From the desk of Pierre Beaudry

THE TRUTH ABOUT BEETHOVEN'S SO-CALLED "*MOONLIGHT SONATA*."

By Pierre Beaudry, 5/08/2011

"I shall seize fate by the throat; it shall certainly never wholly overcome me."

Ludwig van Beethoven

"Whoever gets to know and understand my music, will be freed from all the misery that drags down others."

Ludwig van Beethoven

"But we must come to accept the rigorous standards of political morality as governing music, or all else is lost."

Lyndon LaRouche

INTRODUCTION

What human beings have been able to accomplish in the past ten thousand years demonstrating their ability to survive as a species is nothing in comparison to what they are now going to have to come up with in order to survive the present 62-odd million year cycle of galactic Lydian change that our solar system is currently going through. The current world financial-economic crisis is the same type of axiomatic change as the galactic cycle that the Solar System is currently going through. These are not two isolated events that just happen to coincide; the two crises are harmonically conjugated and have the same ontological Lydian characteristics. The Solar System has already begun to move north of the galactic plane, and you cannot change that dangerous predicament no more than you can stop the British Imperial system from collapsing worldwide. So, if you are a bit alert, and have a few wits left about you, you might want to ask yourself: "What am I going to do to affect the survival of mankind in this period of axiomatic change? How can I prepare and equip mankind against such an inevitable circumstance?" That's the question that Beethoven asked himself when he composed the so-called "***Moonlight Sonata***," because he was actually going through a galactic change.

Mankind knows what direction to take in order to solve the current crisis, because the pathway of the required axiomatic change of direction that must presently be taken has been identified well in advance and by many giant thinkers like Plato, Cusa, Rabelais, Leonardo, Bach, Mozart, and Beethoven, just to name a few. What mankind has to do is to take the moral step to face the future, and the crisis becomes transformed into an opportunity. As Lyn said, we don't know if mankind will succeed or not, because we don't know if we will have the moral fitness to survive, but we know that man is equipped to succeed, because the last ten thousand years have shown that it is in man's nature to discover ways to accomplish axiomatic changes within his own way of thinking. These present times are exciting times because such an axiomatic change is also what is happening to the Solar System. What is required to go through this crisis, therefore, is to understand and apply the same creative process.

In times like these, Beethoven's music becomes extremely useful, and even necessary. For instance, the composition I will now investigate, the ***Sonata quasi una fantasia in C-sharp minor Opus 27***, is one of the best pedagogical devices ever created for the purpose of showing the pathway of the creative process. It is by reliving the principle of discovery of such a crucial artistic composition that one can acquire the beneficial power of knowing in advance the richness of what the future is holding for us. In the case of Beethoven, the most effective means of discovering the secret of his creative mind is to discover the significance of the corrections he made in the original musical score of his Sonata Opus 27, and most notably, in the emphatic Lydian sections of the First and third movements. (See Appendix.) Those corrections reveal the difficulties that Beethoven had in composing this particular Sonata, and therefore, his need to break with previous prevailing axioms. Those corrections should resonate in our minds, like as many unmistakable dissonant intervals of truthfulness that they represent in the simple fact that they reflect the deep significance he must have given these axiomatic Lydian adjustments, as if clarions unsettling the walls of Jericho.

1. THE BEETHOVEN PRINCIPLE OF AGAPE.

> "***The classical artistic imagination is a yearning for something. It's a yearning for a condition which does not yet exist. A yearning for an idea, which is valid, as an idea, but does not yet exist. It's the passion of discovery, of creative discovery, in Classical artistic composition, which expresses the quest, which is called 'true human creativity***.'" Lyndon LaRouche.

In his series of master classes on the subject of Beethoven's 32 sonatas, Andras Schiff demonstrated how the 1801 ***Sonata No. 14, in C-sharp minor,*** the so-called "***Moonlight Sonata***," was the most misunderstood of all of Beethoven's sonatas. There is a "***thick layer of false tradition on it***, …" he said, ***"… and the music is like a great painting that has a lot of dust on it, and a lot of dirt, and you want to restore it, so you can get to the real colors.***" What I wish to do in this report, therefore, is to uncover the underlying principle that lay dormant underneath this romantic filth for over 200 years.

First, let's get rid of the first coat of fake varnish that it has been covered with, since 1836, when the critic, Ludwig Rellstab, gave it the insane identification of "***Moonlight Sonata***." This fallacy imposed on the composition was as shallow as the public opinion oriented mind of the critic who concocted it. This Sonata was not based on the principle of pleasure and pain, but, rather, on the principle of ***agape***, love of mankind. Unfortunately, the dirt of pleasure and pain has stuck on it ever since the imposition of this false appellation and most people are misled about its true function. It is high time to repair this defilement for the sake of generations to come and to restore the truth of its principle once and for all. This sonata was composed as an expression of the sublime love of creativity, as opposed to the romantic vagaries of sense-perception. If one is to understand this Classical artistic composition at all, it is going to be through the Promethean fight of ***agape*** over ***eros*** that Beethoven waged, with success, during the 1800-1802 period. It is not by accident that during 1801, the same year that he composed his ***Sonata No. 14***, Beethoven also wrote ***The Creatures of Prometheus***.

Beethoven left several crucial comments in his manuscripts establishing his clear intention about this Sonata. According to these notes, Beethoven composed the first movement as a memorial in honor of Mozart, that is, in memory of the same fight that Mozart had to wage with his ***Don Giovanni.*** In fact, Schiff reports that the Vienna Musical Archives show that Beethoven explicitly wrote the first measures of his sonata with the same ***ostinato*** triplets that Mozart used to express the death-throes of the ***Commendatore*** after he had been stabbed to death by ***Don Giovanni***. This homage was Beethoven's way of celebrating the great Lydian revolution that Mozart had made from the original seminal revolutions of Bach and Haydn. Thus, it was a Promethean victory over the romantic peddlers of sense-perception, a victory over the brutalization of the perversion of creativity represented by pleasure seekers like Don Giovanni.

The Sonata was also a composition that Beethoven dedicated to the woman he loved dearly, and whom he hoped to marry, Countess Giulietta Guicciardi. On July 6, 1801, Beethoven wrote to her saying: "***O God: So near! So Far! Our love, is it not a true heavenly edifice, firm as heaven's vault?***" This is not the ravings of a romantic fool, but the weaving of a complex image of the yearning creative process that the interpreter should have in his mind when playing this composition. When Beethoven composed this Sonata, he neither had in mind a moonstruck romance, nor a funeral march, but he was engaged in a dialogue with his soul-mate whom he was hoping would share his creativity. As he was writing her, his mind was focused on the creative process of his own mind in relationship with God's creative powers in the Cosmos. As he said in the same letter to the "***Immortal Beloved One***": "***Humility of man towards man – it pains me – and when I think of myself in connection with the universe, what am I and what is He, who is named the Greatest; and still this again shows the divine in man.***" (Beethoven letter to Countess Giulietta Guicciardi, July 6, 1801.)

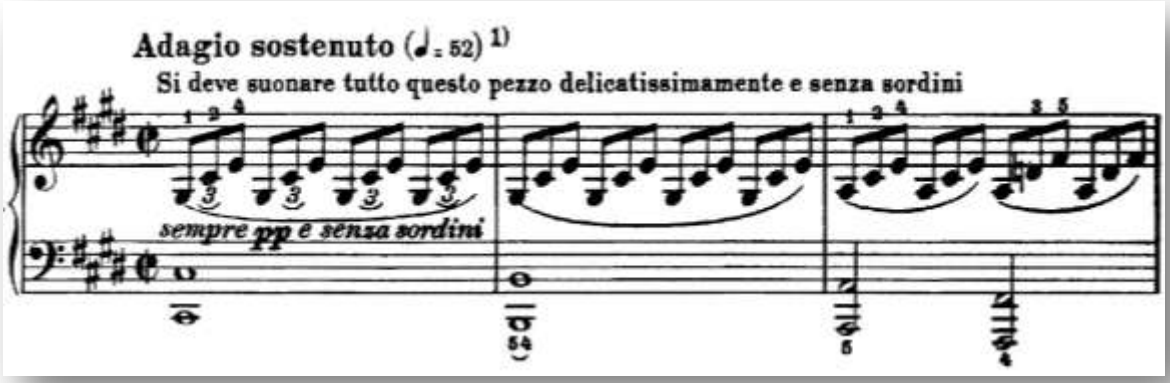


Figure 1. Beethoven's ***Sonata quasi una fantasia*** No. 14, Opus 27, No. 2. The opening measures. Note the Neapolitan modulation in the third measure.

At the opening measures of the first movement (**Figure 1.**), Beethoven noted: "***Adagio sostenuto. Si deve suonare tutto questo pezzo delicatissimamente e senza sordini***" (Slow and sustained. One must play this whole movement with great delicacy and without dampers), that is to say, with sustained pedals on modern pianos, in order to maintain a continuous flow of the musical ideas. Furthermore, if this movement is to be understood as a ***motivführung*** expression of a sublime yearning, then, it should not be played too slowly, as most people usually do. The point is that the piano, which is a dead instrument, must express the dynamic tension between the fear of individual death and the yearning for participation in the immortality of mankind's future. This is the paradoxical tension that must be maintained throughout the piece, and the musician must make the keyboard sing accordingly, through both the imploring rhythmic motif and the lancinating ***ostinato*** triplets which Beethoven copied directly from Mozart's ***Don Giovanni***.

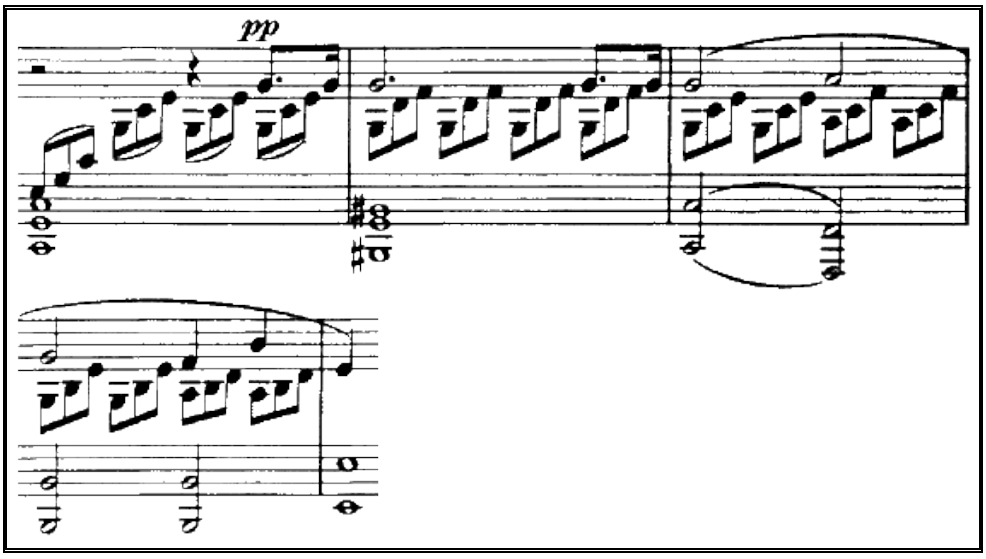


Figure 2. Beethoven ***Sonata No. 14.*** Lamentation motif and lancinating ***ostinato*** triplets.

Such a fundamental and elementary musical idea reflecting a meditative throbbing pain is very difficult to play properly on the keyboard, and it is not simply a question of technique. The difficulty is located in the state of mind of the interpreter who must internalize the same emotion and replicate its substantial effect through the Lydian moods of its ordering principle of change. In other words, what must be expressed is the continuous process of change through which new ideas are generated. The paradox in ***Don Giovanni*** is that the dying man is attempting to stop the process of dying and is yearning for immortality at the same time. During those dying moments, the ***Commendatore*** sings: "Now the pains of death invade me. From my breast my soul is soaring …"

Beethoven's note is explicit about the transposition of the Mozart ***ostinato*** triplets in C-sharp minor, referring to the lancinations of the dying ***Commendatore,*** but it also expresses the tragic lancinating pains of "***Mille tre***" that Don Giovanni's perversions have caused throughout the land. This correlates with the throbbing pains of Beethoven's own state of mind at the time when he is losing his faculty of hearing. Once this complex relationship between Mozart's moral outrage and Beethoven's hearing condition is understood, you can no longer make the case of a romantic moonlight fantasy on the shores of Lac Lucerne.

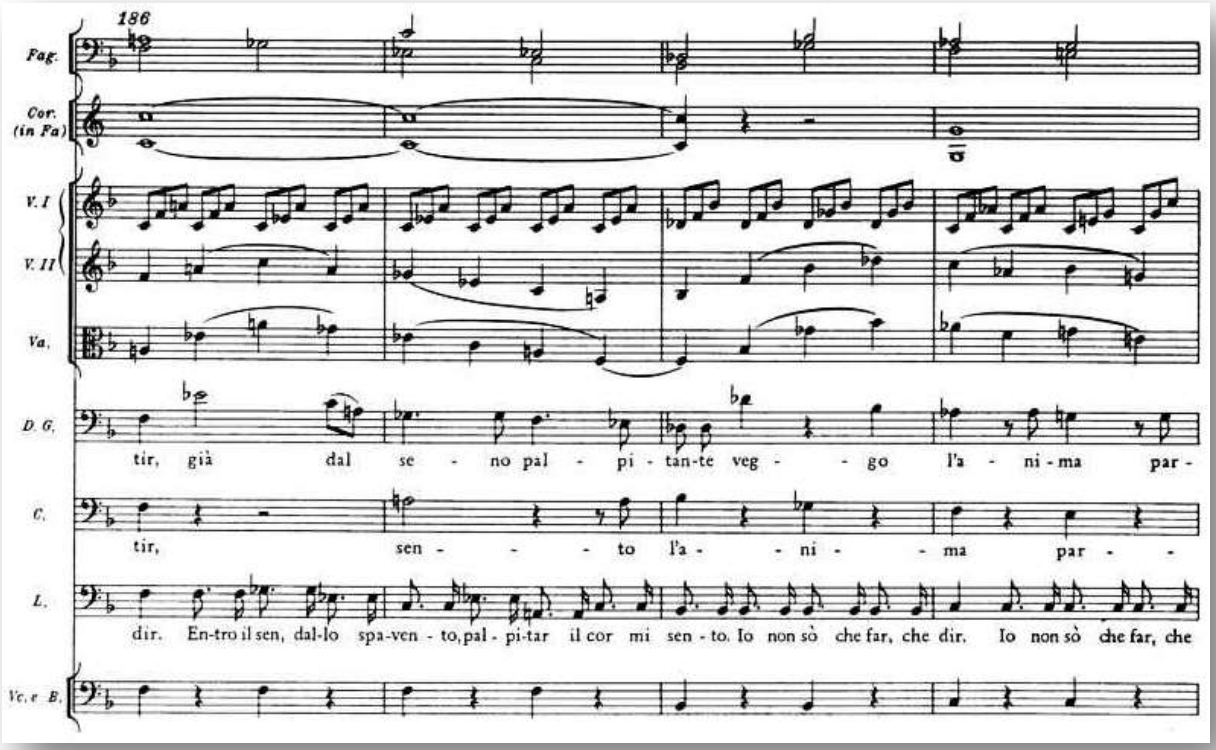


Figure 3. Mozart's ***Don Giovanni***. Measures 186-189 mark the ***ostinato*** triplets of the ***Commendatore's*** lancinating throbs after he has been mortally wounded by ***Don Giovanni***. Note the singing phrase of the ***Commendatore:*** "***sento l'anima partir…"*** (I feel my soul leaving…) and, simultaneously, ***Leporello*** singing: "***palpitar il cor mi sento***." (I feel his heart palpitating), and ***Don Giovanni*** who sings: "***palpitante veggo l'anima partir***" (through the lancinations, I see his soul leaving.) Thus, the perfect confusion of three different sense-perceptions.

Here, Mozart plays on the sensitive ambiguity between the physical pulsation of the body and the epistemological pulsating of a musical creative idea. However, the point is not simply the internalization of the death throes of a dying man, but the fact that this man is singing the swan song to his own body, as Beethoven is doing with his own faculty of hearing, and even more, by saying adieu to the domain of sense-perception, altogether. He is telling his body that his soul is leaving it behind in order to soar into the immortality of the creative fields of Elysium. That's the common agapic quality that the two creative minds of Mozart and Beethoven share in this analogy, but which was also shared with Schiller and Goethe, as was later exemplified by Schiller's poem of ***Ode to Joy***, and Beethoven's piano setting of Goethe's poem ***Nur wer die Sehnsucht kennt*** ("Only he who knows what yearning is").

However, Beethoven takes the whole process a step further. There is a crucial change that Beethoven is stressing with great emphasis, and which can only be expressed as the delicate flow of the motion of a singularity passing seamlessly from life into immortality, ***delicatessimamente***, as if a phase change in the great discontinuity-bridge between two axiomatically different states of existence. The flow, however, must be expressed as an extended continuity of change, without percussiveness, and in a way where the continuum of change reflects calm but decisively directed causality: ***Adagio sostenuto***. It

was the inevitable condition of his deafness that forced those ideas of axiomatic change on Beethoven. The deafness that crippled him, and the hope to cure it, thus became transformed into a tension between an inaccessible ideal of perfection and the powerful impulse to attain it. This is why this sonata is so difficult to play.

In other words, this Sonata is not like any other sonata. It is a musical revolution in the sense that its method of composition pertains to a mental creative function akin to what Lyn used to refer to as a continuous Weierstrass function of discontinuities, a Platonic higher hypothesis. Therefore, what we are dealing with is neither a moonstruck romance nor a funeral march; it is an Adieu to the world of sense-perception and a celebration of the creative process of change. This sonata is Beethoven's goodbye to the old rules of composition; it is the entry point of the agapic domain of the universal Lydian showers initially developed by Bach, Mozart, and Haydn.

As Schiff put it, dynamically, everything must be "played ***pianissimo*** (very softly), almost like a Bach Prelude!" The Lydian tensions must be maintained throughout, like a quiet penetrating cosmic rain, and then their charge must be released from within, at the appropriate moment into a thunderous transformation. So, the first movement is not a typical sonata movement, but a sort of introduction to something that is to come, a yearning of something which is completely new. Similarly, the second movement is not a typical sonata movement either, but a brief two minute break preparing the listener for the exuberant explosion of the creative power of the third movement.

2. THE LYDIAN MEASURE OF CHANGE.

"***Let Lydian intervals be the wines that fill the cup of your soul***." Dehors Debonneheure

The very first measures of the sonata establish the tonality of a single voice for the duration of the entire movement, the voice of lamentation with repetitive quadruple series of triplets in the right hand, which define the ***ostinato*** (obstinate) characteristic of a lancinating pain, accompanied by octaves in the left hand, using the Neapolitan to modulate the lamentation by semitones. Think of this pain as the lancinating pains of giving birth to an idea. That is the first clue that Beethoven gives as an indication of the new orientation of this Sonata mood. The rhythm has to be as regular as a throbbing pain, but not as fast and not as constant as heart beats. The process is an almost exact replica of how Mozart wrote the score to express the dying moments of the ***Commendatore***, except that Beethoven is leading the listener into a deliberately sharp dissonance.

The dissonance is so explicitly jarring that musicians generally avoid it, because they think it would be a mistake to play it. And so, they keep one of the two notes silent. Unless this deliberate dissonance is understood and appropriately stressed, the interpreter doesn't know what he is doing, and the entire piece is misunderstood and botched as a result. Why? Because, with Beethoven, you must always look for anomalies and this anomaly is the key that unlocks the meaning of the entire sonata. In fact, there are two such double dissonances in the first movement, one at measures 16 to 18, and the other at measures 52 to 54. (See **figure 4**.)

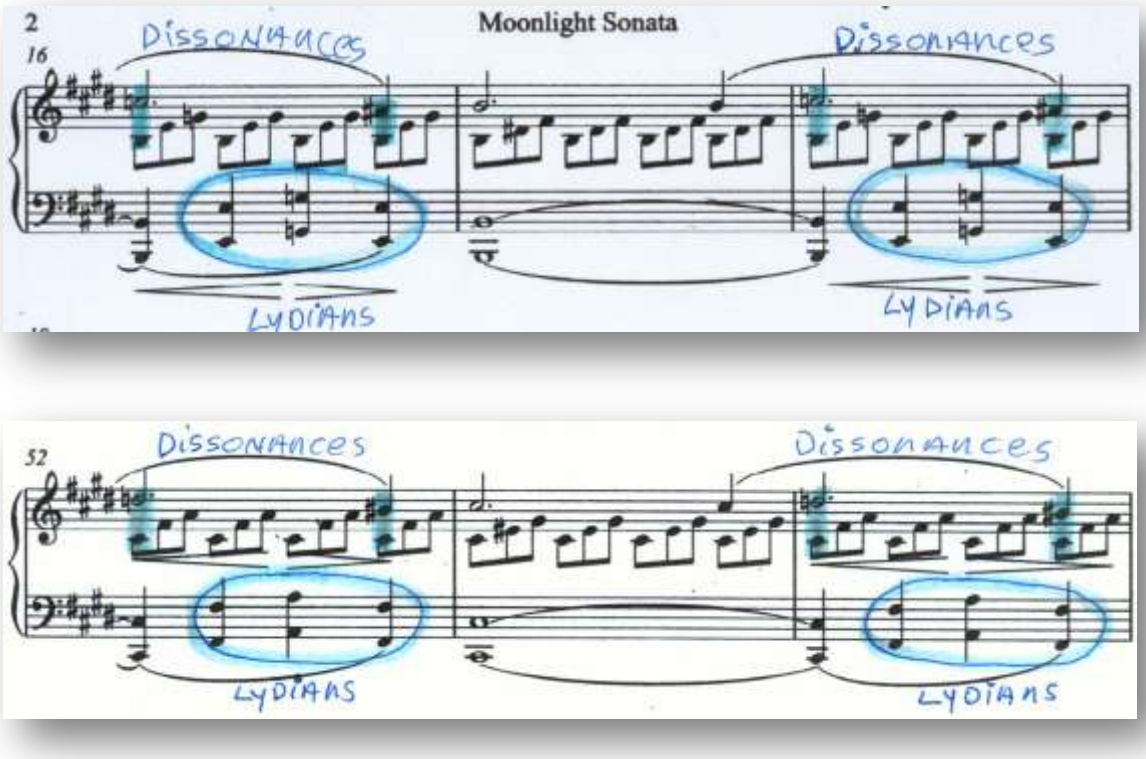


Figure 4. The two sets of dissonances for the keys of D-flat major (measures 16-18) and C-sharp minor (measures 52-54).

The entire movement is uniquely pivoting around the two painful intervals between Bb-B-C in the first case (measures 16-18), and C-C#-D in the second case (measures 52-54). In other words, without the goading pain, creativity would not be awakened. The dissonance between this choice of notes demonstrates that those singularities belong to the key signatures of C sharp minor and that they are decided from the ordering principle of the Lydian modality of the Lydian octave cluster of C – Eb – F# - A – C. It is the expansion of these double dissonant singularities that Beethoven used to solve the excruciating paradox he had to solve near the end of the third movement. Technically speaking, this means that the cluster of E, G, Bb, C# resolves into D-flat major, and the cluster Eb, F#, A, C, resolves into C-sharp minor.

Therefore, this singularity must be persistent. It must be the bee in the bonnet of your mind, like an insisting pain that will not go away, which is conveyed as if from the inside of the modulating voice of the triplets. This dissonance lies within those Lydian clusters; it does not come from outside of them. This is the reason why the elliptic wave of the torus is a better representation of the Lydian divisions of the octave than the conical spiral action, because the values of their intervals are everywhere the same, constant and persisting throbbing measures of change that won't go away, until an axiomatic change takes place through a high density of singularities.

Beethoven is forcing the listener to stretch his imagination to the point that he has no choice but to discover the truth of some painful experience through the second group of two dissonances, C#-D and

C-C#, and then look for the reason behind his choice of the Lydian interval of the left hand to temper them. This sort of relief from pain with a lesser pain is the only way to make such an anomaly a lawful and necessary moral event in music. Similarly, the triplet intervals are intentionally written to express the same form of lawful relief from pain, but not with the same tension, and thus, they vary in their repetitive intensities until they reach a point resolution. Then, and only then, are you able to realize what Beethoven wanted you to discover. But, that is only going to happen near the end of the third movement. We are not there yet.

The tension of the whole process builds up to the climax in the first movement where the lancinating triplets are transformed by an almost imperceptible series of extended inversions into two wave series of complete Lydian clusters (**Figure 5**). Their notation is still in triplets, but now, they are explicitly releasing the emotional effects that they had been charged with from the beginning, which had been building up inside of the entire process like the shaping of a charge set to trigger a great explosion. The Lydians are just precursors of an explosion that comes later. Beethoven chose the tonality of C-sharp minor, because no other key could have such a powerful emotional warning effect.

Next, study attentively the middle section of ascending and descending series of Lydian waves, which most musicians identify simply as a series of diminished sevenths, without any further consideration. Here, you must be aware of the danger of falling into the trap of using diminished sevenths simply for jazzy effects, as our current degenerate culture does. There is much more to it than meets the ear of your mind. What is hidden in the Lydian clusters is precisely the moral principle that Beethoven released as the detonator of a great explosive agapic passion for creativity in the third movement. Beethoven is showing us that such Lydian measures of change can be as quiet and delicate as they can become thunderous and explosive. Here the Lydian cluster dissonance simply asks the question: What can I resolve this into? And, the answer is: the resolution must be in C-sharp minor, of course. That is the manner in which Beethoven develops the creative process of Lydian resolution throughout the whole sonata. That is how the first, second, and third movements are related into a single creative process.

The Lydian clusters that determined the key signatures of the three movements of the entire sonata is given to the listener, here, midway inside of the first movement. And, from that moment on, the listener must take these Lydian elliptical wave clusters into consideration, and hear them resonate throughout the rest of the composition as if it were a memory function. Why is this important to note? In the first movement, there is an extraordinary lack of melody and therefore the listener is forced to turn to counterpoint for some solace. He must rely on those Lydian modular waves as a memory guide throughout the piece. These Lydian clusters also need to be played as triplets, but as actual conscious generative inversions of the lancinating ***ostinato*** triplets. It is because most musicians do not understand this Lydian agapic mood that they generally play this movement too slowly, and in a syrupy romantic manner. In so doing, they completely miss the ***motivführung*** unity of effect of Beethoven's agapic principle of composition.

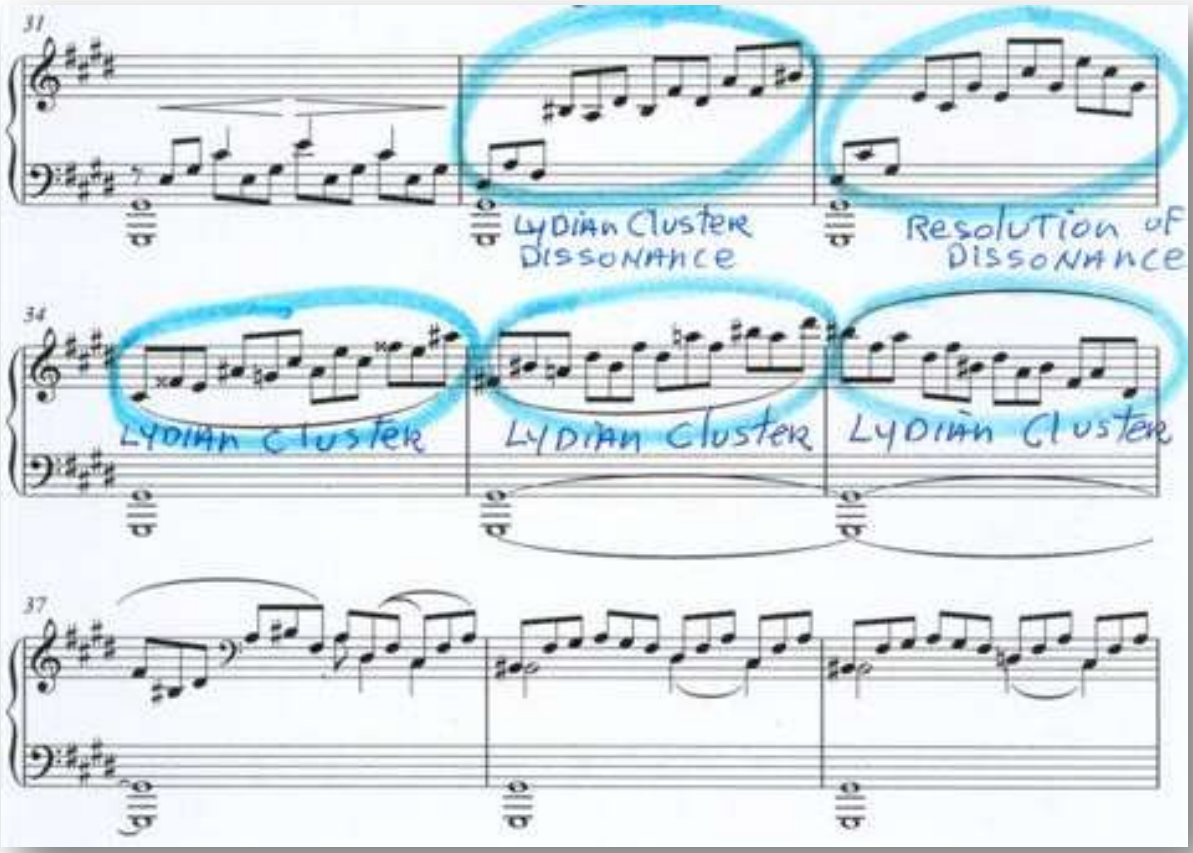
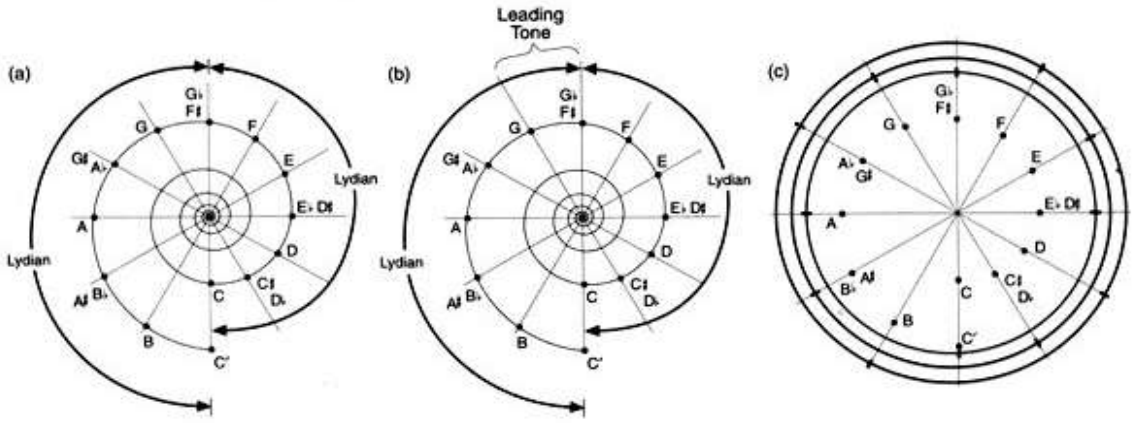


Figure 5. First movement**, *Sonata quasi una fantasia, Opus 27, No. 2.*** The two series of Lydian clusters, measures 32 to 36, represent the memory function for the whole movement. Here, with the Lydian cluster of measure 32 and its resolution in measure 33, Beethoven shows the originating line, the "***Urlinie***" that establishes the key of C-sharp minor.

This problem gets solved quite readily when you follow the creative process of Beethoven's mind. For example, on page 3 of his manuscript, Beethoven eliminated a whole series of modulations. Six measures from 32 to 36, were considered unsatisfactory and were, therefore, crossed out, because they were not suitable to form what he called his "***Urlinie***," that is, his "originating line." As a result, a whole page was added with the required corrections, and the "***Urlinie***" emerged at measure 32 as a sort of question mark, with measure 33 as the answer. (See **Appendix**) Similarly, as I will show below, in the third movement, Beethoven repeated the same process of adding a second sheet of corrections (page 28) for the purpose of clarifying the great density of Lydian singularities near the end of the third movement.

I cannot emphasize enough the importance of these Lydian wave clusters, because the entire sonata is held together by their counterpoint. They are the architectonic components of the entire composition. This was the most revolutionary aspect of Beethoven counterpoint coming out of Bach, Haydn, and Mozart; and this is what sealed their common ***motivführung*** affinity.



"The Lydian interval is the only interval which cannot be generated by the principle of inversion of complementary intervals within any given key. This interval uniquely divides the octave exactly in half: that is, the interval from the tonic to the Lydian tone is the same amount of change as the interval from the Lydian tone to the octave. In the key of C major/minor, for example, this corresponds to the interval between C and F♯, which also corresponds to the physical singularity of the register breaks in the soprano and tenor singing voice **[Figure 6(a)]**.

"Divide an octave in half. This generates a Lydian interval. In the major/minor mode, the Lydian interval is a dissonance with respect to any given key. For example, in the key of C major/minor, the interval C-F♯ is such a dissonance. Yet this Lydian interval has the unique property of being a pathway from one key to the next, by way of the leading tone of that next key (F♯-G in the key of G major/G minor) [**Figure 6(b)**]. It is a type of singularity to be resolved through the development of the composition. "When the octave is divided in half again, two Lydian intervals are created. There are only three such combinations possible in the well-tempered system **[Figure 6(c)]**. "

"**Figure 6. (a)** The "Lydian" interval. **(b)** Leading tone F# - G in the key of G major/G minor. **(c)** Possible Lydian intervals in the well-tempered system. "(Bruce Director, *What Mathematics Can Learn from Classical Music*, Fidelio Magazine, Winter 1994.)

The way to look at those Lydian clusters of minor thirds, therefore, is to look at them as Plato looked at generating agapic mean proportionality; that is to say, in a manner such that one cannot be generated without the support of another: the first creates a second, and the second a third, which, in turn, generated the first. Thus, all three clusters of F, F# and G are so intertwined among each other that they are all means of one another, and, therefore, they all form a harmonic unity (Plato, ***Timaeus***, 32). I bring to your attention, here, the fact that Beethoven has used only two of those three well-tempered Lydian elliptical wave functions for this sonata, the F# and G Lydian clusters. Both clusters determine the two keys signatures of the sonata, C# and D, respectively. The reason for that choice is simple.

The choice of conceptual development in a composition is always based on the quality of the human emotion that the composer wishes to evoke. This determines which key signature he chooses for his composition. The emotion will determine the key, and the key will be determined from one of the three Lydian clusters. The dominant and the sub-dominant of that key will be determined by the other two Lydian clusters. In that sense, it is the choice of Lydian clusters which determines the mean proportionality of the whole composition. This implies that you cannot transpose a classical composition into any other key, because there is only one right key for an appropriate emotion. Here, Beethoven's choice of C-sharp minor, for expressing the meditative lancinating throes of his yearning, is the only key which can replicate the composer's intention. There is no other. Moreover, the dissonant lamenting quality of emotion expressed by the rotating singularities of C# – D and C – C# demonstrates that it is the two generating Lydian clusters of F# and G which determine the key signatures of the entire sonata. This also tells you that it is those singularities which are the anomalies you want to look for throughout the composition if you wish to understand the creative process of the piece. (See **Figure 4**)

3. THE GOVERNING MORAL PRINCIPLE OF MUSIC

As Beethoven wrote to his dearest friend Carl Amanda, on July 1, 1801: "A sad resignation must be my refuge, although, indeed, I am resolved to rise above every obstacle." (Beethoven letter to Amanda, July 1, 1801 in Op. Cit, p. 282.) This, without a doubt, was the time when Beethoven had no choice but to settle his account with the domain of sense perception and consecrate the rest of his life to the domain of sublime universal ideas of principle. It was not an easy decision to make. As his so-called ***Heiligenstadt Testament*** of 1802, attests, the year when he composed this ***Sonata in C-sharp minor*** was THE turning point in his life, because he knew he was becoming completely deaf. Again, the singularity, better still the paradox, was the absolute tension between something that was inevitable and the relentless urge to obey his destiny. As he wrote in his testament:

> "But, what a humiliation for me when someone standing next to me heard a flute in the distance and I heard nothing, or someone heard a shepherd singing and again, I heard nothing. Such incidents drove me almost to despair, a little more of that and I would have ended my life – it was only my art that held me back. Ah, it seemed to me impossible to leave the world until I had brought forth all that I felt was within me. So, I endured this wretched existence […] Divine One, thou seest my inmost soul, thou knowest that therein dwells the love of mankind and the desire to do good. – Oh fellow men, when at some point you read this, consider that you have done me an injustice; someone who has had misfortune may console himself to find a similar case to this, who despite all the limitations of Nature, nevertheless, did everything within his power to become accepted among worthy artists and men." (***Thayer's Life of BEETHOVEN***, revised and edited by Elliot Forbes, Princeton University Press, Princeton New Jersey, 1973, p. 305)

This was the principle, he expressed in his last will and testament. Although the letter was written to his two brothers, it was never delivered to them. In reality, he had written it for future generations. In that sense, however painful it must have been for him to accept his infirmity, his resignation before the

fact that he would not become a virtuoso, or a famous conductor might have been a God sent gift to humanity. As he wrote: "Necessity compels him *owing to others* to think and to *work for others*." (Beethoven letter to Goethe, February 8, 1823) This led Beethoven's biographer, Alexander Wheelock Thayer, to raise the terrible question: "Who can say that the world has not been a gainer by the misfortune which stirred the profoundest depths of his being and compelled the concentration of all his powers into one direction?" (***Thayer's Life of BEETHOVEN***, p. 282.) These are the historically specific conditions under which it can be said with a fair amount of certainty, that during the short period of 1800-02, Beethoven made one of the greatest breakthroughs in Classical artistic composition by writing the ***Sonata in C-sharp minor***.

I was reminded by Ernie Shapiro, recently, about Lyn's Memorandum on ***Truth is Beauty, and Beauty is Truth: Understanding the Science of Music, September 1986?…*** and about the importance of "the double-connectedness of the classical musical manifold" that Lyn referenced in that piece. This may require a more extensive study at some later point, but let me just remind people of the importance of what Lyn wrote then and emphasize a few points. Lyn wrote:

> "The well-tempered system of twenty-four combined major and minor keys, is defined by the interaction of two sets of considerations. The first consideration, is the defining of the scale itself; this is done from the standpoint of physics as such. The second consideration, is the fact that the properly trained singing voice, in moving upward from Middle-C, must change singing-voice register, in passing through F# from the sub-dominant interval of F, to the dominant interval of G.
>
> "Since the natural points of passing from one register to another are essentially fixed in terms of the absolute values of the well-tempered scale, the human activity of music differs in two fundamental respects from an instrumental music not subordinated to human considerations.
>
> "Most simply grasped, of these two distinctions, is the fact that every key has a distinctive "color," differing from that of each of the other keys." (Lyndon LaRouche, ***Truth is Beauty, Beauty is Truth: Understanding the Science of Music***, Internal Memorandum, September, 9, 1986.)

Such a double-connectedness is best expressed by a Riemann-Abelian function that reflects a higher manifold made up of two opposing developments, continuity and discontinuity, such as the two distinctions between living and non-living processes, and between living processes and cognitive processes. Their common characteristic in mood is Lydian and their common geometry of position is the self-generating torus. As Riemann showed, the special relationships of causality between things in the universe is not based on size, but, rather, on the premise that bodies do not exist independently of position, providing that their measure of curvature has well ordered and definite surface directions. In other words, it is not what they are that counts, but how they affect others with respect to their position; therefore as a consequence, their measure of change is nowhere accessible to the mathematics of size. Lyn said the same thing recently, but in a different way. He said:

> "We no longer say, "We have three categories," and someone says, "What is the source of the three categories?" You're going to say, three different elements, three different universes, bumping into each other? Is there a common universe? If it is, there's a common principle: that

common principle, which is manifest by man's creative power, as superior to living processes in general, as superior to non-living processes in general, demonstrates that the three aspects are ***phases of a single creative process*.** And, experience has shown, that mankind's creative powers, when appropriately expressed, combine all three." (Lyndon LaRouche, NEC Meeting, Tuesday, May 3, 2011.)

For example, when the voice register shift is transposed onto the pianoforte, the point that Lyn is making becomes more obvious, but such a transposition is impossible to do on a modern Steinway. In other words, what Beethoven is experimenting with the pianoforte is that it must sing like a human voice in a manner such that the human voice sings like the human mind. So, how do you make a modern piano, or even a digital keyboard for that matter, respond to such a prerequisite function from a position twice remote, such as expressed by the differences among Noosphere, Biosphere, and Lithosphere? That is the distinction that we have to work with in terms of identifying properly such an axiomatic measure of change in the universal creative process of Beethoven. Morality is the only guide to the creative principle.

The key to understanding Lyn's double-connectedness between the well-tempered harmonics and the singing human voice is to understand music from that higher moral standpoint of a Riemann-Abelian elliptic wave function that reflects the double singularity function relating the nonliving to the living and the living to the cognitive. All three phase spaces are generated by the same creative principle. This means that what Beethoven is doing in his ***Sonata in C-sharp minor***, is to show how the non-living piano must express emotions of the human mind via the human voice, as opposed to expressing mindless and immoral sense perception effects of moonbeams, which is, unfortunately, what dominates and controls the musical field of today. That is what makes music a moral issue.

However, there is an added complication. Most people have a wrong sense of what change is, because they think of change as movement in space. That is the wrong way to look at change. You don't look at change as the motion of a man walking around the block, or of a woman changing the baby's diaper. Change means transformation, that is, the transformation of something that becomes something completely different, like a change to a higher species. From that vantage point, change represents a fundamental creative transformation in which your identity has been completely modified to the point you are no longer recognizable; a change about which your schooldays friends would say about you: "That's not him! I know him too well; that can't be him!"

When this happens to an entire society, such an axiomatic change implies that the laws governing that society are no longer valid. We are now in such a world strategic situation. When change comes in such manner that nothing is the same anymore, then, you get a mass strike phenomenon and a revolution. That's what change is about, ontologically speaking, and that is the source of every other form of change or movement in the universe. That is the form of change that Beethoven introduced with the ***Sonata in C-sharp minor***. You can only begin to understand this more profoundly when you think of music in terms of the Lydian modality of change as Lyn has emphasized about the division of the octave. In 1987, Lyn emphatically stated:

> "Hence, again, I state, that all apparent divisions of the octave, excepting those defined as fundamental from a Kepler-Riemann standpoint, must be examined by the musician from the added standpoint of vocal polyphony as such. The coherent conjuncture of precisely-determined voice registration with the Kepler-Gauss-Riemann harmonics, represents a set of quasi-

axiomatics." (Lyndon LaRouche, Message to NEC and MUSIC COMMITTEE, Wiesbaden, 8/12/87.)

The pedagogical point that Lyn makes in the case of teaching music is that you cannot divide the octave liberally into three major thirds, for example, but that you can and have to morally divide it into four minor thirds. Why is the first one wrong and the second one right? Because it is only those Lydian divisions which can express an agapic emotion as opposed to an erotic effect. The first division gives you pleasure, the second one gives you pain. This is the reason why the Lydian question becomes paradigmatic of change in the universe. It is the emotional mood of agape relating to pain by means of the sublime which determines change in the universe as a whole. As Lyn put it:

> "Thus, from this we should situate within the principles of vocal polyphony, the notion that the Lydian mode can be employed to address more directly the agapic mood. The question is, is it paradigmatic of modes of the same general quality? Can the Lydian mode's singularities oblige us to encompass the full potentials of vocal polyphony, with included emphasis on the problem of intervals among the absolute tone-values of voice register passage respecting all species of singing voice? If so, then Beethoven, whose moral view of music was powerfully centered in the notion of the agapic, would have viewed the Lydian mode's development potentials as paradigmatic." (LaRouche, Idem.)

There you have it. This is the heart of the matter of music, Classical artistic composition in general, as well as science. Art, like science, is a moral issue, and, therefore, this is the underlying axiomatic modality from which you can say with absolute confidence that "***Truth is Beauty and Beauty is Truth***." However, Lyn went one step further by identifying a higher efficient interval of action. What he identified as "***an interval of intervals***," is the primary expression of axiomatic anti-entropic change which is the cause of causality. In an interview that he gave from jail in November of 1993, Lyn reported:

> "You have to see that causality is determined by this type of change. This type of change is ontologically primary. Now, for example in music, which a lot of people are having good fun with, now at least in the music work on conceptualizing the interval between intervals, where the interval is considered the primary sensory phenomenon – the interval as located in the domain – in its ***Analysis Situs*** – upward and downward. So, it's not a physical interval because upward and downward are two different intervals, even though they are the same distance, so to speak, they have different intervals. So, the interval between intervals which takes you completely above the sensory domain – forget the overtones have nothing to do with music, as such, they are simply an imperfection of music, if you focus on them and try to work with them. So, this type of change – and as I've stressed – there's another aspect to this, if we can map, using this interval between intervals, as a root of counterpoint, and we can map the ***motivführung*** elaboration, implicitly. The best way to map is to take a number of major compositions, which are ***motivführung*** compositions and map those, and do it for a number of different kinds of compositions, and now you've got a sense of what it is to map a composition from the ***motivführung*** standpoint. And you'll see those that do and don't map." (Lyndon LaRouche, DOCS: [61] 93393PR_001.DOC-INTERVIEW_WITH-LHL_PHIL_KHUSRO; 1.)

This palimpsest mapping of compositions is precisely how you change the past from the future. What Lyn identified, with the "mapping of a composition from the ***motivführung*** standpoint," is not only

the ability to establish the physical musical intervals that Beethoven's ***Sonata in C-sharp minor*** represented with respect to Mozart's ***Don Giovanni***, but most emphatically, the underlying unity of composition as the epistemological interval of intense mental charge that both composers are building from, in preparation for some future explosion. Therefore, the ***ostinato triplet lancinations*** that I have identified above must be understood as such measures of tension that both Mozart and Beethoven stored up inside of their compositions for the purpose of solving a real existential problem, a real life and death problem. The ending suggests that something ominous is to be expected; but what? One thing is for sure: it is not what you think it is.

4. A BRIEF IRONICAL INTERVAL.

After having brought the listener to the threshold of the most profound and darkest emotions of the human soul in the key of C-sharp minor, which is the most suitable key for that purpose, Beethoven opened the second movement in D-flat major, as if he were opening the window of your mind to a heavenly breath of fresh air, a brief ***Allegretto e trio*** relief, a joyous moment in which the main motif is the inversion of the scale of C-sharp minor repeated nonstop within the very short period of two minutes. But, this short moment is deceptive, because it is not an actually a Prandtl-Meyer expansion flow, a shock wave measure. What is Beethoven's angle, here? There is no real melody, only an angular pause in the flow that is preparing the listener to take on the extraordinary challenge of the higher manifold of the jubilant third movement. I like to look at it as a sweet taste of mental honey that one might enjoy tasting between two clashing dishes during a feast in which old friends share their "***agapes***."

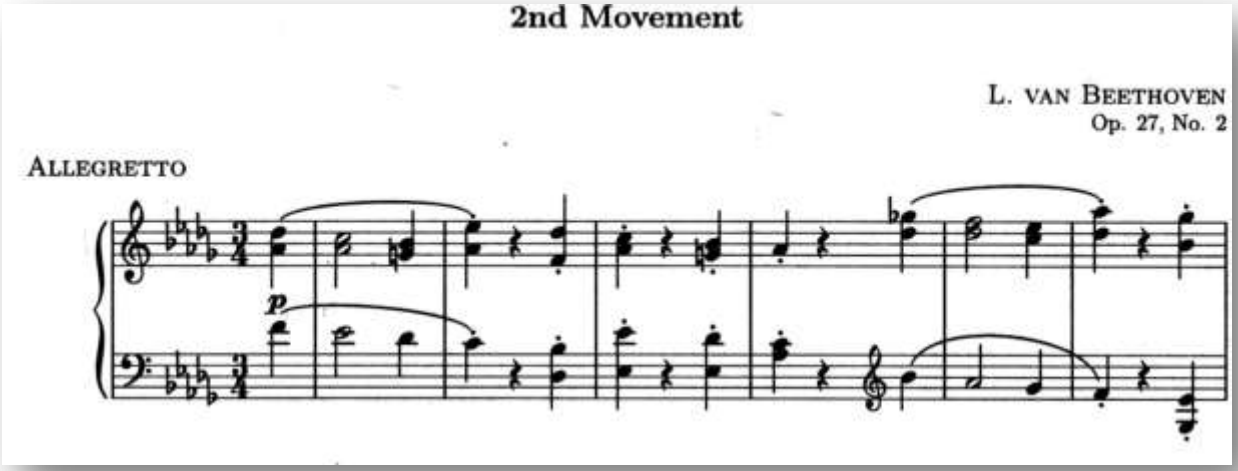


Figure 7. Opening measures of the second movement.

Technically speaking, the second movement is not really a sonata movement in any traditional sense of the musical form; it is the connector in D major between two C-sharp minor movements, a sort of Neapolitan ***intermezzo*** rotating around C-sharp minor by continuously resonating the inversion of the C-sharp major scale. Epistemologically speaking, this short sparkling mental pause that Beethoven introduced between the two contrasting movements is linking two extremes of the same agapic emotion. It reminds me of the diplomatic function that Charles de Gaulle had to play, in 1943, within the Mediterranean Commission for the Affairs of Italy, in advising Roosevelt with measures aimed at either "sanctioning the Italian mistake or overcoming its misery." Similarly, Beethoven had to find reconciliation with his own mental shortcomings.

5. A SHAPED CHARGE OF PASSIONATE ENTHUSIASM.

"***The tension between something that is unattainable and the yearning for its attainment is the nature of the irony that every poet hates to cherish. Why? Because, as he is navigating on an ocean without a shoreline, the poet is constantly subjected to the ebbs and flows of his sense-perceptions; so, that forces him to steer his course from the higher principle of the stars.***"

Dehors Debonneheure

The third movement of the Sonata is vigorous and most powerful, and is also in the key of C-sharp minor. In absolute contrast with the first movement, its progression is ***Presto agitato*** (Very quick and with excitement). However, by the fact that Beethoven used the same Lydian material, the first and the third movements establish the range of two emotional extremes: one of excruciating despair, and the other of enthusiastic hope. And so, here, the ***ostinato*** triplets are interlaced with quadruplets as if to confront the listener with two very strongly opposing emotions, one very soft and delicate, the other very tempestuous and earth-shaking, one very sad and filled with self-pity, the other very joyful and filled with love of mankind; both of which come together from two opposite directions, and become intertwined into a single unity of doubly-connected effect, with the mixture of the same musical material by means of which the paradox is solved.

So, the question is: How can you express both sadness and joy with exactly the same musical material? The answer is Riemannian: their metric relations must depend on their position, not their size. For instance, the same three-note-motif in the opening first movement, notably G#, C#, E, is reintroduced at the beginning of the third movement, but in a somewhat expanded form of development, and as if the note intervals of each triplet of the first movement were located in different positions. This fact, somehow, became determinant in generating the rapidly agitated intervals of the quadruplets of the third movement.

Beethoven marked the third movement as ***presto agitato***, as if to emphasize the point that a creative yearning can be transformed into a fiery Promethean force of change which is the intention of this sonata. In other words, the purpose of the subject matter is how to conquer your fear of fire. Here, Beethoven is giving a beautiful proof that the fears of mankind can be turned around, but only if you summon the enthusiastic passion of the creative potential of the species, the creative spark of Promethean fire. That idea was already in Beethoven's mind before he began to compose the first triplet of the first movement. So, look at this third movement, therefore, as a passionate agitation for the awakening of this creative potential. Look at it as Beethoven conducting epistemological warfare against his own personal shortcomings. This is the subject matter that Lyn addressed to the Basement team, on April 23rd, 2011, when he said: "***It's creativity, true creativity, of which mankind has demonstrated to be capable, which is the only thing that is more powerful than the forces that we have to deal with, in this universe [..] Mankind contains the faculty of creativity which is more powerful than the Solar System, but you've got to work at it!"*** (***Morning Briefing***, April 23, 2011.)

The process of creativity, therefore, is only momentarily touched on by way of the lamentation of the first movement, and then the situation is changed through the Neapolitan function of the second movement. Now, after a series of enthusiastic progressions and thunderous double chords, you are led, with enthusiasm, to a great cluster of Lydian singularities near the end of the third movement. Beethoven wrote the instruction of ***presto agitato*** in order to express the fiery explosion of the agapic emotion that the Lydian detonator had prepared during the first movement. Now, ask yourself: Why would the same Lydian intervals of the first movement be found, again, at precisely the location of the most significant cluster of Lydian singularities inside of the third movement? The reason is because that was, for Beethoven, the only way to take away the fear of deafness, which for him meant risking death. Face it, as loud and enthusiastically as you can: shake the rafters, bring the columns down, but raise yourself above your limitations. That's the message.

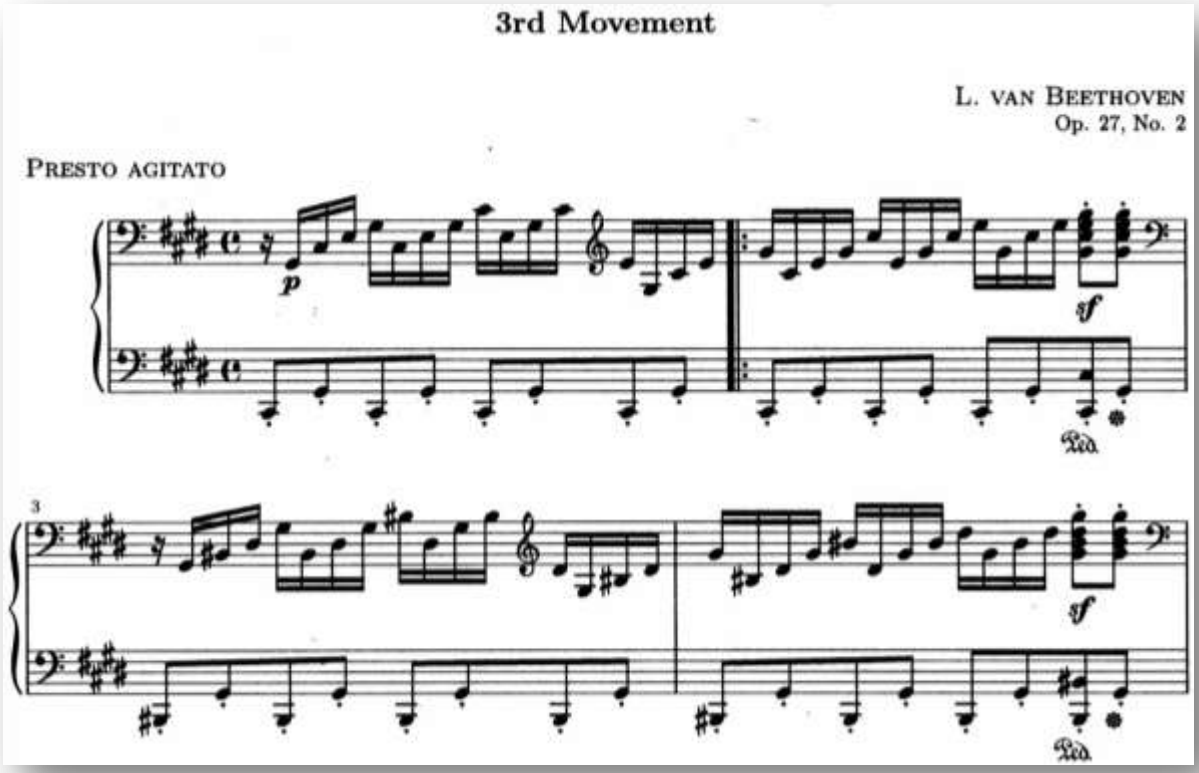


Figure 8. Opening measures of the third movement.

Study closely these opening measures (**Figure 8**.) with the following playful and well ordered singularities of measures 164-167 (**Figure 9.**) of the third movement, and you will get the point Beethoven is making. If ever there were an exemplary musical form of harmonic axiomatic change, this would be the one. If you wish to hear what a high density of singularities inside of a small moment of action sounds like, click here and scroll down to the third movement section, at measures 164-165; and then, click on the pointer. After hearing the end part of the complete reprise of the beginning main subject, you are shocked by this sudden wave of Lydian singularities, which even take the visual shape of shock waves.

Then, suddenly, the first subject of the third movement becomes completely transformed into a high density of Lydian intervals, as if it were generated by a lasing effect that brings everything into focus; that is to say, a very small angle through which must pass a very turbulent high density of singularities, in an extremely condensed manner, and within a very short period of mental action. This is what happens when your mind goes through an axiomatic change. Five points are notable to that effect.

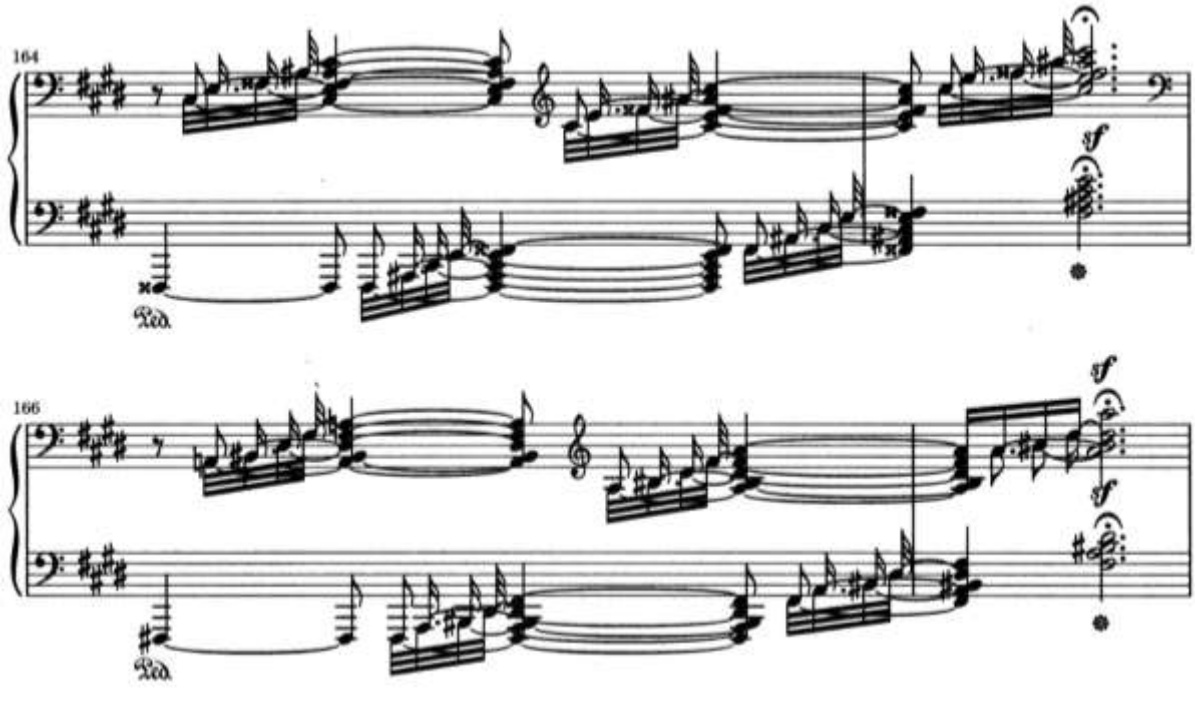


Figure 9. Measures 164-167. The great Lydian density of singularities of the third movement. Again, the two same two Lydian clusters that defined the first movement, C#, E, G, Bb (measures 164-65), and A, C, Eb, F# (measures 166-67) are defining the ordering of the third movement.

1) All of the arpeggios of **Figure 9** are clusters of minor third intervals establishing the measure of change for the Sonata as a whole. That is the ***Urlinie*** of the entire piece, the ***originating line*** that determines the key of C-sharp minor for the first and third movements, and D-flat major for the second movement. Compare those intervals with the ***Urlinie*** of the first movement. (**Figure 5**, measure 32-36.) Note the difference in their exploding configurations.

2) Each of the three primary ideas of the third movement are like separate cosmic cell clusters that are implicitly connected together by these Lydian singularities, linking the dominant G-sharp, and the sub-dominant F-sharp minor with the main key of C-sharp minor. Here, Beethoven creates a high density of Lydian singularities in order to demonstrate the actual process of an axiomatic change. Thus, as pressure builds up, the pulse of the wave becomes a shock front resulting in the conflict between a rise of the will to change and the pressure of the old system to remain the same.

3) Each octave of those Lydian clusters defines the fluid motion of an ***arpeggio*** wave which ends and begins with the shock front of the same octave marked as a chord. These octave formations, for example, C#, E, G, Bb, C# form a series of shock waves designed to express the integral of the Lydian elliptic wave-function for the entire composition. The same process applies to the Lydian clusters of A, C, Eb, F# (measures 166-67). (For their Riemannian functions of position, see my previous report in the Art section of LaRoucheNET, ***Lydian Singularities of Galactic Thinking***, 3/25/2011.)

4) Each elliptic wave is formed by two motions: one horizontal (toroidal) and the other vertical (poloidal), as if they were generating the process of a shock front within a torus! That is the analysis situs of Beethoven's counterpoint, the shaping of his mind as a memory function; whose ***Urlinie*** is also the characteristic of what generates tornadoes, volcanoes, and earthquakes. (Steam rings of Mount Etna)

5) Immediately after going through the singularity, Beethoven comes back, ironically, to the lamentation notes of the first movement and goes into an inversion. He plays the same notes in reverse, C#, A, F#, F#, G, thus, demonstrating that the crisis dominating the first movement has now been completely resolved. The listeners are, then, joyfully led into an exuberant ascending and descending arpeggio in the final measures which end with an ***allegro trionfante stretto*** and two massive lightning blasts (strikes of laughter), completing the resolution of the first movement's last measure.

Although my choice of YouTube recording for the Third Movement is not properly synchronized, I consider Evgeny Kissin the best interpretation of the last movement of Beethoven's ***Sonata Opus 27***. Note, especially, how Kissin generates the great density of singularities (from 3:40 to 3:49) as a transformation of the first subject, and then, turns the ***tum-ta-tum*** lamentations of the first movement upside down after a brief Adagio recollection, as if the composer were laughing at himself, saying: "Remember how sad I was?" The whole axiomatic transformation process unravels from 3:33 until 4:08. The rest, to the end of the piece, is just pure Lydian resolution fun.

The reader will find, in the **Appendix** below, four manuscript pages that show the footprints of Beethoven's creative process; that is to say, the errors and corrections that he left behind as a memento of the fight he had to wage in order to make his discovery of principle. In this respect, Beethoven made two major corrections precisely at the location of the Lydian singularities that I have identified. These are not mere coincidences. He added two pages of corrections to the original manuscript; one near the end of the first movement (page 4) and, a second one near the end of the third movement (page 28), probably in order to make sure that the publisher would get it right.

To emphasize this process, again, in a different way: each Lydian interval of a minor third gets configured as a potential "axiom buster" into a octave cluster of four dissonant intervals among C – Eb – F# – A – C (horizontally), and each octave is changed from the field into the shock front of a double elliptical cluster with eight of the same intervals (vertically). The interactions of each double elliptical cluster of eight intervals is then repeated three times. This should suffice to demonstrate the nature of the power packed axiomatic Lydian measure of change that Beethoven used to express his creative process of composition. It is these organized "Lydian intervals" shaped by the field as a whole which determine everything in the composition, not the notes. This is what Lyn refers to as "playing between the notes."

Finally, one last anomaly remains to be looked at, briefly. The components of Beethoven's lasing effects appear to be conical functions acting on elliptic functions for which all of the intervals have equivalent values. This means that these values must be changed by some intense conical measure either from inside of the closed helical structure of the process, or from outside of it. This question remains unresolved, at this time. However this lasing process is activated, it seems that it can only be done through an increasing density of singularities within a small area of action. And this can only be acquired by increasing the moral tension for truthfulness.

Compare the same process with what is going on inside of your mind. Ask yourself: "How does an axiomatic singularity shape itself in the mind through the explosive social process of the history of ideas?" Think of how a new idea emerges suddenly as a yearning for something that did not exist before. This idea has existence as a potential, but it does not exist in any given form, and it has to be shaped as a charge, intentionally, for the purpose of changing the universe as a whole. The question is, therefore, how can the form of that new idea take shape, socially? How is a new idea received within the society of men? Think of the Hamiltonian idea of Glass-Steagall, for example. How do you concentrate the force of the mass strike panic of society into a small Lydian angle called Glass Steagall? What sort of spiraling conditions are required for its success? This is not a glass bottle that you toss out at sea in the hope of that someone will find it and come to your rescue.

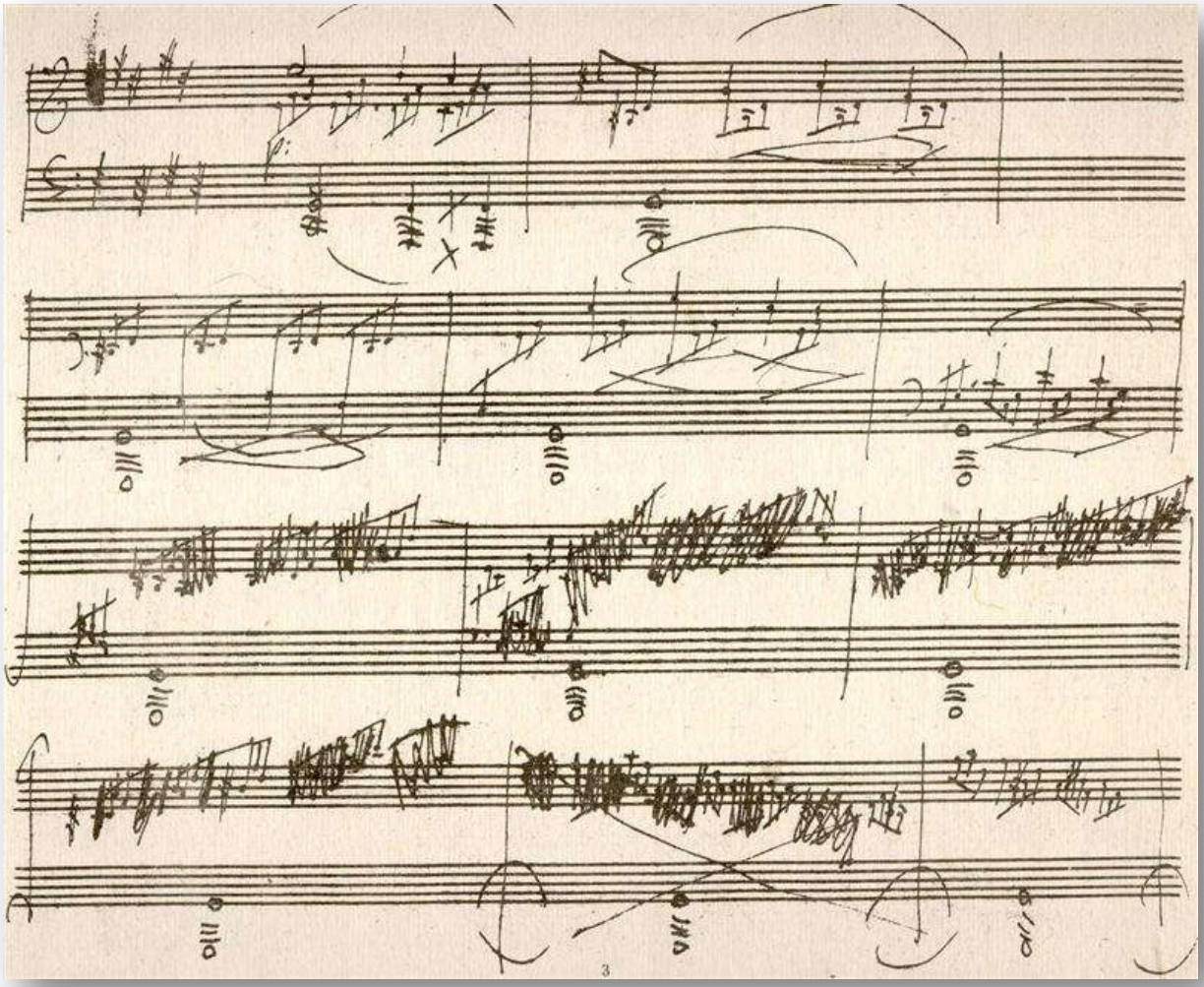
As Lyn showed, this is a process that has to be forced onto the consent of the governed, but the charge has to be shaped for that purpose. The process is not democratic, and its acceptance does not depend on its being popular. Its acceptance is a moral question. It will depend only on how many people are willing to make it a life or death question for the future of their children and grandchildren. In other words, the question is: How many people, today, need to discover that this Beethoven idea is a required necessity for their survival?

APPENDIX

LUDWIG VAN BEETHOVEN

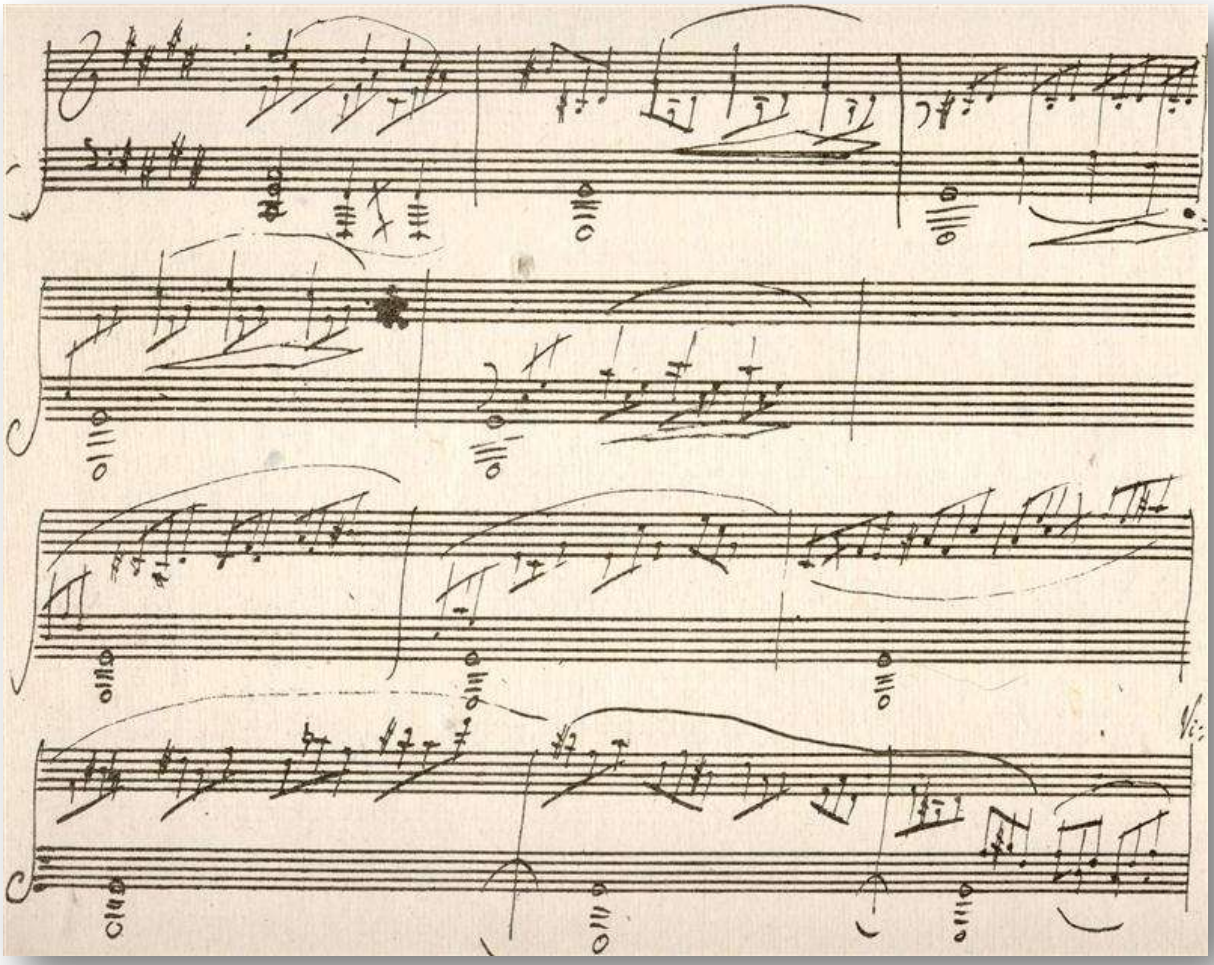
Sonata Op. 27, No. 2 Manuscripts.

[Heinrich Schenker, ***Ludwig Van Beethoven, Sonata Op. 27, NO. 2*** (Popularly known as "Moonlight Sonata") with three manuscript notes of the Master, Universal-Edition A. G., Vienna and New York, 1921, pages 3-4 and pages 27-28.]



Lydian Singularities of the First Movement

Page 3



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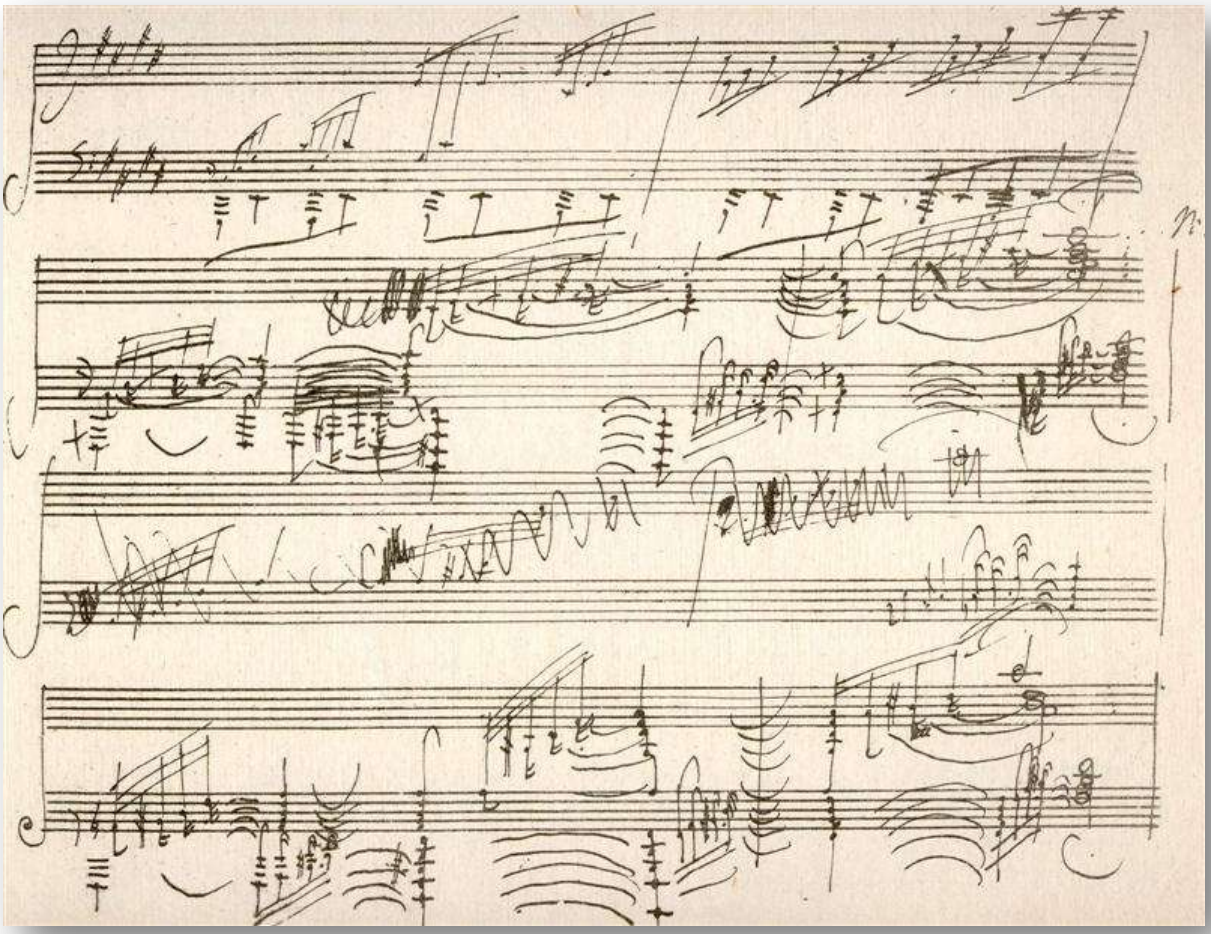
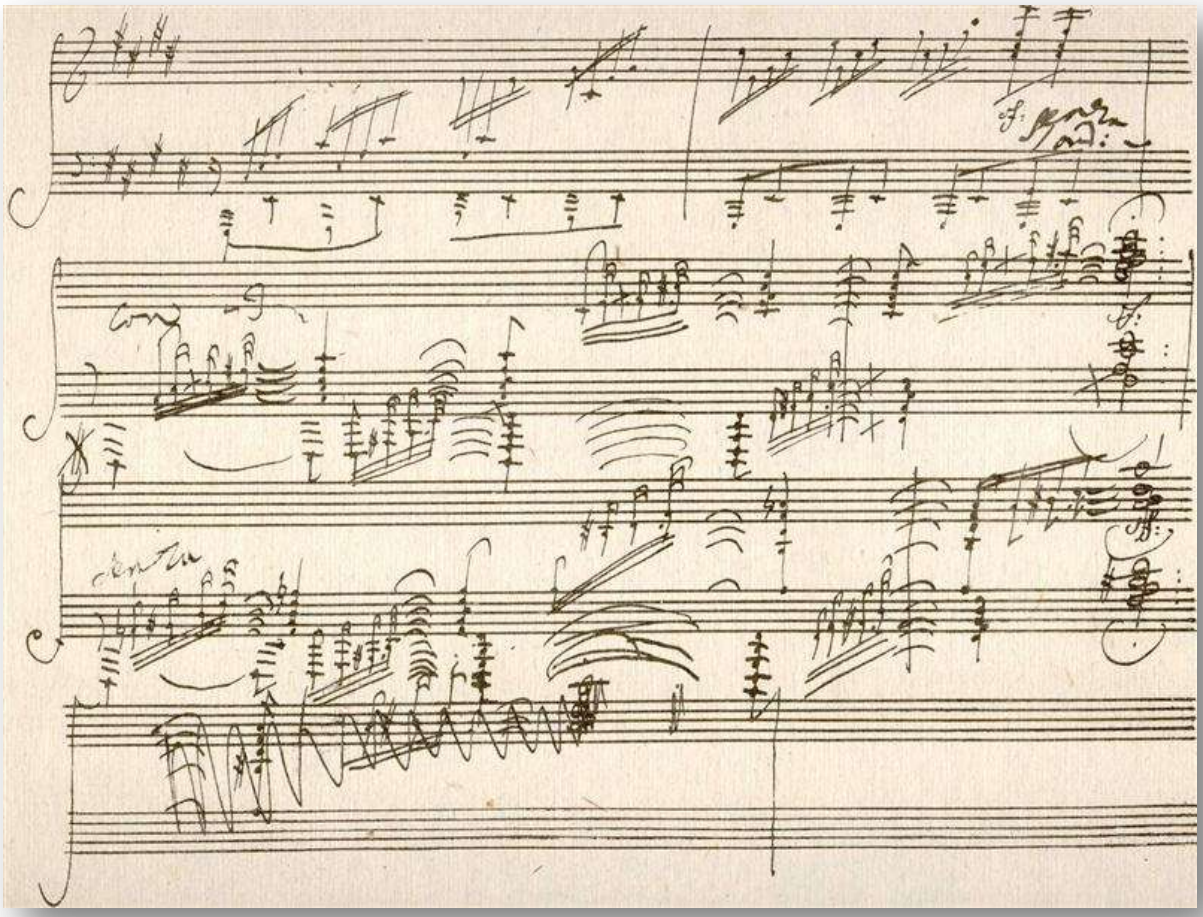


Lydian singularities of the Third Movement.

Page 27



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