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Beethoven and Elliptical Tonality

This essay arises from research I have done into some lesser-known (and very provocative) aspects of Beethoven’s use of tonality. One of these unusual features in his music, which I’ll discuss in a concentrated manner here, though a full consideration of it could easily fill an entire book, may be called “elliptical” tonality. It is something, I believe, he largely innovated.

The standard view of tonality – with a single “tonic” as the undisputed center of gravity – can be compared to the mathematics of a circle. But an ellipse functions differently. There are two foci, and each is a center. Each has independent gravitational pull. As we know from Kepler, planetary motion is elliptical.

While Beethoven mainly used “standard” tonality, there is ample evidence that he also, and with a fair degree of frequency, associated keys in “elliptical” pairs. Take, for example, the startling juxtaposition at the beginning of the Scherzo1 of the Pastoral Symphony: (Example 1) A lightning fast change in tonal orientation, with the F# within the D triad boldly contradicting what, only a moment before, was the keynote: F natural.2

The crucial point, however, isn’t the mere suddenness. It is that in this passage two keys conjointly express a single thematic idea – an idea which would remain incomplete were it not for their combined interplay. Where else, prior to Beethoven, had a composer at the very start of a movement divided his theme right down the middle in such a tonally audacious manner? To my knowledge: nowhere.

Nor is this the only such moment where Beethoven leaps boldly from F to D with thematic significance. Consider the Bagatelle in F, Op. 33 #3. Here, without any harmonic link, we hear the melody first in one key and then in another, with each presentation rounding itself off with a full authentic cadence. (Example 2)

Again, we need to ask: where is the historic precedence for such a move? With all of Haydn’s humor, this kind of “joke” was never part of his vocabulary. The closest he came, perhaps, to it was the “double” presentation of the main theme of the finale to his late Eb piano sonata. But that tonal contrast – Eb major and F minor – implies no dislocation of tonal gravity. We easily grasp the second presentation as merely a diatonic sequence within the undisturbed realm of Eb major.

One possible source for the tonal audacity we see in Beethoven – the willingness to set two antithetical keys in bold opposition – can be found in the music of C. P. E. Bach. As early as 1742, Bach plays off E major and G major in the opening of his Sonata in E, Wq. 48 #3 – (measures 9–16). Yet the procedure is fundamentally different. We are not given an “electric jolt” through the instant and naked contact of incompatible tonalities, as in Beethoven. What actually happens is a swift act of harmonic alchemy. E major becomes E minor, is transformed to G major, glides into C major, and returns to G major – all within the second eight-measure group.3 Moreover, where Beethoven divides his passage in one sense (in terms of tonality), he maintains its unity in another. That is, in terms of melody. C. P. E. Bach does nothing of the sort.

Perhaps the composer who most nearly approached Beethoven’s conception of conjoint, or elliptical, tonality was Mozart. Consider the opening of K. 465. Here, indeed, we do feel, a juxtaposition of keys – and an astonishing one: the high tonal drama of C minor cast against Bb minor. (Example 3)

Yet a glance at Beethoven’s Coriolan Overture indicates how divergent the procedures of these two masters are. Where Mozart softens the aural impact of the incompatible tonalities by gracefully connecting the dominant of C minor to the tonic of Bb minor through a connecting passage of insinuatingly rising parallel minor thirds, and then, as the music goes forward, has us understand the motion to Bb in the bass voice as part of a structural descent from tonic to dominant, Beethoven, by contrast, places these oddly-mated keys in raw collision, highlighting the moment through a dramatic silence between the two tonalities. (Example 4)

Through my research, I have come to believe that there are many effects in Beethoven which can only be explained adequately by positing the existence, in his mind, of pairs of tonally-conflicting keys which, nevertheless, form sets of “supra-tonal” complexes. I am suggesting, in other words, that for Beethoven tonality was more than just a matter of 12 – (or even 24) – primal elements; there were also various degrees of elliptical admixture. Some I’ve just mentioned; and there are others. This being a short paper, I’ll focus on the interplay of F and D major.

Some methodological points: First, while space does not permit me to discuss this technical phenomenon here in relation to wider philosophic and biographical issues – which, in my opinion, the only sensible way to do musical analysis, I trust readers will make such relations on their own. The finest way I know to do this is through the use of the methodology of Aesthetic Realism, developed in the early 1940s by the great American philosopher of the arts Eli Siegel. Its core principle is his statement: “The world, art, and self explain each other; each is the aesthetic oneness of opposites.”4

* Examples appear at the end of the article
My second methodological point (and now the focus, indeed, is highly technical) is that in its most characteristic form, a “complex” tonality appears to be one in which Beethoven presents his principal thematic material twice – in each key, and in close juxtaposition. Sometimes, as in the *Pastoral Symphony*, the theme is divided by a sudden shift in tonal focus. More often, as in the Bagatelle, we get the entire thematic idea twice. It either case, the combined action of tonal divergence and motivic identity creates the new, elliptical, effect. That this is a situation of opposites in an aesthetic relation is clear enough!

I also want to make clear that I am not speaking of “bitonality” in the modern sense. What Beethoven creates is neither a simultaneous compound of keys, nor a situation of complete equalitarianism between them. One of the elements is *always* predominant. For example, whenever he joins F and D in a single complex, he *always* keeps F as the central tonality. Similarly, when he joins C and Bb – whether in contrasting major or minor modes – C is the stronger of the tonalities.

With all this in mind, let us return to the relation of F and D. Did these keys possess for Beethoven a secret magnetism, drawing them together in his mind, even from an early age?

Consider the *Missa solemnis*, composed in 1789. The key relations in it are all “standard” – that is, until we reach the dramatic moment when the bass solo, “Dann kam Joseph,” segues to what clearly is the greatest music in this early work: the soprano aria with chorus, “Da stiegen die Menschen.” With the swiftest of modulations, D major is transformed to F. Certainly, this is not yet a melding of two distinct tonalities into a single “complex” one – but it does show a strong desire on the part of the young composer to bring them into close proximity.

Two years later, Beethoven wrote a set of variations for violin and piano on Mozart’s “Se Viuol Ballare.” (WeO 480) This set may well be the first music he wrote after moving to Vienna. What do we see in it? Overall, a persuasive use of tonality: the theme and all twelve variations are firmly anchored in the tonic of F major. Anchored, that is, until the “coda” of the last variation where suddenly there is an irruption of D major. (Example 5) The effect is electric.

A few years later, Beethoven does the same thing again in another variation set; this time, for cello and piano. Once more, a Mozartean theme is employed – “Ein Mädchen oder Weibchen” – and once again the pure waters of F major are riled by an unexpected jolt of D major in the final variation. And we can consider his *Piano Sonata* Op. 10, #2, likewise a product of the 1790s. Its first movement has a “false” recapitulation in D which is then grammatically “corrected” immediately thereafter as the music pivots to a “true” recapitulation in F. (Example 6)

In this example, we are coming closer to a true tonal “compound.” We feel the impact of the tonal division in an intensified way, since we hear it *thematically* – that is, in relation to a single melody: the primary melody of the movement.

Again and again in the early Viennese years, Beethoven shows how much he enjoys the impact of F major and D major meeting in immediate, or near immediate, proximity. In the center of the 1796-7 *Sonata for String Trio*, for example, an “Allegretto alla Polacca” in F is followed immediately by a “Thema con Variazioni” in D. It is the only “non-diatonic” key relation we find in the work.

Based on the 1803 publication date for the Op. 33 *Bagatelle*, and the sketchbook evidence that Beethoven was working on the *Pastoral Symphony* not all that much later, it does seem that some sort of watershed in his tonal thinking is almost complete by the early years of the 19th century. And the celebrated collision of tonic and dominant in the *Eroica*, which comes from the same period, also speaks loudly to the point. That is, Beethoven was in those years actively exploring new ways of conceiving tonality – new ways to take its elements and put them in sudden juxtaposition.

So let us move on chronologically, and begin with music from the *Eighth Symphony*, which premiered in 1814. There is a curious passage in the coda of its last movement. To appreciate it, let me back up a bit, first – to the recapitulation. It is, of course, in F. (At measure 355). But immediately before, at measure 345, we heard the main theme in D. (The effect reminds one of what we encountered earlier in the Op. 10 sonata.) Now, look at the coda to this symphonic movement. At measure 380 the theme storms in, fortissimo, in the key of F#. What is remarkable is that here, and only here, does Beethoven choose to change his key signature. And what does he change it to? – three sharps, as would be right for F#. Surprisingly, no! He uses two sharps.

Now this is exceedingly odd, for in no way can these twelve measures be heard in either D major or E minor – the “proper” keys for that signature. So what is going on? – since as far as I know, it is the only passage in all of Beethoven’s works where the notation of the key signature is plainly false. So, let us speculate, and make use of the idea of “elliptical tonality.” Perhaps, having presented the main theme in F major immediately before this strange change of signature, and returning to F major immediately afterwards (at m. 392), the composer was so accustomed to thinking of “two sharps in relation to one flat” that he made an unconscious notational slip. If so, it is side evidence for how profoundly those two keys tended to merge in his mind.

Going back a year to 1813, we likewise see in the *Seventh Symphony* a prominent juxtaposition of F and D. Consider its Scherzo. At the end of its opening section, in the key of F, Beethoven hammer a contrast of the notes A and F – concluding with a sustained A. The tempo immediately relaxes, and the Trio enters in D. So striking is this juxtaposition of F and D that Beethoven has it serve, also, as our final impression of the movement. Just measures from the double-bar, he interrupts the Scherzo to refer, ever-so-briefly, to the “Trio.” (Example 7)

Next, here are two swift examples from his theatre music, circa 1810 and 1811. In *Egmont*, the final “melodrama” is in D – the only time that key appears in the score. The very next music is the concluding “Sieges-Sinfonie,” cast in F. And this
tonal complex is equally important in the incidental music to König Stephan. At a crucial point in the plot, the chorus sings “Eine neue stehende Sonne” in F. What follows immediately is an orchestral “Maestoso con moto” in D. And even in such a seemingly secondary genre as the Scottish song sets, we encounter Beethoven’s love for the immediate juxtaposition of these keys. Consider, Op. 108 – a set of Twenty-Five Scotch Songs published in 1816. In it, every song in F major is immediately preceded by or followed by one in D. This takes in nine songs in all, including the final two.

As I mentioned earlier, F and D are hardly the only keys which had “elliptical” implications for Beethoven. Late in his career, for example, he created several masterpieces employing the complex of D and Bb major. In fact, this was the only “elliptical complex” which was truly “reciprocal” in his mind. Why? – because at different times he made use of each of its two tonalities as “primary.”

Meanwhile, within these late works – among which are the Missa Solemnis, the Ninth Symphony, the Hammerklavier Sonata and the Archduke Trio – one also (and often) finds subsidiary use of the F/D complex. For example, in the Mass, these keys are placed against each other at the center of the “Credo.” The predominate key of the “Et incarnatus est” is F major. And what follows? The “Et homo factus est,” which is in D.11 And these keys are present, as well, at the center of the “Agnus Dei.” Here, Beethoven’s harmonic rhythms are particularly subtle. (This is his last period, after all.) Meanwhile, the signatures he employs indicate that he conceived measures 190 through 208 as embodying a fluid motion between F and D. The very “fluidity” is a signal that the two keys merged in his thought.

I conclude this selective, and all-too-rapid, survey an instance from the late quartets. In Op. 132, there is the “Heiligendankgesang.” written, the composer tells us, “in der lydischen Tonart.” Even so, the tonal center is F. And what key enters when the composer indicates “Neue Kraft fühlend”? D major. (Example 8)

The emotional juxtaposition is strong. So is the tonal. And this piece was composed in 1825 – near the very end of his career. When one remembers the Cantata about Emperor Joseph from 1790, it is clear: Beethoven was engaged, even infuriated, life-long, with the relation of these two keys – and never tired of exploring what happens, musically, emotionally, dramatically, when they are put right up against each other.

That Beethoven “wielded tonality” with a power new to music has been affirmed by scholars and critics as diverse as E.T.A. Hoffman, Donald Francis Tovey, and Joseph Kerman. And one might mention Leo Treitler, as well, who wrote in 1989 of how Beethoven “composes with key as a dramatist composes with character.”12 Yet, by and large, these authors were thinking of the “relative” meaning of keys – that is: their distance from each other in terms of the logic of the circle of 5ths. On this account a motion from Eb to C in the key of Eb, and a motion from F to D, in the key of F, would be equivalent in musical meaning.

Is this all there is to it? Or might something else be present? That keys had relatively stable meaning in various eras of music history is still a disputed notion among musicologists, but it has many advocates – including, most notably in recent decades, Rita Steblin.13 And whatever one thinks about the subject, this much, at least, is now quite well-established: that for certain composers, particular keys had distinct (and fairly consistent) emotional character.14 Beethoven left many hints that he felt that way, which were explored in detail by Bruce Edward Clausen in his 1988 thesis for USC, Beethoven and the Psyche of the Keys – a text I recommend.15

So we need to explore why in Beethoven’s music, across its several decades, certain “tonal moves” – certain “relative” motions among the keys – tended to be found uniquely between some keys rather than others. We have seen that Beethoven associates F major with D major – a fall of a minor third in a non-diatomic cross-relation. But he does not do this with any frequency with any of the other 11 transpositions for which it is possible.16 If the situation were purely “relative,” one would not expect that.

However, Beethoven does contrast (and quite often) C major and Eb major, when C is the primary tonality. Think, for example, of the orchestral exposition of the first Piano Concerto. Yet what we have here is a rising minor third relation, which is a distinctly different situation. And once again, he does not seem inclined to juxtapose any of the other 11 possible pairs of major keys separated by this particular rising interval.

All of this points to an “absolute” sense of key in Beethoven. We know from sketchbook evidence that he hardly ever experimented with “transposing” his musical ideas; and this is exceedingly noteworthy in a composer who was willing to reshape them in every other possible way: rhythm, melody, dynamics, counterpoint, harmony.

What I am suggesting is that this insistence on a definite tonal level was in force also when he dealt with what I have called “elliptical” situations of tonality. Where we do have variation on this principle, they tend, interestingly enough, to be at the most “natural” of transpositions: the perfect fifth. For example Beethoven often rises a major third from C to E; think of the “Rondo” which concludes the Triple Concerto and the “Kyrie” from the Mass in C. He also likes to juxtapose G to B – as at the very opening of the Fourth Piano Concerto. Or take the sudden contrast, at the opening of the Waldstein sonata between C major and Bb. (Example 9) Something very much akin happens as Op. 31, #1 begins – only now between G and F major. (Example 10) Similarly, there are many instances of Beethoven falling a major third from D to Bb. He also does this often in the key of A. The fall from A to F, for example, is a constant feature in the Seventh Symphony. Once again, our two tonal planes are separated by a perfect fifth.

The most intriguing exception occurs when the “elliptical complex” is made up of a key and its raised supertonic. For this powerful “Neapolitan” relation, the favored “tonal planes” are themselves related in a Neapolitan manner – that is, they are separated by a minor second – rather than a perfect fifth. Think of the opening of the String Quartet Op 59, #2, with its immediate contrast of Em and F major, and then of Op. 95, with its juxtaposition of Fm and Gb.
I end with some questions of a historical nature. First, in terms of antecedents, how far was Beethoven affected by what Graham George has demonstrated was a central technical feature in many of the vocal masterpieces of Bach, Handel, and Mozart—namely a deep structural alternation between two central tonal streams?17

And in terms of what followed, this question arises: how far did Beethoven's sense of "elliptical" key-complexes plant seeds for others to harvest? As Robert Bailey has strongly argued, Wagner organized his music in long-range tonal pairs, and his example influenced many of the major composers who followed him, including Mahler. Could it be that this Wagnerian and Post-Wagnerian procedure is rooted in a prior Beethovenian discovery? And following the stream of music history onward, might we think of true 20th-century bi-tonality as a further result of Beethoven's initial insight? — namely, that two keys can function together as a one? In, for one, look forward to pondering such questions, and I welcome scholarly company!

NOTES

1 Thomas Sipe, in his "Beethoven's Struggle for Simplicity in the Sketches for the Third Movement of the Pastoral Symphony" — pp.26-75, Beethoven Forum 4 — tells of how the composer initially planned to cast the "Trío" of this movement in D.

2 In his Beethoven Essays (Cambridge, MA: Harvard University Press, 1988), Maynard Solomon, writing of the Ninth Symphony, notes how Beethoven himself, in a sketchbook, characterized its initial plunge into D minor as an event which, "reminds us of our despair." (P. 19) If so — if D minor had this despairing quality for Beethoven, then might it be possible that a desire to avoid D minor when it would otherwise be expected, through a juxtaposition of F and D major, could be a statement of Beethoven about sudden joy, sudden brightness, sudden hope? All this, naturally, needs to be explored — but it is suggestive.

3 Possibly, just possibly, he is remembering the harmonic "sight-of-hand" that his father accomplishes in the final measures of the "Prelude in E" to The Well-Tempered Clavier Book I.

4 This tonal juxtaposition is heard elsewhere in Mozart. Another example is the opening measures of the Fantasy and Sonata in C minor.


6 Beethoven's usual procedure is to take the primary key to its dominant, and then leap to the tonic of the secondary key of the "complex." This is one more reason the early bugallette is so astonishing — for it comes to a complete tonic cadence before jumping to the new key.

7 See, for comparison, Joseph Kerman's contribution to Beethoven Studies 3: "Notes on Beethoven's Codas" — where he speaks of "tonal questions" within primary melodies that are only resolved at the conclusion of a movement. He does not, however, point to the tonal division of themes as I do.

8 I already cited the Coriolan in relation to Cm and Bb minor. The Waldstein sonata is an instance of C and Bb major in tonal compound.

9 I hope, in the future, to do similar histories for his other "tonal complexes."

10 It is well known that Beethoven made use, years later, of this music when he "quotes it" during Act II of Fidelio at the words "O Gott! Welch ein Augenblick!"

As indicated in footnote 6, Beethoven sometimes "rethinks" a tonal complex at the transposition of a fifth. Perhaps the most long-standing of all of these complexes for him was D/Db — and Beethoven quite often goes directly from the V of D to the I of Bb. What we have here in Fidelio is, perhaps, a use of this complex in its transposed form: the V of A to the I of F.

This quotation by Beethoven of a youthful work has been explained in terms of its obvious "intersexuality." The words of the cantata are, indeed, very apropos at this point: "Da stehet die Mensch wie Licht.

No one would deny the relevance of this explanation. But might there be even more to it? Though in both cases the music outwardly remains in F major, the actual impact and "Affekt," are not the same. To hear F in relation to D is not equivalent to hearing it in relation to A.

I am suggesting, therefore, that a study of various parallel passages belonging to the D/Db complex might well help explain this moment in its full emotional meaning. And if so, it would be further evidence of what I am suggesting — that the analytic tools of traditional "key characteristics" are insufficient for Beethoven research, and that we need to augment them with knowledge of how "key complexes" were in his mind.

11 A very fine recent thesis on Beethoven and modality is by Nicole Biamonte: The Modes in the Music of Beethoven, Schumann, and Brahms: Historical Context and Musical Function. (Yale University, 2000)


13 See her A History of Key Characteristic in the Eighteenth and Early Nineteenth Centuries (2nd ed.) Rochester: University of Rochester Press, 2002. Another important study along the same lines is Wolfgang Auhagen's Studien zur Tonartencharakteristik in theoretischen Schriften und Kompositionen von späten 17. bis zum Beginn des 20. Jahrhunderts. (Frankfurt am Main: Peter Lang Verlag, 1983)

14 Martin Chusid's "The Significance of D minor in Mozart's Dramatic Music" is a classic study along these lines. Appears in the 1965/1966 Mozart Jahrbuch.

15 Martin Chusid's "The Significance of D minor in Mozart's Dramatic Music" is a classic study along these lines. Appears in the 1965/1966 Mozart Jahrbuch.

16 Though in his last period there is evidence of a beginning interest in juxtaposing C major with a previous Eb major. For example, the Diabelli Variations are entirely in C (or C minor); yet its final two variations are the "Fugue" in Eb, and the "Tempo di Menuetto moderato" in C. Further, sketches for the Ninth Symphony indicate that Beethoven was planning to contrast these two keys there, as well, in their descending relation.


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