

CHAPTER 5

Tonality and Systems in the Middle-to-Late Eighteenth Century: The Classical Ideal

V. Alternative Design Elements in Sonata Form movements: J. C. Bach, and W. A. Mozart

Just as Wagenseil and Monn set the scene for Haydn's approach to sonata form in Vienna during the middle of the eighteenth century, so Johann Christian Bach (1735-1782) did much the same for the young Mozart, especially during Bach's later career in London. From 1754-1762 Bach moved to Italy to study counterpoint with the famous Padre Martini of Bologna. While in Italy he began to compose opera seria and became the church organist of the Milan Cathedral in 1760, a post that required Bach to convert to Catholicism. Bach's tenure in Italy brought him into contact with the leading *style galant* composers of the day, including G. B. Sammartini. Bach's love of the Italian style galant was undoubtedly a major influence on his symphonic (including keyboard concertos) and chamber music compositions, most of which were composed in London, the city in which Bach spent most of his later career. He moved to there in 1762 to become music master to Queen Charlotte, and in 1764, the year Bach met the Mozarts in London, he and Carl Friedrich Abel teamed up to create a popular concert series which featured Bach playing the fortepiano in public for the first time.

The period of Bach's London symphonic production still saw the symphony as an overture to some "higher" artistic entertainment, either vocal (opera or oratorio) or instrumental (as an introduction to an evening's concert). Bach therefore wrote symphonies (actually named as "Overtures" in the printed scores) in batches, each opus usually containing six such works. This does not mean that Bach did not expend considerable creative energy on these symphonies; if they were simply tossed off, the young Mozart would never have taken an interest in them. On the contrary, many of Bach's symphonies display a sure compositional technique that features both rhythmic vitality and melodic expressiveness, especially in the slow movements. Bach's approach to the partitioning of subdivisions within sonata-form movements must surely have influenced Mozart, as well as his controlled handling of chromatic events. Unlike his Viennese contemporaries, where continuity of musical periods, which avoid rhythmically articulated cadences, seems to have been an overriding factor, the expositions of J. C. Bach have clearly defined subsections, usually subdivided into four parts: the first given to the tonic statement followed by three periods within the second harmonic area, the opening period which establishes the area, a closing or second period and a final cadential period, or codetta. Each division of this quadripartite exposition is thematically differentiated with contrasting topics, and each is prepared by

rhythmically defined downbeat authentic cadences, complete with rests. Unlike Mozart, however, is the fact that Bach prefers expositions that are not repeated, typical of overture-style sonata form. Perhaps most importantly, in all of J. C. Bach's compositions, tonal motion is centered around the cadence; in fact, most of the movement is either establishing, moving away from, or approaching a cadential goal. While for the most part Mozart agreed with the validity of this approach in terms of its ability to provide formal clarity, he was rarely as obvious in its realization.

The sinfonia in E β , op 9 no. 2 (1773), is a typical example of J. C. Bach's symphonic style (see Diagram 5.6 which details the form of the first movement). Composed as an overture-sinfonia in three movements, the first movement begins with a tonic statement divided into two contrasting subperiods (Bach avoids antecedent/consequent period structure in the opening statements of his fast movements): the first is a "Mannheim crescendo topic" constructed entirely of two-bar phrases over a tonic pedal (Bach was quite familiar with the Mannheim symphonists, having sojourned there in 1772 to produce his *opera seria*, *Temistocle*). The second subperiod (mm. 13 ff.) serves to cap the preceding crescendo with an orchestral tutti whose phrasing changes from the preceding 2 + 2 to 3 + 3, accompanied by a change in harmonic rhythm. The second subperiod ends with a cadence on tonic harmony, which now elides into a bridge beginning in m. 19. The bridge period itself is constructed as a series of harmonic sequences in 4-bar phrases, that never leaves the tonic (see Fig. 5.6), even with its feint towards the dominant in m. 33 with a V6/5 of B β . Bach's prevarication between moving towards the dominant and then away from it, functions to introduce the main dyad conflict of the movement, A $_$ /A β (A $_$ as leading tone to V and A β as flat seventh of the dominant seventh chord). In fact, the A $_$ /A β dyad is the only chromatic event unfolded with the tonic statement. The

Composition, Chromaticism, and the Developmental Process

Παγ 6

–simple, unadorned 8 measure phrase

[this area is the most chromatically intense]

Pedal on Bβ

Bβ

Bβ

F

Bβ

Bβ

V

V

V/V -----V

V

3rd Period (Codetta)

Development

New idea

1st harmonic goal

---- [Bridge material]

----[2nd area theme]

3 measures of Bβ cadence

Bβ pedal-----Eβ→

Aβ

cm (climax)

Bβ

V

V

V/IV IV

vi

V

Recapitulation

Retransition

First Harmonic Area

Bridge

[no 2nd Area, 1st period]

Closing Area (2nd Period)

“Military style” topic –transition→

Bβ

Eβ

→

Eβ -----

V

→

I

I

Codetta

Eβ

I

The second harmonic area begins with a “singing allegro” topic with the violins in thirds over a B β pedal in the violas. This stable eight-measure period is then repeated in a counterstatement now with the winds, accompanied by the horns, taking over the melody and with the same pedal point in the violas (the variation in orchestration upon the repeat was certainly noticed by the young Mozart). On the last measure of the period (m. 54), the counterstatement is elided to an unstable transition centering around the V/V. At the close of the transition (m. 62) the basses, for the first time, introduce a chromatic element so far missing in the exposition; namely, E β , E $_$ and F, the first three pitches of the PCA. Since the cadence to the closing area is fast approaching, Bach has no time to unfold a complete PCA rise to the dominant; instead, he jumps up immediately to pcs 6 and 7 to form the cadence in m. 64. The closing, or second period within the dominant area, presents a third contrasting topic in military style (a march figure), featuring two-measure phrases within an eight-measure period. Again, Bach begins to create a final PCA rise, and here the rise is complete with one unexpected turn. Pitch class 5 (A β) appears out of series.¹

¹Presenting a pitch out of series is not unknown, and in this case J. C. Bach is closer to Haydn than he is to Mozart. While Haydn often unfolds a pitch (or sometimes reverses two pitch classes) within a PCA rise within the second harmonic area, both Mozart and Beethoven rarely if ever disturb the series by reversing pitch classes or

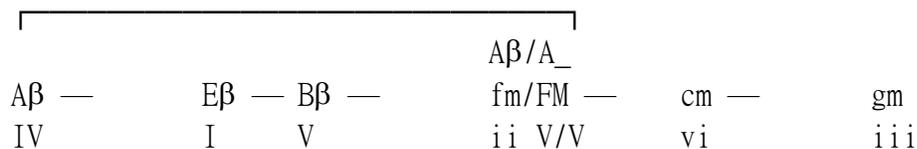
Normally, pc 5 of the PCA ascent is the one pitch class that is most often omitted. Within the dominant area its presence would imply a subdominant motion; however, Bach seems to have carefully calculated the effect of such a motion since the Aβ would naturally have to move up to A₋, reviving the dyad conflict between these two pitch classes first presented in the exposition bridge. In the earlier bridge passage, Aβ pertained to tonic harmony and was pitted against the attempt of A₋ to effect a cadence to the dominant. Within the closing period Aβ is once again raised within Eβ harmony, but now the Eβ is interpreted as IV/V within a larger dominant progression. At the cadence before the transition to the codetta (m. 72), the A₋ of the F major triad (V/V) displaces the previous Aβ, a pitch class that does not reappear until the development section that follows. Approaching this cadence, Bach presents all the pcs of the first segment of the PCA ascent, beginning once again with pcs 0, 1, and 2 in mm. 67-68 (basses). Pcs 3 and 4 appear in the upper voices in mm. 71-72, with, as stated before, the Aβ presented out of series in m. 70 in the violins. By isolating Aβ in this way, Bach effectively dramatizes the dyadic conflict between Aβ and A₋, a

presenting them out of series. However, all these composers do omit pitch classes from one rise but then introduce them in a subsequent rise, as Bach does in this symphony.

relationship the basis of a development process that informs the entire movement. Finally, pcs 6 and 7 end the rise at the cadence that begins the transition. The transition period itself only presents pcs 6 and 7 at the cadence before the codetta in mm. 77-78. The codetta is hardly a period, but a 3-measure statement of a single dominant harmony. In summary, up to this point, J. C. Bach’s handling of chromatic events is carefully calculated to achieve a climactic close at the end of the exposition. As the later subsections within the dominant area of the exposition unfolds, the introduction of chromatic pitch classes increases, coupled with an accelerated harmonic rhythm within the transition leading to the codetta.

Chromatic events become even more prominent in Bach’s development section which begins immediately in m. 81, with yet another idea, this one also a “singing allegro” topic. At this point it might be well to diagram the 3β hexachord of this movement:

Aβ/A_ dyad conflict is developed



Bach’s harmonic plan for the development simply follows the hexachordal pitch classes beginning with the dominant, Bβ. The Bβ turns into a dominant seventh

leading to Eβ (this is a passing harmony and is not heard as a tonic return). The Eβ now gains a seventh and moves to Aβ on the downbeat of m. 99. All this sequential motion around fifth-related harmonic areas naturally raises the Aβ/A_ dyad conflict in its wake, and one can see a dramatic presentation of it in m. 90 where A_ moves up to Bβ as V/Eβ, and is immediately followed on the next beat by Aβ (as flat seventh) descending to G.

Having reached the subdominant on the downbeat of m. 99, Bach moves quickly to explore the minor side of the tonic hexachord, first with F minor on the second beat of m. 99, and then on to cm (vi), a harmonic area that forms the climax of the development. The motion into C minor is made all the more dramatic by reiterating the rhythmically intense thematic material of the exposition bridge. At the same time, pcs 8 (B_) and 9 (C) are now presented within vi, a structurally significant harmonic area.

Surprisingly, during this time the missing pitch of the 3β system, F# (Gβ is never introduced), has been heard once, only during the PCA rise at the end of the closing period (m. 70). But that pitch was never able to motivate a system change since Eβ cancelled the F# right on the downbeat of the next measure. However, the F# raised in the development section is quite a different matter; it occurs at the most intense moment of the development section as Bach is leaving the area of the submediant. What Bach does now is

to reverse course and, instead of moving directly from C minor to G minor, moves to the opposite end of the tonic hexachord, interposing Aβ between the harmonies instead (m. 106). The Aβ now swings violently in the other direction towards G minor (the extreme ends of the hexachord are thus juxtaposed) and it is at this climactic moment that F#, the missing pitch of the 3β system, is introduced. Instead of immediately cancelling the system shift up to “0”, Bach leaves the E as natural until the Eβ in m. 110 reverts the system to 3βs, thus maintaining the “0” system for two measures. From G minor, the harmonic ordering follows the root hexachordal pitch classes in reverse order: Gm, C, Fm, FM (as V6/5 of V) and, finally Bβ in m. 111. At the same time, the Aβ/A_ conflict has returned, the A_ being reintroduced as leading tone to the dominant Bβ in m. 111.

Once the dominant is reached, Bach reintroduces the thematic material of the first period of the second harmonic area; specifically, the counterstatement of the “singing allegro” topic is given to the winds. After the relative instability of the preceding passage, the return of a periodic melody in dominant harmony has a stabilizing effect, but since the dominant has already been preceded by the submediant, it is heard within the context of a larger tonic progression, and not as an autonomous harmonic area. In addition, the return of the dominant at this point also dramatizes the Aβ/A_

conflict: the A β is regained in m. 115 along with the anticipation of tonic harmony. However, during the retransition period (mm. 118 ff) on dominant harmony, the violins reintroduce A $_$ as a passing tone to B β , over a dominant pedal.

In the development section, the climax on vi (C minor) allows pc 9 to be articulated as part of the latter PCA segment. In development sections, it is most unusual not to present every note of the rest of the series, but in this case at least, Bach does omit pc 10 (C#/D β) since either spelling of this pitch would be quite difficult to introduce at this juncture because of harmonic considerations. Normally, C# would tonicize D, but Bach's harmonic scheme does not allow for this event to happen; instead, he is more intent to move rapidly to the dominant, passing through hexachordal root pitch classes along the way. In this instance, D tonicizes G minor in m. 108, G minor being an important fifth within the tonic hexachord. However, the presentation of D (pc 11) within G minor harmony, allows that pitch class, and that segment of the PCA, to be extended into the restatement of the second harmonic area thematic material in dominant harmony. The D becomes structurally significant at the point of retransition, which begins in m. 118, where the dominant is now clearly related to the tonic of the approaching recapitulation in m. 124.

As in most classically-conceived sonata forms, the recapitulation is

truncated; here, the “singing allegro” topic is omitted altogether. What is, perhaps, more important, is not the presentation of exposition thematic material, but the ultimate resolution of chromatic issues into tonic harmony. The thematic material of the exposition bridge now returns (mm. 142 ff.), and along with it, the Aβ/A₋ dyad is restated as well (remember that in the exposition bridge there was a motion to the subdominant, Aβ); the same motion is now reiterated in the recapitulation, along with the move to the dominant, raising A₋ in the process. With the opening period of the second harmonic-area material missing, the bridge is redirected towards the closing area, now in the tonic. As it was in the exposition, where the chromaticism became most intense, the thematic material of the codetta, transposed into the tonic, now acts as the final source of resolution for the whole movement. In the exposition, the rising chromatic segment of the PCA, namely, Eβ, E₋, F is now transposed into tonic harmony — Aβ, A₋, Bβ (m. 168-9) — conveniently resolving the primary chromatic issue of the movement. After studying any number of sonata-form movements from the late eighteenth century, we have consistently noted that composers seemed to have deliberately planned their movements around seminal chromatic issues, presented at the outset of the exposition, that when transposed into tonic harmony in parallel segments of the recapitulation, would “automatically” find themselves resolved.

One can see that J. C. Bach was a sophisticated composer whose compositional methods were certainly influential on his contemporaries as well as composers of the next generation, in particular, W. A. Mozart. However, what distinguishes Mozart's work from that of J.C. Bach and his immediate contemporaries is not only the memorability of Mozart's themes and their orchestration, but also his complete mastery of large-scale rhythm, from the smallest phrase to the most extensive hyperperiod; meaning, those periods that extend over larger areas of the form, such as the internal subdivisions of the second harmonic area. For us, Mozart's genius also lies in his extraordinary ability to articulate chromatic events through their rhythmic placement within the movement, as illustrated in the following discussion of the first movement of his string quintet in C major, K. 515.

The first movement of Mozart's Quintet in C is striking in the manner in which it presents E β , pc 3. As early as the counterstatement (m. 21), E β is introduced within C minor harmony, a most unexpected mode switch (see Diagram 5.1, which details the system shifts as well as the PCA deployment within the first movement). Mozart prepares the dramatic presentation of pc 3 by preceding this pitch class with pcs 0,1, and 2 in the second viola (mm. 14-15), followed by a complete measure of silence in m. 20. Even the phrase structure of the opening statement is unusual in that it is not divided into

the usual duple groupings (4 + 4 or 2 + 2); instead, the opening period divides into two five-measure subphrases (3 + 2) followed by a longer ten-measure phrase (five measures plus an extension of five measures), which includes the one measure of rest which concludes the entire period. The counterstatement provides a necessary downbeat at this point, and here is where Mozart rises above his contemporaries in his sensitivity to large-scale structural rhythm and its relationship to dissonant events. The very downbeat that should have been supported by the major tonic at the counterstatement is here turned dissonant, its harmony suddenly being thrown into the complementary system of the parallel tonic minor.

The presence of Eβ is so strong throughout the period preceding the formal bridge in m. 57, that F#, the corrective pitch class, can gain little headway (see Ex. 5.9). In fact, the 3β system initiated by Eβ in m. 48, within the context of Neapolitan harmony, refuses to move up to the C system at all, and instead continues to move down by the introduction of Gβ in m. 49. Not even Schubert, in his own C Major Cello Quintet of 1828 (discussed in Chapter 6), will go this far afield at this point – into a 6β system!. Only with great effort does the music reverse direction by first introducing A_– (the missing pitch of the 6β system) and then an uncontested F# in m. 62 within the bridge passage. But Mozart does not stop there: he now reinterprets

the E β as a D \sharp and temporarily shifts the system up to 3 \sharp s in m. 64. A C $_$ follows in m. 67 finally restoring the original “0” system. (All the system shifts in this remarkable passage are detailed in Diagram 5.1; the arrows indicate shifts either up or down.) Mozart’s introduction of E β initiates a jumping off point where the missing pitch of the prevailing “0” system creates dissonance through the parallel minor, propelling the counterstatement into ever increasing flat-key harmonic areas, only to be rectified, via F \sharp and D \sharp , in the bridge.

The image displays a musical score for three systems, likely for a string quartet or similar ensemble. The notation includes treble and bass clefs, various note values, and rests. Key annotations include:

- System 1 (measures 65-72):
 - Measure 65: $C_3 \downarrow *0''$ above the staff.
 - Measure 66: PC_4 above the staff.
 - Measure 67: PC_5 above the staff.
 - Measure 68: PC_6 above the staff.
 - Dynamic markings: fp (measures 66-68), p (measures 69-72).
- System 2 (measures 73-80):
 - Measure 73: p dynamic marking.
 - Measure 79: f dynamic marking.
- System 3 (measures 81-88):
 - Measure 81: PC_6 above the staff.
 - Measure 88: PC_7 below the staff.
 - Dynamic markings: p (measures 81-88).

Against all these whirling system shifts is the underlying development of the main dyad conflict of the movement: C/C#, often extended into a C-C#-D trichord with the C# moving up to D. This configuration is

first presented, almost innocently, as the first three pitch classes of the PCA (mm. 14-15, second viola). The conflicting C# becomes harmonically significant as the root of a first inversion C# diminished seventh chord in m. 31, the C# and its C_ neighbor moving into deeper structural levels during the development section (see Diagram 5.7).

DIAGRAM 5.7: Mozart, Quintet in C, K.515, 1st Movement: System/PCA

		Exposition					Counterstatement + Extension					
		1st Harmonic Area										
Measure:		1	14-15				21	30-31	35	37-38		
System Active Pcs:							Eβ \blacktriangledown		F# \blacktriangleright			
System:		“0”					3βs		C			
PCA:		C(0)	C(0) – C#(1) – D(2)				Eβ(3)					
Harmony:		C	┌──────────┐				c minor c#07					
		I	Main trichord issue				i		V6/5/V	IV		
<hr/>												
M.:		48	49	52-53	53	55–	56	57	58	62		
System Active Pcs:		Eβ \blacktriangledown	Gβ \blacktriangledown	A_ \blacktriangleright	(F#/Eβ)				F# \blacktriangleright			
System:		3βs	6βs	3βs	-----							“0”
PCA:											C(0) -- C#(1) -- D(2)	
Harmony:		Dβ 6/4	Aβ	G6/4– 5/3		C			I			
		βII6/4	Aβ aug.6		V6/4– 5/3							
<hr/>												
2nd Harmonic Area												
M.:		64	65	66	67	68	86	87	89 & 93	95	98	
System Active Pcs:		D# \blacktriangleright	C_ \blacktriangledown			(Eβ/F#)						
System:		3#s	“0”									
PCA:		D#(3)	E(4)	F(5)	F#(6)	G(7)	C(0)	PCA repeats: C#(1)– D(2)		[D(2)]		
Harmony:					D	G						
					V/V	V-----						
<hr/>												
		Transition					Closing Area					
M.:		101– 102			103	105– 106	114	115	116			
System Active Pcs:		(D#/C_)				(D#/C_)	(Eβ/F#)					
System:												
PCA:		D#(3)– E(4)– F_(5)			[F#(6)]	F#(6)	G(7)	C(0)– C#(1)– D(2) PCA repeats:				
Harmony:							D	G				
							V/V	V				

Mozart further develops this trichord through an enharmonic reinterpretation of C# as D \flat which results in a new trichordal configuration: D \flat -D \flat -C. The now-enharmonically respelled and retrograded trichord, with D \flat at its center, is raised within those harmonic areas controlled by the flat complementary systems of the matrix (3 \flat s and 6 \flat s), while the primary trichordal configuration with C# at its center appears within the context of the natural and 3# systems.

Another extraordinary feature of the opening tonic statement of the exposition is the lengthy period of extension following the abbreviated counterstatement in C minor (see Ex. 5.9). After a three-measure counterstatement in which the outer voices are inverted (the first violin playing the arpeggiated triad that was first heard in the cello), Mozart now elaborates the arpeggiated figure which features the complex system shifts and dyad conflicts discussed above. Extensions of this sort present Mozart with the opportunity to downplay the development section proper since his developments tend to be much shorter in duration, but no less intense, than either those of Haydn or Beethoven: Mozart prefers to expand his ideas within the exposition and recapitulation sections of the form while both Haydn and Beethoven, who develop their ideas in these sections as well, place more of an emphasis on the development section proper (and, as consequence, the coda) which is, therefore, more pronounced and more protracted.

After the extended period following the counterstatement, the bridge period begins in m. 57. As in all Classical sonata forms, the bridge begins after the last statement of tonic harmony; more specifically, the bridge commences on the tonic, whether as a separate period after an autonomous counterstatement or as an extension of an open-ended counterstatement. Since there is a full authentic cadence on the tonic in m. 57, after which the music

veers towards dominant harmony with a II# in m. 69, we must conclude that m. 57 initiates the bridge period.

With the start of the bridge period, the reappearance of the C-C#-D trichord now signals the structural beginning of the PCA within the second harmonic area. Notice that Mozart gives the C-C#-D trichord prominence by stating it once at the start of the bridge and then restating it a few measures thereafter (mm. 60-61). Now instead of pc 2 (D) rising to pc 3 as Eβ, Mozart enharmonically respells this pitch as D# in m. 65, causing a the system shift up to 3#s that the D# occasions (note, also, the scoring in octaves between the two violins) and moves the D# to E_ (pc 4) in the next measure. Pc 5 (F_) appears in the first viola part on the third beat of m. 66; the appearance of F#s, a consequence of the previous system shift to 3#s, are now displaced by and F_ in preparation for the C_ in m. 67, the introduction of which now returns the system to "0". However, the F_ quickly moves up to F# (pc 6) as part of the II# chord in m. 69 that formally announces the arrival of the dominant harmonic area.

Mozart clearly presents the second harmonic area in m. 86; a fully achieved and embellished medial caesura prepares the dominant arrival (mm. 81-86). What is notable about the rest of the exposition is Mozart's consistent

unfolding of pcs 0-7 within each of the structural periods of the second harmonic area: the opening period, the closing period and the codetta). The codetta itself is extensive (twenty-one measures) and allows Mozart to unfold an entire 0-7 PCA segment within what is usually a short, diatonic cadential anchoring of the second harmonic area. Mozart is unique among the great three classical composers to invariably insist on chromatic completion within each segment and subsegment of the PCA over the course of virtually any sonata-form movement. Diagram 5.7 outlines the details of the various system shifts and PCA rises of the exposition.

Our discussion will now focus on the development section. Mozart's relatively economical development is constructed as one seamless period that begins with the opening five-bar theme of the exposition restated in a series of harmonic sequences based on diminished harmony. This fluid harmonic undertow never coalesces into well-defined harmonic periods, but proceeds in one continuous flow until the G pedal of the retransition in m. 193. The contrapuntal projection of the seminal dyad conflict, C#/C_, into deeper realms of structure, motivates the harmonic scheme of the development. Diagram 5.7 shows that the C# diminished seventh chord opening the development relates contrapuntally to C, both as C major in mm. 164-167 and as C minor in mm. 181-182; in keeping with the fluid texture of the development, both

harmonies are weakly defined as there are no articulated authentic cadence in either. Until m. 182, the “0” system controls the progress of harmonic reference points, all of which relate to the tonic C major hexachord of the quintet: B β (the one allowable flat within the system), C major, A major/A minor, and G minor. Note that Mozart emphasizes the A major/minor juxtaposition in m. 169, momentarily throwing the contrapuntal C#/C $_$ conflict of the bass into an inner voice. Even more, the second violin part in mm. 168-69 presents the complete D-C#-C $_$ trichord.

When C minor enters the picture in m. 182, its E β causes a large-scale system shift down to 3 β s that is extended to the end of the retransition where F# finally enters to correct the system back up to “0”, five measures before the recapitulation in m. 205. Throughout the 3 β system, F#s keep recurring (see Diagram 5.7), but they are incapable of invoking a system shift to “0” by the ever-present E β s that control the area. Further, the system shift down to 3 β s now displaces those tonal areas governed by the previous “0” system and, consequently, substitutes harmonic areas associated with that of the parallel minor system. Consequently, C minor and the new 3 β system, generate F minor and then A β major, this last harmony turning into an augmented sixth chord on the very last eighth note of m. 192. Closing out the

development, the A β in the augmented sixth resolves down, in the next measure, to the G pedal that signals the start of the retransition.

In summation, the entire development is governed by the E β /F# dyad systems conflict between the tonic “0” system and that of its complement, 3 β s; the same two system conflicts that likewise controlled the C minor counterstatement and its extension within the opening tonic period of the movement. (Interestingly, the E β /F# conflict in the development comes after the extensive codetta with its complementary “sharp” system dyad conflict of D#/C.) At the same time, the seminal C#/C_ dyad operates on a deep contrapuntal level, and occasionally appears in the upper voices (most notably in the second violin passage cited above). However, Mozart has flooded the contrapuntal upper voices with so much chromaticism that this particular conflict becomes only one of many that pervade the development section.

In terms of the completion of the PCA, Mozart unfolds all the pitch classes necessary to complete the chromatic tonic octave from pc 7 to 11. What is interesting, however, is that pcs 10 (B β) and 11 (B_) conflict from m. 174 right up the point of recapitulation in m. 205. Pc 10 appears within G minor harmony, while pc 11 is introduced as the leading tone of C minor. However, since C minor itself initiates a 3 β system, B β regains control until it is

displaced by B_♭ in m. 201 as a consequence of the return of the “0” system in the measure before.

While a full analysis of the recapitulation is impossible because of space limitations, it is interesting to note that with the return of tonic harmony, Mozart prefers to spell the missing pitch as D[#], creating a D[#]/C_♭ dyad systems conflict that controls the harmonic motions of the recapped exposition up to m. 286, where the material of the second harmonic turns into a transition leading to the closing period. The emphasis on D[#] displaces what would have been a return to the parallel minor in a counterstatement; instead, Mozart elides the extension material directly into the recapitulation bridge, omitting the exposition’s counterstatement altogether. What is significant about this re-composed passage is how it illustrates the almost tortuous progression Mozart goes through to raise D[#] instead of E_♭. One of the reasons why composers choose to introduce the flat third degree within a tonic statement is that the minor third degree has voice-leading properties that can easily move it into dominant harmony as, for example, βVI of the new harmonic area. Spelled as a sharp, the missing pitch is much harder to justify harmonically. In Mozart’s case, raising D[#] results in a passage of enormous complexity in which the G[#] pedal in mm. 232-35 is reinterpreted as an A_♭ (m.

239), a harmony which is then converted into a German sixth on the last beat of the measure. The G# harmony raises D# and thus supports both C# major and minor before G# is redefined as a V 6/5 of A minor. The A_ in the cello in m. 236 forms a localized trichord as it descends to Aβ in m. 239 and then to G in m. 240 as part of a cadential 6/4. The bridge that follows in m. 242 again raises the C_/C# conflict now worked into the background D#/C_ system dyad conflict that governs the bridge period. It need only be stated that the C_/C# conflict is resolved in the concluding passage beginning in m. 361, 8 measures before the end of the movement. Here the trichord configuration of C_-C#-D is reiterated at least four times within this space, orchestrated in octaves between the two violin parts. At the last moment, C# descends to C_ one bar before the end over a C pedal in the cello, thus temporarily resolving the seminal chromatic conflict of the quintet. The reader is urged to look at the last movement of the quintet, an elaborate sonata-rondo, where all these issues are raised once more (for example, look at the prominence of the C/C# dyad conflict within the opening rondo theme) and then resolved conclusively at the very end of the quintet. Most spectacular for us is the fact that the very last chromatics heard in the last movement, and therefore the quintet, are Eβ against F#, played simultaneously, within the context of an Aβ German

sixth chord twenty-two measures before the end of the movement.

Exactly ten years earlier in 1777, Mozart composed his piano sonata K. 309 (284b) also in C major. A comparison of the two works is most instructive since both are in the same key and utilize similar chromatic issues. One might be tempted, in fact, to consider the piano sonata a model for the later quintet, albeit with all of the structural events in opposite positions.

Most notable in the piano sonata is the presentation of the C₋/C_# dyad conflict, the same one that governed the quintet, within the opening statement. In the sonata this statement is divided into two unequal phrases (see Ex. 5.10); the first is two bars long, forte, and triadic, similar to the fanfare motives that begin so many Mannheim symphonies. This is followed by a quieter six-measure phrase that is elided to a counterstatement in m. 8. The emphatic C that opens the movement begins the first PCA rise, followed in short order by pcs 1 (C_#) and 2 (D) in mm. 3 and 4. Before continuing the PCA segment, Mozart manipulates the C_#/C₋ dyad conflict, first by correcting the C_# in m. 3 to C₋ in m. 5. No sooner has he done this, however, when C_# is reintroduced in m. 6 as an embellishment of ii₆ harmony. With the counterstatement in m. 8, the PCA begins again, and again, C_# embellishes ii₆ harmony, but this time the pitch is contained within a diminished chord that

now adds the pitch class B β into the chromatic pitch field. As it turns out, the ii6 is transformed into the subdominant on the third beat of m. 14.

Instead of immediately moving the counterstatement material into a bridge, Mozart now extends the previous subdominant harmony into the beginning of an eight-measure tonic extension (subdivided into two symmetrically related 4 + 4 phrases) that serves as a purely diatonic “orchestral tutti” topic whose purpose is to cap off the opening tonic period. The “orchestral tutti” topic along with the opening “fanfare” topic would seem to indicate that Mozart is deliberately trying to incorporate symphonic elements into a piano sonata, a feature generally associated with the early- to middle-period sonatas of Muzio Clementi.

EXAMPLE 5.10: Mozart Sonata K. 309 in C, Exposition mm. 1-43

The musical score for Mozart's Sonata K. 309 in C, Exposition mm. 1-43, is presented in seven systems. The notation includes piano and bass staves with various dynamics (f, p, pp) and articulations. Key features include:

- System 1 (mm. 1-8):** Starts with a forte (f) dynamic, followed by piano (p). Pitch classes PC 0, PC 1, and PC 2 are indicated.
- System 2 (mm. 9-16):** Continues with piano (p) and forte (f) dynamics.
- System 3 (mm. 17-22):** Labeled "Bridge (D# / C#)", featuring PC 3 and PC 4.
- System 4 (mm. 23-28):** Features PC 5 and PC 6.
- System 5 (mm. 29-35):** Labeled "Medial Caesura" and "2nd Harmonic Area", showing a dynamic progression from piano (p) through crescendo to forte (f), with PC 6 and PC 7.
- System 6 (mm. 36-41):** Includes PC 0 and PC 2.
- System 7 (mm. 42-43):** Labeled "Development", featuring PC 2, dynamics f, p, and pp, and a 3/8 time signature change.

Up to this point only pcs 0-2 of the PCA have been unfolded, along with the quasi-development of the primary C#/C_ dyad conflict. With the beginning

of the bridge in m. 21, the chromaticism becomes ever more intense, for now D# as pc 3 enters the tonal pitch field, with its implication of a 3# system. However, the pedal C prevents the D# from shifting systems, at least for the present. The D# as pc 3 moves directly to E as pc 4 within the same measure. Mozart is able to present D# as pc 3 instead of Eβ since the former pitch is here only embellishing, the implication of a potential move into E minor never actualized since the C pedal mitigates the harmonic potential of pc 4. Instead, Mozart concentrates on the *linear* potential of pc 4 to move to the next pitch within the rising series, pc 5, here spelled as E# on the last eighth of m. 25. At this point within the bridge (from mm. 25 ff.) Mozart is setting up the arrival to the dominant area through the V/V. The sustained harmony of V 6/5 of V in m. 25 reduces the function of the E# (in the upper voice) to that of a linear lower neighbor of F# (as part of the sustained V 6/5), the next pitch class in the series. At the medial caesura in m. 32, the F# becomes structurally significant as pc 6. Mozart's first PCA rise thus introduces all the pitch classes of the first segment (pcs 0-7) in order, a not uncommon trait in Mozart's works. Haydn, on the other hand, will often omit pc 5 (as well as other pcs) from the initial PCA ascent, only to present them in later rises during the second harmonic area of the exposition.

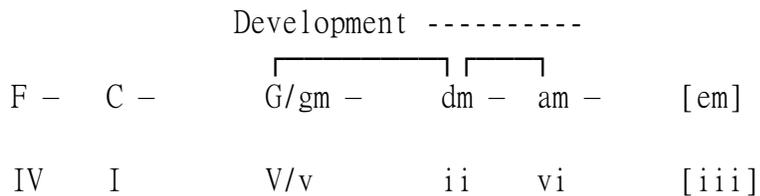
Mozart's second harmonic area in the dominant begins with a preparatory two-bar introduction on the V/V of the new area (mm. 33-34). Both measures of the preparation feature the primary dyad conflict as an accented dissonance on the downbeat of each measure: C# in the first, C_♭ in the second. Measure 35 begins the dominant area proper with G in the bass as pc 7. Typical of the more expansive phrasing of opening periods of second harmonic areas, this one too is an 8-measure period here divided into 4 + 4 subphrases in which both subphrases begin on G harmony. Returning to the dominant, G, at the second subphrase allows Mozart to precede that phrase with an arpeggiated V7/V chord with C_♭ as flat seventh (see Ex. 5.10 m. 38). The close of the second subphrase (m. 42) before the transition repeats the same progression, again with C_♭. In this way, the C_♭/C# dyad conflict is maintained throughout the first period of the second harmonic area, and in addition, forms pcs 0, 1, and 2 (C# moves up to D as a matter of course) that begins the second PCA rise within dominant harmony". Measure 43 begins a relatively lengthy transitional period to a five-measure codetta (mm. 54-58) which closes the exposition; there is no closing period. The transition itself begins with pc 2 (D) reiterated as an accented half-note downbeat. Curiously, Mozart does not present pc 3, D#, during the entire second harmonic area! But he does unfold

the rest of the segment, continuing with pcs 4 (E) and 5 (F_♭) as accented half-note downbeats in measures 47 and 50 respectively, continuing the contrapuntal rise in the upper voice from the half-note D in m. 43. Pc 5 is then displaced by pc 6 (F_♯) in m. 52 before resolving cadentially to pc 7 (G) at the start of the codetta in m. 54.

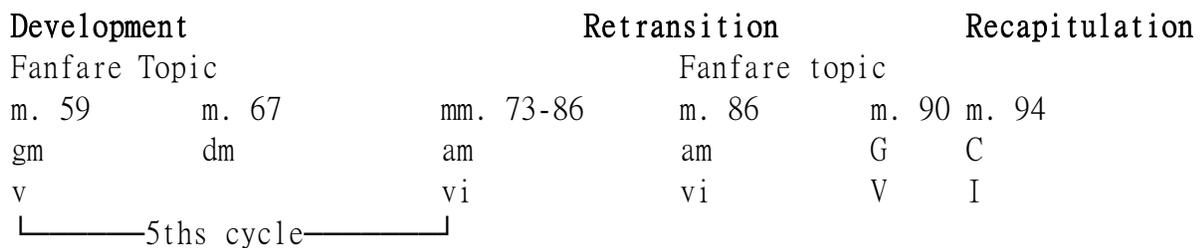
The gap in the PCA series created by omitting pc 3 actually highlights the primary dyad/trichordal issue of the piece – C_♭, C_♯ and D. Composers, Haydn especially, often isolate important segments of the PCA chromatic octave by skipping over intervening pitch classes within the series. In addition, the basically diatonic framework of the second harmonic area lets the listener hear the PCA ascent all the more clearly as it ascends to pc 7 at the close of the exposition. Finally, the relative lack of chromatic display in the second harmonic area now presents a startling contrast with the beginning of the development, which now, without any preparation, restates the opening theme transposed into the minor dominant!

Typical of Mozart's development sections, this one is again short and highly dramatic in its chromatic intensity. Thematically, most of the development section is based on the opening fanfare topic transposed into minor harmonic areas that follow along the minor areas of the re-ordered tonic

hexachord, emanating from the minor dominant up to an extensive prolongation of the submediant, A minor, the “development key”:



From the above harmonic scheme, we may then derive, a background sketch of the development as follows:



As a consequence of the motion into the minor dominant, Eβ, the missing pitch of the background “0” system, forms, for the first time in the movement, a systems conflict with F# that governs the progress of the first 7 measures of the development: the Eβ in m. 61 shifts the prevailing natural system down to 3βs, only to be corrected with the F# in m. 65. The natural or “0” system remains in effect until m. 79 where D#, the missing pitch class that governed the opening tonic statement of the exposition, now combines once more with C

to form the opposite systems conflict from that of the previous E β /F#. The D#, first introduced in the bass in m. 79 as part of an internal prolongation of the submediant, never does get a chance to effect a system shift since C $_$ is consistently pitted against it. All the same, the two system conflicts actually serve to frame the development, the E β /F# conflict emerging from the flat side of the harmonic spectrum (G minor), while the D#/C conflict is associated with the sharper or neutral side (A minor, C) of the spectrum.

In addition to the organization of system conflicts, the primary dyad conflict of the movement, that between C $_$ and C#, is also worked out in the development, often tied into the system shifts. At the outset of the development, C $_$ s appear within the context of G minor harmony (mm. 59-62). As the music moves into the next fifth area, D minor, C#s displace the previous C $_$ s (mm. 64-71) only to reach a rhythmic climax of sorts in m. 71 where both C# followed by C $_$ are presented in rapid succession within an eighth-note figure in the right hand of the piano. As it happens, C# returns in m. 76 within the context of G minor harmony which functions as a neighbor harmony to the prevailing A minor prolongation. The C# in m. 76 (note the high register) is actually a deeper level contrapuntal neighbor-note embellishment of the C $_$ in m. 73 where the prolongation of A minor begins. The completion of the

neighbor note comes in m. 77 where C₋, in the same high register, and supported by a C major triad, now displaces the previous C#. Actually, the ultimate completion of this upper voice embellishment does not occur until the articulated cadence to A minor in mm. 81-82, however here the C₋ is heard at the lower octave. From this point until the recapitulation itself in m. 94, C_s displace the previous C#s altogether, the former pitch now needed to counteract the system potential of D#.

Of interest is how the completion of the PCA in the development motivates harmonic changes. The exposition had left off with pc 7 (G) which is now restated at the start of the development in m. 59. The next pitch in the series, pc 8, is G# which is presented in mm. 70-72 as part of the dominant progression into the submediant. The harmonic potential of pc 8 as leading tone now makes pc 9 (A) structurally significant with its arrival as vi (A minor) in m. 73. The next pitch to unfold is pc 10, a difficult one to present in either of its enharmonic spellings. Mozart chooses B β to represent pc 10, but must do so within the context of G minor harmony (m. 75). Thus the need to present the next pitch class in the ascending PCA determines the unusual lower neighbor prolongation of A minor by G minor. The last pitch in the series, pc 11 (B₋) needs little comment since it is the leading tone of the tonic and

appears quite naturally enough within the retransition passage (m. 90) that prepares for the recapitulation.

Diagram 5.8 gives the background harmonic plan of the recapitulation. Comparing this diagram of the piano sonata to the diagram of the exposition of the viola quintet in Diagram 5.7, one notices some fascinating relationships between the earlier and the later work. In particular, the earlier piano sonata's opening statement at the start of the recapitulation moves most unexpectedly into a counterstatement in the parallel minor, an event completely missing from the exposition which maintains the tonic major at this point. Perhaps Mozart was thinking of this passage when he composed the viola quintet some ten years later; however, instead of a counterstatement in the parallel minor in the recapitulation, it occurs in the later work in the exposition itself. Both maneuvers are fully justified in their contexts, the viola quintet perhaps being somewhat more startling in its placement of the parallel minor. In the case of the piano sonata, the counterstatement in the parallel minor was in fact prepared by the statement of the opening fanfare topic in the dominant minor at the start of the development section. In addition, the E β now raised in the counterstatement dramatically unfolds pc 3 of the recapitulation PCA, the previous pitch classes, C, C#, D (pcs 0-2) already having been presented at the start of the recapitulation as a matter

of course. As well as being the start of a new PCA ascent, the introduction of pcs 0-2, naturally raises the basic dyad conflict/trichord issue of the movement.

With the switch into a 3β system occasioned by the sudden move into the parallel minor, the passage from m. 101 to m. 105 is made all the more unstable by the constant fluctuation between 3β and “0” systems; $F\#$ is consistently pitted against the $E\beta$ preventing any long-range system shift into flats. As in the exposition of the later viola quintet, $D\beta$ as an enharmonic reinterpretation of $C\#$, is also notable, but in the case of the piano sonata, the $D\beta$ is raised from an e diminished seventh chord and occasions no further motion into flat systems, while in the viola quintet, the same $D\beta$ is heard as the root of a βII 6/4 chord which motivates an even greater dissonant motion into the 6β system which follows (cf. Diagrams 5.7 and 5.8). In the piano sonata, the e diminished seventh chord that supports the $D\beta$ is structurally significant in that E_{-} is pc 4 within the recapitulation PCA. Pcs 5 (F) and 6 ($F\#$) quickly follow in mm. 106-07. Mozart then dramatically fills in the rest of the PCA pitch classes in a single rising chromatic line in octaves (m. 109) that leads into the restatement of the “orchestral tutti” topic that closes the opening tonic period.

Recaptulation

1st Harmonic Area

m. 94	m. 101	m. 105	m. 107	m. 108	m. 110
Fanfare topic	Counterstatement				Orchestral Tutti
C – C# – D trichord restated	C# is now Dβ				
	Eβ/F# systems conflict				
C	c minor	e 07 -	f# 07 –	G6	F - C –
I	i			V6	IV I G
					V

m. 116	m. 123
Bridge	
D#/C systems conflict (D# displaces Eβ)	D#/C is the last systems conflict of the movement
C	G
I	V

2nd Harmonic Area

m. 127	m. 131	m. 137	mm. 143 – 145
	C – C# – D trichord raised	Transition	C – C# – D trichord leads into →
C		C6	C6/4 – F
I		I6	I6/4 IV c# 07 d6 ii6

Codetta (no Coda)

m. 148	mm. 150-51
	Resolution of the C# - C_ dyad conflict into tonic harmony
C	
I	

Diagram 5.8: Mozart, Piano Sonata in C, K. 309, Recaptulation

Since the subsequent bridge passage begins again on tonic harmony, a second PCA rise now unfolds. Within the bridge, the D#/C systems conflict now displaces the previous Eβ/F# conflict, the former systems conflict finally dispelling any further flat side harmonic motions for the rest of the movement. From pc 0 (C) at the start of the bridge, pcs 1 (C#) and 2 (D) are again introduced (and thus the primary trichord issue of the movement) in mm.118. Pcs 3 (D#) and 4 (E) follow in m. 123 with pc 5 (F_) not entering until the restatement of second harmonic area material (mm. 128 ff). Because of the harmonic design of the recapitulation section (meaning that it remains totally within tonic harmony), the PCA may move *through* internal sections: in many cases, since internal divisions are marked by *tonic* cadences, multiple PCA unfoldings may occur, all twelve pitch classes unfolded from one tonic cadence to another. However, just as many recapitulations elide their PCA rises so that one rise encompasses two or more internal divisions of the recapitulation, as in the case here. Thus the second harmonic area, now transposed into the tonic, *continues* the previous PCA unfolding instead of beginning a new one. Pc 5 (F_) in m. 128 now ascends to pcs 6 (F#) and 7 (G) in m. 132, all within the transposed second harmonic area. Mozart omits pc 8 (Aβ/G#) and continues the PCA ascent to pcs 9 (A_ in m. 143) and to pc 10 (Bβ

in m. 144) within the lengthy transition to the codetta. Pc 10 (Bβ) is presented within diminished harmony (m. 144) on a c# diminished seventh chord that again raises the primary dyad conflict of C#/C_ with the C_ in the previous measure. Pc 11 (B_) completes the PCA rise as part of dominant harmony that prepares for the tonic cadence that introduces the codetta in m. 148. Mozart then concludes the movement by finally resolving the C#/C_ conflict within a permutation of the trichord, now heard as C#-D-C_ in mm. 150-51, the C# resolving into its diatonic counterpart, C_ after first locally moving up to D.

Of course, Mozart resolves the C#/C_ conflict conclusively in the final rondo movement of the sonata. It is interesting that the very first chromatic heard in the last movement is, in fact, C# (m. 16), played in both hands, and as part of the primary trichord of C_-C#-D that is unfolded in mm. 16-17. What is also of interest is what happens during the last twenty-seven measures of the last movement which treats both Eβ/F# and D#/C system conflicts as the last chromatic events of the movement, and therefore the whole sonata! After these two conflicts have been resolved into tonic harmony, the rest of the movement (twenty-one measures in all) is completely diatonic except for two Bβs seven measures before the end. These Bβs finally resolve the subdominant

harmony that first appeared at the start of the orchestral tutti in the first movement and became the tonic of the second movement, and is now resolved at the end of the last movement.

Considering the complexity of composition envisioned by both Haydn and Mozart in terms of the chromatic development of their works, it is no wonder that only one composer could follow in their footsteps. It is the work of Ludwig van Beethoven to which we now turn.