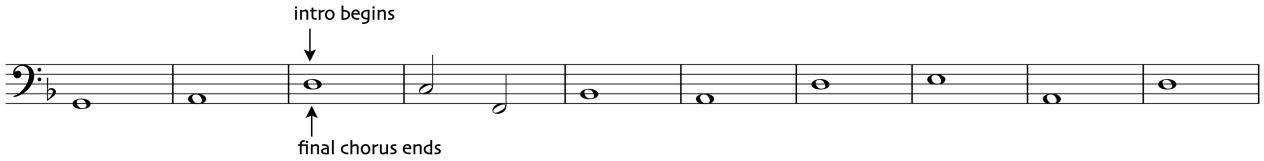


Fig. 9i "Blue In Green" formal points in relation to the harmonic pattern

This is one of several tantalizing points of similarity between the two pieces. Both themes begin in D minor but modulate to a "sharper" region (the minor dominant in *Blue In Green*, the supertonic fifth in "Robert"). Like "Flying Robert," *Blue In Green* ends just after beginning a last iteration of the theme, identically "wrapping around" to its opening D minor. And "Blue In Green" comprises 11 chord changes, while in his "Robert" sketches Ligeti meticulously numbers the elements of the passacaglia 1-11.

In this connection, a Ligeti sketch page from the Ligeti's second book of Études—contemporaneous with the *Nonsense Madrigals*—is revealing. It includes an eclectic list of what were presumably intended influences or inspirations. (Such woolgathering lists are typical of Ligeti's initial

[10] This harmonic phenomenon is analogous to the "rhythmic necklaces" described by Godfried Toussaint. (citation…)

sketching stage.) Listed among several of the "usual suspects" of Ligeti's late music (Monteverdi, African polyphony, etc.) are Bill Evans and the album *Kind of Blue*.

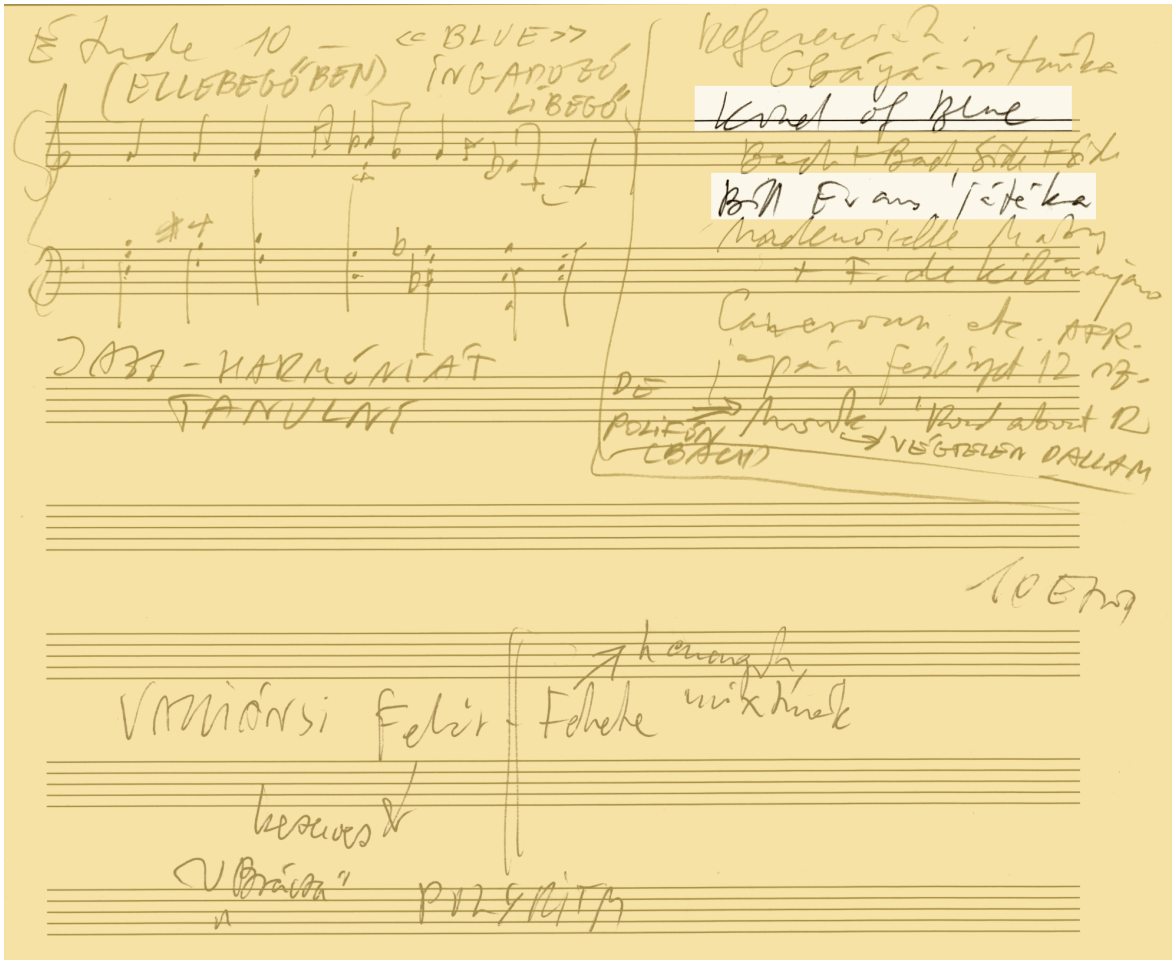


Fig. 10 Ligeti, preliminary sketch for Piano Etude no. 10. From the György Ligeti collection of the Paul Sacher Foundation, Basel. Reproduced with the gracious permission of the Foundation.

These ideas may or may not have been realized in the etude Ligeti was contemplating; judging from the music and text on the sketch, it seems likely that they presage, if anything, the etude eventually designated no. 11, "En Suspens". But the sketch documents that Ligeti was intrigued at this time not only by Bill Evans' playing ("játéká") generally—an interest corroborated by Ligeti in several statements[11]—but also specifically by *Kind of Blue*. It may well be that the connections to "Blue In Green" are more than coincidental, and that "Flying Robert" is Ligeti's avant-garde tribute to Bill Evans the *composer* and to the most mysteriously circular passacaglia of all.

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[11] [Cite other Ligeti references to Evans—see Bauer email.]