

C h a p t e r 4

Tonality and Systems in the Seventeenth and Early Eighteenth Centuries

I. Introduction: The Emergence of Key-Centered Tonality in the Instrumental Music of the Latter Half of the Seventeenth Century

During the 1670s and 1680s, northern Italian composers undertook the first bold steps to standardize an instrumental style that had gradually evolved over the course of the previous half-century. The north Italian cities of Rome, Venice and Bologna, including the surrounding areas under their political and artistic influence, cultivated thriving instrumental traditions that complemented their already famous operatic and sacred music institutions. This new emerging style soon influenced all major musical capitals of Europe and established Italy as the focal point of a progressive school of instrumental composition.

Under the strong and vital influences of opera and cantata, all three Italian cities created instrumental works which, by the end of the seventeenth century, featured a cogent sense of tonal organization in which a tonic triad was prolonged over the course of an entire movement by functionally

significant auxiliary cadences. The general interest on the part of Italian composers (and, to some extent, French composers as well) to create works with greater tonal clarity; specifically, compositions in which all harmonic motions within any given movement related directly to a background tonic, supported a new approach to phrase structure and rhythmic unity that reflected the new attitude towards mode (*tonus*) and hexachordal harmonic organization. The results allowed composers greater freedom to expand and develop thematic material and thus to enlarge the breadth and scope of each composition.

Previously, composers had relied on a number of compositional techniques inherited from the Renaissance to create pieces of any considerable length. Mosaic designs that ran together short, contrasting movements in the style of the canzona, for example, were especially popular in Venice during the first half of the seventeenth century. Such techniques appear in the violin canzonas and sonatas of G. B. Fontana (d. ca. 1630), Tarquinio Merula (ca. 1594-1665) and Biagio Marini (ca. 1587-1663). Composers also attempted to create larger works through the use of other forms and procedures first established in the sixteenth century: for example, they favored variations upon a given theme or bass, multi-sectional toccatas characterized by contrasting fantasia (meaning, freely contrapuntal) and strictly imitative sections, and the ricercar, with its series of imitative subjects. However, without the aid of a text, whose

presence would have allowed for a more expressive chromatic language, and consequently, for more frequent shifts of eleven pitch-class hexachordal systems, composers of instrumental music during the first half of the seventeenth century restricted themselves to movements of only moderate length and of only limited harmonic scope. The brevity of the individual sections, whether dance-derived in free counterpoint or strictly imitative, did not provide opportunities for large-scale modulations capable of supporting non-tonic harmonic areas. Such a modulatory process would require a complete harmonic progression in order to stabilize the “new key,” a process that would not be fully established until the advent of ritornello form sometime in the late 1680s. As a result, each section of these earlier canzona-like structures remained clearly within the tonic with cadences restricted to hexachordal pitches of the prevailing system. However, these points of cadential articulation did not in turn motivate full progressions within their respective harmonic areas; rather, the tendency was to immediately return to tonic harmony.

Until the advent of large-scale tonal modulation at the end of the seventeenth century, composers of instrumental music who wished to explore harmonic areas that existed outside the prevailing tonic hexachord system, did so by shifting into contrasting eleven pitch-class gamut systems. Perhaps

owing to their improvisatory nature, pieces based on the toccata principal were more motivated than others to shift hexachordal systems, often with startling results. On the other hand, pieces in canzona form, such as early chamber sonatas, or keyboard canzonas, were more likely than not to remain within one hexachordal system throughout. As an example of the former, consider Frescobaldi's Toccata Ottava (see Ex. 4.1).

EXAMPLE 4.1: Frescobaldi, Toccata Ottava (mm. 1-7)

The Toccata is composed in the F mode in *cantus durus* and therefore assumes a *naturalis* system. What makes the piece harmonically interesting is the conflict that arises between what appears to be pure F lydian as the background mode, with a natural signature and with frequent B_s, and a tendency towards lydian *mollis* with written-in B β s. However, F as a tonal

center (either modal or tonal) is hardly established in the first measure before the harmony immediately veers towards the subdominant, the passing Eβ in the top voice effectively turning the F triad into an applied dominant of IV. As a result, the *naturalis* system shifts down a fifth to *mollis* and remains within a 1β system until G# enters in m. 6, returning the system to *naturalis*. Significantly, from m. 6 on there are no Eβs or D#s; the eleven pitch-class area of the *naturalis* system remains uncontested until the end of the toccata. However, while the *naturalis* system remains intact throughout, the underlying harmonic progressions, rather than supporting an F tonic, relate more to pitch classes that form the roots of the *naturalis* hexachord:

Quality of 3 rd :			B/Bβ	F/F#	C/C#	G/G#
Hexachordal pcs:	F –	C –	G –	dm –	am –	em
	I	V	II	vi	iii	vii
			V/V			V/iii

(Bβ is the allowable flat in this system and acts as IV/F)

As in the Monteverdi vocal examples cited in the previous chapter, Frescobaldi's harmonic motions tend to be localized; that is, the bass moves in fifths (not always in root position, but sometimes in inversion) following the fifths of the reordered *naturalis* hexachord. Referring to Ex. 4.1 above, note the bass progression starting from the A⁶ chord on the third half note in m. 2: A⁶ – D – G (downbeat of m. 3) – C. Instead of C now moving to F to

reaffirm the tonic of the piece, C moves to another A⁶ to begin another series of fifths, etc. In addition, the modal language of the period allows for any number of degree inflected thirds within any particular fifths progression. Thus, the third half note of m. 6 supports an E minor triad the third of which is inflected to G# on the fourth half note of the bar. Not only does is E minor inflected to E Major, but G# reverts the previous *mollis* system back to *naturalis*. In this case, however, the E major triad does not then proceed immediately to the next fifth, A, but instead reverts to E minor on the downbeat of m. 7. Only then does the implied E minor harmony move to A⁶ once more, followed by d⁶ as the next fifth relation.

The rest of the toccata moves along the C hexachord in similar fashion, its fifth relationships pointing always towards D minor as a potential terminus. Only the last measure of the toccata redirects the harmony to F, with Bβ reintroduced in the bass as part of a ii⁶ chord, the measure ending emphatically with the dominant C moving to the F, the final of the mode.

As the seventeenth century progressed, composers of solo and trio sonatas came increasingly to rely on the one specific compositional form that had always manifested an inherent tonal structural coherency since its inception: the dance – either non-sectional or binary. Individual sonatas usually comprised one dance movement, sometimes with an introductory prelude,

or they alternated brief, imitative or through-composed movements for contrast. The *sonate da camera*, as a collection or suite of dance movements, is rare until Corelli's op. 2 of 1685.¹ Apart from their appearance in the *sonate da camera*, dance movements were often incorporated into the church sonata, although not labeled as such. Further, typical rhythmic patterns and typical phrasing of dance rhythms increasingly permeated other through-composed movements of the sonata.² These dance influences would soon effect the concerto grosso.

From their inception, dance forms had clear-cut phrasing supported by strong rhythmic accents. These combined to create the basis of a fuller sense of tonal direction. But, during the seventeenth century at least, dance movements did not allow for thematic expansiveness, for development of

¹For a discussion of the pre-Corellian *sonata da camera* see John Daverio, "In Search of the Sonata da Camera Before Corelli," *Acta Musicologica*, vol. 57, Fasc.II, 1985:195-214. Daverio observes that the current spelling of "sonata" was never used; instead, *sonate* is indicated on all the title pages of the printed editions (*sonate da camera* or *sonate da [or de] chiesa*).

²In describing Stradella's numerous trio sonatas (mostly composed in the late 1670s), Eleanor F. McCrickard states: "No movement is designated a dance, yet the rhythms from dances of the period permeate the movements. Whereas these rhythms are most often found in the binary movements, they are not limited to those movements." Eleanor F. McCrickard, "Temporal and Tonal Aspects of Alessandro Stradella's Instrument Music," *Studien zur italienisch-deutschen Musikgeschichte XII*, Band 19, 1979:186-243.

motives, or for much textural contrast within their relatively short sections. On the other hand, pieces of considerable length were in existence, though their overall structures were relatively shapeless – sometimes even rambling. As many of the toccatas, ricercars, and fantasias of Sweelinck, Scheidemann, Tunder, and Frescobaldi attest, composers were primarily interested in the individual moment or section (for example, a so-called “point of imitation”) and in its surface detail. Frescobaldi confirms the mosaic character of these pieces when he states in his Preface to *Il Secondo Libro di Toccate, Canzone, Versi d'Hinni* ... (Rome, 1637):

In the Toccatas I have not only paid regard to the fact that they are rich in varied passages and ornaments but also that *the individual sections may be played separately from one another* [our emphasis], in order to enable the player to make a conclusion at will, without having to end the Toccata."³

The restricted thematic scope of the dance forms and the disunified structures of the through-composed pieces were both a condition of the modal/tonal system

³Pierre Pidoux, trans., *Frescobaldi Orgel und Klavier Werke*, Band IV (Bärenreiter-Ausgabe 2204, 1963).

then in use, a system in which internal harmonic progressions could just as easily relate to a background tonic as they could to the fifths of a reordered central hexachord. In either case, there was no established method to create of a convincing long-term modulatory harmonic scheme where every harmonic goal could support and relate to an underlying background tonic triad.

In particular, what was missing from the stagnant tonality of the period was any consistent use of large-scale modulatory dominant progressions. What is meant here are not simply cadence structures which temporarily arrive at diatonic key centers while still deferring to the tonic. Rather, contrapuntal expansions of non-tonic harmonic areas are not yet present within these works. Certainly, applied dominants were becoming known and used from at least the beginning of the seventeenth century, especially in vocal music.⁴ But while

⁴Examples of applied dominants, used within an elementary harmonic context, can already be seen in the monodies of the Florentine cameratas and in early opera *stile rappresentativo*. One particularly striking instance, appearing later on in the 17th century, occurs in the final chorus of Carissimi's oratorio *Jeptha* (c.1640), "Plorate filii Israel," where the first half of the chorus, in A minor, moves to G major via an applied dominant before the second ending. The second half of the chorus remains in G, prolonged throughout by its dominant. Further, the A minor of the first half of the chorus can be heard as part of a large-scale progression -- II-V-I in G major, the key (or more correctly, the G mixolydian mode) with which the oratorio opens. Carissimi's chorus is unique in that such large-scale harmonic progressions are extremely rare at this time, yet it does portend future developments in tonal prolongation that become standard only during the last quarter of the 17th century. See also Beverly Stein, "Carissimi's Tonal System and the Function of Transposition in the Expansion of Tonality," *The Journal of*

instances of applied dominant relationships are plentiful, these tend to be localized affairs which do not contrapuntally expand the point of arrival or articulate a non-tonic harmonic area. Instead, they are conceived as subsidiary passing motions within the prevailing tonic.

Monteverdi's *Vespers* of 1610 provides a case in point. The "Laetatus sum" from this impressive work is composed in transposed hypodorian mode on G in *cantus mollis*. However, Monteverdi's adjustments of the original plainsong (the penultimate F₂ is consistently written as F#) and the harmonic context within which it is set, renders the mode emphatically G minor.⁵ Thus, the first six bars of the movement clearly establish G as G minor,⁶ presented in the continuo as a complex walking bass that is both contrapuntal and harmonic

⁵Significant is the fact that the chant melody is not stated at the outset of the piece; instead, it enters in m. 3 during a prolongation of the relative major, B β . The chant itself is composed in transposed B β hypodorian which, at first, seems to contradict the G minor tonic harmony of the piece. Monteverdi's use of the cantus melody is thus very different from that of the sixteenth century where it acted as the structural voice, often determining the shape and harmonic content of the voices around it. Here the harmonic construction of Monteverdi's bass is the governing factor, overriding the transposed B β hypodorian mode of the chant melody. The upper voices, as well as the cantus, are contingent upon, if not derived from, the triadic implications of the bass. This new approach to counterpoint which is instrumentally conceived; i.e., derived from the continuo bass, will replace the voice-derived counterpoint of the previous century by the middle of the seventeenth century. Monteverdi must be accounted one of the first composers to utilize this new style.

⁶Monteverdi was probably not thinking of G hypodorian (in *cantus mollis*) as G minor in the modern sense of common practice tonality, but as a "church key;" or "tone;" that is, as a fixed transposition a fifth down from D dorian, the first church key. The lower fifth relation, as an exact transposition of D dorian, was thought of as "hypo". For a more complete discussion of church keys and their derivations, see Joel Lester, *Between Modes and Keys: German Theory 1592-1802* (New York, Pendragon Press), 1989: 77-82.

in design. The bass unfolds a complete harmonic progression which supports a statement of the plainsong chant in tenor I, upon which the movement is based. The background structure of the bass is: Gm - Bb (III defined by its dominant, F) - D (V) - G (in this case, major). This tightly organized progression, which ultimately derives from the reordered F hexachord, governs the entire psalm setting with the opening walking bass returning periodically in the manner of a ritornello. Again, one notices the pairing of localized fifth relations, here B β - F, F - C, and d - G, all hexachordal pitch classes of the *mollis* system.

Typical of ritornello structures of the first half of the seventeenth century, the "theme" is never transposed, but remains in the tonic at each appearance. Thus, while the bass-*cum*-ritornello possesses an extensive internal motion to the relative major (B β) via an applied dominant, F, the relative major is heard only as a prolongation of the G modal tonic - that is, as part of a larger harmonic progression -- and is never established as a separate key in its own right. The thematic material that acts as transition material between each return of the ritornello simply emphasizes the dominant, sometimes with a passing motion to the relative major, as preparatory to the return of the ritornello in the tonic. As a result, the entire movement, of some considerable length (116 measures), does not, in fact, prolong the tonic

on a background level, but is organized sectionally. Each section is clearly within the G mode, albeit with a G major triad sometimes substituted at final cadences.

The absence of non-tonic expansions may be one of the few lingering aspects of late modality in Monteverdi and Frescobaldi, and their contemporaries; but, within a few decades, particularly with the music of Corelli, composition will have more of a “modern” sound and begin to include tonally directed harmonic progressions. By this, we mean that a tonally conceived phrase contains certain assumptions and expectations on the level of the phrase that are generally absent – or at least not consistently present – in a modal composition, even in one of the late seventeenth century. In a sense, a tonal phrase, with its establishment of a tonic, the contrapuntal expansion of the tonic by means of some kind of subdominant or pre-dominant entity, and its culmination in a cadential figure, creates a tonal hierarchy, a kind of musical “gravitational pull” that is unmistakable. Of course, it is unreasonable to criticize Monteverdi or Frescobaldi for not being Vivaldi and this certainly should not be inferred! However, we are at a historical juncture where the art of Western musical composition was not just about to change, but, indeed, needed to in order for the modern developmental process to become an integral part of a burgeoning tonality.

With Marini, we will see both the last gasps of modality and the birth of a new compositional ideal that will alter the face of composition for the next two hundred years.

II. Biagio Marini: Unresolved Modal-Tonal Conflicts and the Possibilities They Pose for Development

The sonatas of Biagio Marini (c. 1587 – 1663) furnish, within themselves, an excellent illustration of the move from a stagnant tonality; meaning, one that still adheres to modal progressions based on localized fifths within the prevailing three-hexachord system, to a nascent tonality; that is, a tonality in which the hexachordal pitches are organized into harmonic progressions that support a background tonic.⁷ In general, Marini's sonatas evidence a lack of contrapuntal voice leading of the sort which would allow for the establishment of non-tonic harmonic expansions. Often, harmonic areas are simply juxtaposed through modal bass motions of a third or a fourth, rather than fulfilling large-scale tonally-conceived cadential progressions. In Marini's earliest collection of sonatas (dated 1617), modal constructions clash head-on with attempts to create tonally organized sections. "La

⁷For an overview of Marini's sonatas see: Thomas D. Dunn, "The Sonatas of Biagio Marini: Structure and Style," *The Music Review*, 36/3, August, 1975:161-179.

Foscarina", from this collection, clearly illustrates the multiplicity of harmonic designs available to composers at this time.

Example 4.2 is taken from one of the many brief sections of this canzona-like piece. At first, it is difficult to determine the overriding "key": C major seems at first to be the most likely candidate (it was the tonality of the previous section), but from bar 60 the music veers towards F. Instead of completing the cadential progression in that key, the music suddenly shifts again (in m. 63) to A, a completely unprepared third motion. A as an harmonic area is itself never secured by its dominant, either before or after its initial statement, and is further undermined by C₋/C[#] cross relations in mm. 67-69. A dramatic pause follows, in m. 70, in order to prepare for a lengthy passage of *stile concitato* in which A finally reveals itself as the dominant of the dominant of G hypodorian (the second church key), the mode (or "key") of the sonata. Initially, however, A as V/V is not immediately related to D, but is contrapuntally prolonged by B β and G as upper and lower neighbors. Only when the bass rises from A at the beginning of the *stile concitato* to B₋ in m. 76, and again to C[#] in m. 77, forming a first inversion A major triad, do we recognize a contrapuntal line leading up to D. Thus no part of the voice leading of the first six bars of the passage supports any kind of harmonic direction to the dominant D major triad which

appears in m. 79. Taken as a whole, then, the A major passage that bursts upon the scene in bar 63 cannot be heard as part of a large-scale II-V-I cadential motion to G minor since it is neither convincingly motivated nor convincingly prolonged.

EXAMPLE 4.2: Biagio Marini, “La Foscarina, Sonata a 3 con il tremolo” (1617): mm. 50- 80

The image displays a musical score for a three-part sonata by Biagio Marini. It consists of four staves: Violin or Cornetto 1, Violin or Cornetto 2, Trombone or Bassoon, and Continuo. The score is divided into three systems. The first system covers measures 50 to 59. The second system covers measures 63 to 70. The third system covers measures 71 to 80. In measure 71, the upper staves are marked 'tremolo con l'arco' and the lower staves are marked 'tremolo col strumento'. Measure 80 includes the instruction 'metti il tremolo' and a specific fingering sequence: 5 6, 5 6, 6, 6 6, 6, 6 5.

Admittedly, viewing the above harmonic relations in terms of common-

practice tonality would seem to make little sense, but the same relationships do make perfect *modal* sense if one hears the entire movement in terms of the *mollis* 1β three-hexachord system. While G is the modal final of the piece the internal motions to C and A, along with the fifths attached to them, F and D, all contained within the 1β system, create a well-balanced symmetry between the subdominant side and the dominant side of the *mollis* hexachord:

	┌───┐			┌───┐	
Bβ	F	C	g	d	a
III	VII	iv	i	v	ii

Symmetrical fifths surrounding a modal tonic is quite common for music of the first half of the seventeenth century, and is quite unlike the tonal hierarchies inherent in common practice tonality. Such tonal organization was simply not an issue to composers during the first half of the century as long as the modes remained a vital compositional force. The problem stems from the fact that modes, by definition, are purely linear constructs.⁸ When harmonized

⁸In discussing Glarean's *Dodecachordon*, Harold S. Powers states: "...for him [Glarean] as for others the modes were monophonic, and a principle for integrating the voices was needed." See "Mode," *The New Grove*, 16/2001: 811

according to the gamut system that underlies them, they become unstable in a key-defining sense: each tone of their central hexachord theoretically may have either a minor or major triad constructed above it, and this may result in cross relations and modal progressions (that is, progressions that emphasize minor triads and localized harmonic motions around hexachordal fifths, that prevent any possibility of tonal voice leading. For tonality to be clearly established, there must be present a major quality dominant triad which contains the leading tone of the key. Harmonized modes may or may not contain such triads. In addition, the major dominant triad must itself be preceded by a chord progression that defines its function as the penultimate goal of motion, the ultimate goal being, of course, the tonic. Such tonally directed progressions, absent from modal theory, shift the emphasis from the linear to the harmonic, and thereby endanger the very nature of the linear mode they purport to harmonize. During the first half of the seventeenth century, a period in which the confrontation of modality and tonality is at its most extreme, the listener is often presented with modal-tonal passages that constantly fluctuate between minor and major triads and often leave the tonic itself in doubt. By definition, these pieces are limited in scope. Large-scale forms, such as the late-baroque concerto and the classical symphony, require a fully developed tonal system, one capable of supporting a

structural hierarchy. Such a tonal structure is capable of prolonging the tonic through the contrapuntal articulation of large-scale harmonically dissonant areas. These non-tonic harmonic areas become the points of formal division within the composition.

To use voice-leading terminology, modality was never capable of sustaining or supporting a middleground. Therefore, in most instances, the background structure of a modal composition could be viewed as harmonically static, or perhaps even non-existent.⁹

Marini's obscure tonal progressions in the sonatas composed before 1655 illuminate the problem clearly: there is little or no sense of structural hierarchy. As a result, there is a certain amount of confusion as to that which is tonic and that which is prolonging. For example, Marini's contrapuntal motions towards non-harmonic areas are often not completed, and remain within the tonic orbit. Consequently, phrases are short-winded and

⁹The question may also be raised whether there is any validity to the use of Schenkerian analytical techniques to explicate pre-tonal music. Schenker assumed the unfolding of a tonic triad, the background harmonic organization, and its middleground and foreground contrapuntal elaborations to be at the heart of a tonal composition. Thus Schenker's theory represents a philosophical unity of harmonic and contrapuntal thinking. If modality was ultimately incapable of rationalizing the horizontal and vertical aspects of composition, then the application of Schenker's theory to such compositions may exemplify musical-theoretical sophistry.

often seem to end before their time without defining the key.

Marini's final collection of sonatas (op. 22, 1655) shows the composer attempting a grander design with a concomitant increase in his contrapuntal skill. These works and those of Giovanni Legrenzi (op. 2, 1655 -- discussed below), form a direct link to the ensemble sonatas of Stradella and Corelli and deserve closer inspection.

The *Prima* and *Seconda parte* ("movement," as a term for a self-contained section of music within a larger piece, was not used until the early eighteenth century) of Marini's Sonata no. 1 in d dorian (first church key), op. 22, in *cantus durus* (*naturalis* three-hexachord system), already show the formal outlines of the *sonata da chiesa* of Corelli. The sonata, scored for violin, string bass obbligato, and continuo, begins with a through-composed movement (see Example 4.3) which attempts to expand upon two thematically contrasting motives stated unaccompanied from the outset in the bass. This flamboyant, fantasia-like movement prepares a fugal second movement equally quixotic in nature. Juxtaposing a through-composed movement, one which contains a certain degree of instability, with a more stable fugue becomes standard in the *da chiesa* sonatas of Corelli. What makes this particular Marini sonata interesting is the expansion of motivic material through the use of elementary contrapuntal *Fortspinnung* techniques (to use the German term)

with the express purpose of unifying the movement. These expansion procedures usually entail parallel or conjunct motion between the outer voices and result in sequences such as 5-6 exchanges, parallel 6ths or 10ths, 5-7 cycles, and so on.

Fortspinnung (or "spinning out") is a fundamental stylistic feature of the late Baroque and serves two purposes: 1) to prolong given key areas, often through sequences, while providing a sense of directed harmonic motion, and, 2) to create bridge material, providing tension and instability, as the music progresses from one harmonic area to another. Owing to the irregular phrasing of Baroque music, *Fortspinnungen* may be applied at any point within the composition, even within its initial thematic statement. However, *Fortspinnungen* become most effective when judged against an established tonic background. Only in this way can the "spinning out" technique create harmonic dissonance and thus musical drama, the very basis of the late-Baroque concerto.

EXAMPLE 4.3: Marini, Sonata no. 1, Op. 22 (Venice,1655): *Prima parte*

Grave

Violino

Basso
(Cello oder
Violoncello)

Continuo
(Orgel oder
Cembalo)

8

17

23

27

Marini's *Fortspinnung* progression begins in m. 17 as an expanded motion within the dominant (Ex. 4.3). The particular contrapuntal technique employed here is a series of 5-7, or cycle of fifths sequences (mm. 17-19 and mm. 24-28, plus cadential material) which is directly related to the second motive

(B) of the movement (mm. 6-7). Thus Marini is developing the second motive and expanding it throughout the second half of the movement. Such a process gives the whole a tight structural unity. Contrasted with this is motive A (note that both motives are played at first unaccompanied in the bass) which moves at a decidedly slower harmonic rate. In addition, both motives contrast in function as well as in design: the first motive attempts tonal stability, while the second is harmonically unstable and sequential. Here, Marini anticipates the use of *Fortspinnung* in the later concerto

In this movement, Marini adumbrates Classical developmental procedures by working out foreground details on deeper structural levels, notably the phrygian cadence which first appears in mm. 4-5. The B β upper neighbor to the dominant A complements the opening gesture of the C# lower neighbor to the tonic. Since the motive itself is open ended, it can be used to explore more distant dominant relations, in particular, the dominant of the dominant. In mm. 15 and 16, for instance, the phrygian cadence to E, initiating a brief prolongation of the dominant A, occurs naturally as part of a transposition of the opening subject in V (m. 12). Even motive B (mm. 6-8) projects the phrygian B β -A of the first motive as an inner voice motion in the bass, supported by a cycle of fifths, resulting in a descending contrapuntal line from B $_$ in m. 6 to B β on the downbeat of m. 7, which then resolves to the A in

m. 8. This gesture is repeated in the bass between mm. 24 and 26, where the structural dominant is reached and then restated immediately in the bass at the upper octave as preparation for the final cadence of the movement. (It is significant that the previous motion to the dominant, in m. 21, avoids this inner voice descent),

The question remains, then: Is Marini's movement tonally conceived (in a manner in which Corelli might have expressed it) or are the harmonic progressions still tied to modal thinking? Marini's harmonic plan for this movement centers around, and remains within, the confines of this eleven-note *naturalis* three-hexachord system where no E β or D \sharp is present to provoke a modulation of system:

3 rd degrees present:	A	E	B/B β	F/F \sharp	C/C \sharp	G/G \sharp
C Hexachord pcs:	F - C -	g -	d -	a -	e	
	III	VII	iv/IV	i/I	v/V	ii/II

(B β is the allowable flat in this system and used to form its own major triad)

Marini's innovation here is the background harmonic progression from the final of the mode, D, to its dominant, A (m. 12), and then to its dominant E (m. 17: see the brackets in the above diagram), before returning to D via A. This decidedly tonal harmonic plan points to similar tonally conceived background progressions that become standard by the end of the seventeenth

century, notably in the works of Arcangelo Corelli.

In this case, the structural harmonic goals of this movement occurs in fifths up the hexachord and away from the tonic instead of moving down in the subdominant direction towards g, C, and F (although these hexachordal pitches from the subdominant side of the hexachord often appear together within local sequential progressions, as in mm. 6 - 7). Likewise, the opening five measures are also progressive in the sense that they constitute a perfectly clear tonal progression within the tonic, $i - V^6 - i - VI - V$ that ends on a phrygian half cadence. This kind of tonal progression arpeggiates the structural tonic and fifth of the mode (or “key”) with the dominant degree prolonging tonic harmony. In addition, every pitch in the bass is diatonic within the mode, with C# as its leading tone and Bβ forming the motivically important phrygian cadence to the dominant. In other words, there are no altered chords that could confuse the progression and obstruct our understanding of the background tonic.

Equally “modern” is Marini’s use of *Fortspinnung* sequential progressions (contrapuntal elaborations organized in fifths cycles) to prepare formal cadences or to extend phrases. For example, the sequential B motive that serves to complete the opening A phrase temporarily suspends the tonic with the purpose of motivating the tonic cadence in m. 10, giving the whole 10-bar period a sense of forward direction. Significantly, the B motive is the basis

of all the *Fortspinnung* sequences in the movement – a further unifying device.

Similarly, the B motive sequence (beginning with the E triad in m. 17, functioning as V/V) directs the progression back to A, the dominant, and culminates with a formal cadence in m. 22. The dominant is then prolonged by two large B motive fifths cycles (the first from m. 24 to 26, and the second from m. 26 to m. 30), each terminating in a cadence on the dominant. The first sequence, starting on E, and intensified by a *stretto* imitation between violin and string bass, once again raises B β (m. 25) as an upper neighbor to the A in m. 26, just as it had in mm. 7-8. The downbeat A in m. 26 starts the second sequence, a transposition of the previous sequential passage, but still incorporating the B β – A relation. Instead of a formal cadence re-establishing the tonic, the last four bars prepare a contrapuntal 6 – 8 cadence to the D final, the last triad being D major. In this way, Marini ends the movement on a D triad that is bifocal; meaning that the root D relates to the tonic of the movement, but, as a major triad, it also prepares the second movement (*Seconda parte allegro*) that starts in G hypodorian.

Marini's Op. 22 sonata is typical of mid-seventeenth century compositions of this type in that it evidences both modern tonal tendencies as well as more modal, conservative thinking. The first movement clearly adumbrates later tonal organization in that the progress of the movement moves up in fifths

away from tonic harmony, only to return to it via its dominant. The second movement of this work (*Seconda parte*) is somewhat more modal in thinking: the movement begins in G hypodorian, the subdominant relation of D dorian, with consistent B \flat s, yet its signature is still that of *cantus durus*; consequently, the *naturalis* three-hexachord system governs the pitch material of the movement; again, Marini uses only the eleven pitch classes of the *naturalis* system without a single instance E \flat or D \sharp . Half way through the movement (m. 53), B \flat s displace B β s as the mode turns into G mixolydian (the eighth church key), heard here as the parallel major of G hypodorian, which ends the movement. Marini's harmonic conception here goes against what will become standard in later ensemble sonatas, namely, the second fugal movement, perhaps the most developed of all the movements of the work: it is invariably in the tonic, certainly not the subdominant, and the mode is consistently stagnant throughout. However, Marini prolongs both G minor and G major modes with dominant progressions. Of interest is the B β – A relation that pervaded the opening movement. During the first half of the second movement, in G hypodorian, the B β – A relationship is worked out (or “developed,” we use the two terms interchangeably), culminating on the cadence on the dominant in mm. 50-52 that ends the first half of the movement.

The last movement (*Terza parte*, in triple dance meter) has even more

modal tendencies. No background tonic, modal or tonal, is established until the end of the movement; rather, the harmonic motion proceeds along the localized fifths of the *naturalis* hexachord (in *cantus durus*), beginning on G, the eighth church mode, and ends on D (the first church key and the modal tonic of the entire piece). The whole movement is entirely in major modes without any modulation out of the *naturalis* gamut system. The subdominant relationship between G and D, worked out intra-movement (and inter-movement), emphasizes the authentic/hypo modal relationship that characterizes the entire sonata on a background level.

The opening of the third movement moves swiftly in localized fifths, one per measure: G, C, F, B β – and then reverses the process until a cadence on D is reached in m. 77 (the measure numbering follows the *Hortus musicus* edition). The D is not yet expressed as tonic, but as V/G, the tonic confirmed with an authentic cadence in m. 81. Curiously, Marini now changes the meter to duple in m. 87, and the G tonic now moves up the *naturalis* hexachord to arrive at D in m. 94. From here to the end of the movement, D displaces G as tonic.

Obviously, Marini is trying something quite new compositionally: a semblance of unity and thought that goes beyond individual movements, projecting design elements to higher levels of structure. Following Marini's example, both Stradella and Corelli will extend this process over the course

of an entire sonata, sometimes working out details from the first movement in subsequent movements. In this regard, Marini's elementary attempts take on great significance in light of later compositional practice.

III. Giovanni Legrenzi: Nascent Tonality

Giovanni Legrenzi (1626-1690) published his "Sonate a due e tre", op. 2 (Venice, 1655), in the same year as Marini's Op. 22.¹⁰ In this unique collection, Legrenzi deliberately set out to compose a series of sonatas in the eight church modes, probably for church services. Here, the conflict between the requirements of modal linear construction and tonal harmonic progression reaches a historic climax. It is significant that no other collection of sonatas was ordered in this manner before or since. Significant, too, is Legrenzi's compositional success or failure within the collection, and this in turn seems to be dependent upon how close a particular mode is to contemporary major or minor. The phrygian and hypo-mode settings are the least successful since both modes lack the necessary dominant to establish tonality.

To illustrate the modal-tonal conflict, the second sonata, "La

¹⁰Critical edition with Introduction, edited by Stephen Bonta (Harvard University Press, 1984). For more information on Legrenzi see: Stephen Bonta, "The Church Sonatas of Giovanni Legrenzi," 2 vols., Ph.D. dissertation, Harvard University, 1964.

Spilimberga," for two violins and continuo, is most instructive. The sonata is composed in the same year, 1655, and in the same church key (transposed hypodorian, or second church key) as Marini's Op. 22 discussed above. Almost identical to the opening progression in Marini's sonata, Legrenzi's opening statement clearly prolongs the G modal tonic with the same inverted major dominant, embellished with the same phrygian relationship to V, here, however, as part of a iv^6 (see Ex. 4.4, mm. 1-3). Since the linear organization of the hypo mode demands a strong tendency towards the plagal, g hypodorian (or G minor, if one hears the piece tonally) as a "key" center, is undermined by a lengthy passages in C minor (see mm.10-21 and mm. 28-35); both passages together take up a significant portion of the music, i.e, almost half the movement.

Between these two subdominant passages, G minor is regained (mm. 22-28), prolonged once more both by G and A β , its dominant and submediant. At the end of the progression (mm. 26-27), Legrenzi moves the continuo bass up in half steps to the structural dominant: C (βII^6) – C# (07) - D (V), a gesture that becomes motivic throughout the rest of the opening movement. For example, the second subdominant passage in C minor (m. 28) is an exact transposition of the previous G minor passage, complete with the same ascending continuo bass motive to the V/ iv (here, F – F# – G). When G minor regained in m. 36, the

chromatic trichord in its original state returns as well, in fact, twice, both times affirming the G as the modal tonic of the movement (see mm. 48-50 and mm. 53-54). Similar to Marini, the same phrygian relation to the dominant is iterated several times, both gestures, the chromatic trichord and the submediant acting as unifying devices, controlling the middleground harmonic progressions of the movement.

The very brief last movement, of only 9 measures (Example 4.4b), functions as a coda to the whole sonata. It mostly comprises a long subdominant pedal on C, supporting C minor in the upper voices, which finally "resolves" to a G major triad at the end. In this respect, the movement is not unlike the last movement of Marini's Op. 22 sonata. Both movements seem more intent on following the fifths of their respective central hexachords than in establishing an overriding modal tonic. The G major triad which ends Legrenzi's sonata thus sounds very much like a dominant of C minor and not as a plagal cadence in hypodorian.

EXAMPLE 4.4a: Legrenzi, Sonata no. 2, “La Spilimberga,” Op. 2, 1655: First Movement

Adagio

Violin I

Violin II

Basso Continuo

6 4 3 6 6 6 5 # 5 6 4 3

8 7 6 5 4 5 6 4 3 6 6 6

5 6 4 3 6 6 6 5 # 7 6 # 6 6 5 3

b 4 7 6 4 6 6 5 4 5 3 b

(5 6) 4 3 4 3 6 6 6 5 # 6 6 6 5 3

7 6 # 6 6 5 4 5 3 (6) 7 6 # 6 6 5 3

EXAMPLE 4.4b: Legrenzi, Sonata no. 2, last movement

[Presto]

Violin I

Violin II

Basso Continuo

92

96

4 3

It is interesting to note that both Legrenzi and Marini emphasize the phrygian relationship to the dominant within their opening phrases. They incorporate this gesture as a contrapuntal embellishment of the dominant triad, which, in turn, completes its harmonic implications with a return to the tonic. Marini artfully expands, and thus delays, the harmonic resolution of his $B\flat$ -A phrygian motion right into the entrance of the theme in the top voice through the use of the *Fortspinnung* motive B. However, Legrenzi's opening phrase is remarkable in quite a different manner. Though he uses the same phrygian gesture, Legrenzi effectively combines a strong tonal motion on the background level with middleground references to the hypodorian mode. The bass descent from G to C within the opening 5 bars adheres to the plagal

requirements of the mode, but Legrenzi also interprets the C as a lower neighbor prolonging the dominant, D, which resolves to G at the end of the phrase.

The emphasis on the subdominant within the first phrase prepares for the extensive C minor passages that follow, a working out of the applied dominant G-C of mm. 4 and 5. Legrenzi, as does Marini in the Op. 22 sonata, is able to project foreground details into a deeper level of structure. In fact, two characteristic gestures contained within the opening phrase are simultaneously worked out over the course of the entire sonata: the subdominant relation and the phrygian to V. In order to strengthen our perception of these two issues, Legrenzi incorporates both relationships in the final cadence of the initial phrase (see mm.8-9), where E β descends to the dominant D via the lower neighbor C as an embellishing tone. The chord of arrival in m. 10 is not the expected G minor triad, but its parallel major, forcing the music into the subdominant. The expected arrival of C minor in m. 15 is likewise deflected by a turn to the parallel major, initiating a similar motion to the subdominant of the subdominant. Interestingly, the actual confirmation of C minor in m. 21 is prepared by a dominant 6/4 - 5/3 cadential motion which utilizes the sixth degree in the upper voice, thereby raising once again the E β -D relationship of the opening phrase. (This cadence first appears in m. 14 with the upper voices

inverted.) Note also that the bass in mm. 19 and 20 replicates the bass of the cadence at mm. 8 and 9 now transposed to the subdominant.

The opening of the second movement is outstanding. It centers around the relative major, B β . The first bar begins with an E β triad which descends to a first inversion B β chord in m. 2 with D in the bass, once again emphasizing the E β -D relationship. Plagal relationships abound in this movement prepared by the contrapuntal descent in the bass of the E β -B β tetrachord in the first 4 measures.

Legrenzi's sonata also forecasts compositional procedures associated with later Baroque composers. The *Presto* of the second movement, for example, initiates a cyclic progression of fourths: D minor, G minor, C minor, and F as the dominant of B β (notice again the plagal relationships within and among these keys). Towards the end the cycle (mm. 69-72), the phrasing accelerates and breaks into a *Fortspinnung* cycle of sequences that acts as a bridge to the return of the tonic, B β .

In addition, both the first and second movements derive their thematic and rhythmic material from their opening gestures. In the case of the second movement, the opening of the *Presto* is an artfully disguised variation of measure 1 of the *Adagio*. Even though a change of rhythmic pattern occurs at the *Presto*, both sections are thematically and motivically unified within

themselves. Such motivic unity is characteristic of all of Legrenzi's sonatas from this period on.

Along with rhythmic unity, Legrenzi's phrase structure tends to be balanced more evenly than Marini's. Legrenzi's symmetrical phrases throw his *Fortspinnung* passages (see those in the second movement) into stark relief and further differentiate stable thematic material from unstable, harmonically dissonant, material. As a result, Legrenzi achieves a dramatic thrust in his late sonatas that foreshadows a new direction in Baroque composition.

In summary, Legrenzi's chamber sonatas represent a substantial increase in artistic compositional development over that of many of his predecessors and contemporaries. In the areas of a) development of foreground details on deeper levels of structure, b) local harmonic organization, and c) motivic/thematic unity, Legrenzi stands at the gateway of the late-Baroque. However, even in his late sonatas (for example, Op. 10, published in Venice in 1673), partly due to the lingering influence of modality, Legrenzi finds it difficult to prolong the tonic convincingly over the course of an entire movement. As with his predecessors, modulation from the tonic to tonal areas that are diatonically related and yet are heard as non-tonic harmonic areas, remains, with few exceptions, illusive. It is evident from these works that a system of contrapuntal tonal voice leading, supported by harmonically-

directed tonality, and free of modal influence, had not yet been formulated.

IV. *An Incipient Historical Development: Tonal Structure and Early Ritornello Design in the instrumental and vocal works of Alessandro Stradella*

From an historical perspective, evidence suggests that the aria forms in Italian opera of the 1670s and 1680s, rather than the contemporary ensemble sonata, provided the musical context for one of the first major attempts to move from harmonically distended modality towards a more concise harmonic system based on a clear hierarchy of tonal function. Such a musical reorganization meant that every harmonic motion within the aria would relate all structural layers to a background tonic. In particular, the “key” of the piece still operates within the three-hexachord system of its *cantus* signature, but now defines the tonic through its relationship to closely related harmonic areas, areas whose roots are still associated with the central hexachord of that system. As yet, these motions cannot be considered modulations, in the eighteenth-century sense of the term, since there is no real departure from the tonic; composers do not even attempt to locally displace the tonic with another large-scale harmonic area. Harmonically progressive, however, is the fact that the motions which prolong the tonic are themselves reinforced with localized or subsidiary progressions. However, this

does set the stage for modulations to autonomous key areas, an essential ingredient of the late-Baroque concerto.

At this stage, arias tend to be brief. This helps to consolidate their tonal cohesiveness and also to restrict their modulatory capabilities. They are written in any number of forms, including binary (AB), strophic (usually two stanzas without variation), ostinato (passacaglia and chaconne, with and without modulatory basses), and the new *da capo* aria forms which began to flourish in the Italian opera in Rome and Venice.¹¹

Arias, during this period, are tightly controlled by forms which need harmonic coherence and direction in order to articulate their internal divisions. For example, the popular strophic form is usually constructed in two strophes and has to reach tonic closure at the end of the first strophe. In order to provide harmonic contrast, the midpoint of the strophe tonicizes a closely related harmonic area, often the dominant or the relative. This motion, then, necessitates a clear return to the tonic. The brevity of the strophes makes it unlikely that elaborate sequential or motivic expansions may be exploited, while its texture remains predominantly homophonic – except for

¹¹See Carolyn M. Gianturco, "Evidence for a Late Roman School of Opera," *Music and Letters* 56 (1975):4-17. For a more lengthy discussion of aria forms during the 1670s and 1680s, see Carolyn M. Gianturco, "Caratteri Stilistici delle Opere Teatrali di Stradella," *Rivista Italiana di Musicologia*, vol. 6, 1971:236-45.

opening or closing ritornellos which often contain some imitative counterpoint.

Other aria types were equally concise in their tonal organization, particularly those based on dance rhythms. And herein lies the major difference between the aria and the through-composed sonata movement: composers of sonata movements had to create their own forms as they proceeded without the benefits of preconceived structures based on poetic schemes. To obtain thematic coherence, not to mention length, composers relied on imitative procedures and *Fortspinnung* techniques. Since musical form depends upon repetition for its comprehensibility, these techniques provided necessary thematic repetition without the aid of a text. Further, the polyphonic texture which resulted was admirably suited for the church. But, as we have seen, it was this very method of contrapuntal elaboration, often avoided in contemporary arias, that caused problems for the composers of these works: contrapuntal working-out, supported by tonally directed harmonic progressions, had not yet congealed sufficiently to convincingly express the tonic. Non-directed motion in the opera aria was circumvented, at least in part, by the temporal limitations imposed on it by the text, thus avoiding the tonal ambiguity inherent in the through-composed forms of contemporary instrumental music.

Composers of instrumental music, many of whom also wrote operas (such as Stradella and Legrenzi), could well have been encouraged to apply the procedures of tonal direction found in the aria to that of the instrumental sonata, combining contrapuntal technique with a harmonic motion whose direction was strengthened by large-scale harmonic progressions. The most elaborate aria form, which might well have been a primary influence in this regard, was the *da capo* aria in all its variant formations.

Unlike other aria forms common at the time, the *da capo* aria often had a distinct middle section that was clearly set apart harmonically from the surrounding tonic. However, at this early stage in its development, the middle section, *B*, was not always harmonically articulated as an autonomous entity. This characteristic feature is found with greater regularity in operas composed at the end of the seventeenth century where the *B* section was made harmonically distinct by its motion into a distant harmonic area, usually the relative major or minor. Rather, the opening tonic statement, comprising the orchestral ritornello and first vocal entrance, was just as likely to be open-ended, eliding into closely related tonalities. In these early, variant forms of the *da capo* aria, the return of the *A* section was often limited to just a restatement of the opening ritornello. In this abbreviated form, the ritornello was the only section of the aria with a complete period in the

tonic since the first vocal entrance, instead of stabilizing the tonic within an extended period, often provided the signal for rapid motion into other harmonic areas.

A particularly fine example of a background tonic prolonged through motion to subsidiary harmonic areas arrived at via dominant preparations can be found in Alessandro Stradella's late opera *Moro per Amore*, probably composed ca. 1680.¹² The aria *T'intendo, si t'intendo* is sung by Lucinda in the second act and is accompanied throughout by a string ensemble of two violins and basso continuo (Example 4.5).

¹²Alessandro Stradella, *Moro per Amore*, Facsimile edition Garland Publishing, Inc., 1979. The date of ca. 1680 is suggested by Carolyn M. Gianturco, "Music for a Genoese Wedding of 1681," *Music and Letters*, vol.63, nos.1-2, 1982:43. For a fuller discussion of Stradella's operas, see Gianturco, "The Operas of Alessandro Stradella," Ph.D. dissertation, Oxford University, 1970.

EXAMPLE 4: Stradella, Lucinda's aria, "T'intendo, si t'intendo" from *Moro per Amore* (Act II)

Lucinda

[VI. I]

[VI. II]

[Bassi]

8

15

22

T'in - ten-do, si t'in-ten-do, T'in - ten-do, si t'in-ten-do cie-co

die non v'è pie-tà, no', no', no', cie-co die non v'è pie-tà mi dan - nas-ti a so-spir-ar. mi dan-nas-ti a so-spir-ar.

Dal rio des-tin com - pren-do, dal rio des-tin com -

pre-ndo che mal na-ta fe-del - tà è - co-stret-ta la-gri - mar

A

B

Rit. in vi

Rit. in ii

29 Rit. in ii repeated

è co-stret - ta - la - gri - mar. Dal rio des-tin com - pre-do,

36

dal rio des-tin com - prendo che mal na-ta fe-del - tà è co - stret-ta la - gri - mar,

43 Closing Rit. in I

è co-stret - ta... la - gri - mar.

*Looks are enough
 for a poor soul in love.
 Yes, I know what your looks mean to me.*

*Blind god, you have no mercy on
 Lucinda, I am condemned to despair.
 I see that for my unlucky fate
 I'll be faithful in vain.*

Structurally, this aria (and many similar ones composed by Stradella and others) is in a loosely constructed *da capo* form in that the opening material returns, varied, with the return of the tonic near the close of the aria (mm. 39ff.) complete with a direct restatement of the opening theme as a closing ritornello in the tonic. However, there is no articulated *B* section set off in a contrasting harmonic area typical of the standard *da capo* form. Instead, it is constructed in a type of embryonic ritornello form which adumbrates the

later ritornello concerto structure employed by Torelli and Albinoni at the end of the century.¹³ The opening ritornello in F major returns, modified, in D minor (mm. 15-19) and in G minor in back-to-back statements, (mm.27-29, and more completely in mm. 30-34). Similarly, the tonic also reappears in back-to-back ritornello statements at the end of the aria. The first is abbreviated, but is significant since it regains tonic harmony, while the second forms a complete closing statement in the tonic (mm.45-49). Thus the aria assumes *da capo* character only in that there are two complete tonic ritornello statements: at the beginning and at the end. All the thematic material in between is related directly to either the ritornello (indicated as *A* in Ex.4.5) or to a motive (*B*) found in the second vocal entrance (upbeat to mm. 8 and 9); there are no other contrasting motives of any significance. The voice enters in the manner of a *devisé*; that is, it restates the opening motive of the ritornello in the tonic.¹⁴ After a short instrumental interruption of one bar, the voice again restates the opening figure and continues with a slightly

¹³Stradella's ritornello aria form thus anticipates J.S. Bach's ritornello da capo forms in his canatas and passions ("Erbarme dich" from the *St. Matthew Passion* is just one of numerous examples that can be cited).

¹⁴Albinoni often favored the devisé technique of the aria in his oboe concertos -- the solo oboe being treated as though it were a vocalist (see John E. Solie, "Aria Structure and Ritornello Form in the Music of Albinoni," *The Musical Quarterly*, vol.63, no.1, 1977).

different motive characterized by four repeated eighth notes. The two motives are thereafter associated with either the orchestra (motive *A*) or the soloist (motive *B*). This characteristic differentiation of material between orchestra and soloist becomes standard in concertos after 1700.

Even more important is Stradella's sophisticated harmonic plan for this aria. Every harmonic motion in this short aria can be understood as a product of tonal voice leading; *there is no trace of modality*. Each new harmonic area is convincingly arrived at and secured before proceeding to the next harmonic area; in addition, every auxiliary cadence and tonal digression relates to F major, the tonic of the aria.

By organizing the aria along the lines of an F hexachord in *cantus mollis*, Stradella's harmonic plan becomes apparent:

B β -	F -	C -	g -	d -	a
IV	I	V	ii	vi	iii

Harmonically, the aria's first harmonic motion is from F to C (m. 11) although the dominant is not articulated with its own ritornello. Moving along the *mollis* hexachord, the next harmonic area is vi (D minor), supported by a six-measure ritornello statement. Following a relatively lengthy area in vi, the next motion is to ii (G minor), which area is also prolonged, this time by two

ritornello statements as described above. Stradella then simply reverses the harmonic progression and moves back to the tonic in a fifths progression from g to C (m. 39) as dominant preparation, and to F in m. 40. Thus, the whole aria simply moves around the central fifths of the F hexachord: F - C - g - d, without any modulation of system, there being exactly eleven pitch classes, with Aβ/G# missing from the 1β system of the aria.

Significantly, Stradella anticipates the instrumental harmonic construction of the late Baroque in this aria.¹⁵ In chamber music, as well as *concerti grossi* (at least by the time of Corelli's first publications in which the procedure seems to have been standardized), the relative minor (vi) invariably *follows* the dominant as the next important point of harmonic

¹⁵In operatic music of the 1670s and 1680s, the text, owing to its single "affect," often precludes a middle section that is set off from the main body of the aria, and in which there is a large-scale motion to the relative minor (in major-key arias), though examples do exist of smaller passing motions in the relative minor if a phrase in the text will allow for it (see "Ti lascio l'alma in pegno" from Legrenzi's *Il Giustino*, 1683, reprinted in Hellmuth Christian Wolff, *The Opera I*, Arno Volk Verlag, Cologne, 1971. In Stradella's aria the background harmonic plan is A major [as tonic] - E major - B minor - F# minor [vi]- A major).

The situation changes towards the end of the century when poets deliberately design lyrical poetry to accommodate such a move by incorporating two or four lines of differing "affect." In this way, the B section of the da capo aria becomes articulated as a separate section in mood, key and orchestration. In Stradella's *Moro per amore* major-key arias with auxiliary cadences in the relative minor are rare. "T'intendo, si t'intendo" is, therefore, unique in this regard.

articulation. In fact, the dominant is often used as a springboard to move away from the tonic towards other harmonic areas, often following the rotated fifths of the central hexachord within which the piece operates.

In Stradella's aria, the first structural area after the tonic is D minor (vi), emphasized by an orchestral ritornello (mm. 15-18). In this case, the dominant is not first articulated as a separate harmonic area, but remains only within the sphere of the tonic up to the dominant cadence in m. 11 (refer to Ex. 4.5). At this point, the bass, C, jumps up an octave and descends contrapuntally through B β to A, the dominant of D minor (m. 13). Concurrently, the upper voice, in contrary motion, ascends from f² (m. 12 in the voice) to g² (m. 13, second violin) to a² (m. 14, first violin). The imitative texture staggers the arrival points among the voices (while the inner voice moves up in half steps from m. 11: c² - c^{#2} - d²), creating a constant flow of motion. Each harmonic area within the aria is carefully prepared by a dominant progression. The second point of articulation is G minor (the aria progresses from the D minor ritornello in m. 15 through a cycle of fourths: D minor, G minor, C, as structural dominant, and F). The motion away from D minor is accomplished through B β as a pivot (mm. 19-22). The B β is interpreted, by m. 22, as the relative major of G minor (ii), and leads naturally to a dominant cadence (m. 23). From mm. 23 to 27, D is confirmed as V/ii through upper

neighbor Eβs, all this in preparation for the ritornello in ii beginning with the upbeat to m. 28. The ritornello itself (mm. 28-30) stabilizes G minor with a brief cadential progression, I-V-I-IV-V-I, which is further articulated by a "walking bass".¹⁶ It seems that Stradella was intent on an unusually long prolongation of the G minor area since the whole procedure is repeated, in invertible counterpoint, from mm. 30–34, as another ritornello statement in the same key.

The returning dominant, C, is thus already in a position to assume its structural role through a simple modal exchange whereby G minor is transformed into a G major triad as Bβ yields to B_–. After the G minor cadence which concludes the repeated ritornello (m. 34), C major appears, but is not secured until m. 36 with the arrival of the dominant G major triad. Interestingly, the high bβ² in violin I (m. 33) which forms the minor third, descending contrapuntally to g² in m. 34, ascends to B_– in the bass (m. 35), through

¹⁶Characteristic of late-baroque style is the more or less continuous "walking bass" of even quarter- or eighth-notes. This operates on several levels: it outlines the triads of the harmonic progression; the bass line contains numerous leaps of fourths and fifths, clearly demarcating cadential periods as well as providing a firm harmonic support to the progressions that lead up to these cadences; and, lastly, the bass often assumes a contrapuntal voice moving against the upper parts.

octave displacement. The bass duplicates the violin descent, now from the major third, B₂. With the return of C, the tonic F major quickly follows, leading to a final and complete statement of the ritornello at the end of the aria.

The quality of the contrapuntal sequence has also changed with Stradella. In the chamber music of the previous generation, it was often difficult to determine the compositional intention of a sequence: what tonality did it prolong?, how was it initiated?, what direction was it taking?

With Stradella, the sequence is harmonically directed: the beginning and ending of each sequence is defined with its harmonic or melodic goal clearly in sight. For example, the melodic sequence in the voice (mm. 12-13) moves c² in the inner voice up to c^{#2}, the major third of the dominant triad of D minor. At the same time, the imitative sequence that accompanies the voice in the strings, completes the ascending contrapuntal motion initiated by the voice from f² to a².

V. Alessandro Stradella: Tonality and The Emerging Concertino/Concerto Grosso Technique

Aria forms in Stradella's operas clearly foreshadow the tonal

organization of the late Baroque. However, not one of the arias in his operas uses concerto grosso instrumentation; rather, those arias that contain instrumental accompaniment are entirely restricted to first and second violins with continuo. This relatively simple orchestration was most probably one of economic expediency on the part of the opera managers who invested the greater portion of their budget on lead singers and set designs. The situation is quite different for sacred but non-liturgical works, such as oratorios and sacred cantatas, for use in the oratory of a church or for private performance in the homes of the aristocracy and the high clergy.

The only examples of concerto-grosso instrumentation that survive before Corelli are those composed exclusively by Stradella.¹⁷ These nine works, eight of which are vocal, consist of one oratorio, two sacred cantatas, and five *serenatas* (for private performance and for academies). Besides the sinfonias that act as overtures to these works, and which are also composed as concerti grossi, one purely instrumental work included in this group, the *Sinfonia in re maggiore*, is the earliest instrumental concerto grosso known.

Of those works that utilize concerto-grosso orchestration, Stradella's

¹⁷See Owen Jander, "Concerto Grosso Instrumentation in Rome in the 1660's and 1670's," *JAMS*, vol.21, 1968:169. Jander comments that "concerto grosso instrumentation was already in regular use in Rome in the late 1660's. This evidence is supplied by records of payments to musicians at the Oratorio of San Marcello" (171).

sacred cantata *Per il Santissimo Natale*, “*Ah! Troppo è ver,*” based on the Christmas story, must be considered his most dramatic. Stradella wrote only five sacred cantatas and only two use concerto grosso instrumentation; all the others are secular (161) or moralizing (6).¹⁸ The Christmas cantata is undated, but owing to the nature of the work (that is., its concerto-grosso scoring), and its sacred, but madrigalistic text (the words are in Italian and the story is not biblical), it was most probably written in Rome (ca. 1670s) as an entertainment vehicle for members of the high clergy for performance on Christmas Eve.

¹⁸For an overall discussion of Stradella’s vocal music, including a catalogue of his complete works, see Carolyn Gianturco, *Alessandro Stradella (1639-1682): His Life and Music* (Oxford: Oxford University Press, 1994).

EXAMPLE 4.6a: Stradella, “Ah! Troppo è ver”: Sinfonia, mm. 1-13

The image displays a musical score for the beginning of the Sinfonia. It is divided into two main sections: the *Concertino* and the *Concerto grosso di viole*. The *Concertino* section includes Violino I, Violino II, and Violoncello. The *Concerto grosso di viole* section includes Violini, Viole I, II, and Violoncelli e Contrabassi. The music is in 3/4 time and G major. The first measure of the Concertino is marked 'Rit. 1' and contains a circled 'A'. The first measure of the Concerto grosso di viole is marked 'Rit. 1' and contains a circled 'B'. The score shows the first 13 measures of the piece.

The overture (*Sinfonia*) to the cantata is in the so-called “Italian overture form” of three separate movements, the outer movements fast, and the middle movement in a canzona-like form that fluctuates between diverse tempos, though none are actually indicated in the manuscript. Of primary interest is the spectacular opening movement in an embryonic ritornello form (Ex. 4.6a), but whose musical content is highly sophisticated. The orchestra is subdivided into *concertino* and *concerto grosso di viole* groups, both, presumably, with their own basso continuo (the manuscript is unfigured, but each group is supported by an instrumental bass) so that they could be spatially divided –

either on opposite sides of a stage or an altar – if the work were performed in the oratory of a church. Stradella's *concertino* group in the first movement is basically that of a trio sonata for strings with two solo violins and string bass, with additional lute or keyboard to fill out the remaining harmonies. The larger group, the *concerto grosso di viole*, from which the name of the genre is derived, is in the typical Roman scoring of the period; that is., violins in unison, viola I in alto clef and viola II in tenor clef, cellos and double basses and continuo.

Stradella's *Sinfonia* to his Christmas cantata is innovatory to say the least. In fact, he seems to have had no interest in creating a formal structure for these pieces since no two instrumental concerti grossi of his are exactly alike in their formal construction. Instead, they show a wide variety of emotion and thematic development, perhaps reflecting the composer's own wayward and certainly gregarious personality: Stradella was murdered in Genoa because of his penchant for having illicit love affairs with women of high social status. The ritornello statement in this movement anticipates the more formalized segmented ritornello designs of the next generation of composers; most notably, Torelli, Albinoni and Vivaldi. Stradella's theme, announced by the concerto grosso, comprises two contrasting segments, an initial statement A (mm. 1-5) that defines the tonic D major (as a transposed

ionian mode)¹⁹ through its dominant, and a cadential segment B (upbeat to mm. 5-6), which ends on a half cadence. The theme is dance-like, cheerful and totally diatonic, and may have been meant by Stradella to represent the joy of Christ's birth. This theme returns only three times in the movement, twice at the beginning (in D and then in G) and once at the end in a concluding tonic statement. Within the body of the movement, Stradella introduces a secondary ritornello idea (Ex. 4.6b) that is anything but cheerful. This theme is characterized by a slithering chromaticism – Lucifer as the snake in the Garden of Eden comes to mind here – that obscures the background D major tonality by moving, so to speak, “in the wrong direction,” away from the “good” major mode of the tonic, towards the “evil” of Lucifer's eventual E minor tonality, the key of his first aria. By illustrating the reordered tonic hexachord of this movement (D major being a 2# system), it is easy to see how Stradella's key relationships can reflect this harmonic interpretation of the

¹⁹Stradella's conception of “key” was most probably based on the theoretical writings of Giovanni Maria Bononcini and his *Musica pratico* (Bologna, 1673, revised 1688). Bononcini believed that the twelve modes of Zarlino and Glarean, could be reduced to four, two major (mixolydian and ionian, and two minor, dorian and aeolian. All the rest were simply transpositions of these four. Therefore, Stradella's *Sinfonia* was actually thought of as a transposition of ionian (the 11th mode), a step up. See Beverly Stein, “Carissimi's Tonal System and the Function of Transposition in the Expansion of Tonality,” *The Journal of Musicology*, Spring, 2002, 19/2: 292-295.

concerto's programmatic conception:

Hexachord pitch classes:	“Good”	“Evil”				
	G	D	A	e	b	f#
	IV	I	V	ii	vi	iii
			v(am)			

The major mode ritornellos in I and IV oppose Lucifer's secondary ritornellos in minor keys (E minor and A minor). The minor dominant is more than just a member of the “evil” tonalities of the movement, its destructive force against the tonic occasions the only system modulation in the piece, moving the 2# system of the tonic into the system of its parallel mode, 1β.

EXAMPLE 4.6b: Stradella, “Ah! Troppo è ver” *Sinfonia*, 1st Movement: Secondary Ritornello (up beat to mm. 24-28)

We now come to the all-important question of tonality vs. modality in

the music of the 1670s. The opening movement of Stradella's Christmas Cantata can no longer be convincingly analyzed according to earlier modal principals; indeed, the *Sinfonia* is *clearly* within the confines of a D major tonality that controls all the harmonic functions within the movement. In modal composition, cadences on non-final degrees of the mode do not necessarily relate to a background final; instead, they often interact locally with other chords built on various degrees of the central hexachord, often organized by fifth relationships or by contrapuntally articulated 5-6 exchanges. In addition, modal inflection creates degree inflection: a triad within a modal framework may be either major or minor with the only provisos that 1) the root of the triad is part of the central hexachord, and that 2) the missing pitch is not introduced, thus causing a system modulation. With the extreme flexibility of chord quality, *modally* conceived works often lack a sense of *tonal* direction, with their internal cadence points not necessarily directing the ear toward the tonic or even away from it.

Tonality, in its own way, is just as rich in its harmonic resources as modality. But so long as every harmonic event within the piece is heard as part of a larger tonic unfolding, the piece is said to be "tonal". Thus the opening movement of Stradella's *Sinfonia* must be understood as tonal in that the various harmonic digressions from tonic harmony are understood to be

contrapuntally related to a background tonic, here D major. Stradella often favors the subdominant as a goal of motion after asserting the tonic; and ordinarily, such a gesture would indicate some kind of hypo-modal thinking. But Stradella's motions to G major within the body of the movement do not seem to displace the tonic; that is, the opening D major progression is not eventually heard, or misunderstood, as a dominant of G, or V/IV. Quite the contrary, G major is distinctly heard as a contrapuntally related subdominant, awaiting that moment when it is displaced by V (m. 45) before the return of the D major tonic in m. 46; this is accomplished by a short fifths cycle: G (IV) – D – A (V) – D (I).²⁰ The “evil” minor mode harmonic areas, in E minor and A minor respectively, only intensify the urgency to resolve this motion into the tonic. Thus, the entire movement has a directed flow in which the tonic is firmly established at the beginning, is then moved away from towards ever more distant harmonic areas (all related to the background D major tonality), only

²⁰Typical of most Baroque music composed before the development of sonata form, beginning some time in the late 1730s, the return to the tonic is unarticulated, often appearing within a larger sequential progression, or, as in the case of fugue, as an answer to a subdominant subject entrance. The reason for this is simply that the tonic is never actually displaced, but is prolonged by a series of auxiliary cadential areas, that may or may not be further prolonged within themselves. These cadential or harmonic areas invariably follow along the course of the system hexachord of the piece.

to be resolved with a final ritornello in pure D major harmony at the end of the movement.

If one considers Stradella's D major tonic to be tonally expressed, how does this effect the single system modulation that occurs in the first movement? Unlike modality, where the signature of the *cantus*, either natural, sharp or flat, could theoretically accommodate each of its gamut transpositions up to twelve modes, a tonal or "key" signature collapses the total number to two; namely, a major-mode tonic and its relative. Thus, a 2# signature encompasses both D major and B minor, and it is up to the composer to determine the rotation of its eleven notes and to determine which of these notes will function as the tonic. In either case, the 2# system that governs both keys still maintains eleven pitch-class integrity as it did in the older modal system, with the same missing pitch being the minor third or augmented second above the tonic of the system. Similar also to modal practice, tonal hexachord systems can only be conceived as major, the minor mode being understood as a rotation of its relative major; therefore, a piece written in minor will follow the hexachord of its relative major.²¹ For example, the key

²¹In modal thinking, the minor mode octave of dorian and all of its transpositions would start on *re*, the second pitch-class of the natural hexachord. In tonal thinking, as expressed by Rameau to the supplement to Chapter 25 of the first edition of his *Traité de l'harmonie* (1722), all minor mode octaves begins on *la*, implying that

structure of B minor is based on a D 2# system. The chord relationships would change position within the same hexachord as follows:

2# System generated from D

Hexachord pcs:	G	D	A	e	b	f#
Chord function in D major:	IV	I	V	ii	vi	iii
Chord function in B minor:	VI	III	VII	iv	i	v

In either case, F_ or E# would still be the missing pitch and would effectively transpose the initial 2# system either up or down depending on the spelling of the missing pitch.

We now come to a crucial distinction between the function of the missing pitch in modality and its new function within tonality. In modality, the missing pitch, if spelled as a flat (or minor third) would have been recognized as *fa* within a subdominant hexachord. Thus, within a C gamut system, Eβ would be *fa* of a Bβ hexachord, the subdominant hexachord of a transposed *mollis* or 1β gamut system. In tonality, the minor third is now recognized as initiating *its own* gamut system, the minor third pitch being sung as *do!* The rationale for this assumption is this: the minor third above

Rameau considered the minor mode to be a rotation of the pitch classes of its relative major. Rameau discusses in detail the hexachordal differences (in terms of solmization) of both modal and tonal octaves in his treatise (see Philip Gossett, trans., *Treatise on Harmony: Jean-Philippe Rameau* (New York: Dover Publications, 1971): 172-174.

the tonic of any major mode is derived from pitch content of its parallel minor. In reference to the 2# system of Stradella's *Sinfonia*, the appearance of an F₋ within the context of the prevailing D major tonic would imply the parallel minor, D minor. Consequently, its system must be that of 1β, an eleven pitch-class system three key signatures down (meaning, in a subdominant direction) from that of the tonic major. On the other hand, had F₋ been introduced into a *modal* piece with a 2# signature, the F₋ could only be accounted for within a C hexachord (F₋ being sung as *fa*) belonging to the subdominant hexachord of a 1# system, that is., a 3-hexachord eleven-note system a fifth below the prevailing 2# system of the piece.

In the first movement of the *Sinfonia* of Stradella's Christmas Cantata, there is only one instance where F₋ effects a system shift into the complementary mode (mm. 37-38, Example 4.6c). In this instance, the F₋ appears within the context of an A minor expanse, the dominant minor, during a repeat of the movement's secondary ritornello (refer to Ex. 4.6b for its first occurrence in E minor). The A minor relates to the tonic D minor and therefore the system shift implies a modulation to a 1β system. Since the D minor octave is understood as *la* within the larger context of its relative major, F, the system to which D minor belongs is that of the F 3-hexachord system. It bears repeating that all hexachord systems, whether modal or tonal, are major, there

being no such thing as an A minor hexachord.

EXAMPLE 4.6c: Stradella, "Ah! Troppo è ver,"

Sinfonia, 1st Movement: Secondary Ritornello mm. 35-39

The image shows a musical score for the Secondary Ritornello (First Statement) of the first movement of Stradella's *Sinfonia*. The score is in 3/4 time and features a key signature change from two sharps (D major) to one sharp (F# minor). The score is divided into two parts: Concertino (Violino I, Violino II, Violoncello) and Concerto grosso di viole (Violini, Viole I, II, Violoncelli e Contrabassi). The key signature change occurs at the beginning of the first statement, and the music continues in the new key signature.

Once the system shift to 1β occurs, displacing the prevailing $2\#$ system, all the music composed from the point of the shift remains in that eleven pitch-class system *until the missing pitch of the 1β system is introduced to redress the modulation*. Consequently, the new governing 1β system will need to shift up three signatures if the piece is to end in its original $2\#$ system. The minor third of a 1β system on F would be $A\beta$, but this pitch, if introduced, would only throw the system down another three notches in the subdominant direction. What is required, instead, is to respell the missing pitch of the 1β system as a sharp, in other words, as an augmented second instead of A minor third, reversing the operation in the sharp direction. In

this case, the missing pitch would have to be spelled as a G# (used locally as a leading tone to the dominant) to move the 1 β system back up to the original tonic system of 2#s. Dramatically, Stradella delays the entry of G# until the very end of the movement (mm. 59-63); when he does, however, G# is reiterated several times in succession, confirming the move back to the original 2# tonic system.

The lengthy middle movement (also in D) is a movement complex in canzona style with more technically complex sections for the concertino (here the unusual combination of two violins, solo lute and cembalo, the last with elaborate solo passages as well) alternating with a pastoral refrain in a slower tempo for the concerto grosso. However, it is the last movement that is dramatically most daring. Here the full string orchestra plays throughout in a binary dance form in 3/8 (again in the tonic, D major). At the very end of the second half, Stradella starts to modulate out of the tonic towards E minor, the key associated with Lucifer. It is as though Lucifer, interrupting the merry dance of the shepherds in the fields, drags the proceedings into his own key in an effort to destroy the joy of the faithful. The last movement of the *Sinfonia*, therefore, does not end in the tonic of D major, but moves directly, without stop, into Lucifer's *arioso* whose opening text, "Ah! Troppo è ver," gives the cantata its name. The *arioso* in E minor, featuring elaborate

coloratura that brings Lucifer's bass range down to a low E²!, and formally cadences in that key before moving into Lucifer's first aria (also in E minor), an elaborate movement in concerto/ritornello form.

Stradella's inventiveness in utilizing his various instrumental and vocal groupings reaches new heights in this aria, a work unique in his vocal output. In effect, the aria pits the concerto grosso's motives against that of the concertino (two violins with violoncello, the same orchestration as in the first movement of the *Sinfonia*), as they swirl around Lucifer's vocal line, whose melodic formation is actually a decoration of the concertino bass. Without going into overly burdensome detail, some characteristics of the aria directly relate to the state of tonality at the time of the work's conception in the 1670s. The ritornello theme itself is divided into two contrasting motives, *a* and *b*, the first (*a*), a cadential motive for the concerto grosso, and the second (*b*) an open-ended scalar motive for the concertino (see Ex. 4.7a).

EXAMPLE 4.7a: Stradella, Christmas Cantata: Lucifer's Aria, "Ah!

Troppo è ver," opening ritornello (mm. 1-5).

(And there will be one of you who prepares
My followers, to take revenge.

Stradella's use of ritornello form in his arias adumbrates the ritornello construction of the late-Baroque concerto: complete tonic instrumental statements of the ritornello theme frame the aria; internal statements, which often include secondary ritornello formations, often articulate non-tonic harmonic areas, setting off text phrases. However, Stradella's harmonic constructions are still tied to certain modal inflections and functional ambiguities that for the most part disappear in the early stages of common-practice tonality. For instance, segment *a* of the opening ritornello begins with an incomplete progression in E minor: $v - i^6 - iv - V - i$. The lowered third of the opening dominant triad is modally inflected to a major dominant before resolving to the tonic. The concertino continues this

phrase with the second ritornello segment (*b*) moving from the tonic back to minor v (m. 2, second beat). The pattern is repeated, but this time Lucifer enters just as the concertino begins its segment again. Once more, the phrase ends on the minor dominant and again the pattern seems to repeat itself: segment *a* returns in the concerto grosso with the same opening progression, but this time the concertino's *b* segment modulates to the relative major via its own dominant, the relative, which, in common-practice tonality, is a standard goal of motion of the minor mode. What is innovative, and, it must be said, unique within Stradella's own *oeuvre*, is that not only is the relative major convincingly achieved, but that it is prolonged at length. In fact, G major takes up the entire middle portion of the aria. Similar to later ritornello practice, the new harmonic area is at first stabilized by a ritornello statement, in this case the cadential segment *a*, extended by two measures. In the subsequent passage, G major is prolonged by its dominant, D. Unlike later ritornello structures, however, Stradella goes an extra step by implanting a secondary ritornello formation, segment *c*, within the larger G major prolongation (Ex. 4.7b).

EXAMPLE 4.7b: Stradella, “Ah! Troppo è ver,” secondary ritornello
segment *c* (mm. 14-18)

Lucifero
con - tro, il ne - mi - co Ciel fo - dio non spin - ga

Violino I
Violino II
Violoncello

Violini
Virole
Violoncelli
c Contrabassi

(And with warlike thunderbolts
Will not thrust his hatred against the hostile heavens?)

The first time segment *c* appears, it encircles V/III (mm. 13-14). Soon after this statement, it reappears transposed into E minor seemingly as vi/III (mm. 17-18). We say seemingly, because the passage that precedes the second statement of segment *c* moves to a B major triad (mm. 16-17) as if Stradella were planning a move to V in order to regain the tonic. Instead, he returns to G major harmony within the next passage, capping off the passage with a formal cadence in the relative (m. 21). How then is one supposed to interpret the cadence on B major followed by the transposed ritornello *c* segment in E minor? E minor cannot really be heard as tonic since it is rhythmically in a weak position, and is too short a segment to establish a harmonic area; instead, the E minor segment initiates a motion back to III. The cadence on B major is

strong (it is prepared by its dominant, and could even be heard as III[#]/III, although this interpretation would be a highly unusual one since such a harmonic goal within the relative would be most unlikely. As it happens, ritornello segment *a* returns immediately after the cadence on G in m. 21. But instead of establishing the tonic, it initiates an inverted fifths progression: E – A – D – G — C, followed by A minor (iv) and B major (V). Again, segment *c* returns in E minor (m. 24), but this time the B triad really does function as V/i, and the subsequent ritornello *c* segment is heard as tonic. All this is confirmed a few measures later with a closing ritornello in the tonic, E minor, here reversing the order of the segments: segment *b* in the concertino is followed by segment *a* in the concerto grosso. Stradella ends this remarkable aria with a short 4-measure coda.

Stradella's sometimes quixotic harmonic language in this aria (as well as in the *Sinfonia* before it) ultimately derives from the wide variety of chordal vocabulary inherent in the harmonized modal system of the seventeenth century, and which was still a viable choice for composers. Although Stradella had begun to create progressions that were progressive in their tonal clarity, his creative spirit also required the coloristic chromatic ambiguities of a dying harmonized modality with its degree inflections and liberties of harmonic relationships. Only in the work of Stradella's successor, Arcangelo Corelli,

along with some of his contemporaries, was the tonal system codified into a fixed hierarchy of chord function, and it is to the ensemble sonatas of Corelli that we now turn.

VI. Corelli and the Advent of Common-Practice Tonality

Arcangelo Corelli (1653-1713) was undoubtedly one of the most respected and influential composer of his age. Not only did he teach his technique of violin playing to numerous pupils, many of whom became important composers in their own right, but his compositions were studied as models of perfection in terms of their harmonically conceived counterpoint, arresting thematic content, part-writing, overall form, and emotional expressiveness.²² We are less concerned here with Corelli as violinist, but more with Corelli as composer. It is a well-known fact that Corelli never discussed his theoretical approach in any written form (after all, how many great composers do this), but the consistency of his style in his six published opuses allows us to draw

²²For the most current discussion of Corelli's influence, as well as a general examination of his life and works, see Peter Allsop, *Arcangelo Corelli: 'New Orpheus of Our Times'* (Oxford University Press, 1999). See also important reviews of Allsop's book by Michael Talbot, *JAMS*, 55/3 (2002):532-538; and Gregory Barnett, *Journal of Seventeenth-Century Music* 6, no. 2 (2000) at www.sscm-jscm.org/jscm/v6/no2/Barnett.html.

an accurate picture of how Corelli conceived a tonal system capable of expressing his ideas. Since Corelli's chamber sonatas form the bulk of his oeuvre, and show the most consistency in his harmonic language, we may look at a few examples to determine Corelli's unique achievement.

We believe that the clearest way to interpret Corelli's innovative conception of tonal organization is to compare Corelli's middleground harmonic plan to that of three-hexachord systems. At least by the 1670s, composers understood that the root pitch classes of the re-ordered central hexachord of earlier modal systems were capable of projecting a background tonic (see our discussion of Stradella above). However, there was no consistency in the relationship of hexachordal root pitches to the tonic background; harmonic and contrapuntal progressions were just as likely to support a tonic as not to. The very fact that Stradella in his chamber music (as well as some of his *sinfonias* to his larger works) often chose to move to the subdominant as a first goal of motion, would indicate that he still thought, to some extent, modally, but within a larger tonal context (thus our term *nascent tonality*). The fact that Corelli never moves to the subdominant as a first goal would seem to support the notion that Corelli was after a more concise tonal system, one that had more direction.

To illustrate, look at Ex. 4.8a, the opening movement of Corelli's *sonata*

da chiesa Op. 3 no. 2 in D major. The re-ordered 2# central hexachord of this sonata is as follows (again, lower case indicates minor):

Quality of 3rd	B	F#	C#	G/G#	D/D#	A/A#
Hexachord pitch classes	G –	D –	A –	e –	b –	[f#]
	IV	I	V	ii	vi	[iii]
				II#	V/ii	V/vi

The first observation that one makes is that on a foreground level, all the chord qualities are fixed as to their third degrees; that is, the roman numerals in relation to their position within the tonal hierarchy, indicate the fixed relationship between major and minor triads to the tonic. Major triads remain major and minor triads remain minor (in this movement Corelli omits iii altogether). Degree inflection occurs only when the minor triads in the hexachord are raised to major in order to form leading tones, temporarily tonicizing hexachordal pitches as auxiliary cadences on the middleground (see the more detailed discussion of Corelli's middleground harmonic plan below).

What is also significant is that system and key have now merged so that a key has now become its own gamut system, governing two keys, the tonic and its relative, instead of the eight or twelve of the older modal gamut. Further, since we are now dealing with a hierarchal system of chord function related to a background tonic, whenever the system hexachord is illustrated,

the roman numerals under each hexachord pitch class will now refer to its exact harmonic position relative to the tonic of the key (and, consequently, its system as well). Corelli's achievement was to now standardize the ordering of harmonic events within any given movement; in other words, its direction (hence the term *directed tonality*), as the music progresses from one hexachordal pitch to another in the form of auxiliary cadences. With Corelli, the modal construct of localized fifths within the central hexachord, without relation to the background tonic, ends.

EXAMPLE 4.8a: Corelli, Op. 3 no. 2, 1st Movement

Grave

Violino I

Violino II

Violone
c Organo

5 3 4 2 5

8

9 6 9 6 7 5 5 5 5 # 4 6 3 9 6 7 6 7 6

15

7 6 5 5 3 4 7 9 8 6 7 6 4 3

The *Grave* of Corelli's OP. 3 no. 2 begins with a four measure phrase that clearly moves from the tonic D major to a half cadence on its dominant, A. Against the background of a "walking bass" that clearly articulates the underlying harmonic progression in even eighth notes, the two violins (in the same range) form fourth species suspensions that drive the phrase to its first structural cadence. Corelli now repeats the opening progression transposed on the dominant, likewise culminating on a half cadence on E. What is significant about this progression is that Corelli is deliberately moving up the 2# hexachord away from D to A to E in order to create harmonic tension. After the opening parallel period, with its two emphatic cadences on A and E respectively, Corelli now moves to the next hexachordal fifth, B (m.12), the furthest point away from the tonic within the 2# hexachord that Corelli tonicizes. B minor, vi, is therefore heard as a point of highest tension, it being the only auxiliary cadence in minor, as well as being the terminus of the middleground harmonic progression that spans out over the course of the movement. Each one of these cadential points is prepared by their respective applied dominants highlighting their structural significance as goals of motion. However, Corelli's fifths progression upwards from the tonic avoids cadencing on the last fifth of the hexchord, f#, since this would force a modulation out of the prevailing 2# system into one of 5#s! (That is, E#, the

leading tone of f#, and the missing pitch of the 2# system, would divide a B major octave, and would, consequently, imply a 5# system.) Corelli might have resisted a shift of system simply because that action might have been too intense for so short a movement. In fact, in most of Corelli's trio sonatas in major mode, those movements that are in major tend to restrict themselves to eleven pitch classes, omitting each time the same pitch – the minor third or augmented second above the tonic, in order to remain within the work's tonic three-hexachord system. As a result, Corelli's background harmonic plan in his trio sonatas rarely if ever goes beyond a tonicization of the submediant (the situation is somewhat different in his Op. 5 violin sonatas). In order, therefore, to create the necessary applied dominants to both the fifth and sixth degrees of the re-ordered hexachord, Corelli must inflect the minor thirds of the ii and iii chords of the tonic hexachord to major in order to get the necessary leading tones to form the cadence. One hastens to add that the raising of the third degree in this instance does not at all have the same effect as the older technique of modal degree inflection, with its direct chromaticism (minor v, major V, resolution). On the contrary, the applied dominant to either the fifth or sixth degree is heard within the context of the harmonic goal and not as a distortion of the background tonic.

Returning to Corelli's first movement, after Corelli has reached the last

cadence on vi, now retraces his harmonic steps, as it were, and returns to tonic harmony, almost unobtrusively; the B minor chord is simply interpreted as a contrapuntal upper neighbor to V in m. 13 which resolves to I on the third beat of the same measure. After the tonic has been firmly regained, Corelli needs only to extend the tonic progression in order to stabilize the return as well as to provide enough tonic harmony to balance the final progression with the rest of the movement. That is why these pieces often end with a coda-like tag of three or four measures that anchors the tonic for the last time.

By systematically moving in a single directed harmonic motion upward from the tonic fifth of the hexachord, only to reverse direction in order to regain the tonic, Corelli has provided a game plan, as it were, for large-scale tonal direction in which every point of arrival along the hexachordal plain relates to the background tonic. One can see this more clearly, perhaps, in the second movements of Corelli's church sonatas, those in fugal style. It is the second movements (always allegro), that are the most extensive in the church sonatas, and therefore it is these movements that provide Corelli with enough musical expanse to explore and develop his innovative harmonic scheme.

The second movement of Op. 3 no. 2 is a case in point (see Ex. 4.8b). The first goal of motion in Corelli is always going to be the dominant, which

cadence is formally achieved on the downbeat of m. 13. The dominant arrival is prepared by its own dominant (downbeat of m. 12), and a look at how Corelli activates the V/V now gives us a chance to discuss tonal direction in music in terms of a specific ordering of chord progression that begins contrapuntally and ends harmonically at the cadential arrival. It will be this type of progression ordering that will inform the progress of tonality for the next two hundred years.

EXAMPLE 4.8b: Corelli Sonata Op. 3 no. 2, 2nd Movement, mm. 1-17

Allegro

The musical score consists of three systems of staves. The first system (measures 1-7) features Violino I with a melodic line, Violino II with a supporting line, and Violone e Organo with a bass line. The second system (measures 8-13) continues the development of the themes. The third system (measures 14-17) concludes the passage. Fingerings are indicated by numbers 1-7, and accidentals (sharps and naturals) are used to specify notes. The key signature is two sharps (D major/E minor).

Within the harmonic structure of the 2# hexachord, ii (E minor) occupies a special position in that its inflection to a major triad – II# – signals the

arrival to V, invariably the first goal of motion in any Corelli sonata movement, at least those that are in major mode. In effect, the motion to V is accomplished through a contrapuntal stepwise ascent in the bass, in this case D to E. This contrapuntal progression to II# now must be confirmed by a cadential harmonic V - I progression in order to anchor the arrival to V. In Corelli's second movement from his Op. 3 no. 2, the tonic D in the bass (m. 10) moves first up to ii on the downbeat of m. 11 (see Ex. 4.8b) and then up to II# on the downbeat of m. 12. The E major triad now acts as V/V and resolves to A in a formal authentic cadence, the bass arpeggiating the harmonic fifth, E - A, on the upbeat to the downbeat of m. 13. Corelli's next goal of motion is vi, B minor, the cadence of which is articulated by its own harmonic authentic cadence on the downbeat of m. 17.

The return to tonic harmony after vi has been achieved, often involves another contrapuntal motion. In the trio sonatas Corelli uses several different approaches to regain —the tonic. The simplest, and the one that was discussed in the opening movement of this sonata, is to treat vi as a contrapuntal neighbor to V, and then move the V to I. In the second movement of this sonata, Corelli's return to the tonic is a bit more sophisticated, but is essentially an expansion of the same contrapuntal motion. In this instance, instead of immediately resolving to V, the bass pitch b of the vi triad is

first reinterpreted as V7/II# six bars later (m. 22), initiating a short fifths progression

that reaches the tonic in the middle of m. 26:

B (V7/II#) – E (II#) – A (V) – D (I).

Here the E triad interposes itself between the B and the A, disguising the actual contrapuntal motion between the latter two triads. Once the tonic is regained, Corelli adds his usual four measures of tonic coda.

Corelli's slow movements are usually the only ones in a related key to the tonic, usually the relative minor. The third movement of Op.3 no. 2, in B minor, will now give us a chance to examine the hexachordal nature of such minor mode movements, in this case, in relation to the tonic 2# hexachord governing the sonata. The following indicates the roman numeral positioning in both the tonic D major and the relative B minor keys:

2# Three-Hexachord System

Hexachordal pitch classes:	G	–	D	–	A	–	e	–	b	–	f#
Chord function D Major:	IV		I		V		ii		vi		iii
Chord function B minor:	VI		III		VII		iv		i		v

One notices that D and b lie at opposite ends of the 2# hexachord and while both share the same three-hexachord system, the chord functions within their

respective tonal hierarchies are opposite in function as well – that is, major and minor chord qualities are reversed. More importantly, however, B minor as tonic lies at the far end the hexachord, succeeded only by its dominant pitch class, f#, the last pitch class of the 2# hexachord system. One more fifth beyond f#, that is, C#, would invite the missing pitch of the system, E# as leading tone to V. Consequently, every time V is tonicized within the minor mode, there will also be a shift out of system to one that is three signatures higher, here that of 5#s, the system of the parallel major (E# divides the B octave symmetrically in half). Below is a comparison of the 2# system hexachord and that of the parallel major.

							Out of system
B minor 2# System:	G –	D –	A –	e –	b –	f#	C#
Chord function:	VI	III	VII	iv	i	v	V/V
B major 5# System:	E –	B –	F#–	c#–	g#–	d#	
Chord function:	IV	I	V	ii	vi	iii	V/V

The C# triad that was out of system with the 2# hexachord now finds its rightful place as either ii or V/V of the 5# B major system. Once shifted into the system of the parallel major, the only way back to the original 2# system would be to invert the process; that is, spell the missing pitch of the 5# system as a minor third: minor thirds are system roots; augmented seconds form

tritones with system roots. Thus, the minor third of B major would be D, the root pitch of a 2# system and three signatures *down* (meaning, in the subdominant direction) from that of 5#s.

Example 4.8c gives the first 23 measures of the third movement of Op. 3 no. 2. Composed in the style of the opera aria of the period, in a slow 3/2 meter, Corelli's opening progression first firmly establishes the tonic, B minor with a 7 measure phrase that ends on an authentic cadence. From here, Corelli now prepares a motion to his first significant non-tonic harmonic area, that of the relative, D. Baroque modulation schemes now rely more and more on the cycle of fifths to drive the music from one goal of motion to another. Corelli's progression to III begins with an A triad (m. 8) leading to D (m. 9) and then to G (m. 10). In order to articulate this progression, all these foreground events are on downbeats, the last one, G, being interpreted as subdominant of the relative. D itself is thus prepared by a progression in that "key" that culminates in an authentic cadence in m. 13. After the relative, the next non-tonic goal is that of the minor dominant. Here is the only instance of a system shift in the sonata, the dominant, f# is tonicized with its V, C#, introducing E#, the missing pitch of the 2# system. When first introduced (m. 19), the E# is prevented from shifting the system up to 5#

since its missing pitch, D₋, is played against it in the first violin. The two missing pitches of both systems, E# of the 2# system, and D₋ of the 5# system, thus effectively cancel each other out. However, E# returns at the end of m. 19, in the bass. This time there is no D₋ to interfere with the new system shift. The new 5# system does not last, for D₋ returns in the first violin on the last beat of m. 22 as part of a III6 chord, reverting the system back to that of 2#s. The rest of the movement remains within the 2# system, moving first back to III before regaining the tonic. As usual, the tonic is then anchored by a 7 measure coda. Typical of Corelli's slow movements, a phrygian cadence is placed right after the final tonic cadence. These phrygian cadences act both to summarize the outer parameters of the tonic hexchord, here G and F#, as well as to act as a transition into the final fast movement. But before we briefly discuss the final movement, we should remark on the unstable nature of the minor mode.

EXAMPLE 4.8c: Corelli Sonata Op. 3 no. 2, third movement (mm. 1-22)

Adagio

The musical score is presented in three systems. Each system contains three staves: Violino I (top), Violino II (middle), and Violone e Organo (bottom). The key signature is one sharp (F#) and the time signature is 3/4. Measure numbers 7, 13, and 18 are indicated at the beginning of their respective systems. Fingerings are provided for many notes, particularly in the lower staves. The notation includes various note values, rests, and slurs.

The relative minor is, in fact, a rotation of the tonic scale, starting on *la*. As such, it seeks to move to its own relative major in order to create stability; a stability conditioned by the fact that the major mode has a major dominant, and a tonic major triad with a major third. Thus the major mode vibrates, one might say, in harmony with the overtone series. Also, a tonic with a minor third in its triad is relatively unstable, the interval of the minor wanting to close in on itself into a unison: for example, C and its

minor third E β will tend towards D as a tone of resolution. But no matter how you explain it, the minor mode, because of its various inconsistencies, will tend to move towards more stable major mode areas within its harmonic borders, as it were. Thus, the relative major sounds almost as a release of tension when it arrives. In the case of Corelli's B minor movement, the relative major is the tonic D major itself, and achieving it as a structural goal allows the rotated B minor scale to revert to its prime state as a D major scale. D is also the root pitch of the 2 \sharp system, another reason for its stability within B minor. Significantly, in Corelli's slow movement the relative major occurs both after the unstable tonic and again after the unstable minor dominant.

Emotionally, all the instability of the minor mode now needs to dissipate into the major tonic of the final movement, whose form is often some form of dance. Dance forms allow for periodic phrasing, lively dance meters in triple or compound duple, and large-scale repetitions in binary movements. Corelli's binary movements follow the same harmonic middleground as all the other major mode movements in his sonatas; however, the harmonic plan is now couched within the symmetrical phrasing of the dance. Invariably the opening half of the movement moves from tonic into the area of the dominant, via II \sharp , at the double bar. The polarity of tonic against dominant adumbrates the formal tonic/dominant polarity of the sonata form of the classical sonata.

After the double bar, the dominant modulates to the next harmonic area, usually vi. In Corelli's last movement of his Op. 3 no. 2, the B minor area initiates a typical inverted fifths cycle, moving first to E minor (immediately converted to II#), then to V (A) and finally to I, all three harmonies on downbeats and all prepared by their dominants. A three measure coda in tonic harmony ends the movement.

What of those major mode movements in Corelli's oeuvre that actually contain a modulation out of system. Corelli's Op. 5 solo violin sonatas contain numerous examples of complex system shifts that reflect the more sophisticated nature of these sonatas as opposed to Corelli's own simpler, more accessible trio sonatas. Most extraordinary is the first sonata of Op. 5 in D major, a work in five movements. The first movement of this sonata is a movement complex that alternates several short slow and fast passages without any change of system, the movement centering primarily around tonic and dominant harmonic areas. But the next three movements all contain system shifts that are of considerable compositional interest. While it would be unfeasible to analyze the entire work, it would be worth our while to look briefly at the second and third allegro movements.

Second movements in Corelli's sonata da chiesa movements are usually stylistically fugal or imitative. The Op. 5 violin sonatas loosely follow the

da chiesa format, with its freely-formed movements in alternate slow-fast tempos. The second movement of Op. 5 no. 1 is therefore typical in the canonic imitations between the solo violin and the continuo bass. These imitative movements also show off Corelli's considerable double stopping technique, albeit within the lower positions on the violin. The violin double and triple stopping is not just confined to chordal arpeggiations, but also includes numerous examples of two-part counterpoint complete with fourth species suspensions that must have influenced J.S. Bach's own spectacular solo violin sonatas and partitas.

Corelli's elaborate contrapuntal display at the opening of the second movement disguises the lack of harmonic motion -- the first 62 measures remain firmly in the tonic, articulated by frequent cadences in the home key. After arriving at a complete tonic authentic cadence on the third beat of m. 62, Corelli now moves rapidly to vi, B minor, prolonging that harmonic area for a total of 8 measures. Instead of now backtracking, Corelli moves up to the final fifth of the 2# hexachord and tonicizes iii (F# minor), causing a system shift up to 5#s. From this point on (the violin sonatas were published in 1700), composers will frequently move to tonicize the last fifth of the tonic hexachord as a point of climax within the overall structure of the movement. Regaining the tonic system is simple since the missing pitch of any

mediant minor system is the tonic itself! Therefore, an immediate return to tonic harmonic after iii has been tonicized would immediately correct the system back to that of the tonic. This is why so many Baroque concertos move to a climactic ritornello in iii only to revert to the tonic in the very next measure, often without a prepatory dominant. However, Corelli, in his second movement, follows his usual path in returning to the tonic via an inverted fifths cycle: f# (iii) – B – E minor – A (V) – D (I). All this takes place within 4 measures, the end of which, culminating on tonic harmony, reverts the 5# system back to 2#s. A lengthy tonic prolongation now ensues for ten measures, at the end of which another motion to iii occurs. Again E# is introduced throwing the systems up to 5#s, only to revert to the tonic 2# system 3 measures later.

Corelli's harmonic ground plan for this movement is typical: after each tonic prolongation, there is a move to a more distant non-tonic area, vi or iii, or both, which, in the case of the latter, invokes the missing pitch and a shift of system. After each of these harmonic excursions, the tonic returns, rondo-like, to re-establish tonic harmony and tonic system. Thus every shift of harmonic system up to 5#s in this movement is counteracted by the systematic return of tonic harmony soon after, and consequently reverting the system back to 2#s. For example, the last E# in the movement (m. 84) is soon

corrected by an D_+ in m. 86, in the bass, which also signals the return of the tonic. However, Corelli goes one step further; the ending of the movement moves, without preparation, into the parallel minor (introduced by a single $g^{\#07}$ chord). The switch into minor is dramatized by a sudden change in tempo to Adagio along with a drastic slowing down of harmonic rhythm, the bass accompanying the cadenza-like arpeggiations of the solo violin (see Example 4.9). With the introduction of F_+ , the flat enharmonic of $E^{\#}$, the system now shifts down three signatures to 1β , the implied signature of D minor, the parallel minor. It is as though Corelli was almost consciously trying to balance the system shifts so that the previous sharp modulations along the dominant side of the cycle of fifths were now needed to be reinterpreted in the opposite direction along the subdominant side of the same cycle. The 1β system remains in effect right into the D major opening of the last allegro movement until $G^{\#}$ is introduced in the second measure to shift the 1β system back up to $2^{\#s}$.

EXAMPLE 4.9: Corelli Sonata Op. 5 no. 1, end of 2nd movement into the opening of the 3rd movement.

The musical score is divided into four systems. The first system shows the end of the 2nd movement, marked [Allegro], with measures 86-87. The second system continues the 2nd movement, measures 88-91. The third system shows the beginning of the 3rd movement, marked Adagio, with measures 92-94. The fourth system continues the 3rd movement, marked Allegro, with measures 95-97. The score includes fingerings, articulation marks, and dynamic markings.

To summarize, Corelli is the first major composer to create a hierarchy of function between the fifths of the central hexachord of a key and the background tonic. In major mode, Corelli's background harmonic progression, over the course of any given movement, invariably moves along the hexachord from the tonic of that movement to its fifth as the first goal of motion. From the dominant, the submediant is the next goal (it is understood that each of these goals is articulated by an authentic cadence in that harmonic area). If

the submediant is the furthest point away from the tonic, as it usually is, the next harmonic event will be to regain the tonic, often via a passing motion through the subdominant, or at least harmonies that have a subdominant function (that is., they precede the structural dominant) such as ii or even iii. After the tonic is achieved (often rhythmically attenuated), a coda-like passage anchors the tonic before the final cadence. In minor mode, after the tonic is expressed in an opening phrase, the next goal is usually the relative major, eventually passing on to the dominant in order to return to tonic harmony. In between the III and the V, there may be passing motions to iv or VI before the structural dominant is reached. An alternative progression would be to achieve V (immediately after III) and then to extend the passage through iv or VI before reaching the tonic. In either case, Corelli will conclude the movement with a short coda anchoring the tonic. In terms of the hexachord and its hierarchal functions, the minor mode inverts the operations of that of the major; that is, the harmonic progression from one hexachordal pitch to another, away from the starting tonic pitch, is toward the major side of the system hexachord rather than towards the minor – major moves towards vi and minor moves towards III before reversing the process back to the tonic. Both vi and III may be extended with motions further away before the music begins its tonic return. Thus, in major, vi may move further away to iii, the last

pitch of the system hexachord, necessitating a system shift. In minor, III may move to VII or V, in the latter case also causing a system shift. Most often, on the way back to tonic harmony, the system will revert to its original state, but sometimes movements will end in their complementary systems in order to prepare often in preparation for the next movement that is harmonically related to the new system, a process that will be explored in subsequent chapters.

Remarkably, Corelli's systematic approach to tonal organization will remain in effect until the latter part of the nineteenth century, especially in absolute music forms which depend upon tonal clarity on a background level. It now remains for us to see how Corelli's basic harmonic plan was extended in larger compositions, notably the concerto, in the music of the late Baroque period.

VII. Common Practice Tonality and the Late-Baroque Concerto: Torelli, Vivaldi and J.S. Bach

The advantage of a tonal system capable of establishing non-tonic harmonic areas was to allow composers the ability to create forms that were at once longer and yet unified in tempo, meter, rhythm and motive. Before this,

composers had to rely on either a fugal or imitative technique that created length by the sheer number of fugal entrances and subjects, but were limited in harmonic scope, or were conditioned by the older canzona technique of short contrasting sections of differing meter, tempo and thematic material, all basically in the same mode or “key.” Once Corelli had established a method of tonal direction whereby the tonic was left in favor of auxiliary cadences in non-tonic areas, the next step would logically be to stabilize each of these non-tonic harmonic areas with full periods in those areas. The first attempts to achieve just such a structure must be attributed to Giuseppe Torelli (1658-1709) of Bologna. It was Torelli, following in the footsteps of Stradella, who realized that one could both rhythmically and thematically unify and lengthen an entire concerto movement by simply transposing its opening theme to various hexachordal degrees. What was once just an auxiliary cadence in a Corelli ensemble sonata, could now appear as a complete and stabilized period in a non-tonic area. Torelli had thus discovered a systematic approach to ritornello form, a form devised by Alessandro Stradella who had only employed it in rudimentary manner.

Torelli had begun to experiment with elementary ritornello structures in his Opus 6 church concertos (1698), but it was not until his Opus 8, published posthumously by his brother Felice in 1709, where it crystallized into its

modern standardized design. Torelli's ritornello structure takes Corelli's harmonically directed tonal background as a point of departure, and expands it by broadening simple cadential arrivals into complete harmonic progressions that stabilize non-tonic areas through transposition of the ritornello statement. For instance, an initial goal of V is achieved with an authentic cadence, as it would be in Corelli, but also *by transposing the opening ritornello statement into V*; thus a stable and complete harmonic period in that "key" is attained. The solo episode that follows contains technically difficult figurative music that differs from the thematic material of the ritornello theme with of the insertion of virtuosic material for the soloist or soloists.²³ Just as important is the character of the solo episode that provides a bridge or transition into the next non-tonic harmonic area — usually IV, vi, or III depending on the mode of the movement — which is similarly achieved by a transposition of the ritornello theme and an authentic cadence. After a new and more elaborate solo episode, a final ritornello statement in the tonic ends the movement. Naturally, composers such as Torelli

²³Since the concertos of Stradella and Corelli do not follow a standardized ritornello format, there are no solo episodes. Instead, the thematic material is either shared between concertino and concerto grosso, or both groups have very similar melodic material. In either case, the two groups either alternate short phrases or the larger group will sometimes double the concertino for dramatic emphasis.

have a wide choice of ritornello transpositions with solo episodes occurring between each ritornello statement: some movements contain three or four statements in non-tonic areas, while others may contain fewer. The ordering of solo versus full orchestra (referred to as *ripieno* or *tutti*) is not yet standardized, with some concerto movements beginning with the soloists *followed by the ripieno* (Op. 8 no. 2 in a minor is an example). While Torelli establishes a three-movement design in which the outer movements are invariably fast, the middle movement is still in canzona form in the style of Stradella; therefore, the middle movement is subdivided into smaller sections that alternate tempi and thematic material. These middle movements do, however, contain elements of ritornello form since thematic material does return, at least at the open and close of the movement, but is not subjected to the same rigorous harmonic discourse or thematic complexity as it would in the outer movements.

The design of the ritornello theme also conditions the suitability of transpositions and how much of the ritornello theme is required to establish an harmonic area. Torelli employs two types of ritornello themes: the first, and by far the most popular, is a fugal one based on an imitative subject. Torelli may have leaned towards imitative subjects because many of these concertos were played during celebratory masses at Bologna's famous basilica,

San Petronio, where Torelli was a member of the orchestra. These non-sectional subjects clearly establish the tonic through alternating tonic and dominant harmonies, but cannot be segmented; that is, the entire subject must return as a ritornello statement with or without its fugal imitations. Torelli's Op. 8 no. 3 in E major for two solo violins and strings begins with this type of theme (Ex. 4.10).

EXAMPLE 4.10: Torelli, Op. 8 no. 3, 1st Movement (mm. 1-18)

Vivace
Tutti

Violino I
Violino II
Viola
Bassi e Cembalo

7 6 7 6 7 6 7 5 4 #3 # 7 6 7 6 7 6 4 #3 #

7 6 7 6 7 6 7 4 #3 # 7 6 7 6 7 6 7 4 #3 # Solo Episode

7 6 7 6 7 6 7 4(#3) # 4 #3 #

Soli
Soli
Soli (Basso)

Torelli's ritornello fugal subject is accompanied by the basses and basso continuo, a procedure similar to that used by Corelli in his ensemble sonatas' fugal movements. Therefore, the bass does not participate in stating the subject, the fugal entrances limited to the upper three voices (violin I, II and viola). The opening fugal ritornello statement in the tonic is unusually large, covering eighteen measures and including a tonic fugal counter-exposition of the opening subject entrances. The key signature still reflects

modal thinking since Torelli conceives of E major as a “tonal” mixolydian; meaning that the signature is modal, but all the D’s in the manuscript are sharped. Modal signatures are not at all uncommon during this period; indeed, both Vivaldi and J. S. Bach still use them on occasion (see our discussion below of Vivaldi for a fuller examination of the problem of interpreting modal signatures in the eighteenth century). Diagram 4.1 is a form graph of all three movements of the concerto. The Diagram outlines the background harmonic structure of each movement depicting the placement of ritornello statements and solo episodes. The reader should refer to this graph during the following analytical discussion.

The harmonic scheme of the outer two movements indicates an overwhelming emphasis on the subdominant; both movements avoid the dominant as separate harmonic areas in favor of the subdominant articulated by ritornello restatements in both movements. Indeed, the last movement's only non-tonic area is the subdominant. One might conclude, therefore, that Torelli was thinking of a subdominant bias because he thought of his E mode as mixolydian, perhaps even hypomixolydian, a mode which traditionally emphasized the subdominant as recital tone (or *repercussio*). Further, the harmonic areas that Torelli chooses to stabilize with ritornello statements are subdominant-harmony constituents: A (IV) – c# (vi) – and E (I). The choice of the subdominant as the first goal of motion, however, is not sufficient proof that Torelli's conception was modal.

The same question of modality vs tonality applies to Stradella's works; we have seen that in the Christmas cantata's *Sinfonia*, Stradella's motion to IV was related to a larger prolongation of the tonic. Similarly, Torelli's subdominant bias not only *supports* the background tonic, but does so with even more forcefulness. Because of the extreme length of Torelli's opening fugal ritornello, with its reiterated dominant subject entries, there is no need to create a separate dominant ritornello statement. The central episode (see Diagram 4.1) begins with a lengthy prolongation of the dominant (most ritornello movements include a "central episode" which usually occurs just before the closing ritornello statement in the tonic). It is the most lengthy and complex of all the solo episodes, and it is here that the virtuosic material written for the solo(ists) reaches its greatest intensity. Therefore, it is no surprise then that Torelli chooses this moment to incorporate the only instance of the missing pitch in this movement. A G₂ is introduced as the episode turns from the dominant to a short prolongation of the subdominant, effectively shifting the prevailing 4# system down to 1#. The G₂ forms part of an A7 chord temporarily tonicizing D, the subdominant's subdominant. After this, the music turns back toward the tonic for the final ritornello. However the 1# system remains in effect right through the closing ritornello and does not revert to 4#s

until A# finally appears as a leading tone to V, six measures before the end of the movement.

DIAGRAM 4.1: Torelli, Concerto in E Major for 2 Solo Violins and Strings, Op.8 no. 3, 1st Movement

Torelli's internal ritornello statements in the first movement of the E major concerto limit their thematic material to either a single-subject entrance, as in the second ritornello in vi, or as subject and answer, as in the third ritornello in A. Having a subject on IV followed by its answer on V/IV becomes almost cliché in concerto movements utilizing a fugal ritornello, since it provides a simple way to return to tonic harmony at the end of the movement without articulating the event with a preparatory dominant. Thus a return to the tonic is effected by reinterpreting V/IV as I, preparing for the central episode which prolongs the tonic with dominant and subdominant harmonies.

The other type of ritornello theme, and the more innovative of the two, is designed as a series of interlocking, but separate motives, each with its own separate harmonic function. This is the type of ritornello statement that is far more often than not utilized by Vivaldi and J. S. Bach.²⁴ Anticipated by Stradella, and carried on in embryonic fashion by Torelli, this type of segmented theme rarely occurs in Torelli's early works, confined almost exclusively to those later concertos of the first decade of the eighteenth century. One cannot rule out Vivaldi's possibly influence on Torelli's later works, since many of Vivaldi's Opus 3 concertos circulated in manuscript form around 1700, that is, before Torelli completed his own Opus 8. Torelli, in turn, may have been of some influence on J. S. Bach, who reshaped the subject of the last movement of Torelli's Op. 8 no. 8 concerto into the subject of an organ fugue (BWV 537).

²⁴For a detailed discussion of Vivaldi's ritornello themes and their influence on Bach, see: Laurence Dreyfus, "J.S. Bach's Concerto Ritornellos and the Question of Invention," *The Musical Quarterly*, 71/3, 1985: 327-358.

Example 4.11 gives the opening ritornello of Torelli's Op. 8 no. 8 in C minor. The entire ritornello theme is seventeen measures long and is subdivided into three distinct motives. Using the terminology first devised by Wilhelm Fischer in his seminal 1915 article on the evolution of Classical style,²⁵ the opening segment of the theme (mm. 1-10) is a fugal *Vordersatz*, that is, a segment having both subject and answer in the tonic and dominant respectively, and which consequently clearly defines the tonic, C minor, with root position tonic and dominant harmonies. This segment is tonally closed, ending with an authentic cadence on the tonic. Clearly separated from the *Vordersatz* is the next segment (mm. 11-14), called the *Fortspinnung* by Fischer, which is sequential and follows either a diatonic or a harmonic sequential pattern. In this case, Torelli's *Fortspinnung* segment is a harmonic cycle of fifths that modulates to the dominant. The final segment (mm. 15-17) — Fischer used the term *Epilog* — is cadential. In this case, the *Epilog* reinforces the minor dominant, G minor, with a cadential progression ending

²⁵Wilhelm Fischer, "Zur Entwicklungsgeschichte des Wiener klassischen Stils," *Studien Zur Musikwissenschaft* (Leipzig: Breitkopf & Härtel, 1915). Fischer's terminology is discussed fully in Dreyfus, *op. cit.* When discussing the segmentation of the ritornello theme in this and all subsequent analyses, we will adopt Fischer's terminology.

The harmonic plan for this movement is given in Diagram 4.2 2 below. Since the opening ritornello cadenced on v, and since the first solo episode begins in G minor before moving to the relative major (again, it is the function of the solo episodes to act as transitions to the next harmonic goal), there is no need for a separate ritornello statement the minor dominant. In Ritornello 2, Torelli transposes the first two segments of the theme (motives *a* and *b*) into the relative major; however since segment *b* is a *Fortspinnung* harmonic sequence, he is able to use this segment to move into subdominant harmony. The second solo episode therefore begins in iv and modulates back to the tonic via the dominant. At first, the dominant, G minor, is actually prolonged by its own dominant, beginning in m. 37. In order to turn the dominant area into a progression preparing for the tonic, Torelli simply adds a seventh to the dominant chord in m. 43. This, and the subsequent measures leading up the final ritornello in the tonic, forms what will later be called a “retransition passage” in modern sonata-form analysis: a phrase that centers around the dominant at the end of the development section in preparation for the recapitulation.

By drawing the 3β central hexachord of this movement, one can easily understand the underlying harmonic progression:

Harmonic ordering:		2		3	1	4
Hexachord pitch classes:	Aβ-	Eβ-	Bβ-	fm-	cm-	gm
Harmonic function:	VI	III	VII	iv	i	v

The Arabic numbers above the hexachord pitch classes show the ordering of harmonic areas, only two of which are given ritornello statements: i and III. From the tonic, C minor, Torelli first proceeds to the relative major, Eβ. In this diagram, the relative is the furthest point away from the tonic that Torelli chooses to explore. He then moves back along the hexachord toward the tonic by first moving through the subdominant and then to the dominant, all within the second solo episode. A full ritornello statement in the tonic concludes the movement.

As Dreyfus states in his article (previously cited), a structural ritornello statement (he calls it “marked”) is one that contains enough of one or more segments of the ritornello theme to stabilize a harmonic area. Since motive *a* (the *Vordersatz*) forms a complete harmonic progression in itself, that is all that is required to make that ritornello statement structurally stable. The following sequential segment, *b*, is therefore free to “modulate” into the next solo episode. What we learn from Torelli’s treatment of ritornello form is the almost limitless possibilities the form can take since the segments of a ritornello statement can be re-composed for any number of harmonic considerations. Ritornellos may act as agents of modulation as solo episodes can, provided that the harmonic areas in which they occur are stabilized. This is why Handel, in the later development of the concerto in England, could be so free with his ritornello forms that he was able to stabilize a non-tonic harmonic area with a structural ritornello statement consisting solely of the *Fortspinnung* segment, a condition that Dreyfus insists is impossible since *Fortspinnung* sequences “suspend” tonic harmony and cannot be restated without some other harmony-defining segment.²⁷

²⁷The organization of the first movement of Handel’s Concerto Grosso in C, “Alexander’s Feast” refutes Dreyfus’s assertion. For example, the

The minor mode is always volatile when it comes to system shifts since the dominant's leading tone is very frequently present as part of an applied chord to V. In a 3β system, either F# or G β will be the missing pitch; however, in Torelli's movement, only F# is introduced as leading tone to the dominant pitch class. Every time F# is invoked, it implies a system shift to the parallel major – C major is three key signatures up from E β , and, in addition, F# divides the major octave symmetrically in half – and since the leading tone to the dominant is an ever-recurring pitch class in the minor mode, system shifts are a frequent occurrence. However, these tend to be short-lived since the correcting, pitch, E β (the missing pitch of the C system) most often follows every F#, negating the previous shift. Only in cases where the opposite missing pitch, G β , is introduced, is there any sustained motion within the complementary system.

The next stage of concerto development brings us from Bologna to Venice and to the work of Antonio Vivaldi (1678-1741). It is generally acknowledged that Vivaldi brought the Italian concerto to its height;

Fortspinnung segment of Handel's opening ritornello theme (mm. 5 – 8) clearly moves, via a series of sequential chromatic 5 – 6 exchanges, from the tonic to the dominant at the end of the passage. This segment returns, abbreviated, as the second ritornello in mm. 23-24. In fact, most of the internal ritornello statements in this movement contain nothing but this segment, complete, abbreviated, or varied; and all capable of stabilizing a non-tonic harmonic area.

his numerous and inventive concertos display practically every conceivable permutation of the ritornello form that he helped to establish. Diagram 4.3 is a form graph of the first movement of Vivaldi's Op. 9 no. 2 in A major for solo violin and strings. The movement displays a number of stylistic features typical of Vivaldi's ritornello structures, both thematically in terms of the segmentation of the ritornello theme itself and in terms of the harmonic plan of the movement, including notable eleven pitch-class system shifts.

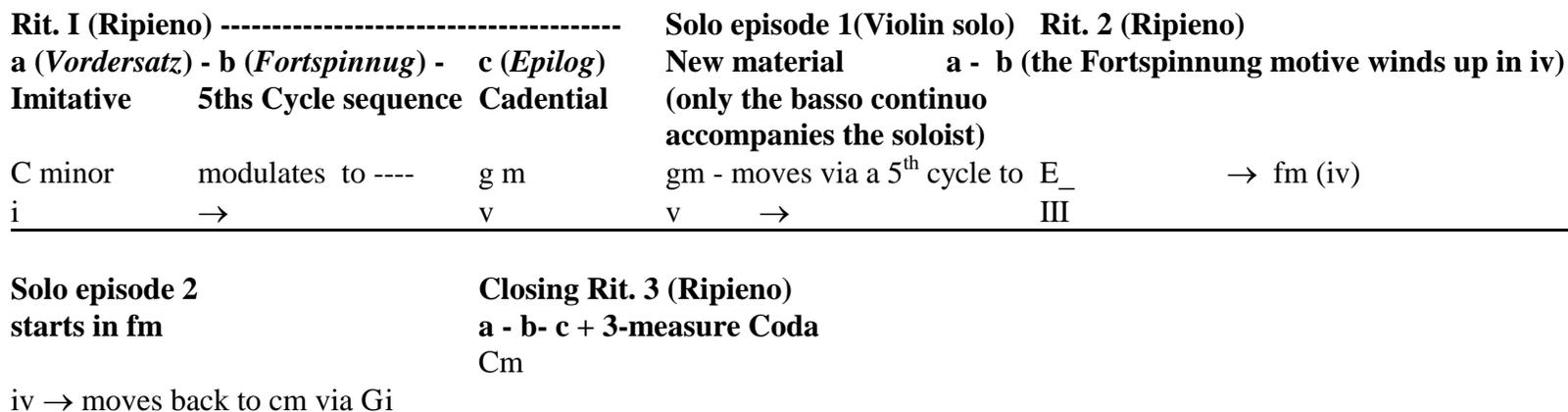


DIAGRAM 4.2: Torelli, Op. 8 no. 8 in C Minor for Solo Violin and Strings, Last Movement (features a modulatory ritornello theme that ends in the dominant)

Ritornello 1

Allegro (Ripieno, unison statement throughout)

mm. 1 – 6	mm. 7 – 9	mm. 10 – 11	m. 12
<i>Vordersatz</i>	<i>Fortspinnung</i>	<i>Pianoidée</i>	<i>Epilog</i>
	Diatonic sequence	C_ ↘ “0” system	“0” system holds through
A Major	over a V pedal	a minor: arpeggiates a Bβ-G# aug. 6	A Major
I	→	i	V – I

Solo Episode 1

Rit. 2

mm. 13 – 22	mm. 23 – 24	mm. 29 – 33	mm. 34 – 35	mm. 36 – 37	m. 38
Strings accompany the soloist	D# ↗ 3#s	<i>Vord.</i>	<i>Fort.</i>	<i>Pianoidée</i>	<i>Ep.</i>
A —	E	E	E	e minor	E
I	V	V (prolonged by V/V)	V	V/V pedal	v

Solo Episode 2

mm. 38 – 43	mm. 44 – 45	m. 46	m. 48	m. 50	
Soloist with b.c. only	— Harmonic seq.	B# ↗ 6#	A_ ↘ 3#	B# ↗ 6#	
E	F# → B —	G# → c#		G#	
V				V/iii	
PCA beings here:	A_ –	A# –	B –	B# –	C#
	0	1	2	3	4 (pc 4 is prolonged)

Rit. 3 (modulatory)

mm. 53 – 56	mm. 56 – 57	m. 57 – 58	m. 58	mm. 59 – 60
<i>Vord.</i>	<i>Fort.</i>	A_ ↘ 3#	B# ↗ 6#	No <i>Epilog</i> , but cadential in function A_ ↘ 3#
	Harmonic seq.			
c# minor	→ F#	→		b minor -----
iii	V/ii			ii
(PCA):C#				(D_)
4				(5)

DIAGRAM 4.3: Vivaldi, Concerto in A Major for Solo Violin, Strings and Basso Continuo, Op. 9 no. 2, 1st Movement

Solo Episode 3 (The Central Episode)

mm. 61 –	m. 63	m. 64	m. 65	m. 66	m. 67	m. 68 – m. 75	m. 76	
Soloist with b.c. only (3# system holds through)	Chromatic 5-6 sequential exchanges	-----				Harmonic seq. Cadence in vi Cycle of 5ths	Prolongs f# minor ----- vi – (vi: βii – V – i)	
b minor								
ii – V/ii – ii	→							
(PCA):	D₋ 5	D# 6	E 7	(E#) (8)	F#) (9)		E# 8	F# 9

Rit. 4	Rit. 5	Solo Episode 4						
mm. 76 – 79	mm. 79 – 82	mm. 82 –		86	mm.87 – 88		mm. 89 – 90	
<i>Vord.</i>	<i>Vord.</i>	Soloist is accompanied by the strings		Harmonic sequences				
f# minor	A major	A	E	A	D	E – C#	f# m – D – E	
vi	I	I —	V	I –	IV —	V V/vi	vi IV – V	
(PCA):F#					G₋	(G#-----)		
9					10	(11)		

Closing Ritornello (Rit. 6): segments are abbreviated

mm. 90 – 94	m. 95 – 102	mm. 102 – 104	mm. 104 – 106	mm. 107 – 108	m. 109	
Dominant preparation	<i>Vord.</i>	<i>Fort.</i>	<i>Pianoidée</i>	<i>Epilog</i>		
E7	A	E – A	Diatonic seq.	C ₋ ↘ “0” a minor	A Major	
V7	I	V → I	V pedal	i	V – I	
	PCA concludes:	G#	A			
		11	0			

N.B.: The first movement ends in a “0” system which is not corrected until m. 8 of the next movement

Vivaldi's opening ritornello is orchestrated for unison strings, a typical opening gambit of many Venetian concertos of the early eighteenth century (Example 4.12). Measures 1 – 6 comprise the *Vordersatz* segment of the theme which ends on a half cadence. The function of the *Vordersatz* is to establish tonic harmony clearly with root position tonic and dominant triads; in this case the realization of the basso continuo would fill-in the missing triadic pitch classes implied by the arpeggiations in the unison melody. Since so much of early eighteenth-century music relies upon variety of rhythmic pattern rather than on melodic profile, at least in the fast movements of concertos, it is no surprise that Vivaldi's *Vordersatz* segment should contain at least three different rhythmic patterns within it: an opening tonic arpeggio in quarters and eighths, a sixteenth-note neighbor figure, and a concluding syncopated arpeggiated motive. Following the *Vordersatz*, the *Fortspinnung* segment, a diatonic sequential progression covering three measures, continues with the sixteenth-note neighbor figure of the opening thus maintaining continuity as well as rhythmic momentum. Vivaldi's innovation is the segment that follows the *Fortspinnung*. Labeled by some as the

pianoidée,²⁸ this segment appears in a selected number of Vivaldi concertos; it is not a regular feature of his ritornello themes. By definition, the *pianoidée* is a passage that shifts the tonic major mode into the its parallel minor, usually accompanied with a lower dynamic level and reduced scoring. This segment, when it appears, disrupts the mode by injecting a disorienting chromatic element into it. In this case, the missing pitch of the prevailing 3# system, C₋, enters. The resulting system shift down to a “0” or C system also allows for another chromatic pitch to enter the diatonic pitch field, the B \flat in m. 11, the allowable added flat of the “0” system.

²⁸It was Walther Krüger who first coined this term in his *Das Concerto Grosso in Deutschland* (Reinbek, 1932):26. Pippa Drummond, referring to Krüger, also adopts this term in her *The German Concerto: Five Eighteenth-Century Studies* (Oxford University Press, 1980): 71-72, fn. 98. See also Bella Brover Lubovsky, “‘Die Schwarze Gredel’, or the Parallel Minor Key in Vivaldi’s Instrumental Music,” *Studi Vivaldiani*, 3/2003: 105-131, who discusses Vivaldi’s minor mode shifts in his ritornello themes, but without call it a *pianoidée*. To us, the term *pianoidée* aptly fits the nature of this segment, and although somewhat anachronistic, is still a useful designation.

EXAMPLE 4.12: Vivaldi Concerto in A Major for Violin and Strings, 1st Movement
(mm. 1-12)

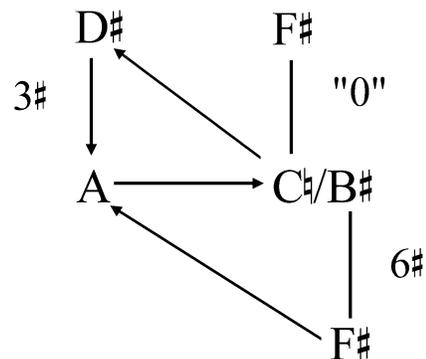
Allegro
Vordersatz

7 Fortspinnung Pianoidée Epilog

At this point, it would be beneficial to draw the system matrix of this movement in order to clarify how the system changes incurred by the shift into the parallel minor affect the compositional design of the movement. Figure 4.1 represents the matrix of a 3# gamut system that is conceived within the

tonality of the common practice period (see also Figure 2.2 in Chapter 2 for another representation and discussion of this matrix, but from the complementary “0” system).

FIGURE 4.1: 3# System Matrix



Starting from the left-hand side of the figure, the tritone A – D# represents the defining interval of a 3# eleven pitch-class collection whose root is A and whose chromatic octave is symmetrically divided by D#. In the first movement of Vivaldi’s Op. 9 no. 2, this collection is centered around A major, the tonic of the piece (it could just as well have referred to F# minor since both keys share the same 3# system as well as hexachord). The arrow pointed to the right, emanating from the A in the figure, shows what happens if the missing pitch of the 3# system, C_♭, is introduced. When Vivaldi switches mode to a local A minor tonality in the *pianoidée* segment of his ritornello theme,

the new eleven pitch-class system that results is one whose root is C and whose tritone divider is F#. The complementary system will remain in effect until the missing pitch of that system is introduced, either to move down another three systems if the pitch is spelled Eβ, or up three systems if the pitch is spelled D#. In the latter case, as it is here, the D# that enters in m. 30 would bring us back to the original 3# system as indicated by the arrow shooting up diagonally from C_ to D# in the figure.

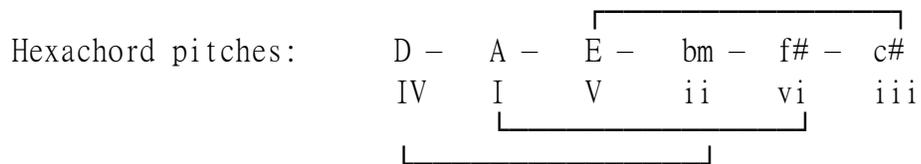
Alternatively, when Vivaldi moves into c# minor, the missing pitch spelled as B# (instead of C_) is introduced. The new eleven pitch-class system is one whose root is F#, B# being the symmetrical divider of an F# chromatic octave. The missing pitch of this 6# system that would return us to the A major tonic would be the tonic pitch itself, A. What is important to note here is that c# minor is a subset, as it were, of the larger 6# system and does not comprise a separate 4# system lying outside of the prevailing matrix of the movement. There is only one matrix that can exist at any one time and all harmonic events are subsumed within the tritone axes of the tonic eleven pitch-class system.

An important compositional question arises when we consider the

relationship between any two opposing pitch classes that comprise the complementary systems of the matrix. For instance, if the relationship between the chromatics D# and C_ are important in motivating system shifts within the original 3# system of the movement, do these same pitches play a larger developmental role in the movement as well? Recognizing the system modulatory potential of D#, it is no wonder that Vivaldi articulates this pitch as *the only chromatic* within the first two segments of the ritornello theme. It first occurs at the onset of the *Fortspinnung* in m. 7 (refer to the above example) as a leading-tone embellishment of the dominant. The D# is then displaced by its diatonic equivalent, D_, in the next measure, thus forming a dyad conflict between the raised and lowered fourth degree of the A major scale. Dyad conflicts between chromatic inflections of pitch classes with the same family name (here D# and D_) may also become a source of development along with *system* dyad conflicts (in this case, C_ and D#). Such relationships as these can only be ascertained, however, by further examination of the movement.

The note D# becomes more and more prominent as we move into the area of the dominant, eventually reaching the goal of the second ritornello statement in m. 29. Now D# becomes an essential pitch, displacing the diatonic D_ of the

tonic scale. Vivaldi keeps the D# active as he moves into the area of iii, c# minor. The D# becomes a controlling pitch or motivator in the sense that it now governs the progression of eleven pitch-class harmonic areas. Both the dominant and the minor mediant relate to each other in that c# can also be understood as the dominant's submediant, the one following the other as ritornello statements. They therefore theoretically share the same key signature of 4#s; that is, if they were keys instead of harmonic areas. Thus, the D# which articulated the dominant, also motivates its "parallel", the mediant. The brackets in the following diagram of the system hexachord of the movement shows which hexachordal pitches share the same implied key signatures:



Thus each pitch class from one side of the hexachord links up with its opposite member from the other side of the hexachord: E and c# minor, A and F# minor, D and B minor. The composer may use a particular chromatic pitch class to unite the movement between one harmonic area within the hexachord and

another, thus binding the relationship between the two, as in the case here with D# binding both the dominant, E and the mediant c#. Eventually, the D# will have to yield its position to its diatonic counterpart if the composer ever intends to return to the tonic of the movement.

The expansion of c# minor allows the next pair of system conflicts to present itself: namely, B# (a respelling of C_) and its conflicting pitch, A_ (see the above system matrix). These two pitch classes now govern the system shifts of the second solo episode leading up to and throughout the third ritornello in the mediant. The A_ finally “wins out” in m. 60 returning the previous 6# system temporarily to 3#s.

What is most unusual about this movement, is that Vivaldi reverses the usual order of harmonic events by placing a ritornello statement in the minor mediant, c# minor, *before* a ritornello in the submediant, F# minor. In the vast number of concertos composed in the major mode during this period (including Vivaldi’s own works), the penultimate ritornello statement before the return of the tonic was often the minor mediant. In terms of sheer dramatic intensity, composers would naturally choose iii as a climactic event, since iii is the furthest pitch-class away from the tonic within the re-

ordered hexachord of the key. In addition, the tonicization of the minor mediant automatically entails a system shift up three signatures, that would then be immediately corrected with the return of tonic harmony, usually as the final or next to final ritornello of the movement. (Some concerto movements end with two tonic ritornello statements to strengthen the home key which has passed through so many intervening subsidiary harmonic areas.) Instead, Vivaldi prefers a smoother approach to the return of the tonic by inserting another ritornello (rit. 4) in F# minor (mm. 76ff). F# minor (vi) is closely related to the tonic (see the above hexachord diagram) since they are relatives of each other. Ritornello 4 states only the *Vordersatz* segment of the ritornello theme and it is immediately succeeded by ritornello 5 in the tonic, also with only a *Vordersatz* segment. The return of tonic harmony results from a simple diatonic 5-6 exchange between F# minor and A major.

But, in the meantime, what has happened to the D#? This pitch was put into play early in the movement when Vivaldi moved into the dominant, and continued to be active right into the c# minor harmonic area. Maintaining D# through two tonal centers, and thus further dramatizing (and, in a sense, “developing”) the relationship of the background dyad conflict between D# and

D₂, could be a possible reason why Vivaldi chose to move directly from the dominant to the minor mediant, bypassing, albeit temporarily, the submediant.

Referring again to Diagram 4.3, the third ritornello was modulatory, moving from c# minor at its beginning to B minor (ii) at its end. In the process, the previous D#s that had controlled the harmonic direction of the middle of the movement, now resolve to their diatonic counterparts as D₂s. But this is not yet the end of the story: D# returns once more in m. 64 as part of a larger chromatic unfolding that runs over the course of the movement. A desire to fill out the chromatic octave, in whole or in part, is nothing new in music, as was discussed in the previous chapter. This inclination can be seen as early as the 1530s when chromaticism was first investigated as a compositional dialectic along with the diatonic. In the eighteenth century, the filling-out of the chromatic octave, starting on the tonic pitch of the key, becomes an increasingly important compositional tool that often coincides with the harmonic background. The term we have adopted for this procedure, the Primary Chromatic Array (the PCA), was already mentioned in the previous chapter in terms of chromatic modality, and now we can observe its unfolding within a purely tonal construct.

No matter at which point it begins to unfold, the PCA always begins on the tonic pitch (pc 0) and continues to ascend, unfolding each chromatic pitch class in successive order until the octave is completed.²⁹ The PCA often interacts with other significant pitch classes, ones classes that form either dyad conflicts or system conflicts, or both, depending upon the piece and the whim of the composer. The rate at which the PCA's unfolds — how many chromatic pitch classes are introduced at any one time — may also create tension and expectancy. In Vivaldi's Op. 9 no 2, after tonic harmony is established in m. 1 (pc 0), the first movement's PCA does not begin to ascend with pc 1 until m. 43 (see Diagram 4.3 for the exact placement of the PCA) as part of a dramatic diversion to c# minor. At this point, Vivaldi unfolds the first five pitches of the PCA in quick succession: A (pc 0) – A# (pc 1) – B (pc 2) – B# (pc 3 as leading tone) – C# (pc 4). This last pitch, the goal of the first part of the PCA, now achieves structural significance as the harmonic area of the third ritornello. The C# (pc 4) is not displaced until D_(pc 5) displaces it in m.

²⁹The PCA does not always have to include every pitch class of the chromatic tonic octave. For example, many Renaissance vocal pieces begin on pc 0, the final of the mode, but then skip to pc 3 before continuing in ascending chromatic order. Chapter 5 will discuss in detail the variable constructs allowable within the PCA in terms of eighteenth-century sonata form movements.

60. The PCA's arrival on pc 5 is part of a developmental process that highlights the dyadic conflict between D# and D_. Only now does the D# finally resolve as part of the rising PCA chromatic octave. Dramatically, Vivaldi delays the resolution of D# to E_ by breaking into the third solo episode in m. 61, leaving the D_ "hanging", as it were, before the line continues upward in m. 64: D# (pc 6) passes to E (pc 7) which, in turn, moves to up to E# (m. 66) before reaching the next structurally significant goal of F# minor in m. 67. The D_ moving upward to D# is not the actual resolution of the dyad conflict; that must wait until the very end of the movement. Meanwhile, the F# (pc 9) now becomes a harmonic area in its own right, articulated by its own ritornello passage. Thus both C# (pc 4) and F# (pc 9), as rising pitch classes within the PCA, are compositional determinants that help to fashion the movement's unique emotional harmonic character when they are fleshed out as harmonic areas in their own right! It is no wonder, then, that Vivaldi chose to insert the F# minor ritornello where he did since the placement of F# is so crucial to our understanding of the rising chromatic octave at that moment of the movement. Pc 10, G_, is introduced in m. 86 within an area of subdominant harmony; there is even a trill on it to give added significance to this pitch.

The subdominant, D major, forms part of a tonic progression that reinforces tonic harmony in ritornello 5. Only the leading tone G# is needed now to complete the PCA; this occurs immediately in m. 88 as part of dominant harmony. The G# occurs again, with more structural significance, as part of the penultimate tonic cadence to the closing ritornello in m. 102. Thus, the last two pitch classes of the PCA (pcs 11 as leading tone and pc 0 as tonic) are reiterated at the end of the movement as a final gesture, completing the chromatic octave. The last abbreviated ritornello statement (rit. 6) in the tonic finally resolves the D#/D_ dyad conflict. Vivaldi has planned the opening ritornello in such a way that the reappearance of D#/D_ within the closing ritornello, becomes the last chromatic gesture in the movement, automatically resolving the conflict into tonic harmony, a compositional lesson not lost on J. S. Bach.³⁰ Since the rising PCA has already reached completion, mm. 7 and 8 of the opening ritornello now return in mm. 105 and

³⁰See, for example, Bach's Brandenburg Concerto no. 1 in F, first movement. The opening ritornello is completely diatonic except for B_. By the time Bach reaches the closing ritornello, he has shifted into a 4β system which can only be corrected by introducing B_. Thus at one and the same time, the final ritornello in the tonic both redresses the system back to 1β and resolves the B_ back into its diatonic counterpart, Bβ.

106 to resolve the D# *down* to its diatonic counterpart, D_, instead of up to E_ (the issue of “resolution” is discussed below). Both conditions are now fulfilled: the PCA has reached its conclusion, meaning that D# has moved up to E_, and the dyad conflict between D# and D_ has been settled.

It should be noted that the term “resolution” is not only used here in the traditional voice-leading sense of the term, that sharps move up to the next chromatic pitch class and flats move down in the same fashion, but also to mean the resolution of inflected non-diatonic tones into their diatonic counterparts. One of the basic precepts of our theory is that chromatic issues are raised from adjacent pairs with pitch classes of the same “family name”, the chromatically inflected pc being, therefore, dissonant against its diatonic neighbor. Ultimately, for the tonic to reign supreme at the close of the movement, the chromatic neighbor must return, in other words, “resolve”, into the pitch class from which it was originally inflected. Therefore, while D# is understood to resolve locally to E_, in a more comprehensive manner, the D# chromatic variant is now restored to its D_ diatonic form.

But what about the C_ component of the *pianoidée*? This segment returns as well, also abbreviated, bringing along with it the missing pitch of the 3#

system, C₋. As it happens, there is no correcting D# — since D# has already resolved to D₋ — to bring the system back up to 3#s. In this way, Vivaldi has made certain not to resolve all the issues of the opening movement, but has managed to keep the tension at a high level even at its close. The subsequent two movements, both in the tonic A major, revisit the same dyad conflicts, the second movement temporarily resolving the system back to 3#s by introducing D# in m. 8 as the leading tone of a dominant prolongation. The D# in the second movement is thus worked into the larger system conflict with C₋ that runs throughout the concerto; besides, its introduction again raises the D#/D₋ conflict from the first movement. Only in the last movement are all these issues finally resolved.³¹

As coda to this chapter, we would like to briefly discuss J. S. Bach's

³¹There are interesting cases where whole compositions end in their complementary systems: for example, Beethoven's Fifth Symphony in C minor, whose last movement in C major ends in a 3β system; as well as his Piano Sonata, op. 10 no. 3, in D major, whose last movement ends in a 1β system. These pieces often have some sort of emotional, or extra-musical reason for their system endings; the Fifth Symphony is particularly apt in this regard (see Owen Jander, "Let Your Deafness No longer Be a Secret – Even in Art": Self-Portraiture and the Third Movement of the C-Minor Symphony," *Beethoven Forum*, 8/2000: 25-70.) In the D major sonata, the opposition of D major and D minor is a significant ploy permeating the entire composition.

approach to ritornello form in terms of system analysis, an approach remarkably similar to that of Vivaldi and his Italian contemporaries, all of whom exerted a notable influence. Bach became absorbed in the current Italian style in Weimar where he was court organist and Vice-Kapellmeister (1708 – 1717). It was here that he transcribed a number of Italian concertos for harpsichord and organ for his pupil Prince Johann Ernst, a distant cousin of Bach's employer, Duke Wilhelm Ernst. Bach knew, for instance, many of Vivaldi's Op. 3 concertos in manuscript copies before they were published since the Prince collected Italian concertos on his various sojourns, many in manuscript, for the purpose of study: the Prince had Bach transcribe them for keyboard. Prince Johann Ernst was a composer himself and must have been an excellent organist since Bach's transcriptions for organ of Vivaldi's Op. 3 concertos could only have been played by someone of exceptional capabilities.

Bach's own concertos follow Vivaldi's ritornello harmonic plan and motivic segmentation, but with several important stylistic distinctions: Bach's whole conception is far more polyphonic than his Italian contemporaries; the solo and ripieno groups (most likely played one to a part) are so closely intertwined that it is often difficult to know where a ritornello ends and a solo episode begins. Even in the segmentation of the opening ritornello theme, it is often difficult to determine precisely where the segments begin and end.

For instance, Bach was particularly sensitive to the *Fortspinnung* segment of the ritornello theme, being always careful to disguise its obvious redundancy.³² Yet, given the conspicuous stylistic differences between Bach and his Italian contemporaries, Bach's approaches to systems and hexachordal unfoldings are remarkably similar. Take, for example, the first movement of Bach's Brandenburg Concerto no. 2 in F major whose 1 β -system central hexachord may be presented in the following way:³³

Hexachordal Pitch Class:	B β	F	C	gm	dm	am
Harmonic function:	IV	I	V	ii	vi	iii

The missing pitch of the 1 β system that governs this piece is either A β , the minor third of the root F, or its enharmonic equivalent, G#, the augmented

³²In many of Vivaldi's concertos the *Fortspinnung* segment is basically a cycle of fifths with a repeated rhythmic motive that leaves off from the tonic, but ultimately returns to it in the final *Epilog* segment. Bach's *Fortspinnung* segments disguise their sequential nature, through subtle rhythmic variations and asymmetrical phrase patterns.

³³Laurence Dreyfus, "J.S. Bach's Concerto Ritornellos...", gives a thorough analysis of the first movement of this concerto. The relationship of the background harmonic structure, and its subsequent relation to system analysis is not addressed by Dreyfus.

second of the root F as well as the leading tone of the mediant. Bach explores the entire harmonic spectrum of the 1 β hexachord, beginning with the tonic and dominant, F and C. In fact, the first 24 measures of the opening movement do nothing other than articulate the motion from the tonic to the dominant; this is done within a most elaborate solo episode in which each member of the concertino is introduced separately in between fragmented, non-structural ritornello segments by the ripieno. Only in m. 25 does the movement “take off” with the second ritornello in the dominant.

The next harmonic goal is D minor in m. 31, the first ritornello in the minor mode. The motion to vi, which enters after a ritornello in the dominant, is not unusual in itself, since a submediant harmonic area usually signals the imminent return of tonic harmony (see the analysis of Vivaldi’s concerto Op. 9 no. 2 above). In fact, Bach does return to the tonic in m. 45 with a ritornello in F, but the return to the tonic midway in the movement acts as a movement divider in which the tonic now signals a change in harmonic direction away from the dominant and back towards the tonic, a procedure common to all genres of Bach’s oeuvre from fugues to concertos. Specifically the return to I halfway through the movement prepares for a movement into the subdominant, where I is reinterpreted as V/IV, redirecting the harmonic path back towards the tonic. The subdominant thus forms the beginning of a larger tonic

progression that achieves its goal with the final tonic ritornello of the movement. Redirecting the tonal scheme from the tonic as V/IV can ultimately be traced back to Corelli's background harmonic progressions in his trio sonatas (see above), only now the individual movements are altogether much longer and harmonic areas are prolonged over greater time spans. Interestingly, the same use of the tonic as a subdominant preparation will become a staple of later eighteenth century sonata-form movements, particularly at the opening of their development sections.

Of particular interest to us is what happens in the first movement of Bach's concerto after the subdominant is reached in m. 55. From here, Bach's ritornello statements, sometimes extended into overlapping episodes, climb up the full extent of the F hexachord by fifths: B β – F – cm – gm – dm – a. The dominant in this progression is deliberately kept minor in order not to return prematurely to the tonic: C minor becomes just another member in a contrapuntally conceived fifths cycle without structural significance. Bach's penultimate ritornello (rit. 8), prolongs the mediant, A minor, via its dominant, E, forcing a system shift into the complementary system of 2#s – G#, the major third of the E major dominant triad, is the missing pitch of the 1 β system of F and therefore modulates the 1 β system up three signatures to 2#s, G# being the octave divider of the D chromatic octave.

Immediately, the last ritornello returns directly to tonic harmony, restoring not only the F major tonic, but also correcting the previous system shift back down to 1β (F_{-} is the missing pitch of the $2\#$ system). Having a penultimate ritornello in the minor mediant is a common Baroque procedure and appears as well in countless Vivaldi concertos. What is significant about this construct is the fact that early eighteenth century composers felt no need to precede the final tonic ritornello with a preparatory dominant or retransition of any kind, especially when the penultimate ritornello was in the minor mediant; the introduction of the tonic pitch class, and its “automatic” correction of system, must have been heard as a sufficient preparation for the return to tonic harmony. Besides, once the tonic was regained, it would automatically be defined by its dominant during the concluding ritornello. It is no wonder, then, that the early symphonists adopted this harmonic organization, centered around the reintroduction of the missing pitch of the complementary system before the return of tonic harmony, as an important design feature. The next chapter traces the development of this device over the course of the eighteenth century, especially in the newly burgeoning sonata form of the classical symphony.