Fabordón y laberintos:
The Guitar and the Development of Tonality in Spain

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1 Introduction

This paper explores how tonal concepts linked to the Spanish guitar in the 17th century fit into the historical context of the development of harmony in Iberia from the 15th through 18th centuries. The baroque guitar was an early locus of tonal thinking, in which triads functioned as the essential musical building blocks, and circularity around the circle of fifths is evident by the late sixteenth century (Christensen 1992). I argue that this tonal thinking was not an isolated historical anomaly. The consonant simultaneities that gave rise to these triads, and to the progressions ubiquitous in the guitar repertory, have their roots in the practice of faburden improvisation, which was enormously popular in Spain and pervaded sacred and secular musical styles. In turn, the triadization of simultaneities characteristic of the guitar way of thinking, combined with the 17th century fascination with canonic sequences, led Gaspar Sanz to develop a particular harmonic progression, the Laberinto, which is uncommon in the Italian harmonic vocabulary of the time. The Laberinto appears in the unaccompanied preludes of Portuguese violinist Pedro Lopes Nogueira, demonstrating the reach of guitar-native harmonic thinking beyond the limits of the instrument itself.

Cohen (2022) shows how the twin concepts of simultaenous and successive sounds are central to the modern conception of harmony, as developed in the late 15th century. Fortuitously, the late 15th century is approximately when our story of harmony starts, with the advent of four-part fauxbourdon replete with triads. This paper opens with a brief overview of tonality, and of various accounts of its origins.

1.1 Tonality and its origins

Tonality is perhaps best defined by its various constituent elements: the primacy of the triad as a musical building block, rules governing the sequences of triads connected to bass-motions, directionality or attraction governing this motion, the integration of dissonance into the system of harmony, the closedness of the system around a circle of fifths, and the reduction of the system of modes to two.[1]

The advent of tonality is a murky question.[2] Fétis claimed to have invented the term in the 1830s and traces the concept back to Monteverdi's use of the unprepared seventh chord in his madrigals. Choron seems to have actually coined the term twenty years prior, and defined it in relation to the subdominant and dominant (Hyer 2002), terms that first appeared in writing in Rameau's *Génération Harmonique* in 1737 (Lester 2002). Fétis's definition also includes forces of attraction bringing the dominant, in particular its diminished or "appellative" fifth, to rest at the tonic. This recalls Rameau's explanations of tonal force through Cartesian mechanistic metaphors, and later through Newtonian gravitational language (Christensen 1993).

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[1] This list is drawn from Hyer (2002), Barnett (2002), and Christensen (1992) and Lester (2002). Note also the relation between many of these elements and the development of the modern notion of simultaneous harmony described in Cohen 2022.

[2] Tonality was also the subject of a discussion surrounding racism in a volume of the *Journal of Music Theory* following Yust (2024) and more generally following Christensen's (2019) book on Fétis, as well as a session at the SMT conference in 2024. While this is unrelated in content, it nonetheless shows the continued polemical nature of the topic.

While the term itself didn't arise until the 18th century, one may trace its constituent elements in the works of theorists of the Middle Ages and Renaissance. A regulative system of vertical pitches in counterpoint dates back to the Enchiriadis tradition, and harmonic directionality can be traced to Marchetto of Padua's inflection and resolution of imperfect consonances to the nearest perfect consonance (Fuller 2002). In the 15th century, Tinctoris applies the study of modes to the analysis of Renaissance polyphony (Cohen 2002), and Zarlino would ground this analysis directly in simultaneously-sounding consonant structures, as well as the resolution of dissonance into consonance.[3] Lippius in the early 17th century defined the *trias harmonica* of the three inversions of the triad (Cohen 2022), and Mersenne in 1636 reduces the modes to two, based on quality of third (Dodds 2024). Rameau was the first to unite all of these strands into a theoretical whole that most resembles our modern conception of harmony, defining the subdominant as a counterpart to the dominant and prioritizing root motion by fifths in the fundamental bass–another concept of his which establishes the primacy of triads (and thirds-based harmonies more generally) as the basic building blocks.[4]

Cohen's distillation of harmony into its constituent elements of simulaneity and succession is still helpful: all of the elements discussed above can be separated into one of those two categories. In Section 2, I discuss the development of the simultaneities characteristic of tonality–that is, triads–in Spain through the influence of faburden in Spain. In Section 3, I discuss the development of a specific succession that, while particular to Spanish music, exhibits various characteristic aspects of tonality: the integration of dissonance, a closed system of harmony around the circle of fifths, and a force of attraction based on the dominant function.

2 Harmony from Simultaneity: The Spanish Influence of Faburden

One important harbinger of the tonal style, in particular the primacy of the triad, is the explosion of thirds-based harmonies in continental Europe starting in the fifteenth century. This is often related to the influence of English music in Europe, in the style referred to as the *contenance angloise*. In particular, the homophonic style of faburden, which became known as fauxbourdon, falsobordone, fabordón, faburthon, and such variants in every European language, brought the Engish appreciation for consonant thirds and sixths to European ears.[5]

2.1 Parallel Faburden

Faburden was a style of accompanying chant with additional parts generated by rule, or canon. It originated in England, where other styles of polyphony based on thirds had long thrived (Trowell 1959). The treatise entitled "The Sight of ffaburden" from the 1440s (British Museum, Lansdowne MS 763–henceforth the Lansdowne treatise) describes the faburden technique as the commonest of styles of polyphony (Trowell 1959)). Other such styles included English descant, where the same thirds and 6ths are used, though above rather than below the chant. Similar textures are found in the Old Hall manuscript which represents a late 14th–early 15th century repertory, though with a higher tolerance for parallel fifths.

The term faburden, in its original English version, or in its French variant fauxbourdon, is most commonly understood to denote a three-part style of harmonization. Each phrase starts and ends with an octave and fifth above the lowest note, and the intermediate sonorities are sixths and thirds above the bass. The written element of the fauxbourdon is a duo between a chant and an accompanying tenor below the chant, consisting of parallel sixths with octaves opening and closing phrases. Guililemus Monachus refers to this two-voice structure as a gymel. Many such duos exist in the 15th century, and many are specifically marked with the textual canon *fauxbourdon*. This implies the inclusion of the third, contratenor voice a fourth below the cantus (Trumble 1960, 1959).

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[3] Judd (2002), though again note Cohen's (2022) discussion of earlier sources: Burzio established harmony as constituting more than two simultaneously-sounding pitches, and Spataro highlights the importance of the motion between harmonies, including dissonances. Another crucial step was Gaffurio's harmonic mediation of an interval. None of this gets us explicitly to the triad, but it gets us close.

[4] Rameau also had the insight that the generation of the triads themselves and of the progressions between them were fundamentally alike; in Dahlhaus's terms, they are *gleicher Wesens*, "of the same stuff" (Cohen 2022).

[5] Megan Long's (2018; 2020) work on the relation of tonality and homophony certainly dovetails with my argument, but has a slightly different focus: Long's is on the relation of the form and meter of homophonic music with tonal expectations, while mine is on the role of the vertical interval-generation methods of fauxbourdon on the proto-tonal harmonic sequences, which became the staples of the *alfabeto* repertoire.

Trumble (1959) points out that the actual practice of faburden was quite varied. The first composition marked as a *fauxbourdon*, from Dufay in 1427, has much denser, more independent movement between the parts (Trowell 1959). Additionally, in the earliest written examples, fifths are more common than just what one might label as phrase beginnings and endings: the Lansdowne treatise only allows up to 4 consecutive imperfect consonances (Trowell 1959).[6] And Trumble (1959) notes that cadential dissonances are common, either with the escape tones common earlier on, suggesting a Landini cadence, or the suspensions later on.[7] Regardless of individual distinctions, the basic sounded structure of the original, 3-voice Parallel Faburde is sequences of first-inversion triads, opened and closed with octaves and fifths.

2.2 Falsobordone, or Gymel with Contratenor Bassus, or Four-Part Fauxbourdon, or Leaping Faburden

In addition to this largely parallel style of faburden, there is an alternative in which a voice below the tenor forms a leaping bass line. I term this Leaping Faburden The tenor and cantus still form the two-voice gymel of Parallel Faburden, opening and closing phrases with octaves and featuring sixths in between. The third voice exhibits different behavior: the contratenor (now contratenor bassus) alternates thirds and fifths below the tenor, with the exception of initial and final octaves; and the final octave is preceeded immediately by a fifth.[8] Additionally, one can add a fourth voice, a contratenor altus, that alternates thirds and fourths above the tenor. This full four-voice fauxbourdon, often known as falsobordone[9], produces full root-position triads on every note. The motion from penultimate 5th to final octave results in an authentic cadence for chants ending with a stepwise descent, or tenorizans (see footnote 23 for Sanz's discussion of this issue; see also Gjerdingen 2007, ch. 11 and Smith 2011, ch. 7). The constant presence of triads, as well as dominant-tonic closes, evince a clear progression towards harmonic tonality!

It is to the two-voice structure of the gymel that the contratenor bassus is most often added in the theoretical sources. Pietro Aron and Vicente Lusitano teach it as a third voice, the contratenor bassus, added to a two-voice gymel structure. Guilielmus creates a four-voice structure with the contratenor altus described above (Trowell 1959). Peter Schubert (2008, p. 192) terms this method of adding a leaping bass to a gymel as the parallel sixth or parallel third model, depending on the relative positions of the cantus and tenor, and flatly dismisses the possibility of its improvisation, as learning to improvise the contratenor bassus would require " long examination or repertoire and/or by trial and error." However, Janin (2025, ch. 7) teaches the improvisation of this technique,[10] using the method of sighting intervals below a given melody,[11] as in the Lansdowne treatise and the writings of Guilielmus and others on the contratenor bassus. Clearly, one needs to coordinate between the contratenor altus and bassus to improvise in this style: this is attested to by remarks by Lusitano and Bermudo, who say that improvisers must be “in concert” when singing polyphony (Fiorentino 2021). But such improvisation is nonetheless possible.[12]

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[6] This could be related to the 14th-century license for a certain number of consecutive imperfect consonances as delayed resolution (Fuller 2002). But the use of imperfect consonances in 14th century English music indicate that something different was going on.

[7] See Trowell (1959) for a discussion of the differences between faburden and fauxbourdon: the voice carrying the chant has created great confusion in the interpretation of theoretical sources. There seems to have been a general English practice of putting the chant in the middle voice, and a continental practice of putting it in the top voice, a distinction Trowell uses to differentiate the terms faburden and fauxbourdon. Other writers have used linguistic differences, namely between falsobordone and fauxbourdon, to describe two distinct voice-generating techniques–in fact, the two techniques are related, as we shall see. And writers in different national contexts used their own native names to refer to all styles.

[8] The technique of alternating thirds and fifths below the tenor seems much more complex than Parallel Faburden. In fact it is a very related technique: the Lansdowne treatise describes the tenor of the traditional faburden, with the chant in the middle voice, as sighted unisons and thirds below the chant, evidently using a similar cognitive process to generate the tenor from a chant as would be used in producing the contratenor bassus from a tenor. The technique is now applied with more rigorous alternation.

[9] See Trumble (1959) and Bradshaw (2001). Despite the currency of the Italian name for the four-voice style, it was common across Europe, very plausibly also of English origin, and referred to by cognate terms in other European languages. Therefore, the term falsobordone to refer to the leaping style of faburden in particular is problematic.

[10] He also demonstrates it effectively on his YouTube channel: https://www.youtube.com/watch?v=eH9hj-_SsNI

[11] 8ths and 10ths or 3rds and 5ths, depending on the placement of the chant-line, which in turn depends on its cadential behavior; see the discussion on p. 90.

In addition to Guilielmus's writings, the strongest evidence we have of this practice is in notated examples of music in four parts following this style. One such example is Pietro Oriola's 15th century setting of Psalm 114, *In Exitu Israel.*[13] Set in four voices, the cantus firmus (in this case psalm tone of the *tonus peregrinus*) is in the cantus. The tenor forms a gymel with the cantus, with octaves at the beginnings of phrases and sixths elsewhere. The contratenor bassus quite strictly alternates fifths and thirds below the tenor, or eighths and tenths with the cantus. The contratenor altus sings fourths and thirds above the tenor, at times aligning strictly with the contratenor bassus's alternations, but at other times signing only fourths.[14] The antepenultimate and penultimate bass-tenor intervals are a third followed by a fifth, as Guilielmus requires. The final bass-tenor interval, however, is a fifth, with the bass leaping above the tenor, so as to fill out the triad. Such a leap was common in 15th century music. As we see in this example, Guilielmus's basic rules held for the improvised harmonization of psalms, even in certain notated examples.

Falsobordone generally refers to the unrhythmicized recitation of psalms in the academic literature, more so than to the four-voice style described above. This is taken to be an unrelated practice to three-voice fauxbourdon: Bradshaw (2001) writes that “there is little apparent connection between [fauxbourdon and falsobordone] beyond that of the name.” However, the *falsobordone* style of accompanying psalms is closely related to the more familiar parallel fauxbourdon. Additionally, fauxbourdon in any of its forms was from its earliest appearances associated with the liturgy of the Divine Office. Psalm tones, magnificat tones, and gospel tones consist more of recitation tones than of the melodic motion characteristic of other chant (Judd 2002). As such, their accompaniment results largely in a single harmony held under a single recited note with lots of text to get through. It is easy to imagine how such a style would lead to unrhythmicized performance.

2.3 The Spanish Influence of Faburden: *Fabordón* and *cantar por uso*

Improvised polyphony was very widely practiced across Europe from the high Middle Ages through the 19th century (Canguilhem 2011, 2015). Fiorentino (2015) has shown that it was an especially common practice in Spain. In fact, Spanish is the only language in which the word for counterpoint, *contrapunto* referred generically to improvisation, rather than having to be specified as *alla mente* or *sur le livre* (Fiorentino 2021).

In Spain, the style of polyphony called *fabordón* in the sacred context was musically equivalent to what was called *cantar por uso* in the secular context. Fiorentino (2015) demonstrates that both sacred *fabordón* and secular *cantar por uso* describe a lowly polyphony practiced by those who don't know proper counterpoint. In fact, the terms were often used interchangeably, without distinguishing which was sacred and which secular. Santa Maria and Cerone equate the two in the theoretical literature, with Santa Maria (1565, bk. 2, folio 43) teaching *favordónes* for the harmonization of psalm tones, before explaining that they are also used in villancicos by “hombres y mugeres que no saben de musica.” Somewhat more salaciously, Ùbeda in 1607 writes of a band of mischievous students who concealed the cries of a poor girl they had kidnapped by adding a bass to her cries “en fabordón” (Fiorentino 2015). The improvised polyphony practiced in the church was not always the most learned: it was taught to adult church clerics who needed to improvise during the liturgy and had not been trained as musicians from a young age (Fiorentino 2016). This is comforting for the prospects of improvisation pedagogy at the college or conservatory level!

The connection between *fabordón* and the written Spanish polyphonic styles is thus to be expected. Macchiarella (1994, pp. 284-85) describes a three-stage historical model: first, improvised polyphony influenced the written music of the church. Second, following the Council of Trent and the growth in popularity of psalmodic practice, the semi-literate tradition of fauxbourdon influenced oral traditions of secular music.

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[12] We also practice this method of improvisation in the Ear Training for Historical Performance course at Juilliard.

[13] This example is discussed in Trumble 1959, p. 48.

[14] Note that fourths between tenor and alto are consonant over thirds and fifths between bass and tenor, while thirds are consonant only over thirds

Third, written repertoires of the church were influenced by the newly-tertian secular music. A particular connection between *fabordón* and the *villancicos* repertory has been remarked by Trumble (1959), Hudson (1971), and Gavito (2018). An investigation of one of Encina's villancicos will reveal why.

Juan Encina's "Si abrá en este baldrés" has the same intervals as one would expect in a 4-voice fauxbourdon setting, if the cantus voice were transposed down an octave. The alto makes a gymel with the cantus at the lower third, an inversion down an octave of the traditional upper sixth gymel.[15] The bass alternates fifths and thirds below it, with octaves at beginnings and ends of phrases, and the alto alternates fourths and thirds above in conjunction with the bass's alternation of thirds and fifths.[16] This is the characteristic harmony of the villancico style. We have definitively reached the second stage of Macchiarella's historical model: the written secular music repertoire demonstrates influence from the semi-literate practice of sacred improvisation.

It is worth noting that it was the practice of psalmody that brought about the system of church keys, which in turn was an important precursor to modern tonality (Dodds 2024; Barnett 1998, 2002). Particularly after the counter-reformation and the Council of Trent, psalmody became an important part of the regular musical practice of professional musicians. It is thus no surprise that the harmonic treatments especially applied to the music of the Office would have great influence. The psalm tones created the system of church keys which permeated music theory in the 17th and 18th centuries: more locally, Leaping Faburden with contratenor bassus created the recognizable harmonic progressions that permeated harmony in the late Renaissance and early Baroque Spain.

2.4 The Guitar Connection: *Alfabeto* Harmony

It was the harmonic practice of *fabordón*, as transmitted through villancicos, that generated the chordal patterns ubiquitous in guitar books (Hudson 1971; Gavito 2021). In the guitar books, these patterns aren't notated as treatments of a cantus firmus, but rather as a sequence of triadic harmonies. Amat, the earliest such chordal source, describes the "Vacas" sequence–equivalent to the Romanesca–using Catalan *cifras*, in which a number represents a triad, and the musical piece is represented by the specific sequence of triads. To Amat, the sequence is a set of relations between triads, which can be transferred equivalently to start in any of 12 keys. This was no fluke: the systems of *alfabeto*[17], Castillian *cifras*, and Mallorcan *cifras* had similar underlying concepts, in which a single letter or number or other grapheme represented a single triad (Tyler and Sparks 2002; Yakeley and Hall 1995, p. 169), thus establishing triads rather than individual pitches as the essential basis of music. The triadic harmony of *fabordón* and *canto por uso* were converted by the guitarist explicitly into triadic structures.

Fiorentino (2013, p. 175ff) explains how the various harmonic schemes that appear in the *alfabeto* literature can be generated by the four-voice fauxbourdon rules of Guilielmus. These schemes make up the system Hudson (1970) terms "guitar modality": a set of harmonies that, conceived of primarily as sequences of triads, defined harmonic expectations in the repertoire of 17th century guitar music. Spanish authors starting with Amat called for these regularized chordal patterns to be practiced in 12 keys, prompting Christensen (1992) to see the anticipation of tonality in the chordal patterns of the alfabetists. The system of harmonic expectations is different from the system of tonality that developed in the 17th and 18th centuries, despite sharing certain tendencies, such as a final dominant→tonic close already stated in Guilielmus in the 15th century. The true anticipation of tonality was in the centrality of the triad as the musical building block.

The *alfabeto* tradition thus connects the harmony of fauxbourdon to the triadic harmony of 17th century music. Gómez (1992) and Knighton (1992) discuss the possibility of the accompaniment of villancicos with plucked instruments as early as the 15th century, which would be co-extensive with fabordón. The canons establishing the intervals of English faburden thus led directly to the establishment of the first triadic repertoire. As we will see in the next section, it would take a different kind of canon, namely of imitation after a certain interval, to generate the novel progressions that take advantage of the affordances of the triadic conception.

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[15] Note that Trumble (1959, p. 23) describes the gymel as a modality of invertible counterpoint, as sixths can lead to octaves just as thirds can lead to unisons.

[16] in fact, since the cantus is transposed up an octave, the are fifths and sixths below, rather than thirds and fourths above. But one can easily imagine the singer sighting the above a different conceptual pitch than what is heard.

[17] In *alfabeto* notation, letters of the alphabet denote triads and sequences of letters represent a whole piece. A letter actually refers to a specific voicing of the triad, and different letters could theoretically refer to the same triad; the mapping of these equivalences is the central issue of Sanz's first *laberinto*, as discussed below.

2.5 A Parallel Tradition: *tañer consonancias*

Another tradition of vertical harmony, known as *tañer consonancias*–literally, "playing chords", flourished in 16th-century Spain.[18] Unlike the *fabordón* or *por uso* style, this method relied on a good knowledge of counterpoint, but was similarly homophonic, and considered sequences of notes as intervals reckoned above the bass note. Santa Maria, who described this method most thoroughly, described it as primarily a two-voice improvisation that was filled out properly with inner parts, recalling the gymel structure that is filled out to form faburden. *Tañer consonancias* was also discussed by vihuelists Milan, Narvaez, and Fuenllana, indicating the reach of this style among more learned pluckers. In the next century, Pietro Cerone quoted Santa Maria's discussion of this topic at length, referring to it as "accompanying the *tiple*" (soprano or cantus); Cerone's discussion of this topic in turn seems to have influenced Mersenne.

The practice of *tañer consonancias* presents another Spanish way of reckoning pitches vertically into triads. Thus, along with the historical process leading to the simple sequences of triads in the *alfabeto* literature, a more learned practice around the same time also brought about a conception of music in simulaneous consonances. Also, it connects this tradition to the 17th century mainstream by shifting the structural duo from the cantus-tenor gymel to the cantus-bass that was fundamental until Rameau.

3 Harmony in Succession: The Laberinto

The above section traced the development of the simultaneities of harmony through the style of fabordón in Spain to the guitar. This section covers the role of the guitar in the development of successions, the other half of Cohen's (2022) modern definition of harmony. In particular, it covers Sanz's *laberintos ingeniosos*, [19] in which Sanz presents progressions of chords that crystallize several important elements of tonality: circularity by fifths, the centrality of the dominant and dissonance in propelling harmonic motion, and the progression of triads as the conceptual core of sequences.

3.1 Sanz's *Instrucción de musica* and *laberintos*

Gaspar Sanz was an important guitarist in 17th century Spain. After studying theology at the University of Salamanca and studying music with Lelio Colista in Italy, Sanz wrote a comprehensive treatise on the baroque guitar, the *Instrucción de musica* (1697), which was widely known throughout Spain and Portugal after its initial publication in 1674 (León Tello 1974). In his *Instrucción*, Sanz uses two *laberintos* to teach composition/improvisation. The first asserts inversional equivalence of triads, and of transformational equivalence of dominant and subdominant relations between all keys. The second laberinto traces a dissonant path through all 12 keys. A discussion of the instructional preface of the *Instrucción* will provide an opportunity to discuss Sanz's central innovations.

After teaching the student how to string, tune, and fret the guitar, and how to read *alfabeto* notation, Sanz (Regla quarta) encourages the student to learn the progression which he terms the Passacalle, first in D major and minor. The Passacalle has the following form:

$$\text{Passacalle} = \text{tonic} \rightarrow \text{subdominant} \rightarrow \text{dominant} \rightarrow \text{tonic} \tag{1}$$

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[18] This account is drawn from the Roig-Francolí (1988, 1995).

[19] This is the term Sanz uses to refer to his *laberintos* on the title page of his *Instrucción.* It is also the term favored by Catalan guitarist Xavier Diaz Latorre, who discusses topics related to those covered in this paper in his teaching, including in this lecture: https://www.youtube.com/watch?v=_eilvox9468https://www.youtube.com/watch?v=_eilvox9468

Choron defines tonality in 1810 as the relation between these three functions[20], and the relation of these three is the basis for Rameau's conception of harmony: it is thus significant that this is the very first progression Sanz encourages the student to learn.

Sanz next (Regla quinta) encourages the reader to take a look at the first *laberinto*, and to use it to play Passacalles in every major and minor key.[21] At first the student is to stay on the bottom row of the laberinto: the method is to move right by one column (down a fifth), followed by leftward two columns (up two fifths, or a whole step), then right one column (down a fifth). This instruction recalls Amat's instruction on playing "Las Vacas", asserting that the defining feature of a piece is not just its pitches, but the particular relations between those triads. In both cases, those relations are defined by their distance on the circle of fifths, which is mapped visually on Sanz's *laberinto* and numerically in Amat's cifras[22]. Sanz also recalls Amat in writing that one will eventually end up where one began in the progression of fifths, as the distance from the third to the fourth column (D-rooted chords to G-rooted chords) is the same as the distance from the second to the third (A to D).

The next step (Regla sexta, septima) is to use any of the upper-position chords to produce Passacalles. He writes that the student can choose at will ("escoger à tu arbitrio") any of the chord shapes from the column necessary for a given progression. He writes in somewhat awkward Latin: "Amor qui/ Est Laberintus opus quod, si tu laberis intus,/ Non laberintus erit, sed labor intus erit": with a bit of work, this labyrinth will no longer be a mysterious labyrinth but one's own "trabajo y obra," internalized into the student's ear. The signicance of this exercise is in asserting triadic equivalence: any voicing of the triad, in any position, is functionally equivalent and can be arbitrarily replaced. The essence of a composition is the succession of its triads, not their particular voicing, or even which key one starts on. It is their relations, or transformations, that are central.

3.1.1 The *laberinto ingenioso*

The next rule (Regla octava), the final one before switching to technical and stylistic instructions on performance, concerns the second *laberinto*, transcribed in Figure 1. This *laberinto* is full of dissonances and false consonances, which he says are derived from the rules of good composition: suspensions, "falsas" (dissonant chords), "clausulas" and cadences,[23] each with their proper preparation and resolution. Sanz writes that this incorporation of dissonance demonstrates the fullest way of playing on the instrument: in fact, dissonances are an important part of the early-18th century ideal of *suonar pieno*, as described by Gasparini (1722). Most of the dominant chords are simply dominant seventh chords, but the B dominant (which closes the loop to return to the original E minor) has a suspended fourth sounded simultaneously with the major third, in addition to the seventh above the bass(see m. 18 of Figure 1). The dominant harmony with the 4th and a 7th is exactly Gasparini's (1722, p. 67) suggestion in playing *acciaccature*.

Sanz recommends that the student practice this second *laberinto* at their own pace, internalizing the harmonies rather than criticizing their oddness: "Estudialas, y buelveme la respuesta despues." He allows the student to play this second *laberinto* in any tempo or "aire," strummed or arpeggiated, with sufficient time to delight in each harmonic move. He encourages the student to play some of them sweetly and others gravely, to play some loud and some soft, following ones taste. The result, he says, will create much musical novelty. This directly encourages the use of this *laberinto* as a tool for composition and improvisation.

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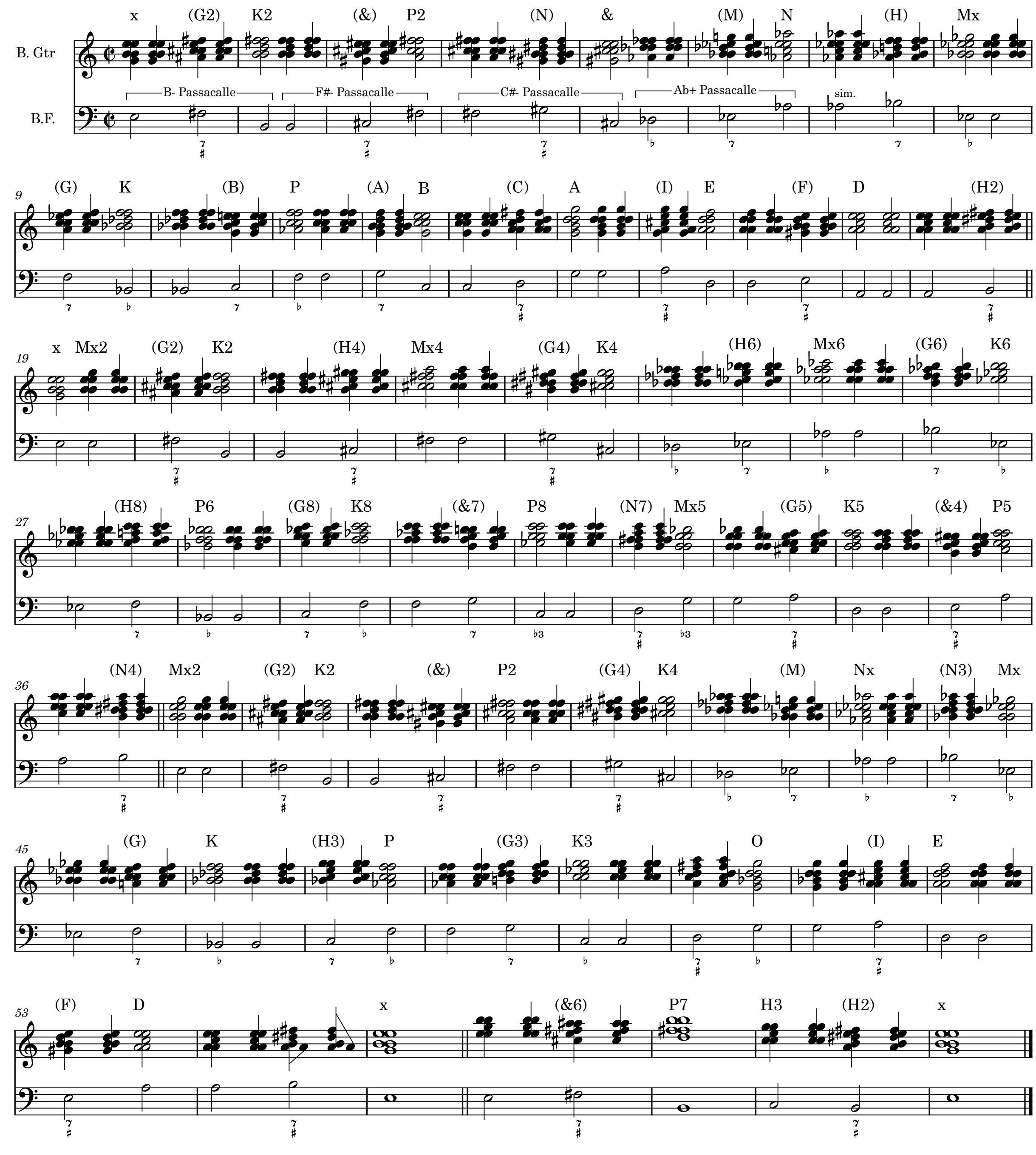
[20] Of course, Choron does not use the term function–Riemann was the first to do so (Hyer 2002).

[21] A similar exercise is foundational in jazz pedagogy. The first lesson in Mark Levine's "The Jazz Piano Book" (1989) is to learn ii-V-I progressions in every major and minor key. The roots of the passacalle and the ii-V-I are rotations of what Carey and Clampitt (1989) call the "structural scales": these are discussed, with Ramellian implications, in de Jong and Noll 2018.

[22] Amat's cifras are ordered by fifth. For further discussion of Amat, see Hall (1978).

[23] Sanz's second book, discussing rules for accompaniment, discusses all of these terms: clausulas refer to cadences in which the bass "robs another part of its cadential role" (bk. 2, p. 4), such as the tenorizans (*tenor*) step-descent or cantizans (*tiple*) step-ascent. To be precise, the clausula to Sanz is both the role of a specific voice in a cadence and the cadence in which that role is adopted by the bass voice.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K4
(H6)
Mx6
(G6)
K6
27
(H8)
P6
(G8)
K8
(&7)
P8
(N7)
Mx5
(G5)
K5
(&4)
P5
36
(N4)
Mx2
(G2)
K2
(&)
P2
(G4)
K4
(M)
Nx
(N3)
Mx
45
(G)
K
(H3)
P
(G3)
K3
O
(I)
E
53
(F)
D
x
(&6)
P7
H3
(H2)
x

Figure 1: Sanz's second *laberinto.* Letters above the staff indicate alfabeto chords, and those in parentheses indicate variations on alfabeto chords. The basse fondamentale (B.F.) is editorial.

In addition to being full of dissonances, the second *laberinto* traces an interesting harmonic pattern.[24] The initial E minor is followed by an F$^\sharp$ dominant, which is followed by B minor. That B minor, in turn, is followed by a C♯ dominant, and then an F♯ minor. The sequence continues this way, with each tonic reinterpreted as the subdominant $\hat{4}$ chord of another tonic, followed by tonic and dominant.[25] Each sequence of three chords with a dominant in the middle forms (most of) the Passacalle progression which Sanz had earlier advised practicing. The progressions' tonics proceed by ascending fifth: in this sense the Laberinto[26] is a Ramellian triple progression.

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[24] There is another system after the double bar line of this *laberinto*, marked "Otras falsas." Also in cut time, but with unclear rhythmic notation, it progresses through an entirely different sequence: mostly major seventh chords, mostly by descending fifth/ascending fourth, with a few oddities. It starts with E minor, then A dominant seventh, then has major seventh chords on D, G, C, and F. Next is G minor with an added A, which Rameau would assign a fundamental bass of Bb and thus continue the fifths-ward progression. The next chord is Ab major 7, skipping a fifth in the progression. Next are Db and Gb major seventh, and then an Ab minor triad with an added Bb, again implying a possible Cb (B) fundamental bass. The next chord,

$$\begin{aligned}\text{Laberinto} = \text{subdominant} \rightarrow \text{dominant} \rightarrow \text{tonic}& \\ &= \text{subdominant} \rightarrow \text{dominant} \rightarrow \text{tonic} \\ &\text{etc.}\end{aligned} \tag{2}$$

The particular progression of roots going up a step and down a fifth, is not common in later tonal music: it is not found in Laitz's (2023) list of diatonic sequences, nor is it in Fenaroli's (1775) moti del basso, or in Harrison's (2003) list of sequences in Corelli.

One other interesting aspect of Sanz's laberinto is the meter: each Passacalle pattern lasts three half notes, but the notated measure lasts two half notes.[27] As a result, not all tonics arrive on the notated downbeat, but the E minor does all three times around the cycle. Perhaps this, along with the altered B chord, strengthens the sense of arrival on E minor, that the labyrinth is not an endless path and that once in a while we return home.

One aspect of the *laberinto* that aids in the guitarist's orientation is the consistency of particular sequences of hand-shapes for particular sequences of chords, as indicated by the *alfabeto* notation.[28] In the second go-around the cycle of fifths, starting in m. 19, a particular progression of hand-shapes is used rather consistently: $(\mathrm{H}_n) \rightarrow \mathrm{Mx}_n \rightarrow (\mathrm{G}_n) \rightarrow \mathrm{K}_n$ in the same left hand position produce a series of four of the harmonies, which is then continued by shifting the module up by two frets.[29] Dominant → tonic subsets of this module, such as (G) → K, are used independently, as are other shorter modules such as $(\&_n) \rightarrow \mathrm{P}_{n+1}$. Learning these particular patterns is at least as much the pedagogical purpose of this laberinto as is the harmonic sequence itself.

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as written, would sound pitches A, D♯, G♯, C♯, and E: in jazz parlance it would be called A♯11 , but this would seem outside of Sanz's harmonic language. Changing one number would allow it to be an E major 7th, which would make sense after the B chord preceeding. The final two chords are the Eb dominant 7 originally missing from the fifths sequence followed by, curiously, Ab major.

[25] This constant chordal reinterpretation recalls the multivalence of chordal functions in Cohn (2012, ch. 8); although in the Laberinto, the triads are always moving laterally across the Tonnetz or by fifth, never vertically or by third.

[26] I will refer to the harmonic progression as the Laberinto (capitalized, upright, and to Sanz's specific examples as *laberintos* (lowercase, in italics).

[27] It is worth noting that the metric difference between the downbeat and the half-bar may not have been so meaningful: Rothstein (2008) shows how the beginning and midpoint of the duple bar were equally strong in certain 18th century national traditions.

[28] As a reminder, *alfabeto* notation indicates a specific voicing of a triad, rather than the triad as an entity itself. In many cases, such as Sanz's first *laberinto*, that voicing is a stand-in for the triad as a whole. Here, however, the particular voicing is important

[29] See De Souza (2017). Letters in parentheses indicate an altered version, typically with an added dominant seventh, of the chord indicated by the letter itself. In first position, (H) is B♭ dominant 7, Mx is E♭ minor, (G) is F dominant 7, and K is B♭ minor. Subscripts indicate higher positions, and thus transposition by $n-1$ semitones. The pattern starts on Mx_2 in bar 19 in the written example, but shifts frets after three chords. I've chosen to start on the dominant to concatenate four chords in the same left-hand position, as well as for a more musical reason discussed below.

3.2 The Laberinto and Other Schemata: the Monte Romanesca and the Quiescenza

3.2.1 The Monte Romanesca

In its fundamental bass motion, the Laberinto recalls the Monte Romanesca (Gjerdingen 2007, p. 98ff).[30] This sequence, as seen in Figure 2, is a harmonization of a canon at the upper fifth between the alto and soprano voices, with the alto leading at a half-bar interval.

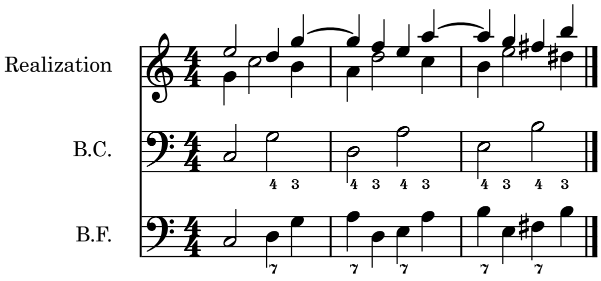

Figure 2: The Monte Romanesca, with an added fundamental bass.

There are two crucial differences between the Laberinto progression and the Monte Romanesca. First, the placement of what Rameau would call a *dominante-tonique* is different. In the Monte Romanesca, the descending-fifth fundamental bass motions occur within the context of the 4-3 suspensions, which are suppositions of *accords hétéroclites* lacking a third, so the dominants are not *dominantes-toniques* (Martin 2012). In the *laberinto* progression, every fifth descent in the fundamental bass features a *dominant-tonique.* As a result, in the Laberinto, the modulation is stronger to each successive tonic. Second, and relatedly, Sanz's progression goes around the entire chromatic pitch-space, while the Monte Romanesca doesn't extend far beyond the diatonic pitch-space.[31]

3.2.2 The Quiescenza

Another schema that resembles the Laberinto is the Quiescenza (Gjerdingen 2007). Figure 3 presents the Quiescenza in its most common form. It consists of five harmonies over a tonic pedal:

$$\text{Quiescenza} = \text{tonic} \rightarrow \text{applied dominant of } \hat{4} \rightarrow \text{ subdominant} \rightarrow \text{dominant} \rightarrow \text{tonic} \tag{3}$$

The last four harmonies of the Quiescenza form a subset of the Laberinto: any four-chord long subset of the Laberinto starting on a dominant forms a Quiescenza starting on its second chord: the applied dominant, albeit without the tonic pedal. Figure 4 divides the second cycle of Sanz's *laberinto* into a series of Quiescenze. A cycle of the *laberinto* can thus be divided into 12 subdominant → dominant → tonic Passacalle[32] progressions ordered by ascending fifth, or into six Quiescenze ordered by ascending second.[33]

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[30] This sequence is equivalent to Fenaroli's (1775, p. 51) ascending fifth sequence with suspensions, Harrison's (2003) Class F or "alternating braid" sequence, and Laitz's (2023, p. 502) A2 ($+5/-4$). See the discussion of this sequence in Martin (2012, p. 146): "For Rameau, each intermediate chord in the ascending fifth sequence is heard initially as a tonic (i.e., its bass note is *sensée tonique*) and only subsequently reinterpreted as a subdominant when it gives way to its successor." Rameau would also license Sanz's the progression, as he allows tonics to be followed by any harmony.

[31] Ijzerman (2018, p. 122) writes that the Monte Romanesca canon "inevitably stops in the third segment" and doesn't allow chromatic modulation. While the Monte Romanesca doesn't have the circularity of the Laberinto, even his examples indicate some ability to modulate chromatically beyond the third segment: his example 5.33 from Mozart's String Quartet K. 387 comprises four segments.

[32] I am chopping the tonic head off of the Passacalles and Quiescenze in concatenations. I find that they are functionally unharmed.

[33] This equivalence recalls Laitz's (2023) labeling of the Monte Romanesca as an A2, or ascending 2nd, sequence. Sequences can be chunked into larger or smaller units.

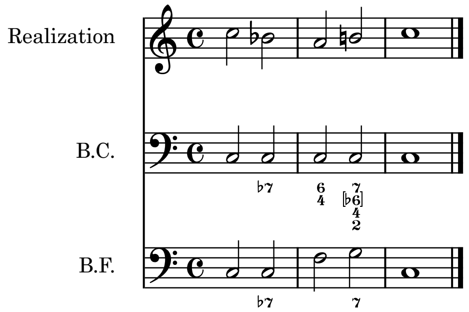

Figure 3: The Quiescenza, with an added fundamental bass.

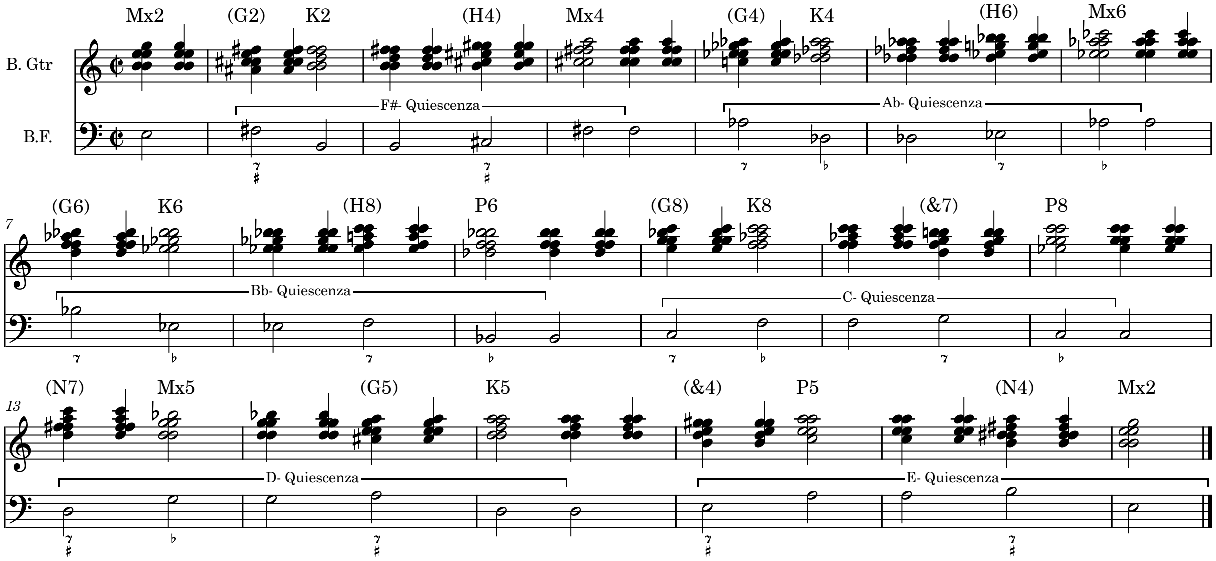

Figure 4: The second cycle of Sanz's *laberinto*, with the series of Quiescenze annotated.

Since each Quiescenza comprises two Passacalles, the labeling of the Quiescenze can be rotated by one Passacalle, and result in a different set of Quiescenze. If the Quiescenze are chunked as in Figure 5, they align with a particular left hand position: the Quiescenza in C♯ minor is the Quiescenza in fourth position, the Quiescenza in E♭ minor is the Quiescenza in 6th position, F minor is largely in 8th position, and A minor is largely in 5th position. If the cycle were to repeat, there would be a final Quiescenza in B minor largely in 2nd position. These Quiescenze largely follow the progression of letters discussed above: $(\mathrm{H}_n) \to \mathrm{Mx}_n \to (\mathrm{G}_n) \to \mathrm{K}_n$. Two are exact, and two others have onsubstitutions: Mx_8 is replaced by P_6 in F minor (m. 9), and H_2 by N_4 in B minor (m. 17). The G minor and A minor Quiescenze can also be derived through these transformations and inversions of the order of dominant-tonic relations. In the interest of steering clear of Theseus's Paradox, I will not outline the exact transformations required. I will only point out that this is the exact combinatorial spirit of Sanz's first *laberinto*, in which he encourages the student to play Passacalles substituting different triad voicings (see the discussion of Reglas sexta and septima above). The constraint here in choosing triad voicings seems to be desired parsimony in fretboard space motion.

3.2.3 How the Quiescenza Progresses

Caplin (1998, p. 16) associates the Quiescenza with the post-cadential function, in particular with codettas, and Gjerdingen (2007, p. 183) agrees, stating that in the later 18th century, this pattern was used "for closing rather than opening passages" in"a moment of quiescence *following* an important cadence" (emphasis mine),

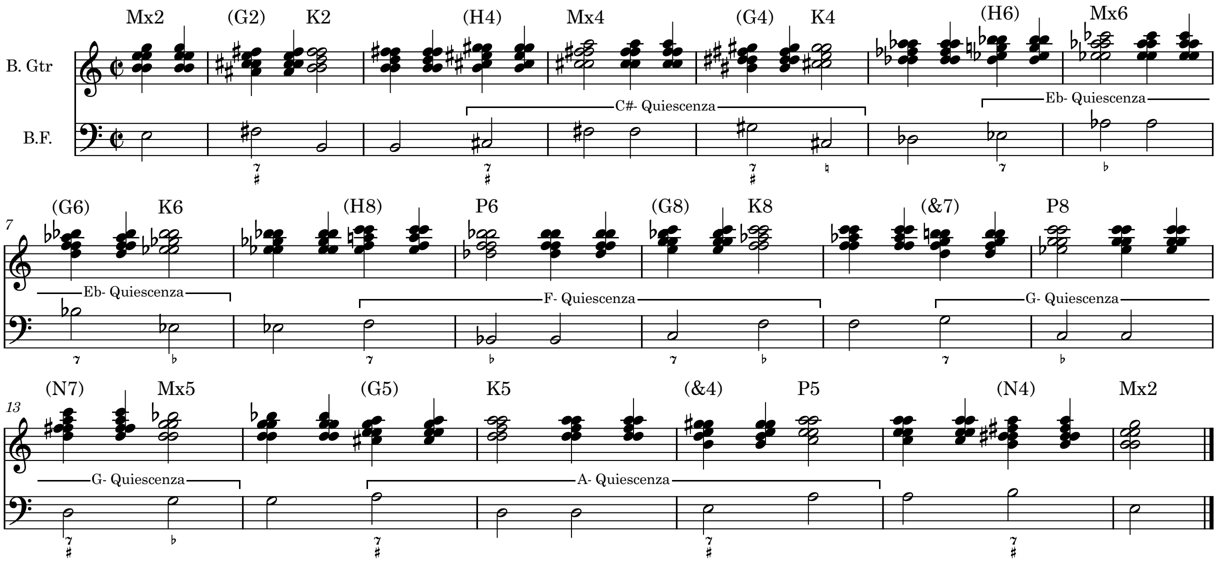

Figure 5: The second cycle of Sanz's *laberinto*, with the series of Quiescenze annotated to align with left-hand position.

and typically presented twice in succession (p. 184). Earlier in the century, however, it often received a single presentation, and served as a phrase opening (or, to use Gjerdingen's term, *proposta*)[34]; Demeyere (2024) points out that J.S. Bach, in particualar, often uses the Quiescenza as a phrase opening. Two examples from Bach illustrate how a phrase develops dominant-ward after a Quiescenza, thus leading to progressions similar to the Laberinto.

The first example is from a C major Prelude attributed to Bach. The two principal halves of the piece open with Quiescenze, one on the tonic and one on the dominant. The first one modulates to G major, the dominant, immediately after by using the final tonic of the Quiescenza (measure 4) as the subdominant of the next tonic, and establishing the subsequent tonic with a Passacalle. G major is confirmed as tonic through a sol-fa-mi.

Figure 7 abstracts the voice leading of measures 1–6 of BWV 939. The harmonic sequence starting on the final beat of the first bar forms a Laberinto.

The soprano and alto voices (in the top notated staff of Figure 7) move in canon starting in m. 2 , with the soprano leading at a two-bar interval and at the upper fifth. If we extend this canon, we see a familiar pattern: the Laberinto, with its subsidiary Quiescenzas and Passacalles (Figure 8).

While the Laberinto progression itself is uncommon in music of this period, Figure 8 shows a relation to a much more common schema. Another piece of Bach's prominently featuring the Quiescenza as an opening gambit, the Adagio from the A minor violin concerto (BWV 1041), often modulates dominant-ward following a Quiescenza (Table 1).

The first 30 bars of the piece modulate fifthsward three times, with successive Quiescenze in C Major, G Major, D minor, and A minor. While the modulation is not achieved through the particular mechanism shown in Figure 7, this movement nonetheless shows the propensity of Quiescenze to be followed by a dominant-ward modulation, just as in the Laberinto.[35] After arriving in A minor, Bach modulates quite abruptly back to C using two consecutive Pontes, or extended altered dominants leading to resolution (m.

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[34] Gjerdingen (2007) also notes this difference in usage between the earlier and later parts of the century.

[35] The particular sequence of orchestral Quiescenza in a tonic followed by Elided Prinner, Quiescenza, Chromatic Prinner to Cadenza doppia in the dominant key happens with the same melodic material to modulate from C Major to G Major in mm. 7–14 and from D minor to A minor in mm. 21–28. The other modulations use the Ponte schema, essentially standing on the dominant of the new key.

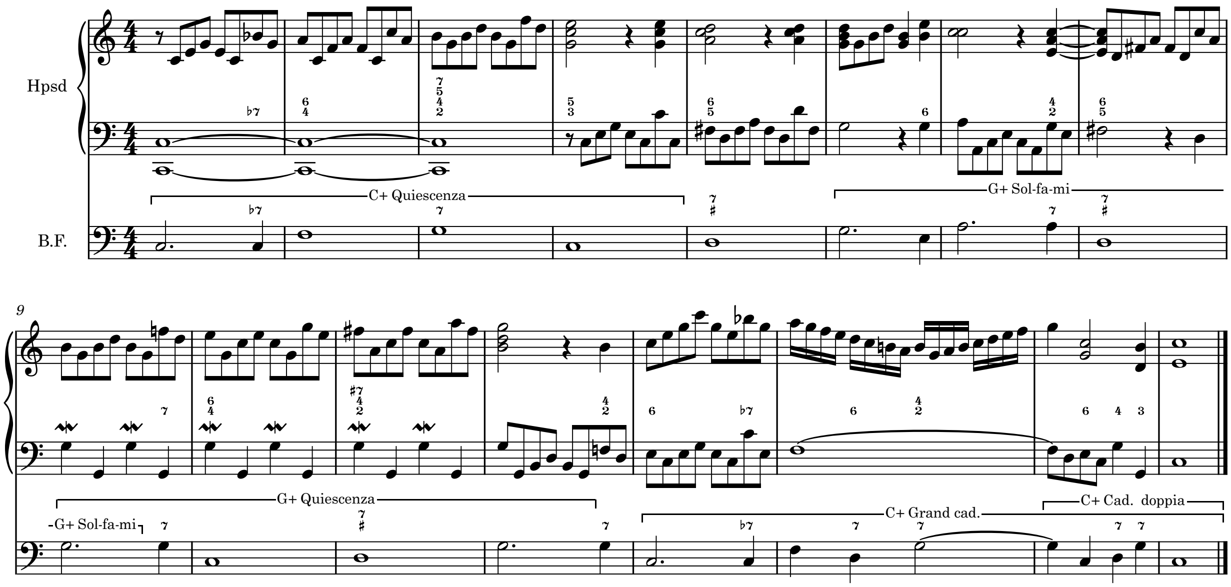
Hpsd
B.F.
9
C+ Quiescenza
G+ Sol-fa-mi
-G+ Sol-fa-mi
G+ Quiescenza
C+ Grand cad.
C+ Cad. doppia

Figure 6: Prelude in C Major, BWV 939.

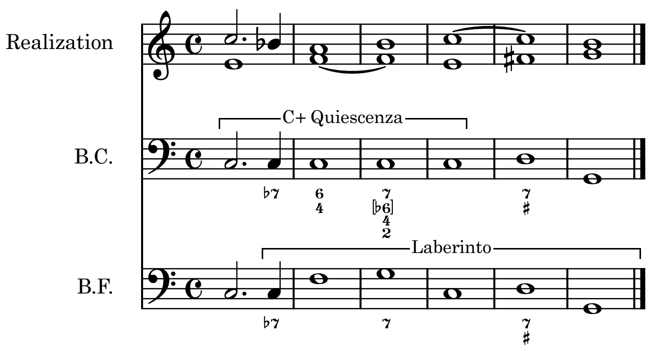
Realization
B.C.
C+ Quiescenza
B.F.
Laberinto

Figure 7: Quiescenza with a modulation to the dominant, as in mm. 1-6 of BWV 939 (Figure 6).

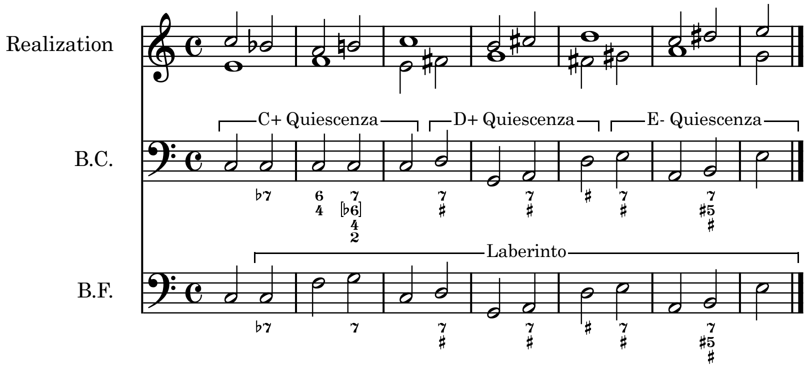
Realization
B.C.
C+ Quiescenza
D+ Quiescenza
E- Quiescenza
B.F.
Laberinto

Figure 8: Quiescenza with a modulation to the dominant, followed by a continuation of the canon, resulting in a Laberinto.

31ff).[36] This is an exceptional moment in the piece, which illustrates how far from the home key Bach

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[36] The schemas labeled in Table 1 also largely correspond to melodic parallelism, including the Pontes in m.s 17, 31, and 33, despite their having different formal roles in the movement.

m.	key	schema/cadence	key	schema/cadence
1	C+	Quiescenza	G+	Prinner
5	C+	Elided Quiescenza	C+	Prinner to HC
7	C+	Quiescenza	G+	Elided Prinner
11	G+	Quiescenza	G+	Chromatic Prinner to Cad. doppia
15	G+	Quiescenza		
17	D-	Ponte	D-	Prinner to Phrygian HC
21	D-	Quiescenza	A-	Elided Prinner
25	A-	Quiescenza	A-	Chromatic Prinner to Cad. doppia
29	A-	Prinner		
31	G-	Ponte		
33	C-	Ponte	C-	(Elided) Prinner to HC
37	C+	Quiescenza	C+	Elided Prinner
41	C+	Chromatic Prinner to Cad. doppia		
43	C+	Quiescenza	C+	Prinner to Cad. doppia

Table 1: Phrases in BWV 1041.2. Quiescenzas are often followed by dominant-ward motion. The accompanying score with annotations can be found in Appendix A.

has reached through the use of dominant-ward modulation after Quiescenze. Even if the progression is not exactly the Laberinto, the effect is nonetheless labyrinthine.

The propensity of Bach's Quiescenze to modulate dominant-ward demonstrates a kinship with Sanz's Laberinto. While the particular progression is different, and Bach is writing decades after Sanz and in a distant part of Europe, these examples demonstrate how the canonic principles of Figures 7 and 8 generate harmonic progressions, both in the more strictly tonal context of Bach's instrumental works and the more unrestrained context of Sanz's second *laberinto*.

3.3 The Laberinto in Sanz's *Preludio por la O*

Sanz uses the Laberinto in his own compositions. After the prefatory material and *laberintos*, the first book of Sanz's *Instrucción* includes several dances in *alfabeto* notation, followed by pieces written in mixed tablature and *alfabeto* notation. These include two suites: one in G minor and one in E minor. The suite in G minor ("por la O", using Sanz's alfabeto terminology) includes a "Preludio y fantasia", a "sesquialtera,"[37] an *alemanda* entitled "La Serenissima", a "giga al aire Ingles", and a "Zarabanda francesa". The "Preludio y fantasia," which comprise a single movement, is marked as having "mucha variedad de falsas"–it is thus natural that it should relate to the second laberinto, which contained the "falsas y puntos mas estraños y dificiles que tiene la Guitarra."

The piece opens with cadences in G minor, D minor, B♭ major, and G minor–the traditional cadence points of the 2nd church key, following Banchieri (1614, p. 84). Then, the first of two extended suspension chains begins. Both this chain of 2-3 suspensions and the chain of 7-6 suspensions starting in m. 15 are odd in that the suspensions are placed on metrically weak beats (quarter notes 2 and 4), and their resolutions are on metrically strong beats (quarter notes 1 and 3), contradicting Lerdahl and Jackendoff's (1983) MPR 8. This metric instability calls to mind Sanz's second *laberinto*, in which a one-and-a-half bar progression constantly shifts metric orientation; as well as the final bars of the piece, in which cadences on the half bar are alternated with subdominant → dominant progressions. In all of these cases, different metric placements of the dissonance weaken the structure of the barline.

The Laberinto makes four appearances in this prelude. The two shorter ones occur at mm. 9–10 and 27–28. The first of these contains a Quiescenza in it, and the other nearly follows it, corroborating the link between

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[37] Sanz reserves this movement for players who are "muy diestros."

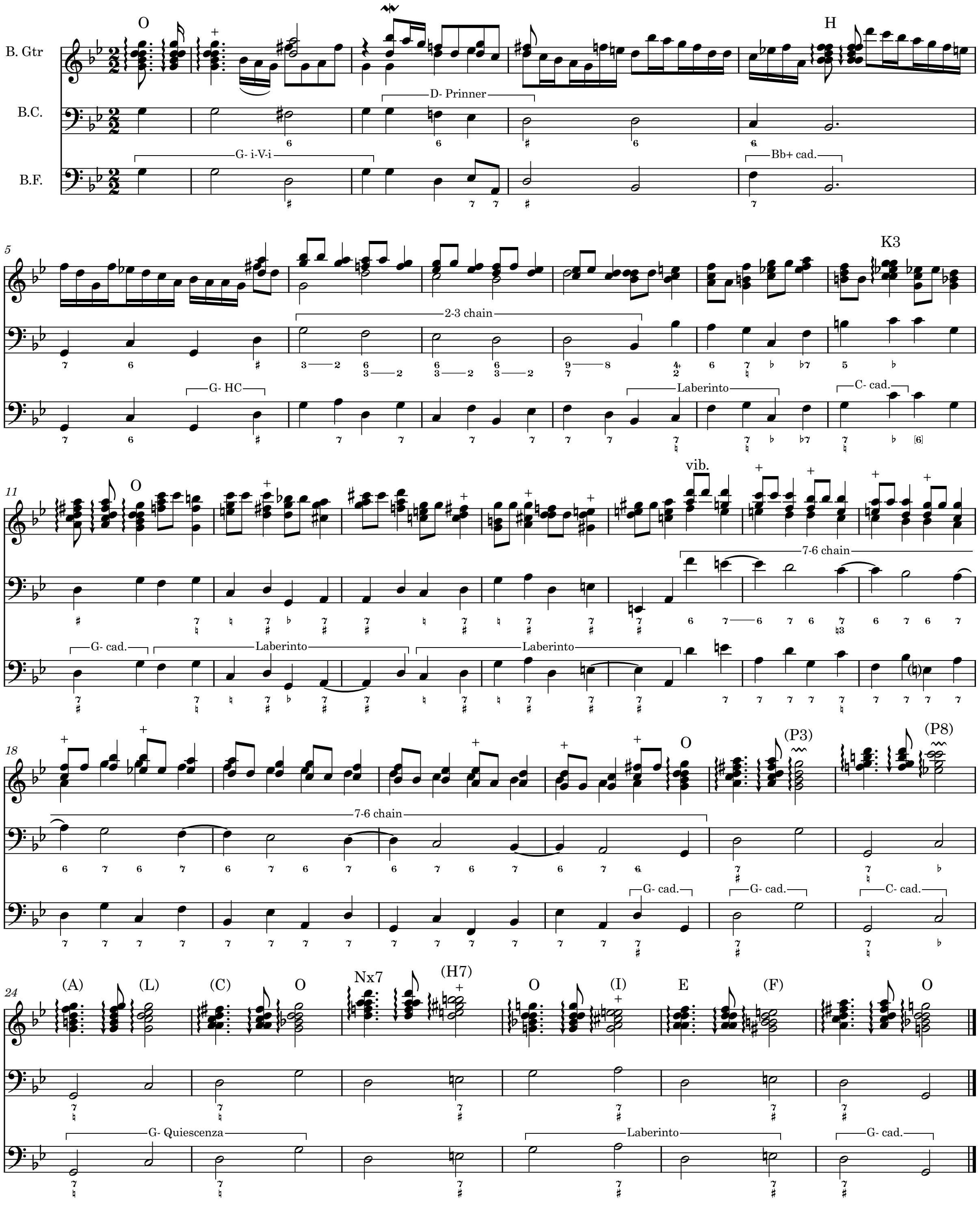
B. Gtr
B.C.
B.F.
O
H
D- Prinner
G- i-V-i
Bb+ cad.
5
K3
2-3 chain
G- HC
Laberinto
C- cad.
11
O
vib.
7-6 chain
G- cad.
Laberinto
Laberinto
18
O
(P3)
(P8)
7-6 chain
G- cad.
G- cad.
C- cad.
24
(A)
(L)
(C)
O
Nx7
(H7)
O
(I)
E
(F)
O
G- Quiescenza
Laberinto
G- cad.

Figure 9: Sanz's *Preludio y fantasia por la O.* The basso continuo and basse fondamentale staves are editorial. As in Figure 1, letters above the staff indicate notated alfabeto chords, while letters in parentheses indicate altered versions of alfabeto chords.

the two discussed above.[38] The two longer Laberintos occur in succession in mm. 11–15, each comprising 3

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[38] Strictly speaking, a Quiescenza requires a tonic pedal point, but since the baroque guitar does not have a bass register, it is not unconscionable to label this passage as a Quiescenza and intuit the pedal point.

Passacalles (Figure 10).[39] Once again, there is metric shifting, with the final Passacalle of each series staying on the dominant for an extra beat (over the bar lines 12–13 and 14–15; see Figure 10).

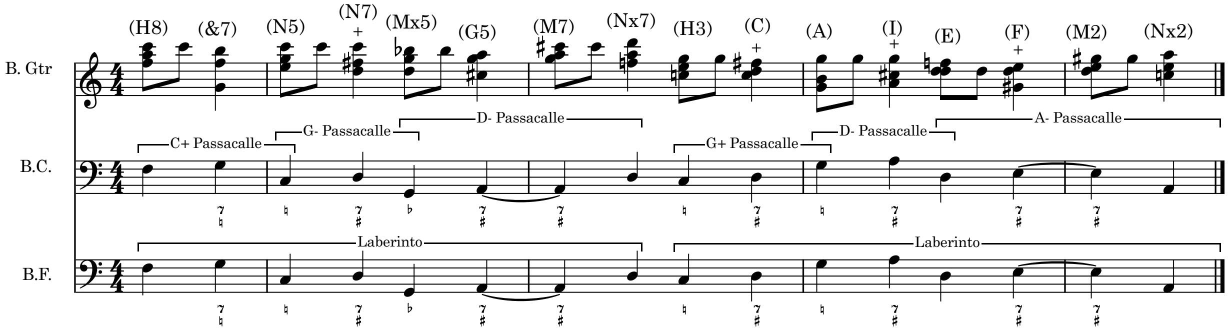

Figure 10: Mm. 11–15 from Sanz's *Preludio y fantasia por la O*, showing the Laberinto passage.

This section of Laberintos are sandwiched between suspension chains, and as a whole the section serves the similar purpose of transporting to a seemingly unrelated tonality. Evidently, in composition and improvisation, one should be able to use little snippets of the Laberinto interchangeably with Quiescenze, as in mm. 9–10 and 27–28; and larger segments of the Laberinto interchangeably with suspension chains, as in mm. 11-15.

3.4 The Laberinto and Nogueira

The analysis of Sanz's *Preludio* demonstrates how the guitarist used the Laberinto in his own music. Remarkably, the schema also appears in the works of the Portuguese violinist Pedro Lopes Nogueira. This section will trace the possible connection between Sanz and Nogueira, and then discuss Nogueira's *Preludio por F faut* (Figure 11), which makes particularly extensive use of the Laberinto.

Nogueira's music mostly survives in P-LN MM. 4824, which he likely compiled around 1720, and is a large source for early solo violin music (Medina Riera 2020). It contains pieces for solo violin in regular tuning, in scordatura, and with continuo, with the stated goal of teaching the student to play *em todos os tons* ("in all the tones"). Particularly noteworthy is the final section, which contains 24 preludes, fantasias, and occasional dances[40] for solo violin. These are labelled by one of the eight church keys, or (*toms*), and their transpositions. Like Mattheson, Nogueira's ordering of the 24 keys first presents the eight church modes, then transposes each up or down by step to complete the chromatic gamut (Barnett 2002), though his particular ordering is slightly different. The fantasias, like the sonatas earlier in the manuscript, are written in a Corelli-influenced style, which is no surprise given the extent of Corelli-mania on the Iberian peninsula (Marín 2007, 2014).

3.4.1 Modal Ordering

One noteworthy aspect of Nogueira's ordering of the keys is that the third *tom* is E minor and the fourth is A minor. This is inverted from the pan-European standard, in which tone 3 is A minor and tone 4 is E minor (Barnett 2002, p. 420), as well as the Iberian standard, in which tone 3 is E minor and tone 4 is E phrygian – that is, E without an F sharp in the key signature (García Gallardo 2010, p. s 86, 98; see also Murphy and García Gallardo 2016). It does, however, correspond with the ordering in Sanz's *Instrucción*. Sanz teaches the *tonos* in his explication on accompaniment: significantly, this section of his *Instrucción* is intended for players of “guitarra, arpa, organo, o cualquier otro instrumento” (1697, bk. 2, p. 1), not only guitarists. Each *tono*, with the exception of the fourth, is described with a single *alfabeto* letter, corresponding to the final and third degree in the common Spanish presentation (García Gallardo 2010). The third tone, however, is described as “por la D, y acaba en F” (in A minor, and ending in E major) (Sanz 1697, bk. 2, p. 2). The third tone being A minor is problematic in Sanz’s system, as it renders it equivalent to the seventh tone, which was A minor in the Spanish system, following the final of the psalm tone. Thus, when Sanz writes Passacalles in every tone in the third book of his *Instrucción*, he skips the seventh tone, as it would be redundant with the fourth.[41]

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[39] In both sequences of three Passacalles, the first ends major, while the other two end minor. The second one starts major, due to the first one ending minor. I would refer to Passacalles that start and end with different qualities of third as Hermaphrodite Passacalles, and do the same with Quiescenze with a subdominant from the parallel major/minor, following Gjerdingen's naming of the Hermaphrodite Fonte with $\flat\hat{6}$ and Demeyere's naming of the Hermaphrodite Quiescenza with a $\flat\hat{6}$ and major tonic. But this adds no particular value in this analysis.

[40] The dances are *Filhotas*, which are in scordatura and make reference to the *machinho*, a Portuguese string instrument tuned a step below the violin (Medina Riera 2020, p. 27); or *Gaita de folle*, which are bagpipes.

While Sanz’s ordering is idiosyncratic, even among Spanish guitarists, it did find traction among Portuguese guitarists. The labeling of A minor as the 4th *tom* is ubiquitous in Portuguese early- and mid-18th century collections of guitar music, which include concordances with Sanz. These sources, like Nogueira, solve Sanz’s theoretical problem of differentiating tones 4 and 7 by assinging tone 7 to D major (Budasz 2001, p. 100), as was common elsewhere in Europe (though not in Spain) starting in the second half of the 17th century (Barnett 2002, also see Dodds 2024).

3.5 The Guitar-Violin Connection

Sanz’s impact on Portuguese guitar music is unsurprising, perhaps, given that he studied in Salamanca, which is situated geographically and culturally between Castillian Madrid and Portugal. However, what might be more surprising is that he might have had an impact beyond the realm of guitarists. There is ample evidence from paintings and the theater that the violin and guitar were often played together in 17th century Spain. The connection between the violin and guitar repertoires in Spain is strengthened by several manuscripts that include tablature for the two instruments side by side, and often in the same hand.[42] These manuscripts include pieces for both instruments written in their respective tablatures, as well as tuning instructions for the violin based on the tuning of the guitar. The strongest evidence that guitar-native musical thinking was shared by violinists is I-Fn Mus. MS 116, likely of southern (and thus Spanish-ruled) Italian provenance, in which the violinist is taught to read directly from triadic *alfabeto* notation (Gavito 2021). Another violin-guitar manuscript comes directly from Salamanca, the location of Sanz’s study. It carries the siglum of the University of Salamanca, is signed by a certain “Gaspar,” and is dated 1659 (Lombardía 2018), when Gaspar Sanz would have been a 19-year-old theology student at the University. Whether or not this source is traceable diretly to Sanz, there was sufficient porousness between the guitar and the violin to imagine that a guitarist of Sanz’s level of influence could have had an impact on violinists as well.

3.6 Nogueira’s *Preludio por F faut*

As discussed above, Nogueira wrote 24 preludes, one for each major and minor key. 21 of these consist of decorations of tonic, domiant, and tonic again. However, three of them (C Major, F Major, and A Major) extend beyond this framework, modulating to other keys. Each of these three uses the Laberinto. Figure 11 presents Nogueira’s Preludio in F Major, which uses the Laberinto the most extensively of the three.

The piece is written without barlines,[43] but it can be grouped into a series of dominant → tonic motions, which I have separated with dashed bar lines. After the departure from F Major, the first few sets of these can be grouped into schemata named by Gjerdingen: mm. 3–4 form a Quiescenza, mm. 5–6 a Fonte, and mm. 7-8 a Monte. Towards the end of the piece, recognizable schemata start to pop up once again: a Fonte in mm. 14–15, a Prinner in mm. 16–19, and a Monte in mm. 19-20, followed by two successive cadences in F Major. However, a large stretch of the piece remains unaccounted for: the relations of the tonics in mm. 9–13 correspond to no traditional Galant schema. In fact, they (along with the second half of the Monte in

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[41] See García Gallardo 2010 for a discussion of the explanatory value, or lack thereof, of the modal assignments Sanz’s Passacalles. For an interesting contrasting treatment, see Francisco Guerau’s Passacalles in the third, fourth, and seventh tones from the decade after Sanz: tone 3 ends in E minor, tone 4 ends E major but emphasizes A minor and uses mostly Phrygian cadences with F natural, and tone 7 ends in A minor. For a modern edition, see Guerau (2000).

[42] Discussion of these sources is the basis for Lombardía 2018, Lombardía, Moya, and Valdivia 2019, and Gavito 2021.

[43] Oddly, Nogueira writes a **C** at the beginning of the first system.

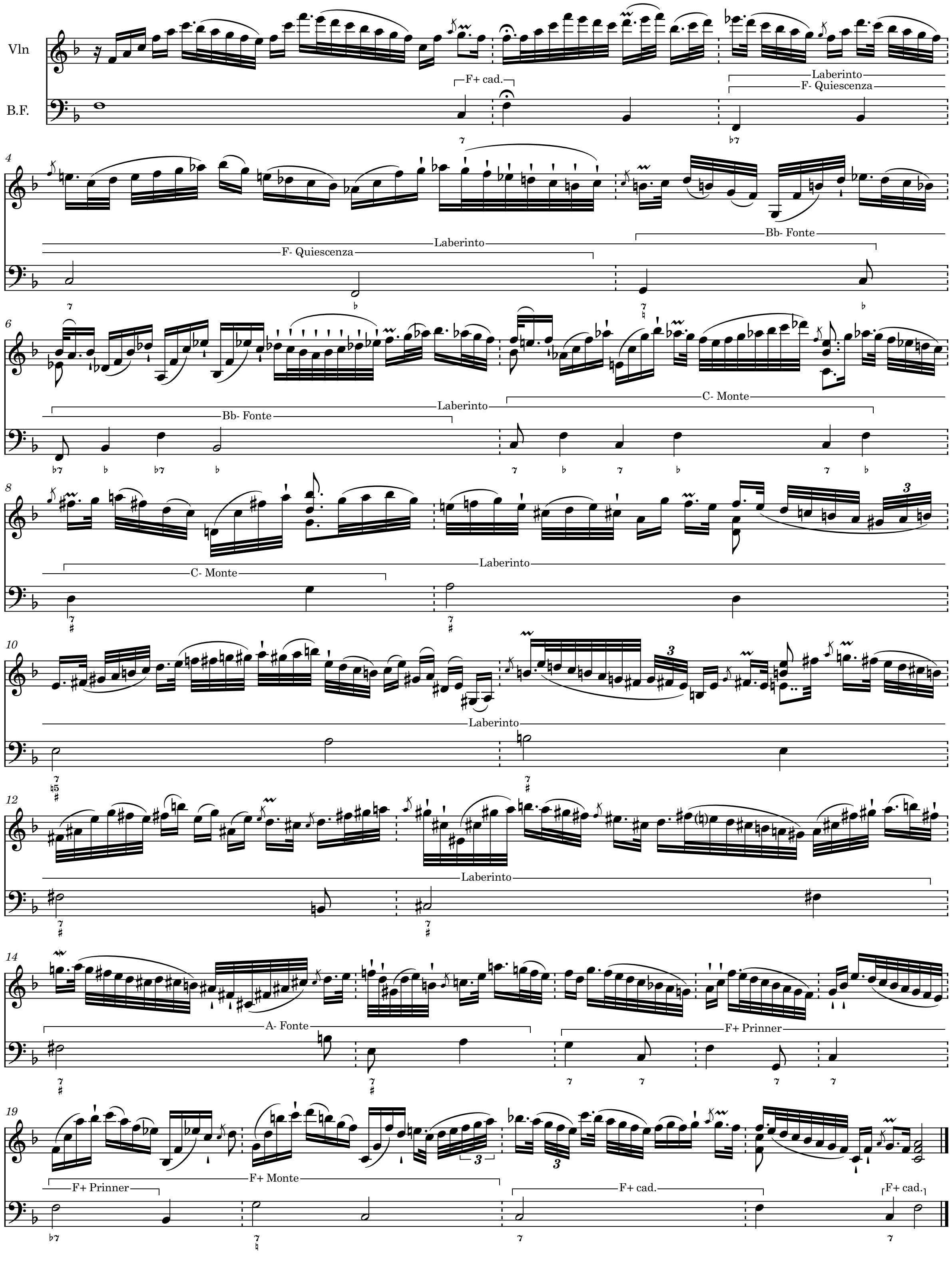
Vln
B.F.
F+ cad.
Laberinto
F- Quiescenza
4
Laberinto
F- Quiescenza
Bb- Fonte
6
Bb- Fonte
Laberinto
C- Monte
8
C- Monte
Laberinto
10
Laberinto
12
Laberinto
14
A- Fonte
F+ Prinner
19
F+ Prinner
F+ Monte
F+ cad.
F+ cad.

Figure 11: Nogueira's *Preludio por F faut com 3a natural*, with schemas annotated. Basse fondamentale and bar lines are editorial.

m. 8) form a Laberinto, modulating from G minor to F♯ minor.[44] Not unlike Bach in BWV 1041.2, Nogueira is forced to use a somewhat abrupt modulation to return to the tonic-area. He uses a Fonte in A minor, whose opening F♯ dominant shares a root with the end of the Laberinto. This is followed by a Prinner in the global tonic (F major), using a somewhat awkward descent from the prior harmony. It should be noted that the descent from the A minor in m. 15 to the subsequent G minor 7 sets up the descending pattern of the subsequent Prinner.

This is undoubtedly not as artful a retransition as Bach's successive Pontes in BWV 1041.2–nor is Nogueira's composition as artful as a whole as Bach's. But Nogueira's prelude is a trace of an improvisatory practice, and the particular sequence he uses to return to the tonic demonstrates how one might achieve this in a different kind of musical context, in which the basso continuo players are itching to join for the next movement, and a patched-together series of schemata will do just fine.

Nogueira uses the Laberinto to generate the harmonic succession of his *Preludio*. The structure of the piece is very comprehensible as a Laberinto, and Nogueira likely conceived of his composition this way. The harmonic pattern of the Laberinto gives Nogueira a platformon which to add elaborate violinistic flourishes, in the spirit of Sanz's comment that the *laberinto* enables the student to compose "tantas diferencias ... que no [las] podràs contar sin mucha Aritmética" (Sanz 1697, bk. 1, p. 5).

Sanz's generation of harmonic successions by turning imitative canons into sequences of triads had an influence on at least one violinist in the generation after him. It is not dissimilar, as a project of abstraction, to the standardization of often canonically-derived sequences by Corelli, Vivaldi, and the Neapolitan partimentisti into *moti del basso*, specific progressions over a basso continuo that served to define a key or modulate from one to another. These sequences were in turn abstracted into fundamental bass motions by Rameau, resulting in a conception of harmonic succession based, like Sanz's, on the progression of roots. This would eventually form the basis of common practice tonality.

4 Conclusion

In this paper, I have connected the harmonic conception of guitarists in the 17th century to a broader story about the advent of tonality. However, the connection between pluckers and the history of tonality goes further. It was a guitarist, Thomas Campion, who would first invent (or discover?) the rule of the octave in the early 18th century (Christensen 1992). It was a lutenist, Francesco Spinacino, who published the first piece that cadenced in 12 keys around 1507 (Griffiths 2011). And it was a guitarist, Lelio Colista who–in addition to being Sanz's primary teacher, and lauded by Sanz as "Orfeo de estos tiempos" (Sanz 1697, bk. 1, p. 7)–left an indelible impression on Purcell and Corelli (Allsop 1992). In fact, the typically Corellian Romanesca with chains of alternating 9-8 and 4-3 suspensions over an active step-wise bass that Harrison (2003, p. 248) cites as "apparently an original contribution of Corelli" can be found in Colista's F major Sinfonia W-K 26 (m. 15ff), with the active bass line specifically assigned to the lutenist.

I cite these examples not to elevate my own status as a guitarist, or rather to assert the centrality of guitarists in repertoires in which we are often marginal. Rather, I just humbly suggest that moments in the history of music theory that may at first seem like isolated incidents, unrelated to the primary thread of history, can upon further inspection serve to elucidate broader stories. By investigating the role of the baroque guitar in Spain, I hope to have clarified connections between repertoires and theories that previously seemed remote from one another. Dodds (2024) describes the development from Medieval modality to common practice tonality as following a few common grazing paths across the Alps: I hope my study of the guitar has indicated an equally scenic trail across the Pyrenees.

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[44] A Laberinto interpretation is also possible in mm.s 3-5 and 6-7. Additionally, the melodic parallelism between m.s 6 and 7 encourages hearing these bars as a two-unit Laberinto, rather than as parts of discrete schemas.

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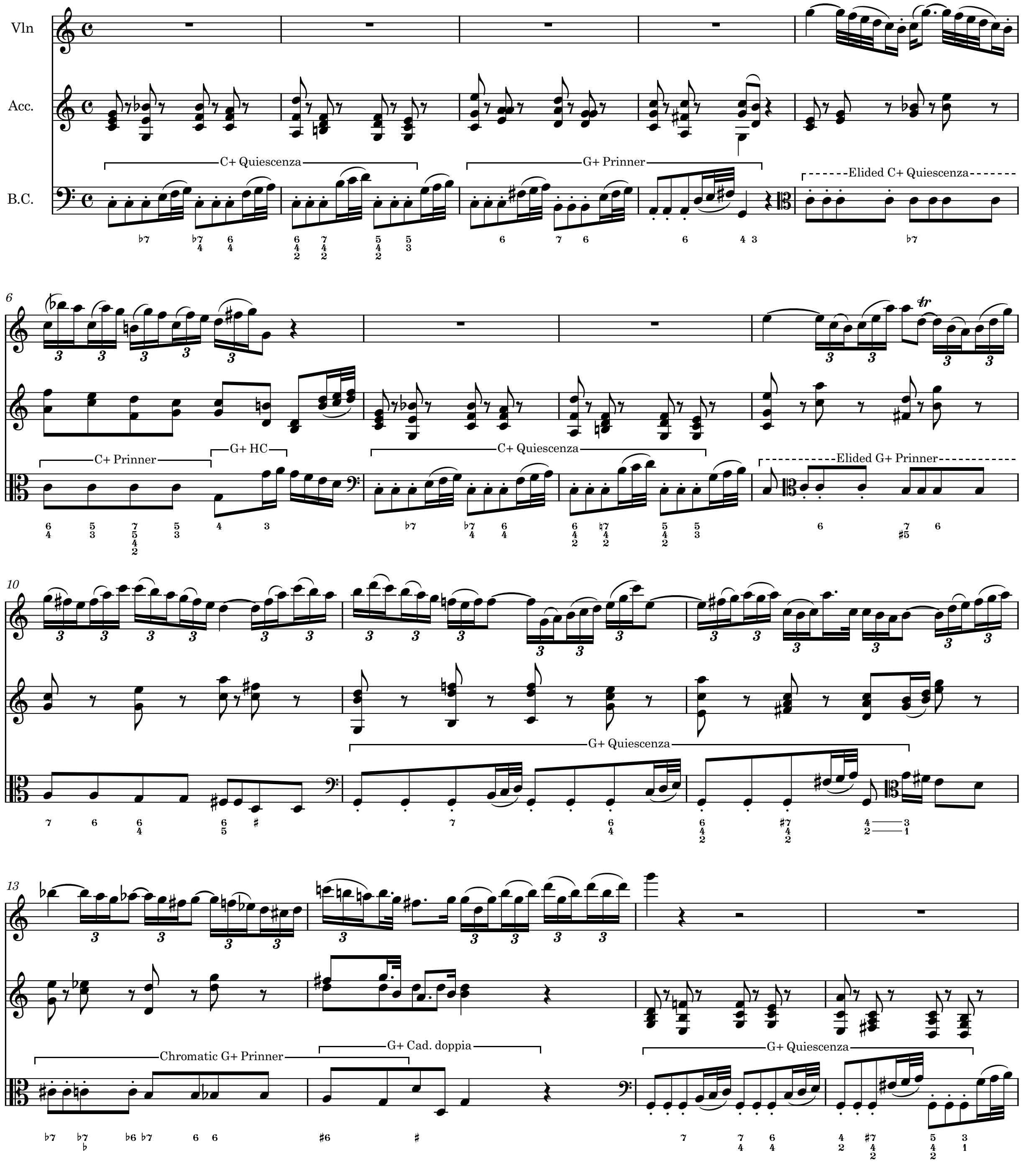
A Bach BWV 1041.2

Score of BWV 1041.2, with analysis of Table 1 annotated. Figured bass is editorial.


Vln
Acc.
B.C.
C+ Quiescenza
G+ Prinner
Elided C+ Quiescenza
6
C+ Prinner
G+ HC
C+ Quiescenza
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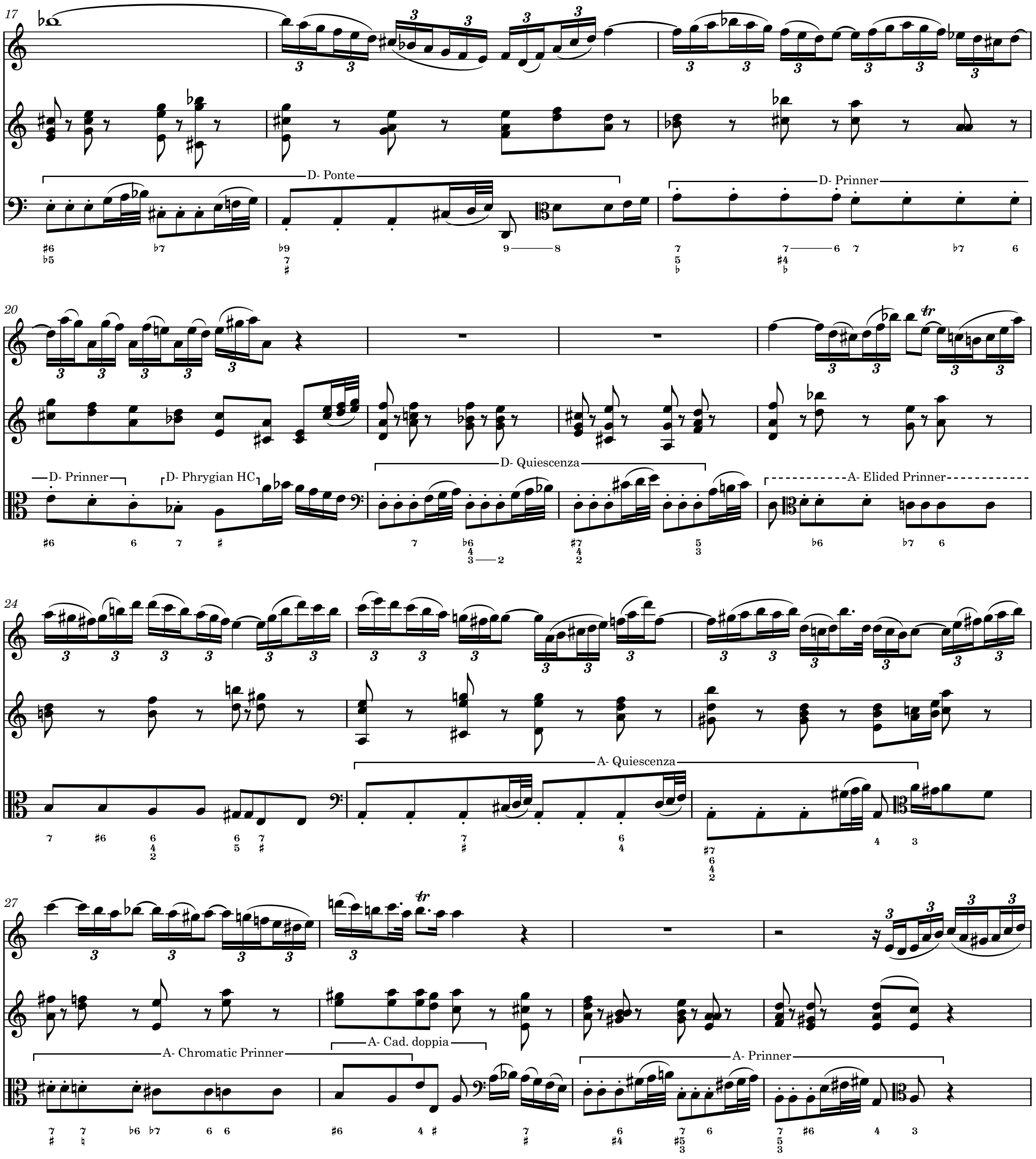
10
G+ Quiescenza
13
Chromatic G+ Prinner
G+ Cad. doppia
G+ Quiescenza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D- Ponte
D- Prinner
20
D- Prinner
D- Phrygian HC
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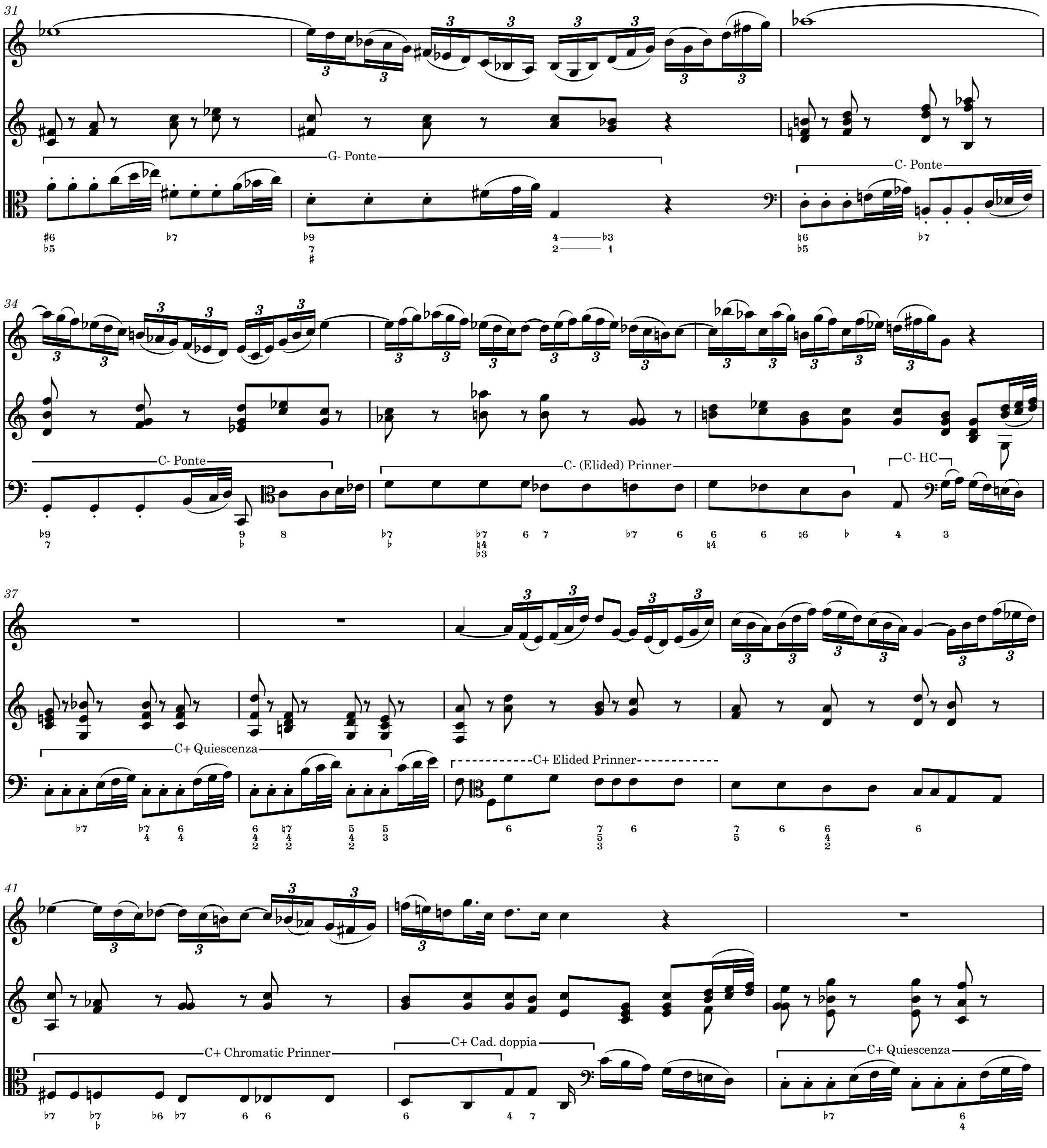
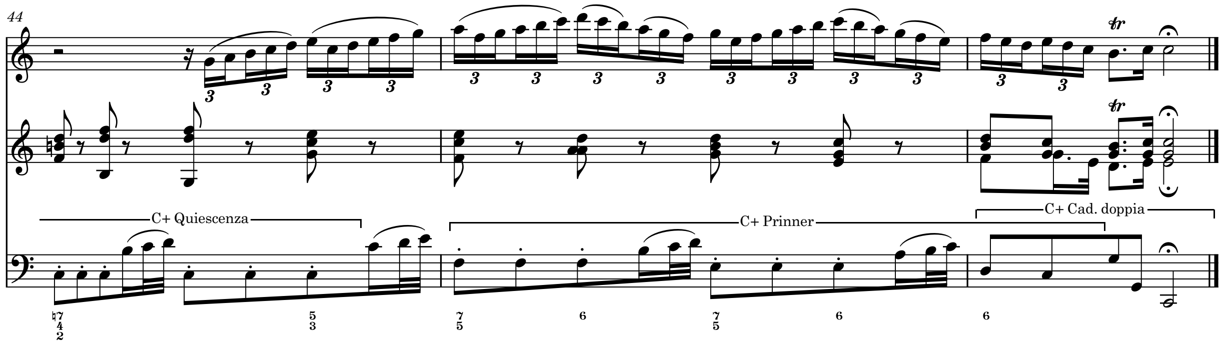
A- Elided Prinner
24
A- Quiescenza
27
A- Chromatic Prinner
A- Cad. doppia
A- Prinner


31
G- Ponte
♯6 ♭5
♭7
♭9 7 ♯
4—♭3 2—1
C- Ponte
♮6 ♭5
♭7
34
C- Ponte
♭9 7
9 ♭
8
C- (Elided) Prinner
♭7 ♭
♭7 ♮4 ♭3
6 7
♭7
6
6 ♮4
6
♮6
♭
C- HC
4
3
37
C+ Quiescenza
♭7
♭7 4
6 4
6 4 2
♮7 4 2
5 4 2
5 3
C+ Elided Prinner
6
7 5 3
6
7 5
6
6 4 2
6
41
C+ Chromatic Prinner
♭7
♭7 ♭
♭6
♭7
6
6
C+ Cad. doppia
6
4
7
C+ Quiescenza
♭7
6 4


44
C+ Quiescenza
C+ Prinner
C+ Cad. doppia
tr
tr
♮7 4 2
5 3
7 5
6
7 5
6
6