A Timely Musical Discourse, or a Music Treatise from Lost Times, Part I

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Eschewing some serious scholarly reservations, I wish to present a significant portion of a heretofore unknown treatise that concerns the nature of musical time. It takes the form of a dialogue between two musicians, a teacher and his student. The characters might represent actual musicians, or perhaps they personify two entirely contrasting musical cultures. In all likelihood, they are both fictional. Yet if we take their discussion as an allegorical representation of a fundamental rift in the understanding of musical time, then the characters seem to function as every–musicians, who offer a variety of arguments in support of fundamentally oppositional stances. Their wandering discussion, as is typical of the Socratic style, nevertheless revolves around a central thesis. What quickly comes to the fore is the teacher's assertion that objectivist ideals regarding temporality fail to reflect complex performance practices from past Western traditions.

I regret to admit that the full origins of this treatise confound the present scholar, which is one reason why I cannot reveal the entirety of the document at the present juncture. The date and location of its creation, along with issues of provenance, are inconclusive. Yet the theories juxtaposed within the work suggest that it may have been drafted either many centuries ago, or as recently at the previous fortnight. It is an amalgamation of historical thoughts—a pastiche—one not entirely balanced or comprehensive, which splices theories from many different places and eras. If we consider the text to be "authored" and not simply compiled, then the author might have conceived the work over many years of obsessive study, or perhaps it simply sprung to him, Athena–like, from a very bad headache into reality. Again, since we can only speculate upon the work's originating circumstances, it is best not to mythologize such mysteries.

Although the treatise's origins remain obscured, I took pains to fully annotate this work with all of the appropriate references to passages that are either paraphrased or restated outright from other historical texts. I added quotation marks to those passages repeated verbatim or near–verbatim from past documents. It is my sincere hope that any concerns over the treatise's provenance will be overlooked once readers consider the valid arguments and neglected evidence on which the work is founded. Indeed, despite any perceived failings, this treatise does much to reintroduce some historical theories and practices that are seldom addressed by today's very modern, yet anachronistically named "classical music" culture. *Vale, fruere, et indulge.*

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Master Alejandro: Good Doctor, I wish to know the nature of musical time, specifically how I should exactly determine all kinds of tempo intended by composers both alive and departed.

Doctor Bueno: Such a simple question, and yet so complicated an answer. I know you to be a faithful student, and your intention is an honest and sincere one. But by the terms of your question, I can tell your mind is riddled with preconceptions that color your view not only of musical time, but of musicality itself. Anyone truly committed to understanding musical temporality must tackle such false premises, and challenge a mind filled with mere opinions now taken to be immutable truths. Are you willing to cast out those unquestioned falsities about time and tempo that you now hold in high esteem?

MA: I think so, Good Doctor, yet I cannot promise that I will quickly accept notions the likes of which I have never heard before. How can I promise not to fight ideas that have yet to invade my mind? What prejudices are barricaded within my head that have so easily betrayed my noble desire for understanding?

DB: Your uncertainty is understandable, since it is difficult to dismiss an education that your educators have always claimed to be absolutely true. But often we must challenge truths merely told to us, truths that we have not earned but have nevertheless paid dearly for. I have noticed your progress, and you are now at the age to unlearn the elementary times of music; they are childish notions that ground your most basic musical beliefs. To prove this false grounding, please tell me, what is the definition of time in music and how do we obtain it?

MA: I readily know the answer, for "Time in music, is expressed by steady, even counts, or beats . . . We reckon time by the clock in seconds and minutes, and the metronome ticks in exactly the same way as the clock . . . Each tick of the clock means one second—each beat of the metronome means one quarter."[1]

DB: You see! Such a rapid response, and so off the true mark! Certainly you must recognize, even without a lesson, that there is not one time, but many in our lives. Certain times can be told by clocks and metronomes, others cannot. The clock may tell you the time for supper, but only your belly can tell you it's time to eat.

We often mistake one time for another, especially since the Machine Age. Only "modern life is run on a timetable. The stop watch is perhaps the most typical modern invention, because it symbolizes the infinite subdivision of time that has come in since the industrial revolution . . . Really precise time telling has not been needed in the world until within a few years . . . It would be hard to run the Twentieth Century on a sun dial."[2] So tell me, would you also measure music to a gnomon?

MA: In all honesty, I don't know how to tell the time of day by shadows at all. And I don't see how a sundial could explain the musical beat when I can't even judge what minute it is with that reference.

DB: But you too easily assume that a clock has always told the musical beat! A clock is a machine just as conceptually distant from historical tempo as the sundial. But today we believe in the clock and the specific time it tells. And through our education we have come to think and act in terms of the clock and its beat—in daily life and by extension in music performance.

Time is in many ways a secular religion; yet it is a religion that offers its believers no conscious initiation, no clear rite of passage ritual, and no explicit tenets. We are born into our culture's "time," unconsciously and unquestioningly accepting of it. Time–belief demands no conversion; to those living within its constructs, "time" is a worldview with little competition.[3]

Modern culture has moved away from the sundial; we no longer read it, thus we no longer believe in its time. We believe in a clock time divorced from the sun—accompanied by the artificial time zones and daylight saving time our clocks validate. Western culture's faith in musical tempo was once placed elsewhere, away from our clocks, metronomes, and the beats–per–minutes they tell.

You see, before society's faith rested in clocks, the time or *tempo* in music was once "rather loosely defined as the speed of the music, but it ought rather to be regarded as the speed of the rhythm."[4] For once *it was always true that "the rhythm decided the time* [tempo], *and not the time which prescribed the rhythm*."[5] Indeed, for centuries "time in music was concerned, either with respect to the general movement of an air, and in this sense it was said to be swift or slow: or it was considered with respect to the aliquot parts of every bar; these parts are marked by motions of the hand or foot, and in a

particular sense are called *times* . . . Now, to render this equality sensible, every bar was struck, and every time distinguished," not by a metronome click, but "by a motion of the hand or foot. By these motions the different values of notes were exactly regulated," again, not by invariable clockwork, but "according to the genius and character of the bar."[6] Time was rhythm, and rhythm was interpreted through physical motion and inner sensation. No clocks, metronomes, or sundials needed.

MA: But I was taught by eminent scholars and musicians that tempo is judged by the basic pulse beat, as reflected in the metronome. This makes all the more sense given that "ours is a mathematically counting notation [and] the quarter note [is] our motor unit."[7] Your reference to tempo is something much less . . . absolute. How can such whimsical actions create the right tempo when compared to the certainty of math and machines?

DB: These anti–mechanistic ideas, neglected by many in our present age, are vitally important to your inquiry. The meaning of tempo is but the beginning. Tell me, young music master, why again do you seek to know, in your words, the nature of musical time?

MA: The reasons are many, good teacher. In order to perform the true, exact tempos of composers, for each and every one of their compositions, so that I may perform their music as these composers intended. This understanding will allow me to perform with authenticity and accuracy and become a faithful servant to the music, which is the duty of all good musicians.

DB: It is just as I thought. Beyond the simplistic and simplifying notion of "tempo," you presume much about the role of performers and the intentions of composers—As with many trained in your time, you search for the fool's gold of exact tempos for exacting purposes, while ignoring the non–mechanical answers that appear all around you!

MA: If I were a more confident musician, and a less respectful pupil, I would be offended by your remarks. How is the desire for exact tempos like fool's gold?

DB: Your search for exactitude and precision merely reflects the tools presently available to you. The more precise you want to be, the more you seek out machines that redefine, with ever more exacting standards, the rules of time. Temporal precision is thus an endless, all–consuming goal; you never find its end, because machines can always be more precise: It begins with a beat per hour, then per minute, per second, per millisecond. First a simple pendulum, then a clockwork metronome, a quartz beat box, a digitized click track. And all the while, as you search for a never–to–be–found answer, you yourself will keep changing to meet the standards imposed upon you by the latest, most–precise machine at your disposal. Thereafter you begin to lose sense of the real truth: The past music and musicians you so cherish cared not for these machines, or the precision beat you wish to mimic. Where past music is concerned, there are more vital times to be sought.

MA: I fear there is much, good doctor, that you will need to repeat, for at the moment, you offer me The Riddle of the Sphinx—I suspect you will next tell me meter can hardly compare "to anything simpler than the movements which are natural to us" such as "each step taken in walking. [As] we can walk faster or slower, the meter may be faster or slower."[8] Or perhaps that "due to a person's melancholy temperament there would be no harm for him to play a piece moderately fast, but still well; while a more volatile person played the same work with greater liveliness."[9] I cannot understand how this whimsy could stand. And even if I accept that exactitude is fool's gold of time, surely, composers wanted their music played exactly!

DB: Composers, the ones I have spent my life with, want their music played well, and to good effect. A metronomically exact tempo that sacrifices everything in its wake leaves little to be admired. "That the composer should say to the player that here and here, and thus and thus shall he make these expressive alterations of speed, is impossible. Rarely does he attempt to do so. Here and there he will write ritardando or accelerando, but precisely how much slower or faster, or exactly at what instant these changes begin, cannot be indicated. In the wide spaces of the piece, however, no directions are given."[10]

MA: It is true that for historical music, the page looks rather bare. Does this mean that we as performers ought to imagine what is not there? That seems to go against the composer's specified wishes.

DB: Not against the composer's wishes, but rather in keeping with the composer's unspoken traditions. You see, "the composer implicitly says to the player: In the matter of tempo I put myself in your hands, your musicianship is the arbiter; if my music sounds dull and monotonous you must take a part or the whole of the blame, if otherwise a goodly share of the honor shall be yours."[11] Besides composers well knew that "time signatures indicate the movement of pieces only very imperfectly" and while musicians "all use the same terminology, they do not all understand tempo words in the same way."[12]

MA: But we certainly do understand tempo words and time signatures with aid of a metronome! After all, it is the surest way to "indicate the precise degree of speed or movement, or, in other words, the exact *time* in which any musical composition is meant to be performed."[13] Metronome numbers are placed "at the head of a composition for exactly indicating its tempo."[14]

DB: Although the very notion of tempo is not stable across centuries, your belief in a metronomic truth to tempo steadily clicks on! Perhaps your former teachers failed to mention that a metronome "reduces to mere mechanics what formerly rested wholly on the performer's feeling."[15] And that in the end "tempo is an individual matter; it must be felt, or it will not convince. I, personally, would ten times rather listen to a wrong tempo with a conviction [in] back of it, however erroneous it might be, than to a right tempo dictated by a machine or, for that matter, by any influence extraneous to the player's mind."[16]

MA: But "the invention of the metronome marked an important step in the evolution of musical notation." Surely musical tempo always equates to the metronome's beats–per–minute whether the machine is there or not? A metronome, after all, "is valuable as an expression of the composer's exact intentions regarding the rate at which his works should be performed."[17]

It is "an important element not only in determining the tempo that a certain composition shall be played at, but in aiding the student in technical exercises to maintain a precision of rhythm in any tempo from largo to presto."[18]

DB: How certain you are, reciting the lessons most recently read, as if no meaningful times could exist prior to your beloved technology. So many forgotten musicians once considered "Maelzel's scale to be needlessly and arbitrarily complicated. The value of the machine is exaggerated, for no living performer could execute a piece in unvaried time throughout, and no student could practice under the tyranny of its beat." It was divorced from true musical practices and composer intentions, because "conductors of music, nay, composers themselves, will give the same piece slightly slower or quicker on different occasions, according to the circumstances of performance." [19] Indeed, "the musical world once knew that marking time by a metronome is but a slight guide for performers and conductors. Its object was to show the general time of a movement, particularly at its commencement; but it was not to be followed strictly throughout."[20]

MA: I cannot believe such a different musical world once existed, with such different views towards the metronome! When did this world exist, during the rule of the Pharaohs?

DB: Your question should not be "when," but in *what kind of world* was this truth known? You must realize that all claims about absolute rules and unchanging practices in time and tempo, reiterated *ad nauseam* by conventional educators, only champion anachronisms in historical cultures and compositions. The non–sequitur is evident: composers' "exact intentions" cannot include the repeating sound of a machine that did not exist at the time they composed their works. These exact intentions you seek are not those of past composers—but of a contemporary culture that relies too heavily on the time of "soulless clockwork."[21]

Many presently mistake their own reliance on machines for a deceased composer's exact intention. These presumptions are reiterated by user manuals, publishers and promoters of technology, not the originators of music itself. Besides,

"how any musician could ever play with a metronome, passes my humble understanding. It is not only an inartistic, but a downright antiartistic instrument . . . it is easily seen that the impulse leading to the invention did not come from an artistic temperament."[22]

MA: But Good Doctor, metronomes have existed since Beethoven's time, and much has been made about the accuracy of his machine. "Opponents of the metronome will even go so far as to make the unbelievably nonsensical assertion that our modern metronome differs considerably from Beethoven's. (My answer: That could be true only if the speed of the earth's rotation had changed in the meantime.)"[23]

DB: It is true that the basis of the metronome is found in clocktime, which as a counting system has existed since the Babylonians. And "in principle, the metronome is, mathematically and astronomically, as correct as any good clock is supposed to be. The unit being always a minute. A minute being the 60th part of an hour. An hour, the 24th part of a day. A day, the 365th part of a year. And a year, the time it takes the earth to go around the sun. In practice, however, a metronome is seldom as correct as a good clock." Nevertheless, that level of accuracy is simply not necessary.[24] And why should it be otherwise? Where does an astronomer's clock, used to chart every small shift of the sun and the moon, the earth and the heavens, find time in your orchestral suite? Nowhere! Not even in Holst!

Despite the fact that "there is a great difference between one metronome and another,"[25] musical tempo cannot be found in metronome, however accurate it appears to be. To respond to your assertion, it is not the metronome that has changed so drastically, but musical culture's relationship to it! A society can change its views about the importance of clock time with stronger revolutionary force than planets can spin.

MA: But Beethoven . . . wasn't he one of the first composers to welcome Maelzel's metronome?

DB: And one of the first to denounce it, too! Ah yes, our mercurial and petulant Beethoven! He supposedly provides the only paradigm for us all; he alone bolsters the "tempo sticklers and metronomes

believers,"[26] who wish to apply their mechanical methods to our own musical age. But in Beethoven's own century, so many famed composers—greater than you or I—repeated his final words on the matter: "No metronome at all!"

Besides, "the metronome marks in Beethoven's works are not always of his own putting."[27] What concerns most people are the original marks suggested for his last symphony, provided in a letter to Moscheles, well after the composition was fully completed without aid of a metronome. "These marks had been sent by Beethoven—eight days before his death—to the Philharmonic Society of London in his great anxiety to lessen the difficulties of studying and performing his gigantic work."[28]

Few realize that the zealous attention paid to these trifles have done great injustice to Beethoven's rhythmic intentions. "At the present time the true conception of free interpretation is utterly lost," thanks in part to these metronomic sticklers.[29] Despite the slight metronomic indications handed down to us through the moneyed hands of publishers, all we definitively know is this: "For godlike as are the revelations of his soul, it was human blood that ran through the veins of [Beethoven's] body,"[30] not metronome numbers.

MA: But I read Allegro, Andante, etc.—Are these simply the work of publishers too? Aren't these words the tempo decisions of composers, and even Beethoven himself?

DB: To quote Beethoven, "*Andantino* is sometimes . . . very nearly an Allegro; on the other hand, it is often to be played *Adagio*."[31] Words afford a clue to the spirit of a composition, but they can never dictate a precise mechanical constant. Many during Beethoven's century realized "*approximative directions* of the composer are more appropriate for music's true nature than *metronomic exactitude*,"[32] and "however valuable the instrument [i.e., metronome] may be to the composer, for a safe placing of the tempo desired by him, an absolute determination of the tempo is not in accordance with the spirit of art."[33] "I am of the opinion that metronome marks go for nothing. As far as I know, all [nineteenth–century] composers retracted their metronome marks in later years."[34] In the end, "those who have a right feeling do not need it, and those who have not, will not be helped by it."[35]

MA: But words and metronome numbers often exist on the same page, giving mechanical constants to the sensation of movement. I have wondered how terms could both denote a living spirit and the numbers of clock beats. The two are as different as a bird and a fish.[36] Did Beethoven intend for us to follow the metronome and our performer's spirit at the same time?

DB: My good student, "if we consider the matter impartially and candidly, we shall acknowledge that, continuous uniformity of any motion is quite as unnatural in music as in every other department of human activity."[37] "The tempo is determined not only by the thought out of which a work of art has sprung, and by the manifold contents thereof, but also by the temporary mood of the performer; the amount of vibrating material (whether an orchestra is abundant or limited in numbers), the breadth of the room in which the tone waves are to be developed, require consideration. This probably explains (at least in part) the unanimous declaration of Czerny, Madame von Ertmann, and others [that even our] Beethoven played his compositions differently every time."[38]

It's a shame so many blindly follow the clicks of machines, and the numerical indications of ignorant publishers, those "professional metronomers," who are more concerned with sales than true artistic expression. "To hear Beethoven's Op. 27 according to the metronomic signs affixed to them leads one to wish that all pianoforte metronomers were put under the ban."[39]

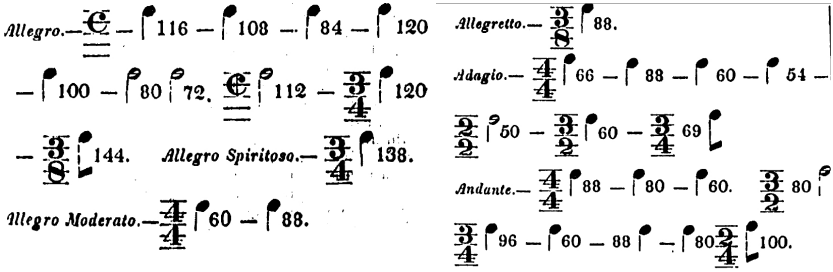
MA: So absolute tempo goes against the very meaning of musical movement?

DB: In regards to music's motion, the metronome and its chart shows much that is in error and leaves even more out. The original purpose for the machine was to show the variability, the non–normative nature, of tempo words. Throughout any given piece, every "allegro" results in a different tempo when we consider the specifics of the meter, melody, and harmony. Individual difference was the *temps du jour*. Indeed, "in order to know rightly the true meaning of the time signatures in regard to tempo, it would be necessary for all musicians to gather together and in a general concert by means of a demonstration addressed to the eyes, or rather the ears of all, to come to an agreement as to what is meant by the tempo of the major time signature, the minor time signature, and the others."[40]

MA: Would any group of musicians agree to such a convention on musical time, I mean, without their metronomes?

DB: Well, ideally, "after that meeting there would be no more ambiguity, at least not for those who had been present at the assembly, and for them the time signatures would be sure indications of the tempo of pieces. But this so useful concert being impossible to do, their meaning will always remain confused." [41]

Ultimately, the vagaries of words and time signatures require individual interpretation—a fact which we should realistically welcome, since personal choice shouldn't be considered a musical problem. Such eclectic understandings of tempo words continued well through the age of Maelzel's metronome. Look at this chart I made from the recent publications of Novello.[42] It shows that there was never an accepted, absolute range to Allegro, or Andante, or Adagio. We too easily forget how meter greatly informed the many movements of music. And by neglecting metrical sensation as the primary element of rhythm, modern musicians have unwittingly validated the supreme lie of the metronomic chart. See here: [43]



MA: What unexpected variations of tempi! Some adagios are faster than allegros. And most andantes fall alongside adagios and allegros. This is nothing like my metronome chart at all!

DB: Yes, my student, since "we recall to our minds that such terms as Adagio, Allegro, etc., are not designations of speed but, primarily, of mood." Such number–ranges provide very poor substitutes for the more vital movements of music. These living interpretations cannot be penned up so easily in numerical cages. "Then, the metronome has been 'found out' as an artistic impossibility."[44] See here an earlier study, where the words have no standard metronomic relationship to the actual pulse: [45]

Nahmen der Autoren.	Ursprüngliche Bezeichnung des Stückes.	Zeitmass nach des Autors Willen u. Angabe gemäss dem Metronom.	Im Zeitmass.
bei Paer	*Allegro moderato*	♩ = 50 Grade	C
„ Paer	*Allegro moderato*	♩ = 80 —	C
„ Mehul	*Allegro moderato*	♩ = 72 —	C
„ Mehul	*Allegro moderato*	♩ = 88 —	C
„ Clementi	*Allegro*	♩ = 54 —	C
„ Clementi	— — — —	♩ = 50 —	C
„ Cherubini	— — — —	♩ = 112 —	C
„ Cherubini	— — — —	♩ = 126 —	C
„ Cherubini	— — — —	♩ = 72 —	C
„ Mehul	— — — —	♩ = 96 —	C
„ Berton	*Allegro molto*	♩ = 176 —	C
„ Spontini	*Presto*	♩ = 72 —	C
„ Spontini	— — — —	♩ = 88 —	C
„ Beethoven	— — — —	♩ = 152 —	C
„ Beethoven	— — — —	♩ = 176 —	C
„ Beethoven	— — — —	♩ = 224 —	C
„ Clementi	— — — —	♩ = 96 —	C

MA: Even using identical time signatures and tempo words, so many composers conceived such wildly different tempi! There seems to be no exact rule to musical time at all. Even Beethoven is at odds with himself when it comes to pinning down an ideal Presto beat, marking a range between 152 and 224!

DB: Would you expect any less from the temperamental master? There were no precise rules to tempo words because clockwork values never held the exact answers to time. Beethoven's true movements were founded upon volatile, elastic tempi[46] that stretched across an entire piece. Even when Beethoven performed, which he never did with aid of a ticking metronome, "he followed entirely the inner impetus—the demand of the thing—when he resorted to free movement."[47] The reasons are obvious: Any metronome number "can refer to the first measures only, for sentiment has also its peculiar rhythm; but this cannot be entirely expressed in an initial grade."[48]

The metronomes failings are too many for us to count, even with the machine clicking away. For instance, do you find other tempo designations beyond the four basic winds[49] and their side gusts of presto and larghetto?

MA: Are there other general tempos? Looking at the machine, I had no idea.

DB: Certainly you have seen them in music publications: *Tempo di menuetto, tempo di valse, di marcia, di bravura*. They are all known *tempi*—times of music—functioning outside of the clockwork realm. These qualities of musical time hold no specific quantity. "Such indications can be found only in the feelings of the performer, or of the director; if they exist not in one of the two, the metronome is unable to supply the want; all that this can do is, mechanically to prevent any gross mistakes. As to an attempt to denote all the delicate shades of feeling, and the consequent modifications necessary to give full effect to a performance, I have found every endeavor to supply metronome values fruitless, and have desisted from the task as hopeless."[50]

To prove how impotent the metronome is in relating temporal qualities of music, please tell me the rate for a *tempo di affettuoso*?

MA: An affectionate time? Given my metronome chart, I don't know for certain.

DB: Then perhaps you are experiencing the *tempo di imbroglio* now![51] Such a shame that particular time is forgotten by so many. Haydn's music would beat afresh if it were rediscovered. And what about the multitude of French designations: *tendrement*, *vite*, and the like? The term *mouvement* itself opposes the very notion of clockwork. "I find that we confuse Time, which is Meter, with what is called Cadence or Movement. Meter defines the quantity and relative equality of beats in a measure; Cadence is properly the spirit, the soul that must be added to it."[52] The metronome tells nothing about meter, cadence, or movement! Indeed, how would you fix the beat of Rameau's "*La Boiteuse*" or "*Les Niais de Sologne*" to the clock minute?[53]

MA: I am at a loss . . .

DB: No, it is your modern–day metronome which should be lost! It only sounds a *tempo di machina*.[54] Drop it, and you will assuredly find your way. Why do you need a lifeless tool to define your own feelings, your own sense of beat? My pupil, "in truth music is little concerned with the mathematically exact division of quarters. Her object is to excite and to manifest the emotions of the heart and of the soul."[55] "Therefore the only good chronometer that it is possible to have, is an expert musician, who has a fine taste; who has well considered the music he is to execute, and knows how to beat the time. Machine for machine, it is best to keep to this."[56]

MA: So historical tempo words at best suggest emotional qualities or physical motions, which by their very nature are variable?

DB: Yes but in practice, "the true *mouvement* of a musical work . . . is beyond words. It is the ultimate perfection of music, accessible only through eminent experience and talent."[57] For example, modern "*conductors so frequently fail to find the true tempo because they are ignorant of singing,*"[58] and dancing for that matter. From numerous accounts we find that "every singer imparts, though unconsciously, the coloring of his own individual character to the dramatic character which he sustains. Thus two singers will give the same composition in a manner widely different and yet both may do justice to the composer, inasmuch as both mark the gradations of passions in his composition, faithfully and expressively, according to the nature and degree of power possessed by each."[59]

[The two characters go on to discuss the history and merits of the simple pendulum in performance practices. It is a section sizable enough to form a separate chapter. This editorial truncation does not detract from the remainder of the published excerpt.]

DB: Again your need to find a mechanical answer to historical music represents a thankless quest for less–than illuminating knowledge. "A musician, who is master of his art, has not played four measures of an air before he seized its character, and gives himself up to it: it is the pleasure of the harmony that alone directs him. Here he endeavors after strong accords, and there he passes them slightly over; that is to say, he sings or plays more or less slow from one measure to another."[60]

I wonder, given all of your pendulum evidence, have you ever used one?

MA: Well, no . . . I use my metronome.

DB: Just as the sundial is not a modern clock, the simple pendulum isn't a modern metronome! You can see and hear that fact for yourself. The pendulum stops, the metronome does not. The pendulum swings, the metronome (your modern one) does not. The pendulum is silent, your metronome—well, the only thing it does is click away until you decide to stop it. The pendulum must be viewed for reference—it is your choice to look upon it. The metronome's sound is ever–present regardless of your natural desire for varied movement. It promotes the "incessant now," not the sentimental motion of music.

If you so believe in the simple pendulum, then by all means use it! Try the plumb–bob just once. You will find that the pendulum is no metronome. Yet it is just as ineffective, "because musicians change the pulse many times, either binary or ternary, in performing a single piece of music, and by hurrying or holding back the lowering and raising of the hand according to the character and the words, or the different passions of the text which they treat, it is difficult to apply any certain rule if they do not use as many different pendulum strings as they wish to have different pulses."[61]

MA: Given that pendulums and metronomes are insufficient time indicators, do you suggest that the most useful and convenient guide for tempo, because of the ease with which it is obtained (since everyone always has it upon himself), is one's own hand, which can dictate a healthy pulse? Of course this practice supposes the musician is healthy himself.[62]

DB: Yes, even when one wishes to keep to the *tempo giusto* throughout an entire piece,[63] "it is a surprising phenomenon to observe with how much precision, by the assistance of a little habit and practice, initiates may be brought to follow and distinguish the times, with an equality so perfect, that no pendulum can vibrate more justly than the hand or foot of a good musician, and that even the internal perception of this equality is sufficient to conduct them and to answer with accuracy every purpose of sensible motion."[64] Pendulums and clockwork are needlessly precise where human motion is present.

MA: Why is there so much conflict between these two ways of understanding musical time? The tempo tools are everywhere—how can they be doing us such disservice?

DB: The answer is simple: "To be emotional in musical interpretation, yet obedient to the initial tempo and true to the metronome, means about as much as being sentimental in engineering. Mechanical execution and emotion are incompatible."[65] "I myself have never believed that my blood and a mechanical instrument go very well together."[66]

Unfortunately, "there are many persons who mistakenly think that the intention of the metronome is to have its unvarying beat followed throughout an entire piece, denying all freedom to the play of feeling."[67] "We, [should] understand [that what is meant] by 'strictness in tempo' [is] only the strictness of a steady musician, and not an invariable and absolute coincidence with the strokes of a metronome."[68]

MA: The feeling you are alluding seems exceedingly imprecise and subjective. How can such a feeling be relevant when considering the abundance of metronome numbers telling us the exact tempo?

DB: In your vain search for composer's definitive metronomic intention, you've missed the most vital intention of all, one that does not appear on the page. This intention was understood by all eminent musicians before the Machine Age, but only slightly referenced by the notes themselves: The Sensation for Musical Meter. For you see, "rhythmic *verve* is a more important factor in determining this spirit. Therefore, a vital performance does not necessitate the pushing of the speed to the metronome requirements."[69]

The feeling of rhythmic pulse rests at the heart of tempo, since it defines meter. By nature it is subjective, just as is your sense of smell or taste. Once the observation went unquestioned that "singers and instrumentalists observed the pulse instinctively, especially in connection with tunes to which we are accustomed to dance and sway."[70] So despite the metronomes clicking away in every practice room today, "please, understand that if you wish to play 'music' you must attend to this accent—the *ictus metricus*, so to speak. The bars are simply used as guides. A real musician could play without bars at all,"[71] or any metronome clicks, to achieve the sensible time of music.

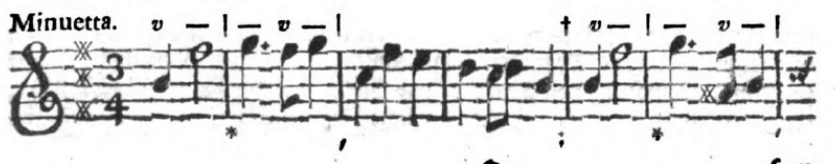
MA: You speak of an intended accent? One not found on the page?

DB: Yes. It is this lingering pulse–sense that defines the meter. "Upon these accents the spirit of music depends, because without them there can be no expression. Without them, there is no more melody

in song than in the humming of a bee."[72] So, it is true, this feeling is comparatively imprecise, especially if you think clocks tell the time of all things. Nevertheless sensation is a more significant reference for the artistic performer.

MA: But if rhythmic feeling was once standard practice as you claim, where then is this imaginary sensation, the *ictus metricus* of which you speak?

DB: Many revered musicians and theorists—and the composers you so faithfully desire to please with the use of your modern metronome—have shown how and where this sensation exists (or where it ought to) in the course of music performance. Just because something is invisible, doesn't mean it is imaginary. Look here at a depiction by my friend Mattheson, showing the varied time—the accent–sense—of a typical minuet:[73]



[In the manuscript, a discussion now ensues about certain lessons for cultivating the sense of meter alluded to above. I omit this section presently, yet it will appear in its entirety elsewhere, pending the necessary rigors of peer review.]

MA: These are intriguing examples in support of a link between poetic rhythm and music movement. Extending this line of reasoning, some have spoken of music as rhetoric, although I confess not to know the full extent of this connection.

DB: It is truer, and far more fitting to link music to rhetorics than to mechanics. "Although a poet writes his monologue or dialogue in a regular, progressive rhythm, the reciter must, none the less, observe certain divisions and pauses in order to bring out the sense, even where the poet could not indicate them by punctuation; and this style of declamation is equally applicable to music, and is modified only by the number of participants in the execution of the given work."[74] It would do us all well to regain and relate this knowledge. For at the present we speak of phrases and periods in music, forming expositions, developments, recapitulations and the like, yet we learn

to parce these elements out at a machine's pace. Our concert halls are filled with such mechanical orations.

MA: These lessons are all very revealing, yet so opposed to my early studies. But I still cannot accept the basic premise, since you say nothing of synchronization? How can such practices arrive at anything but temporal chaos?

DB: What of synchonization indeed! If our art is so closely allied to speech, what place does the technique of clock makers, navigators, and battlefield soldiers have in music performance? Why do you presume that music which is not synchronized—a state of clockwork and not oratory—must end in chaos? It is true, you might not calucate longitude correctly or storm the beaches precisely when your captain shouts the command midway through a sonata, but in the course of music performance a myraid of events occur, which do not require, and cannot accept, reference to exacting mechanical regulation.

MA: From your lessons, it sounds as if the culture of clocks has had very little to do with musical tempo at all.

DB: You are keeping apace! Words and numbers at the start of "the movement ought not to be a tyrannical check—a driving mill–hammer, but must be to the composition, what pulsations is in the animal economy. There is no slow movement in which passages demanding acceleration do not occur. On the other hand, there is no quick movement but what requires, in many passages, moderate retardation. These changes, in particular cases, are absolutely necessary to expression."[75] These one–time truths defy that inflexible usurper, the metronomic click.

Therefore, "let no orchestra attempt to play very fast, which is obliged to be merely mechanical in its playing . . . No strict time–keeping by Maelzel's metronome can possibly produce a piece of music as it existed in the composer's mind, or fail to sacrifice its life and glow and meaning; and consequently that swift rail–road speed, which does not yield to all the varying impulsations of a controlling feeling, will express as little as a rapid locomotive with a long train of dirt cars after it."[76] And any conductor who believes it is his duty to "beat off the measures like a metronome, will, with the orchestra following his lead, only play like an assembly of artisans."[77] Clock time is for workers, the expressive tempo is for artists alone.

MA: But when many musicians sing and play a single work, they must be together. And when you add dancers to the crowded mix, how is it all possible without the guidance of the clock and the precision it engenders?

DB: Prior to *Messieurs Jacques*,[78] people could perform together on a stage with out being synchronized to the chimes of a clock tower. Once more stated, the togetherness you assume is of a different order. Why, when I lead the orchestra for the ballet, "it is well known that most dancers understand little or nothing of music, and frequently do not know the tempo themselves; for the most part they regulate themselves only by the mood at the moment, or by their ability. Experience also teaches that dancers rarely require as lively a tempo at rehearsals that take place in the morning before eating." So the most sure–footed technique for playing with the dancers is to attend to the movements of their feet.[79] Thus, we perform exceedingly well together, with an ebb and flow like the tides; And just as the sea, we never once moved to a metronome's rule. Musicians and dancers performed together "in concert"[80] before they ever played in synchronicity.

MA: But why is there such little written evidence for this practice?

DB: Because expression is an expected behavior of living people, musicians included. Expression requires no published "evidence." Do you need the permissible notation to cry in tragedy, laugh in comedy, or swoon in romance? There is no metronome for your expressive spirit—that bit of evidence is what's truly non–existent, thank the heavens! For despite the limited intentions found on the page, "When we come to be masters, so that we can command all manner of time at our own pleasures; we then take liberty (and very often, for Humour, and good Adornment's sake in certain places) to Break Time, some times Faster, and sometimes Slower, as we perceive the Nature of the Thing Requires, which often adds much Grace and Luster to the Performance."[81]

MA: It seems so few musicians understand this fact, or if they do, they ignore it entirely.

DB: Yes, I too have heard the willful expression of musical time to be wanting, replaced by something of "mathematical regularity" and "freezing stiffness" that projects "so flat a uniformity."[82] "A very impersonal, reserved, and stone–like form."[83] Perhaps one reason is because "today there is no music showing any trace of the power of the historical [time] that has remained totally unaffected by the decline of [individual] experience . . . The dying out of subjective time in music seems totally unavoidable in the midst of a humanity which has made itself into a thing—into an object of its own organization."[84]

MA: Or perhaps it is music notation that needs to change, to assure performers that at each moment they may choose what the tempo ought to be, and how it ought to fluctuate?

DB: Although modern–music notation frequently marks changes to metronomic tempi, the specifics of rhythmical expression and musical nuance will forever remain limited. Historical notation poses a greater challenge, since it seldom accounts for tempo flexibility, which "is older than the Romantic school, it is older than Mozart, it is older than Bach. Girolamo Frescobaldi, in the beginning of the seventeenth century, made ample use of it."[85] Please recognize that "the so–called 'elastic' tempo is not a new invention, *Con discrezioné* should be added to [the page] as to many other things."[86] This reminder just might settle the matter—the living performer is vastly more essential to historical musical time than can be shown in notation, the clockwork click, or a pendulum swing.

MA: You talk as if time is but an opinion, a choice, and nothing more. The implication being that if and when a culture agrees upon a single opinion about time, then it becomes a truth.

DB: Yes, and as the new truth catches on *rapidamento*, many cannot recognize the shifting trends in musical time. So "after a century of trained orchestral performers, and of the present system of training, we find 'musicians' who are solely sensitive to size. Their ability to count, their metronomic ability, has engulfed them, and they have become insensitive to shape."[87]

MA: It does seem to me that in light of these past practices, our treatment of musical time is far more mechanically and even scientifically oriented. Perhaps one day we will find that "the mind, even the musician's mind, is conditioned by contemporary things, our minimum, in a time when

the old atom is 'bombarded' by electricity, when chemical atoms and elements are more strictly considered, is no longer the minimum of sixteenth century pre–chemists." Both Machine Age composers and executants have acquired—perhaps only half consciously—a new precision.[88]

DB: You are now contemplating the real truth of musical time, good student. For despite the myth of the objective tempo—a false machine–rhythm that both counters and refashions the qualities of human movement and pulse–sensation—all time requires human agency above and beyond a composer's mere notational intention. "The good effect of Music depends almost as much upon the player as the composer. The best composition can be spoiled by a bad rendering, and a mediocre composition is improved by good expression."[89] And yet due to the modern precision training in music, "It can almost be said that the ideal unconsciously animating the best musicians of to–day is the expression of positive, decided feeling in a very impersonal, reserved, and stone–like form."[90]

MA: Precision music training?

DB: Yes, you too have received it. This is how a new tempo–faith begins. As the first successful purveyor of the clockwork metronome believed, "There are stupid and lazy people who must be fed the truth with a cooking ladle, and who do not want to take any, not even the least trouble to learn something" new, modern, and scientific:[91] An efficient musical training based on gears and springs. Eventually, under threat of starvation, students open their mouths to accept the only meal presented to them.

MA: You suggest many are force–fed a mechanized form of musical time against their will?

DB: We are seldom given another option, so choice has nothing to do with the matter. The question now is, with our metronomes so close to our mouths, "Have we no time or taste for anything but *hurry up* music, because we travel by express train and do business by wire? Must we also have our music ground out, machine–like, on high–speed gearing and served against time, like

hash at a depot lunch counter? What wonder that our people have musical indigestion!"[92] With so many convinced that a clock offers the only true tempo reference, can anyone return to our mother's milk—a source "more convenient because of the ease with which it is obtained, given that everyone always has it upon himself. It is *the pulse beat at the hand of a healthy person.*"[93]

MA: Your lessons are beginning to click with me more strongly than my old ideas of tempo. As you implied, my initial desire to know the exact tempo of historical music cannot be answered because that which is exacting to our modern standards is not within the ideals of past musical movement. And despite the limited tempo information transmitted by composers themselves, "all ultimately depends upon the performer's own animus, and the degree in which the work identifies itself with his feelings; for from his own inspired conception alone can it be rendered with animation and effect; while, if performed according to mere abstract and mechanical rules, it remains inanimate and unanimating."[94]

DB: Undoubtedly it can be said that "no piece, except a march or a dance, would have any real life and expression, or light and shade, if the Solo performer, or the orchestra under its conductor, were strictly to adhere to one and the same tempo, without regard to the many marks which command its variations . . . The player or conductor, who enters into the time and spirit of the piece must feel when and where he has to introduce the necessary changes: and these are often of so delicate a nature, that the marks of the metronome would become superabundant, not to say impossible."[95] If there is any law to historical musical time it is in this: "Rhythm is the expression of the will and pleasure of him who formed it."[96]

MA: A law once so essential, and yet so little taught today. How different is this education we receive, full of time–rules considered absolute and incorruptible for music past and present. The metronome's rhythm as king that forever was and forever shall be!

DB: You have come to recognize the absurdity of it all. The metronome is a temporal king with no rightful claims to rule over the compositions you so cherish. The machine is a pretender in the realm of historical musical time. Past composers' intentions were never instilled with the standards of your modern day tempo tools or technologically

dependent training. Nor was a skilled performer's sense of movement cultivated through such rigorously artificial means. A willful elasticity was afforded to musical meter through one's innate sense of pulse and accent. And this sensation could never find constancy upon fixed clockwork rhythm. My good student, although your heart was in the right place, and remains there still to guide your way, your initial question will forever remain unanswered by these lost musical times. The precise answer has always been thus: *Tempora mutantur, nos et mutamur in illis*.

[Here ends Part I of A Music Treatise from Lost Times]

Notes

1. See Mary Ann Torrey Kotzschmar, *Half–hour Lessons in Music* (Boston: Oliver Ditson Co., 1907), 13–14.

2. From "Time and Clocks," *New York Times*, June 27, 1920, 60. (ProQuest)

3. Expanding upon the notion, original marginalia stated: "Time" is something far greater than mechanical measurement. Beyond clockwork clicks, "time" is a culture's faith in temporality, one that alters over the ages. Indeed, "knowing the time"—whether the time of day or the time of music—is more accurately considered "believing in the temporal convention" being told.

4. The citation "Tempo," from Charles Elson, *Elson's music dictionary* (Ditson: Boston, 1905), 259.

5. Adolph Friedrich Christiani, *The Principles of Expression in Pianoforte Playing* (New York: Harper & Brothers, 1885), 88.

6. *Encyclopædia Britannica; or, a dictionary of arts, sciences, &c.* The second edition; greatly improved and enlarged, Vol. 9 (Edinburgh, 1778–83), 8612.

7. Curt Sachs, *Rhythm and Tempo* (New York: W.W. Norton & Co., 1953), 168, 173. A similar statement appears on page 201.

8. Jean–Philippe Rameau, *Traité de l'harmonie*, trans. Philip Gossett (New York: Dover Publications [1971]), 197–8.

9. Johann Joachim Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin: J. F. Voss, 1752); translated by Edward R. Reilly as On playing the flute (Boston: Northeastern University Press, 2001), 183.

10. Edward Dickinson, *The Education of a Music Lover* (New York: Charles Scribner's Sons, 1911), 118–120.

11. Ibid.

12. Michel de Saint Lambert, *Principles of the Harpsichord* (Paris, 1702), trans. and ed. Rebecca Harris–Warrick (London: Cambridge University Press, 1984), 44.

13. J. A. Hamilton, *Description and Use of Maelzel's Metronome* (London: Robert Cocks, 1840), 5.

14. Theodore Baker, *A Dictionary of Musical Terms*, Third Edition (New York: G. Schirmer, 1897), 121.

15. *The Encyclopedia Britannica*, Ninth Edition, Vol. XVI (American Reprint, Philadelphia: J.M. Stoddart Co., Limited, 1884), 207. This article is reprinted verbatim at least through the 1911 edition of the encyclopedia.

16. Constantin von Sternberg, *Ethics and Esthetics of Piano–Playing* (New York: G. Schirmer, 1917), 82.

17. Clarence Hamilton, *How to Use the Metronome Correctly* (Philadelphia: Presser, 1916) 3, 9.

18. Ernest Adams, "Electric Metronome," U.S. Patent #734,032 (Filed July 30, 1902; Patented July 21, 1903): 5.

19. *The Encyclopedia Britannica*, Ninth Edition, Vol. XVI (American Reprint, Philadelphia: J.M. Stoddart Co., Limited, 1884), 207.

20. Words of Moscheles, from Anton Schindler, *The Life of Beethoven: Including His Correspondence with His Friends, Numerous Characteristic Traits, and Remarks on His Musical Works*, ed. Ignaz Moscheles (London: Henry Colburn, 1841), 111fn.

21. Quoting Gustav Nottebohm in C. A. B., "George Grove's Analyses of Beethoven," *The Musical World*, Nov. 3, 1888, 850.

22. Sternberg, 79–80.

23. The argument of staunch modernist musician Rudolf Kolisch, in "Tempo and Character in Beethoven's Music," *The Musical Quarterly* 77 (Spring, 1993), 90. This article is a reprint from his 1942 work. Kolisch seemed not to consider that beyond technological developments, it was Western musical culture—with its scientific faith in chronographic rules and regulations—that had changed in the meantime.

24. A close paraphrase from Christiani, *The Principles of Expression in Pianoforte Playing*, 262. N.B. He makes no mention of seconds, since the second continued to be an unusually precise temporal measurement outside of nineteenth–century astronomical observatories and experimental laboratories.

25. Edward Bradford Titchener, *Experimental Psychology, A Manual of Laboratory Practice*, Vol. 1. (NewYork: The Macmillan Company, 1901), 339.

26. A phrase coined by pianist Ignacy Jan Paderewski (1860–1941).

27. George Grove, *Beethoven and his Nine Symphonies* (London: Novello, 1896), 337.

28. Reprinted in C. A. B., "George Grove's Analyses of Beethoven," *The Musical World*, Nov. 3, 1888, 850.

29. Schindler, *Life of Beethoven*, 213.

30. *The Musical World*, Nov. 3, 1888, 850.

31. Ludwig van Beethoven, *Beethoven's letters: a critical edition*, trans. J. S. Shedlock, Vol. 1 (London: J. M. Dent, 1909), 281.

32. Adolf Bernhard Marx, *General Musical Instruction (Allgemeine Musiklehre)*, trans. George Macirone (London: J. Alfred Novello, 1854), 33.

33. A close paraphrase from Adolf Bernhard Marx, *Introduction to the Interpretation of Beethoven Piano Works*, trans. Fannie Louise Gwinner (Chicago: Clayton F. Summy Co., 1895), 68.

34. Comments from Brahms to George Henshel. Found in C. A. B., "George Grove's Analyses of Beethoven," *The Musical World*, Nov. 3, 1888, 850. Also Carl Van Vechten, *In the Garret* (New York: Alfred A Knopf, 1920), 218.

35. Commonly attributed to Beethoven in the nineteenth century. See for instance, Adolf Bernhard Marx, *Introduction to the Interpretation of Beethoven Piano Works*, 68; and Franz Kullak, *Beethoven's Piano–Playing*, trans. Theodore Baker (New York: G. Schirmer, 1901), 22.

36. A more appropriate comparison would involve a bird and a mechanical bird.

37. Adolf Bernhard Marx, *The Music of the Nineteenth Century and Its Culture* (London: Robert Cocks, and Co., 1854), 261.

38. Derived from Marx, *Introduction to the Interpretation of Beethoven Piano Works*, 68.

39. A close paraphrase from Schindler, ed. Moscheles, 108–109.

40. Michel de Saint Lambert, *Les principes du clavecin contenant une explication exacte de tout ce qui concerne la tablature & le clavier* (Paris: Ballard, 1702) trans. Rebecca Harris–Warrick (London: Cambridge University Press, 1984), 44.

41. Ibid., 44.

42. The source is from 1844. It is evident that many of the theories here arise before the twentieth century and apply to pre–Modernist music.

43. I have traced the following information to *Boston Musical Visitor*, Oct 8, 1844; vol. 3, no. 24, 374.

44. Sternberg, 44.

45. This more familiar chart prominently appears in Johann Nepomuck Hummel, *Ausführlich theoretisch–practische Anweisung zum Pianoforte Spiel* (Wein: Tobias Haslinger, 1828), but might in fact derive from Maelzel himself. The inventor–promoter sent similar data to Beethoven to prove the necessity of his tempo tool.

46. The nineteenth–century term "elastic tempo" lost out in the following century to the more commonly used phrase, "tempo rubato."

47. Marx, *Introduction to the Interpretation of Beethoven Piano Works*, 73n.

48. Ibid., 74.

49. An allusion to Beethoven's comment about the four Italian time words found in multi–movement sonatas and symphonies of his age.

50. C. M. Von Weber, "Letter By C. M. Von Weber on the Performance of Dramatic Song," *The Harmonicon V*, part 1 (1827): 220.

51. This temporal quality was noted in many nineteenth–century sources. Another definition states: "Such revulsive, jerking, jolting rhythmical movements frequently occur. They are sometimes designated by the expression tempo rubato, i.e. stolen or robbed time, and also by the word confusion," from James F. Warner and Gottfried Weber, *A Universal Dictionary of Musical Terms* (Boston: J. H. Wilkins & R. B. Carter, 1842), 49.

> "An imbroglio is caused by irregular accentuation, sometimes by syncopation, but more frequently by the intermingling of several voices, each voice accenting its phrases independently, as though a room full of people were talking together at the same time, the result being that the grammatical [invisible and weighted metrical] accents are no longer to be detected by the ear. Hence, a rhythmical confusion." From Adolph Friedrich Christiani, The Principles of Expression in Pianoforte Playing (New York: Harper & Brothers, 1885), 72.

52. From François Couperin, *L'art de toucher le clavecin* (Paris,1717), trans. in Arnold Dolmetsch, *The interpretation of the music of the XVII and XVIII centuries revealed by contemporary evidence* (London : Novello, 1946), 20.

53. The deliberate choice of titles should not go unnoticed. "The Lame One" and "The Pretending Fools," respectively, are dances from Rameau's 1724 (rev. 1731) collection of harpsichord pieces.

54. A neologism. I have not found another instance of the phrase in my research.

55. Marx, *General Musical Instruction*, 33.

56. Jean–Jacques Rousseau, "Chronometer," trans. in *Appendix to Grassineau's Musical dictionary*, selected from the *Dictionnaire de musique of J. J. Rousseau* (London: J. Robson 1769), 10–11.

57. From Johann Mattheson, quoted in Curt Sachs, *Rhythm and Tempo*, 321.

58. Richard Wagner, *On Conducting* (Über das Dirigieren), trans. Edward Dannreuther (London: William Reeves, 1897), 19.

59. A truncation from C. M. Von Weber, "Letter By C. M. Von Weber on the Performance of Dramatic Song," *The Harmonicon V*, part 1 (1827): 220.

60. Jean–Jacques Rousseau, "Chronometer," 10.

61. A paraphrase from Marin Mersenne, *Traite' de l'harmonie universelle ou est conteu la Musique Theoretique et pratique* (Paris, 1627); found in "Critical translation of the second book" by John Bernard Egan (PhD diss., Indiana University, 1962), 43–4.

62. A close paraphrase from Johann Joachim Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin: J. F.Voss, 1752); trans. by Edward R. Reilly as *On playing the flute* (Boston: Northeastern University Press, 2001), 183.

63. One of many possible times, defined as "an expression generally applied to the manner of performing a steady, sound movement, less directed to the feelings than to the judgment; more scientific than impassioned." From H. W Pilkington, *A Musical Dictionary* (Boston: Watson & Bangs, 1812), 75.

64. From the entry, "Time," *Encyclopædia Britannica*, Vol. 9 (Edinburgh, 1778–83), 8613.

65. The belief of Ignacy Jan Paderewski (1860–1941), found in Henry T. Finck, *Success in Music and How it is Won* (New York: Charles Scribner's Sons, 1909), 455.

66. C. A. B., "George Grove's Analyses of Beethoven," *The Musical World*, Nov. 3, 1888, 850. Also found in Carl Van Vechten, *In the Garret*, 218.

67. Richard Storrs Willis, "On Musical Tempo," *Musical World and New York Musical Times*, June 11, 1853, 82.

68. Franz Kullak, *Beethoven's Piano–Playing*, trans. Theodore Baker (New York: G. Schirmer, 1901), 31.

69. Clarence Grant Hamilton, *Piano Teaching, Its Principles and Problems* (Boston: Oliver Ditson Company, 1910), 85.

70. René Descartes, *Compendium Musicae* (Ms., 1618; Utrecht: Jansson, 1650); trans. Walter Robert ([Rome]: American Institute of Musicology, 1961), 14.

71. This commentary first appeared in *The English Mechanic and World of Science* 53 (May 8, 1891): 232.

72. Christiani, 22.

73. Johann Mattheson, *Kern melodischer Wissenschafft* (Hamburg, 1737), 109.

74. Quoted in Franz Kullak, *Beethoven's Piano–Playing*, 24.

75. C. M. Von Weber, "Letter by C. M. Von Weber on the Performance of Dramatic Song," *The Harmonicon V*, part 1 (1827): 220.

76. "Musical Review," *The Harbinger, Devoted to Social and Political Progress*, Feb. 27, 1847, 185.

77. "The Symphony Society," *The New York Times,* Jan. 4, 1894, 2. This quote refers specifically to the conductor Walter Damrosch.

78. In all likelihood, a reference to Emile Jaques–Dalcroze and his pedagogical system of Eurhythmics.

79. See Quantz, trans. Reilly, 289–290.

80. The operative pun "Concert" employs the meaning "togetherness."

81. The abrupt change in style signifies the likely source as being Thomas Mace, *Musick's Monument* (London, 1676).

82. Hector Berlioz, *A Treatise on Modern Instrumentation and Orchestration*, trans. Mary Cowden Clarke, (London: Novello, Ewer, and Co., 1856), 246. Berlioz suggests that such a rigid performance practice could never be accomplished. But it must be recognized that he did not live into the twentieth century to hear the effects of metronomic training methods.

83. See Paul Rosenfeld, *Modern Tendencies in Music* (New York: The Caxton Institute, 1927), 37. The conceptual correlation between these two very different sources is remarkable.

84. The treatise takes an abrupt turn toward the Modern Age with this quote from Theodore Adorno, *Philosophy of Modern Music* (1948), reprinted in Daniel Albright, ed. *Modernism and Music* (Chicago: University of Chicago Press, 2004), 77.

85. Paderewski's words, discovered in Louis C. Elson, *Mistakes and Disputed Points in Music and Music Teaching* (Philadelphia: Theodore Presser Co., 1910), 96–97. Also found in Henry T. Fink, *Success in Music and How It's Won*.

86. A sentiment attributed to Brahms. Found in Louis C. Elson, *Mistakes and Disputed Points in Music and Music Teaching* (Philadelphia: Theodore Presser Co., 1910), 95.

87. Ezra Pound, *Antheil and the Treatise on Harmony* (Reprint, New York: Da Capo Press, 1968), 132.

88. Pound, 148–9. The last sentence is a close paraphrase.

89. Quantz, Versuch, 102. Trans. in Arnold Dolmetsch, *The interpretation of the music of the XVII and XVIII centuries revealed by contemporary evidence* (London : Novello, 1946), 23–24.

90. See Paul Rosenfeld, *Modern Tendencies in Music*, 37.

91. Theodore Albrecht, ed., *Letters to Beethoven and Other Correspondence*, Volume 2 (Lincoln & London: University of Nebraska Press, 1996), 137, Letter 248.

92. Edward Baxter Perry, *Stories of Standard Teaching Pieces* (Philadelphia: Theodore Presser Co., 1910), 43–44.

93. Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen* (1752); trans. Reilly as *On playing the flute* (Boston: Northeastern University Press, 2001), 183.

94. Adolf Bernhard Marx, *Universal School of Music*, trans. A. H. Wehrhan (London: Robert Cocks and Co., 1853), 85.

95. These words are from the early editor of Beethoven's works, Moscheles, and are found in Anton Schindler, *The Life of Beethoven*, ed. Ignaz Moscheles (London: Henry Colburn, 1841), 111fn.

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