Twentieth-Century Compositional Resources

by

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I. Introduction

Two weeks after the death of his father, Wolfgang Amadeus Mozart completed the autograph manuscript for a new composition. The Divertimento in F, to which he gave the title *Ein Musikalischer Spass*, was published on June 14, 1787 - conceived of as a sextet for two horns, two violins, viola and double bass. The choice of bass rather than cello in such a small ensemble was an unusual one, but a composer of Mozart’s brilliance and craft would have had little trouble in accounting for this peculiarity of instrumentation.

From the opening bars, though, something seems wrong. A set of bland cadential progressions ends unceremoniously after seven measures. The asymmetry of the phrase prevents us from getting a firm bearing in the music, which then transitions gracelessly into triplets in the violins - further compromising the meter. In measure twelve, the composer commits a capitol offense: he introduces the leading tone of the dominant too early (example 1·1), undermining the tonality of the passage before a home key has even been firmly established.
Used so soon, the B-natural seems to be entering the key of the passage, at least until the reintroduction of B-flat in the following measure.

The first real surprise, though, comes in the second movement. After another clumsy introduction, we hear a strange melody in the horns:

The upper part can't seem to decide if it's in F minor or C minor or some other distant key. The lower part is even more amorphous. The strings
manage at least to remain in F major, but they contain so many inexplicable parallel octaves that an already fragile harmonic scaffolding seems on the verge of collapse. Considering the bland and unremarkable development that led up to these obvious mistakes in the score, a casual listener might assume that they were hearing an early student piece, one whose kinks were never fully worked out. But the Musikalischer Spass in fact dates from Mozart’s mature period. Eine Kleine Nachtmusik, that paragon of high classicism, was published less than two months later. What, then, was Mozart thinking?

If you understand German, then you know that Ein Musikalischer Spass translates as “A Musical Joke.” That peculiar horn melody is most likely a parody of inept musicianship – perhaps of players who used the wrong crooks and thus ended up in separate keys. In general, though, Mozart wrote the piece to satirize not performers but composers. Every melodic cliché, every poorly executed phrase, every premature cadence and violation of voice-leading ruthlessly excoriates the intellectual vapidity of his fashionable contemporaries. Musicologist Alfred Einstein calls the Spass a “negative key” to Mozart’s compositional language, demonstrating the importance of musical rules by breaking them all and then reveling in the resulting horror. He positions the piece as a counterpart to Eine Kleine Nachtmusik: for while Mozart must surely have taken great joy in the construction of his joke, “a pair of ears so
sensitive as his required that the mistakes be corrected... after Mozart had disturbed the cosmic system by the *Musikalischer Spass*, he set it to rights again with the *Kleine Nachtmusik.* Yet the *Spass* is no grotesque slapstick; it is a meticulous and bitingly satirical look at bad composition. Mozart keeps a straight face the whole time, with the result that to modern ears the music sounds more pleasantly bland than overtly humorous. One passage, though, is still likely to strike any listener as unusual.

Ex. 1-3: *Ein Musikalischer Spass*, final bars

In the music's final bars, triple stops in the high strings flesh out a grand, climactic cadence. Yet it is a cadence unlike any other you will find in Mozart's time, or for a long time thereafter. The horns suggest C major, but the strings each have a different idea: numerous unrelated triads clash against one another in a tangle of minor seconds and other unexpected sonorities. The inner parts each play two inversions of the
tonic chord in a key of their choice before sounding its root alone in the final measure – but no one seems to care much for the F major tonality from which they have only recently departed. Making sense of these final measures in diatonic terms seems impossible, and it is hard to imagine even the most hapless hypothetical composer making so grand an error in concluding a piece. What then could Mozart be parodying? Is this another caricature of poor musicianship? If so, then it is a rather fortuitous one, with each player stumbling neatly into a separate key.

Today, the final bars of the *Musikalischer Spass* are often cited as the earliest use of *polytonality*, defined loosely as the simultaneous combination of two or more keys. At the dawn of musical modernism, this technique found favor with composers from Charles Ives to Igor Stravinsky; for them, though, it was not a humorous novelty but a legitimate compositional technique. Mozart was not commissioned to write the *Musical Joke*, and it is unlikely that it was ever performed during his lifetime. So what inner need was he trying to fulfill? Could it perhaps be that Mozart used the piece as a pretext for excursions outside the rigid confines of the standard tonal system?

By the beginning of the twentieth century, departures from standard compositional practice such as these were the rule rather than the exception. But the challenge an artist now faced was to break the rules in a way that was musically satisfying rather than simply comical,
and this required substantial overhauls of principles once considered fundamental to music. Certainly Mozart could not have foreseen the significance that a technique he used in ostensible jest would eventually acquire. But it is tempting to think that he recognized, on some level, the potential that existed outside the rigid confines of common practice major/minor tonality.

In the following pages we will examine several novel melodic and harmonic techniques of the early twentieth century and their usage in two famous string quartets, as well as their application to my *Wind Quartets 1 & 2*.

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2 Einstein, 207.
II. Melody

For a fashionable composer working in France at the turn of the last century, it was a cardinal sin to write unambiguously in the major or minor modes. Artists went to great lengths to cloak their music in an impressionistic haze of shifting tonal color that challenged traditional concepts of tonicity and key relationships. Few composers exemplified this aesthetic more completely than Maurice Ravel. In his music, keys and modes overlap and evaporate into one another with seamless grace. The String Quartet in F, completed in 1903, is an early work but nonetheless employs key elements of what would become Ravel’s mature style. Composer Mark Devoto describes the aura of tonal elusiveness that Ravel cultivates in the quartet’s opening bars:

In practice, one hears this mellow passage as harmony regulated by the primary tonal chords of I, IV, and V... the melody line in the soprano, with its abundance of small skips, shows the freest voice-leading in this texture; when the tonic note appears relatively infrequently in the melody, it is not as part of the tonic triad.¹

As we will see later, this kind of “backwards” melodic writing, in which a melody refuses to conclusively affirm the tonality implied by its accompaniment, is one of Ravel’s most favored tools.

The pentatonic scale is a constant presence in the quartet and in
Ravel's melodic writing as a whole, with good reason.

Ex. 2-1 Pentatonic scale on C

Any note of this scale may be treated as the tonic. This makes the pentatonic something of a musical chameleon, capable of imitating a surprising number of diatonic scales without leaving its own five-note realm. With D as its tonic, for example, the above scale could mimic D Dorian, D Aeolian, or D Mixolydian, thanks to the absence of certain key notes. Without skipping a beat, it could then move to center itself on A, allowing it to imitate A Aeolian, A Dorian, or A Phrygian. Just as importantly, the pentatonic scale does not have a leading tone, a property which further impedes the establishment of a strong tonic. The leading tone is closely associated with many melodic clichés - banes of the musical modernist - and so its absence only sweetens the deal. In his quartet, Ravel often juxtaposes an amorphous pentatonic melody with an

Ex 2-2 Maurice Ravel: *Quartet in F*, p. 44
accompaniment that shifts between or mixes contrasting modalities, as in example 2-2.

A more decisively “non major/minor” effect is created by migrating entirely to a new diatonic mode. Shortly into the first movement of Ravel’s quartet, we hear a high, restless melody in the first violin. It is a variant of a previous motif, but this time something is quite different. The first violin returns relentlessly to E: clearly this is the tonic. But A-sharp – a tritone below – occurs twice.

![Ex 2-3 Quartet in F, p. 3](image)

Given that the accompaniment completes a C-sharp diminished seventh chord whenever A-sharp is present in the melody, we might explain this note away as a simple altered tone in a secondary dominant. But the E tonality is still no more than a few measures old, barely firm enough in its establishment to permit this type of harmonic embellishment.
Early in the second movement, a similar melody emerges; again, it is a variant of a previously stated theme. The tonic is difficult to determine definitively, but F-sharp seems a likely candidate. It is easy to imagine an alternate version of this melody, one which rises back to F-sharp in the fourth measure to affirm its centrality. The root of the harmony moves from C to F-sharp and back to C; this tritone root movement primarily creates the impression of static harmony, and this further clouds the tonality of the passage.

A melody like this is not easy to analyze in absolute terms. It is brief, it contains inconsistent chromatic alteration, and the accompaniment is harmonically ambiguous. Yet if we treat F-sharp as the central tone, then the presence of C-natural in the first violin means that Ravel is once again employing the note a tritone below the tonic. He uses it sparingly, withdrawing it in favor of C-sharp in the second measure and then
reintroducing it the third. It occurs often enough to establish a residence in the melodic line, but not enough to authoritatively enter the overall key. By measure four, the melody has settled onto A and F sharp’s claims to tonicity evaporate.

If we think of the raised fourths in these two examples as altered tones within one of the standard scales, then they have an effect much like we saw in an early phrase from *Ein Musikalischer Spass* (example 1-1): that is, they divert our attention away from the key before we are fully confident of its identity. But there is another explanation, one that is more useful in the context of Ravel’s musical language, and which asserts itself unapologetically in the next movement:

Ex 2-5 *Quartet in F*, p. 29
In the melody from the above passage (found in the second violin), C is the clear tonic. And this time, F-sharp, a tritone below, is a constant presence. This melody is an unambiguous example of the Lydian mode, which is obtained by raising the fourth degree of the major scale. Here, Ravel tends to harmonize the F-sharp with a B minor seventh chord, while the sustained Cs in the melody are accompanied by A minor triads. On its own, this harmony would imply Dorian on A; yet the persistent focus of the melody on C prevents either tonality from dominating the sonic landscape. This demonstrates one of Ravel’s most characteristic compositional techniques: the mismatching of related modes amongst the different voices.

The difficulty in establishing a tonic in Lydian is that the augmented fourth has a tendency to draw our ear toward the key of the dominant. Yet if this scale degree is not sufficiently emphasized, then the passage will lose its Lydian identity. One solution is a “chant-like repetition” of the tonic, a strategy that Ravel definitely employs. The second violin in example 2-5 spends about as much time on C as it does on all other notes combined, but makes sure to affirm its modal allegiances through frequent visits to F sharp. The result is that this line is governed by two separate gravitational forces: the raised fourth, pulling it toward the dominant, and the droning tonic, pulling it back toward its home key. These types of tension relationships generally account for some of a
modal melody’s unique character.

I should note that describing the Lydian mode in this manner must not be construed to mean that it is merely a variant of the major scale. The comparison to a more common scale is simply a convenient tool; the Lydian mode is entirely separate from the Ionian (major) and is not functionally dependent on it in any way.

Lydian on C features prominently in the opening of my Wind Quartet 2, where it does battle with E minor for modal dominance. In the piece’s first strong cadence (example 2-6), the stationary bass tempers the harmonic identity of the progression and bars Lydian on C from strongly asserting itself by reducing the sense of arrival. No sooner has the harmony resolved to a major triad when the C tonality is pulled out from under its feet and replaced by E minor. This new key holds tenuous sway during the next phrase before it is put to rest by a more authoritative cadence (the last two measures of example 2-7).

Both examples illustrate a $II^{(maj/min)} - I$ progression, a possibility unique amongst the diatonic modes to Lydian. $II^7$ contains scale degree
one, a property which creates cadential voice-leading possibilities not available in major.

Each mode has lurking in its depths a single dominant seventh chord and a single diminished triad (which forms a half-diminished seventh). The location of these two chords in the scale has a decisive effect on its character. The challenge of writing in a non-standard mode is to account for the unique chordal and intervallic relationships that arise from its specific arrangement of major and minor seconds. A chord built on the sixth degree of a scale will have a different quality, a different role in harmonic progression, and a different relationship to the tonic depending on what mode it belongs to.

Of course, Lydian is only one of seven diatonic modes, and each has its own unique set of harmonies and compositional hurdles. Early in
Ravel’s quartet, he introduces this melody in the first violin, paralleled two octaves below by the viola:

Ex 2-8 Maurice Ravel: *Quartet in F*, p. 4 (Violin I)

It is based on a scale much like the natural minor, but with a conspicuous flattened second: this is the Phrygian mode on A. The characteristic half-step which begins the scale gives it a quality noticeably darker than that of the natural minor. Ravel’s writing is notable for the way that it manages to maintain a Phrygian tonality while spending comparatively little time on the tonic note – neglecting it entirely, at one point, for over four measures.

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III. Harmony

The music of Béla Bartók is a testament to the possibilities inherent in music’s vertical dimension. His harmonic vocabulary ranges from simple tertian triads to dense tone clusters and complex polychords. Like Ravel, Bartók often mixes modes and tonics between voices simultaneously. But his polyphony is of a much more aggressive nature, unconcerned with the delicate melodiousness that Ravel so carefully maintains.

Bartók’s Third String Quartet (1927) aptly demonstrates his penchant for adventurous harmonies. It opens with a sustained chord in the cello, soon joined in similar fashion by the viola and second violin. The first violin weaves around the upper voices in a delicate, highly chromatic melody:

Ex 3-1 Béla Bartók: 3rd String Quartet, opening bars
The chord formed by the four sustained tones C#, D, E, and D# is clearly not tertian in nature—it contains four consecutive notes of the chromatic scale arranged in different octaves. When major or minor seconds are arranged in un-inverted stacks, they are usually referred to as tone clusters. But when they are arranged, as in this example, by ninths and sevenths as well, they become secundal chords. Like their tertian cousins, they are made up of stacks of a single type of interval. And unlike tone clusters, which do not have a clear function in harmonic movement, these chords can be used in contrapuntal writing in much the same way as tertian ones.

The effect of a tonally ambiguous chromatic melody set against a droning secundal chord is one that I exploit in my Wind Quartet 2. The chord (example 3-2) is used as the backdrop for a series of revolving solos in the different instruments. When each finishes its solo, it settles onto a different sustained tone than the one it left. In this manner, the identity of the chord gradually evolves.
Each instrument gets a slightly different harmonic treatment by the accompaniment. The moving lines flow into one another, creating the impression of a continuous melody with a gradually evolving harmonization. Example 3-3 shows the various chords through which the harmony moves; not all are purely secundal. Parenthetical tones are those that are not present until end of the phrase.

\[
\begin{array}{cccccc}
\#\flat & \#& \#\flat\flat & \#\flat\flat & (\#\flat) & (o) \\
\flat & (\flat) & (\flat) & (o) & (o) & (o)
\end{array}
\]

Ex 3-3 *Wind Quartet* 2 pp. 3–4 (reduction)

As I mentioned before, though, chords by seconds may be used in a more contrapuntal manner as well. Early in the second section (the “seconda parte”) of Bartók’s Third String Quartet, we hear the following passage, steeped in rhythmic asymmetry and clashing chromaticism:

Ex 3-4 Béla Bartók: 3rd *String Quartet*, p. 15
The final chord of this example is based on major and minor seconds distributed throughout various octaves. Such chords do not have the clear, stereotyped functions that tertian ones do; the makeup of a specific secundal chord is more a matter of color and contrapuntal direction than of definite purpose. Example 3·4 shows a number of other chords containing preponderances of seconds but with thirds or other intervals thrown in to preserve the heterogeneity of the harmonic texture.

I make similar use of secundal chords in the second section of *Wind Quartet 1*. At the end of the Andante, the tempo slows and the meter moves to 3/4. The first harmony we hear (example 3·5, measure 1) can be thought of as a stack of major seconds in first inversion. The “third” of the chord, G, appears in the bass while F and A form a major third an octave up. This type of inversion subdues the chord considerably, reducing the dissonance and textural uniformity normally associated with tone clusters. Rather than two major seconds, we have a minor seventh and a major third, a more approachable sonority that can be smoothly integrated into the mechanics of traditional voice-
leading. I use chords by seconds and simple variations on them frequently in the subsequent phrases. The most striking example can be seen in the last measure of example 3-6: a sustained, four-note chord by seconds. Starting with the A-sharp in the bassoon, it consists of a minor ninth (an octave transposition of a minor second) with two major seconds above it. While the sustained notes do change in the build-up to the quartet’s climax, that original harmony continues to inform the passage.

Ex 3-6 *Wind Quartet 1*, p. 4

The Allegro of Bartók’s 3rd quartet contains an even more radical approach to harmony. In example 3-7, the first violin plays a melody based on the E-flat Dorian scale. The cello is also in the Dorian mode, but it chooses to center itself on D instead. The second violin and viola adhere solely to these two notes, refusing to commit to either of the outer voices. The result is that the music has a restless, uncertain quality as it pulls
our ear between two separate tonics. This device is called *polytonality*. The specific type of polytonality we see here is *bitonality*, the use of two simultaneous tonal centers. But as we saw in example 1-3, a composer might juxtapose any number of different tonal centers.

![Musical notation](image.png)

**Ex 3-7 Béla Bartók: 3rd String Quartet, p. 10**

The main dilemma inherent to polytonality is that it can become difficult for even a seasoned listener to sort out what is happening. Examining the score of *Ein Musikalischer Spass* reveals its secret, but to most listeners it sounds like a mass of random incorrect notes. Example 3-7 is a much subtler and more carefully regulated effect. The passage never sounds atonal; both of the outer voices have a markedly diatonic sound and the inner voices quietly reinforce both implied tonics.

In *Wind Quartet 2*, I use a bitonality in which the instruments pair
off into separate keys. After the four voices arrive on a sustained C-sharp major seventh chord, the flute and bassoon take up its root as their new tonic. Four measures later, the oboe and clarinet re-enter in parallel, playing a rhythmically contrasting melody centered on D. As in example 3-7, the juxtaposed tonal centers are a half step apart. In addition, the G-sharp that appears in the inner voices places them in the Lydian mode. This simultaneity of modes is known, unsurprisingly, as *polymodality*. In this particular case, the polymodality of Ionian and Lydian is accompanied by a polytonality of C-sharp and D - but different modes based on the same tonic can be used in a polymodal, non-polytonal context as well.

Ex 3-8 *Wind Quartet 2*, p. 6

The various complexities of Bartók’s quartet grow only more fiendish as the finale nears. János Kárpáti describes how the previously
mentioned bitonality of E-flat and D is elaborated further in the final section:

The genius of the composition is seen in the way in which this closing C-sharp tonality is added earlier to the E-flat tonality of the coda’s material... between the E-flat and C-sharp which have been reached melodically there lies the static D, which played such an important part together with E-flat in the Seconda Parte. The exciting final moments thus really combine three tonalities.¹

Sorting this type of effect out aurally is beyond all but the most finely-trained ears; but the disagreement between the voices is nonetheless a distinctive and striking effect.

IV. Epilogue:
Notation

In the previous two sections, we saw a small sampling of the ways in which early twentieth-century composers have reverse-engineered the carefully codified musical traditions of previous centuries and precisely modified them to produce novel concepts of melody and harmony. Yet this music still makes a set of fundamental concessions to the standard European notational system. As the twentieth century wore on, the language of many composers evolved to the point that traditional notation alone was no longer sufficient.

I wrote the *Three Pieces for Clarinet* as a study in extended notation as well as in extended instrumental technique on the clarinet. The score is rhythmically free, with note values suggesting a basic length but allowing for free-flowing tempo gradients. Some sustained notes are played with expressive vibrato while others are static and motionless.

The clarinet has three basic, distinct registers, each separated by the interval of a twelfth. A fingering that produces an F in the clarion (middle) register produces a B in the chalumeau (low) register. In the *Three Pieces* I use the effect of a “downward break”, wherein the register key is removed and airflow is controlled to create the illusion of “fading”
between two notes. To my knowledge no notation has been invented for this technique, and so I use a black square between the two notes. Similarly, I use an upward-pointing triangle (4-1b) to indicate an upward break, where the embouchure is altered so that the clarinet makes a rasping leap into a higher register. I use non-standard fingerings to create microtones and multiphonics, and short rhythmic/melodic “cells” and sprawling graphic symbols to suggest the improvisatory bases of individual sections (4-1c). Piece number three borrows an extended technique from Luciano Berio’s Sequenza X: in Berio’s piece, a trumpeter plays into the open lid of a piano while the pianist silently depresses chords, lifting the corresponding dampers so that specific strings vibrate in response to the soloist.

My piece Music For 4 uses one specific type of extended notational practice (4-1d) in order to specify general melodic contour rather than exact tones. Each measure is treated as though it contains a fermata; the conductor creates a rhythmic structure and the instrumentalists improvise around a basic contrapuntal framework. The resulting effect might be described as an “atonal chorale”.

Ex 4-1
Bibliography

Wind Quartet 1

Largo ($l = 44$)

Andante ($l = 70$)
Andante Moderato (\(j = 78\))

hushed but intense
Wind Quartet 2

Zachary Young

Flute

Oboe

Clarinet in B♭

Bassoon

Andante Cantabile (♩ = 96)

9

17

mp

p

mp

p
Stately, marching

Fl.

Ob.

Cl.

Bsn.
Music for 4 may be played by any combination of four (or a multiple thereof) pitched instruments each with a range of at least two octaves. If more than four musicians are used, they should be divided evenly between the parts.

Each measure contains a whole note. An arrow above or below this note indicates the direction of melodic motion relative to the previous whole note, while the length of the arrow indicates the distance of the melodic motion. Each measure is cued, either by a conductor or by one of the musicians. In this way the overall rhythmic structure is improvised during the performance. Grace notes should fall between the cued tones; specific rhythms for these notes are suggested by their placement on the staff.

If the minimum of four musicians is used, each should be assigned a general range in which to play. If the instruments are already disparate enough in range that little crossing of voices is likely to occur, then no further restrictions need to be made. In other situations (for example, four of the same instrument) a rough soprano/alto/tenor/bass relationship should be established, with parts one through four proceeding from highest to lowest range, respectively. Players should have no reservations about moving outside of their assigned range, but this should be the exception rather than the rule.

Expressive techniques such as vibrato, tremolo, etc. may be used but should never dominate the performance.
Three Pieces for Clarinet

should be played in a rhythmically and expressively free manner. Note values are merely approximations, the performer should vary them over the course of each section.

A square indicates a downward break; release the register key and control the air to create the illusion of “fading” into the lower note.

A triangle indicates an upward break; manipulate the embouchure so that the “squeak” is as gradual as possible.

A boxed note or notes should be treated as the rhythmic and melodic subject material for a set of variations.

Graphic symbols indicate gradients of volume, timbre, expressive technique, rhythm, and pitch.

“+” followed by one of the Key abbreviations in the Diagram to the Right indicates that the key should be added to the fingering of the current note.
Three Pieces for Clarinet

#1

Zachary Young
-played into the open lid of a piano with the sustain pedal depressed

played into the open lid of a piano with the sustain pedal depressed