

TIME
AS
VERBUM

Sean Patrick Ignatius Tartaglia

THE MEANING OF TIME AND THE EFFECT OF RATE

Something we tend to forget, because it has become so ubiquitous in human experience, is that time is inherently conceptual. Now certainly, it exists, as it is something we can comprehend in the first place, but it also is not real, and is more a psychological experience of the world around us. Even though we have systematized and ordered time on earth, this does not mean this is “true” time, because time is not the days or numbers, but rather a method of dealing with what occurs around us every conscious moment of our lives.

So we create time. We do so by placing an object by which to measure time against what is going on around us, and it is buffered not simply by how we perceive the present, but also by the power of our memories and expectations based upon those memories. A human who continually loses their memories, say one who is suffering from dementia, will never experience the feeling of time, but rather eternal present, as the universe truly is, because they lack the ability to know the past long enough to conceive that they were once somewhere else in time, and they will thus not be able to conceptualize the possibility of a future, because if they cannot recall any time beyond now, how could they comprehend a moment beyond the eternal now?

We measure all of the moments in our lives against a pure tactus. The only way we can really identify and align moments in time to a grid is if we have some sort of steady, constant beat to use as a basis. For us, this is the resting heartbeat. At a higher level it is the movement of the celestial bodies. At an even higher level it is the speed of light. Throughout human experience, we have used all of these constants to determine our experiences of time at greater and greater levels of scope.

Therefore, time is meaningless without something to place it against. Time is thus also highly relative, because it is our perception of things outside of us being gauged against our conception of the rate at which the tactus beats that causes the sum experience of time to occur.

The phenomenon of being able to identify time according to a pure, constant tactus reveals something peculiar in our perception of sounds: when we hear a sound, we will identify its length in time by comparing its fundamental rate of speed to the beating of our tactus.

The fundamental rate of something is the time in which it takes for a sound to decay. A sustained tone is without rate because it is being acted upon in a way that is not natural to its inherent attack/decay cycle. Once you stop sustaining the tone you can then calculate the natural rate.

This is not necessarily anything astounding, but it becomes a

fascinating temporal phenomenon when the tactus of one person beats at a different speed than that of another. Both people should be hearing the same tone, in the same exact situation, but both will have a different experience of the rate. With the tactus we create short and long, fast and slow, but it is only determined by our own individual means of judging said fundamental rate.

This is a relativistic time phenomenon, the experience of something in time is different for every perceiver because the means and methods by which we engage with them will differ.

The speed of something is without time, and it is our experience of it, based upon how we not simply perceive it, but also comprehend and conceptualize it, is what creates the feeling of time.

However, time has many possible applications, and time is not simply past or present, the ticking of a clock, the experience of the world moving faster or slower, and so on. Time is the experience of anything we can experience, and the only place time cannot exist is such experiences we cannot experience, and, of those things, what we cannot comprehend and conceptualize.

This basis is where I first defined my terms in *Eleatic Conceptions*: in musical time, all music can be oriented around what I call the “object of time,” the aspect of the musical experience that is given precedence over others to determine how we experience time. The “object of time” theory posits that time can be created, and denied, by determining a certain parameter as primary and conceptualizing the musical experience around it in such a way that the performer and listener can both identify time in the same manner, consciously or not.

Thus, I developed four key notions of time: time as meter, time as Verbum, time as duration, and time as space. However my interest in defining these was not to make distinctions about how we understand and conceptualize time in general, but to make a certain argument about musical time, and how musical time as a parameter directly determines the decision we make in organizing musical experience, and thus in how we compose. Of these the first three are of varying levels of importance to this theoretical argument, as the object of time I am least interested in conceptually is time a space, which deals not only with the distinction of musical experiences happening at different two dimensional spatial distances, i.e. space on the page, but also at a higher level with the three dimensional acoustical phenomenon of speed of sound to create a unique, but impractical experience of multidimensional time: things occurring before and after one another, but the distance that the sound must travel causes them to be perceived differently at a distance, and through other

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materials than air, than at their source.

So, expanding this object of time theory first discussed in Eleatic Conceptions, I want to express some ideas concerning how the object of time truly does fundamentally alter how we currently think about musical time, and how we might come to think about musical time.

A fundamental difficulty in really working with the concept of time in musical experience, and why I think it has been rarely thought about in comparison to rhythm or duration, comes down to a major conceptual distinction with how the western tradition understands, and thus organizes time.

In western music we order time in a system of two levels of time. First, there is time as duration, which responds to the counted value of each pitch. Duration builds directly upon the phenomenon of rate; it is, in some sense, an expression of the experience of rate, which serves as a basis for rhythmic values. All durational forms are equal divisions of the longest possible rate of a pitch, which for some tones will eventually lead to total decay and other tones may end up being indefinite.

In mensural music of the late medieval era, the concept of time as duration is the prime object of time. A durational value is assigned to a rhythmic value based upon the conceptualization of durational schema. The durations of the music are placed against an exterior tactus that represents constancy, and are thus counted against it. Through this concept, basic subdivisional logic is taking the longest possible rate of a pitch and comparing it to the tactus, finding the points at which it can be divided in half, those can be divided in half, and so on.

This notion of consistent and universal divisibility is an essential aspect of the development of metric organization, wherein the object of time moves beyond simple duration. Unlike simply counting the beat from the position of the resting heartbeat, where it can be difficult to perfectly determine smaller divisions beyond the eighth, the development of a metric grid subdivision determines every fraction of the full tone, in practical music down to the 32nd, which can be slotted in against meter and accurately measured against the grid, allowing for much more rhythmically complex music.

This is possible because the grid represents a higher level of time organization in the form of meter, which responds to the counted value of each bar, its essential subdivisions, and the stresses that align the subdivisions to the grid. This develops from the concept of the tactus, but with a twist that fundamentally alters how we understand time to pass: metric stress. Because western music develops certain rules about how consonances should function, the points at which these consonances are to be prepared, strong beats, become rhythmically strong, and therefore the concept of “stressing” the strong beat over the weak beat, where dissonances occur, becomes important in judging time: each moment in time becomes interlocked with another because metric stress determines these strong and weak beats, and

when emphasized in music, a certain sense of linear time starts to occur.

It might seem like pure counting and metric counting are essentially the same, after all, they both start from the same root, a pure *tactus* that provides a steady pulse; however, there is a psychological difference between these two forms of temporal organization that influences how we organize musical idea.

When there is no stress, just a pure rate being counted, the tones tend to form self similar units: you are identifying them alone as the moments of time; however, stress creates hierarchies of rhythms that give certain tones more weight than others, often consonances, whereas weaker tones then use dissonances that are to be resolved on the stronger beats. The unique quality of stress in the western system is its power of facilitating differentiation amongst otherwise self similar units: performing the same tone four times outside of the metric system simply comes down to playing it four times, there is no systematic purpose for differentiating the sounds; however, playing the same tone four times within the metric system comes down to accenting the strong and weak beats those tones begin on, a subtle difference, but one that shapes the experience of the music differently. And here is the interesting aspect of it: the exact same four tones outside of the metric system might as well be the same moment in time repeated over and over, there is no real systematic way to identify any one moment as coming before, it is essentially out of time conceptually.

When we hear the exact same four times within a metric system, we are hearing, due to the phenomenon of stress, a differentiation that is made audible in such a way we identify the objects being different and therefore one occurring before the other. Though it is true we can identify something on a linear temporal scale according to space, i.e. one thing occurring before another, part of a conception of time is realizing that what is occurring in the present is in some way categorically different than we just experienced a moment ago, and it also identifies that a future experience can be possible based on such an experience.

Instantly, a linear conception of time is born because it juxtaposes these concepts of memory and expectation, past and future, and you now have a view of musical time that is highly teleologically driven: if you have a concept of a future, you can identify it based on the experience of the past.

How can you really know time is actually true in any situation, that there is any sense of temporal change at any rate? If you are experiencing multiples of the same exact situation, even if there is

space between the experiences of them, do you feel as if you are moving forward in time at all, or are you much rather caught in an experiential loop? Conceptually, I have the memory of experiencing it before, but it is happening again, exactly as it was before, so what kind of expectation can provide a linear sense of a future? If I cannot differentiate the past from my present experience, and thus cannot really elucidate a possible future, am I really experiencing any sense of linear time?

If you think it is impossible to have an experience like this where the sensations of linear time are being denied, then listen to any late piece by Morton Feldman. The experience of exact repetitions of lines of completely different metric values that deny any sense of proper pulse and stress, that slowly melt into variations of themselves, causes you to feel as if you are trapped in a world without any sense of forward movement, that time cannot exist here, and when it changes you begin to question your memory and whether or not you truly experienced what happened before.

Thus, the combination and juxtaposition of metric stresses, of constant differentiation, creates the phenomenon of blocks of time, in which we identify the passing of time based on our experience of music in performance, rhythmic formations, harmonic considerations, etc. It is not a general case, but non-metric music has a different sense of time because the object of time is not metric pulse or stress. By making the object of time meter, what you do is provide a situation in which how we experience time is heavily determined by pulse and rhythm as a driving factor, whereas a non-metric music will have pulse in the form of counting rate, but the general feel and rhythmic quality of the resulting music will differ greatly.

So far, these appear to be normal and abide by the root definition: they properly express the conceptualization of time in providing an object against which time may be measured, thus creating musical time. The problem with metric time is in its artificiality. Like much of western music since the development of tonality, and especially equal temperament, time as meter makes an assumption of an ordered landscape of things, that there is an absolute rigidity and consistency in a linear experience. At the most fundamental level the exactitude of subdivisions and the decisions concerning if a beat is weak or not is essentially an arbitrary decision made for an aesthetic, philosophical, or theological purpose. This, though, is not the fault of this system alone, it is an inherent problem of conceptualizing time, because we do not really identify something as it is, but as we perceive, comprehend, and understand something to be, and we instinctively attempt to make sense of the way things appear ordered

to create a universal, and consistent, experience of time.

The issue to take with this ordered conception of time is that our experience of time outside of the conceptual moments, the clocks and calendars, is so incredibly fluid and relative that it is a bit dishonest to demand that our conceptualized time be as rigid as this is. It can be of interest in these situations to understand how we can use *apoggiatura* and well placed *rubato* among parts to pull time in and out of the metric pulse. There is an attempt in these actions to create a more fluid experience of time, and because time is so highly relative in reality, you do not have to give it back the stolen time immediately. Time does not always snap back, sometimes it slowly flows back into itself. The question over proper use of these “out of time” techniques and debates over the value of *contrametric rubato* is a very strong indicator of the fact that in the present era there are still is that the rigid way of thinking does not really allow us to meaningfully interpret our experiences of time in the moment, in the name of “good taste” or some other arbitrary argument over performance practice.

This is beneficial in a society that develops a rhetorical and philosophical framework for this manner of conceiving time, and it allows for the shape of the music to retain a certain form no matter where it is performed, a truly universal experience. However, the flaws of western culture in this field have to do with the desire to categorize and systematize all experience in order to maintain that symmetry and order, when in doing so only reveals the incoherency of human experience. When you place this 4/4 grid over musical time, you have to deny exterior experiences of time, thus we all tend to hear, understand, and experience metric musical time the same.

With this conception of how we currently conceptualize time in western music explained sufficiently, the reason why I have been interested in continually revisiting this topic is because I am attempting to shift the object of time in my music away from meter and towards something else that denies the rigidity of metric time, something that I think is unnatural to human expression and thus not really worth pursuing.

In searching for examples of other ways of conceptualizing musical time, it was not in other cultures or eras of music, but specifically in studying the genres and traditions of liturgical recitative in the formulas and rubrics, and listening to it in the liturgies of the Coptic, Assyrian, and Armenian churches, that I found myself interested in a phenomenon I did not really believe existed in western musical practice.

Time seems to not exist in these forms of music the way we have conceptualized it. It seems to stop and hang at moments, but not in a way where one just writes “*senza tempo*” on the score; rather, places where it feels as if the music were timeless, without duration or even rhythm. Unlike operatic recitative, it feels less tied to notions of rhythmic “consistency,” that the durations were much more fluid, that emphasis was much more contextual and symbolic. I had only vaguely puzzled over this initially, and it was not until when I drafted *Eleatic Conceptions* that I gave it a designation: “time as Verbum”

There are hundreds of recitation formulas, all used in different sections of the liturgy and seasons of the year. They all have a certain expressive purpose, and that is because the liturgy is a drama, it is a reenactment and memorization of sacrifice, and the point of the recitation is to convey the word in a world where personally reading the gospels and lessons was not widely done, so a certain form of musical expression had to develop around the content, meaning, and symbolism of the text for the edification of the faithful.

So the object of time as the word means that the rate of speed is the word itself, they are recited generally at a rate similar to the spoken word, but in recitation certain aspects are highlighted, given a symbolic or emotional expression exterior to the textual flow, which creates moments shockingly out of time, because the deterministic factor for time is absent.

I believe this is generally true for plainchant as well: floridity in rhythm in a choir for plainchant is not as even and measured as in standard vocal music, because it is an unprofessional style of music in the sense that not everyone is trained up to the highest caliber. The point of the expression is not for performance, it reflects the psalms and the teachings of the gospels.

This is a massive difference when compared to time as meter, because we are no longer thinking of the music in terms of measures, durations, rhythms, et al. Instead, we are soaking up the word in each instance, savoring and appreciating its meaning, so time does not flow evenly, but rather pushes and pulls against the tactus, which we can use to orient ourselves to certain rhythms and durations objectively, but is not the prime determinant of the speed or rate of the music. The place we orient our experience of time is not longer in moments of stress and melodic and harmonic juxtaposition. It seems more than in this moment when we are wrapped up in the text, we tend to not think of what immediately came before or what comes after, but we tend to take it all in at once, at gigantic blocks of “present.” When one reads a book, they are not consciously thinking that often about every single thing that has already happened, because the present moment is always of greater interest than what happened before. At some point they may recollect it, or it may be brought up directly in the text, causing them to think about the past, but generally the flow of time is different, one can get lost within the text and not think about time whatsoever.

Therefore, when extrapolated to a musical setting, one is not really drawn to thinking with the same sense of musical time that one feels when listening to a piece of music organized around signposts the directly reference the concept of time. The incessant chant of Zen Buddhism can feel like an eternity, because the focus is on the prayer, and nothing else, the focus is drawn away from all other aspects of the musical fabric, and possible distractions, by placing emphasis on the text.

This is the point where I last left compositionally. I drafted my essential beliefs on the word, determined the word to become my object of time, and then I began to attempt to refine my grasp of recitative and plainchant in composition. In my short supplement, “New Time for Phonetic Composition,” I made a distinction between the two genres of music:

First, at the lowest level, we have the purely phonetic, the literal rate of speech. Every single aspect of this music falls down to short/long stress, at one speed. The words we used above all work at this level inherently, it is their root nature that determines the flow of the music. Partch and Pärt both used this at some basic level, but in general it is very limited as a compositional technique in itself. Generally I would consider this to not be superimposed over a tactus, it is outside of time, because recitation and speaking is irregular and does not always fall upon the strong beat due to lingering, pausing, and other affectations we often place upon our speech to convey emotion. If you want to understand why this distinction matters, go listen to text-to-speech, which is much more bound to a metronomic grid than humans are in how it vocalizes words.

Second, there is the melodically phonetic, where the rate of speech determines the length of pitches, but not necessarily the speed at which they unfold. Thus, it is music that is short-long at a more conceptual level, as in plainchant. The length is a bit more free, based upon the rate taken, and instead of being based directly on the rate of the word as spoken, it is based on the length of it in comparison to other notes. Long is longer than short, and short is shorter than long. Chant as a rhythmic form is one of push and pull, there is a guiding tactus, but generally the rate it beats at and the rate that the line unfolds at is an amalgamation of all the voices coming together. Depending on the forces, genre, form, and text, it could be strict and brisk or it could have a bit more of an interpretive rubato to it. That it is generally more melismatic is irrelevant, as at the basic level in liturgy the celebrant's recitation formulas and rubrics follow a more phonetic style of music, with a few sections of stepwise melisma, though arguably the melodic content of this is no different than how vowel phonemes can have downward or upward drift in speech.

This basically sums up my engagements with these forms of music according to their sense of musical time. IF there is truly a tactus in recitative, which could be true of certain traditions, then it is a guide for phonetic expression, a way of consistently present words and melisma, but it would not even be one of counting, it simply would exist as a reference in the interiority of the heartbeat. That is certainly true, at least from personal and anecdotal experience, of plainchant, in which the cantor intones the key pitch and provides the singers with the pace, and this sort of way of thinking and interpreting comes from a very distinct disengagement with how standard metric practice in western music have developed, though I do not doubt meddling choirmasters and organists, if they know any better or not, sneak in stress and pulse akin to their musical training. It is this distinction that leads to the role of the celebrant, who is probably more often than not, rarely musically trained to the same degree as a choirmaster, as the purest expression of this sense of musical time in the recitative found in the rubrics, especially among those in the Eucharist Prayers, such as the Doxology, where it is he alone who intones the formula.

If there is a challenge with this idea of conceiving this style of time, it is that music without a word possesses no rhythmic value. Like the melisma of liturgical recitative, it is not really bound to a syllabic rhythm, so it essentially becomes "outside of time." This makes instrumental composition somewhat perplexing, unless you were to say, tie it to a syllable or word, it really would not have a definite shape or form, it would be somewhat of a floating texture, or perhaps just a tone field, a series of pitches that could be played at any speed for any duration.

Yet, this is unique and quite powerful, because it does properly explode the notion of musical time as we expect it, and it is essential

as a case study for how the way we conceptualize music alters how it must end up being written, because each system is built upon a certain set of axioms from which essential compositional and interpretational rules can be inferred.

Thus, in dealing with the concept of music under the umbrella of time as Verbum, we reach an interesting situation: the rate and speed of the music reflects the performance practice of the two essential musical forms of early liturgy: recitative and plainchant. Both of these styles of music have two durational values: short and long, derived from, and unique to, their language of liturgical practice.

The rate of speed of these two are also different. Recitative is quite rapid, there is a lot of text to cover, and plainchant tends to be a bit slower and smoother. If you think about it logically, there is a certain sense where every form of music extending away from the purest recitation of the text will tend to take a slower, perhaps more meditative pace. It owes to the forms of melodic writing: it is certainly easier to coordinate plainchant to move at a faster rate than polyphony, which in its complexity might need to take a slower speed to compensate.

Consequently, I determined that a polyphonic rate should act as this next tier, so the equivalent value should have a rate of speed longer than plainchant.

Third then would be the artificially, or artistically, phonetic. This is where the length of the words remain true, short or long, but the rate at which short and long are interpreted flows differently than others. Generally, phonetic music is hard to write beyond the standard short-long scenario because the rates of short and long must be proportional to effectively express the sounds of the words. If you extend it, as in polyphony, you are no longer working with the word, the text is being supplanted by the music. Early Monody and Monteverdian recitative sought to reign back in the music in service of the text, but then you find yourself back at the phonetic problem: you have emotive power in declamation, but lack melodic and harmonic variety, so you still end up composing arias with the melodic line in mind first, then subjecting the word to the music.

Thus, the cantor is fast, with eight and quarter notes; plainchant is brisk, with quarter and dotted quarter notes; polyphonic is slower and glides, with quarter notes and half notes. This naturally extends to the final indeterminacy of instrumental writing, where the upper tiers of abstraction destroy the notion of rhythmic rates of speed, leaving only floating halos of sound.

However, the notion that time does not exist in the standard sense, that only the word determines time, means that, to confirm time, all the music needs to do is to confirm the proportional nature of the word in its syllable length, not its durational length, that is, rate. When we first defined rate, it was meant to be the total sum of the beats of the tactus. Because the tactus ideally does not change at all, it being a static truth beyond meddling, this means that when you

work with different rates of speed, you are doubling and halving the total sum rate to get a “faster” or “slower” speed. Thus, it does not matter how many beats of the tactus are assigned to a tone, because the essential proportional rate that was first designated to that tone is simply being prolonged in time, essentially, prolation.

With a word or syllable, the long and short rates will line up with the core tactus, and using that knowledge you can double, triple, quadruple, etc. the length of the syllable without ever changing the speed of the core tactus. Once you can define the values to count against the tactus, as I did above, then you can provide a rule of thumb for prolation as a concept, while still maintaining the object of time being the word, because time is defined by the rate of the word.

So what is the point of this conceptualization of time?

Because the word is the object of time, the polyphonic texture has to exist in a unique state between polyphony and homophony, because each moment must have no past or future, but only the sole experience of the word. If the first two levels of this conception of time really focus on the word as the main focal point of experience, then the following levels cannot serve to disrupt that. Each section of a coherent system must confirm its first principles: in the beginning there was the Word.

We only have two values, short and long, so there is not that much that can create a truly florid polyphony, because the means are essentially homophonic. However, generally you might not want to use only homophonic material, having all the voices sing at the same time with the same rhythms and the same rate of speed. If you retained one static rate then why really use polyphony when you could use plainchant? Moreover, if you use multiple voices, then you want to vary the texture to some degree so there is some additional variation beyond the recitation/plainchant/polyphony grouping.

What I set out to was attempt to make use of the speculation I made about the use of mensuration signs to change the interpretation of the pitch, akin to their use in the high medieval era, instead of changing anything exterior, e.g. the speed the tactus beats at, thus it is not the length of the pitch that is altered, but rather the duration you count that length for:

See while these rhythms as they are written cannot be changed, and the beat at which they are written cannot be changed, what can be changed is our interpretation of them. Each rhythm exists as a logical, proportional representation of it within an experience of the tactus: a brevis is x beats of the tactus, a longa is double that, a maxima is double that; likewise, a semi-brevis is half of it, and so on. So the rate of the brevis determines

the rate of everything else, without changing what the rhythm actually means, and without changing the speed at which the tactus beats. Time is equivalent to this, you are counting the value of the rhythm based on the mensuration, against the constancy of the tactus. It is like life in the universe: our time is simply counted against it...

So in mensural modulation, the tempus, the circle, modifies the breve, and the prolatio, the dot, modifies the semibreve. The Brevis/semi-brevis distinction can align with the long/short in phonetic stress, so we can use this to define an analogous situation with phonetic long and short and, without changing the stress, change the rate at which the stress occurs, thus allowing music that moves at a different rate than phonetic or plainchant composition, and allowing more complex and interesting polyphonic moments while still retaining the traits of phonetic composition.

To make it simple, there are three possible versions of the signs of an exterior, hollow circle and an interior, black dot: no sign being the normal speed, a half being double, and a full being triple. These alter their respective pitches, black and white, only. Additionally, in order to allow for staggered starts as in most polyphonic music I allowed myself a rest of a single duration, equivalent to short. In order to compose according to this, I drafted a set of strict, but concise rules:

1) the amount of pitches maximum for each syllable is equal to the syllable rate. Short receives one black, long can have one white or two black.

2) one rest value exists, equivalent to short. A rest can be added before a word to stagger voices, but a word cannot be broken up by a rest.

3) pitch length modifications are only allowed through mensural signs. Rests are not altered.

Because the ideal is phonetic, the rate of speech creates a false polyphony by destroying the notion of rhythm and rhythmic stress as the object of time. As the tempo remains the same, but each rate of speed is altered, it is not the rhythmic aspect of short/long that you engage with, but rather the perception of time. The rhythmic values are static, they are always proportionally short/long, but the rate at which you count against the tactus alters the rate in such a way that everyone has a different perception of what time actually is.

To provide an example, here is an example from the last page of "Florens," the piece written as a study to test these ideas. This page makes use of all of the basic tools derived from the mensural style, but twists them to create irrational proportions and out of sync part writing that covers the span of three syllables. The highest voice is assigned a double white note duration, 4 beats, but the black note remains at the standard 1 beat, so the durational ratio becomes 4:1. If

compared to the second voice, for which the relationship remains at 2:1, and the bottom voice, which has a 4:2 ratio, all of these events are pulled to different proportions in such a way that the texture is transformed.

The image shows a musical score for a piece titled "Spi rali fugio". The score consists of four staves of music. The first two staves are in the upper register, and the last two are in the lower register. The music is written in a style that uses various note values, including black notes and white notes, with some notes being lengthened. The Latin text "Spi rali fugio" is written in a large, stylized, black font across the middle of the score. The first staff has a treble clef and a common time signature (C). The second staff has a treble clef and a common time signature (C). The third staff has a bass clef and a common time signature (C). The fourth staff has a bass clef and a common time signature (C). The music is divided into two measures by a double bar line. The first measure contains several notes, and the second measure contains several notes. The notes are written in a way that suggests a specific rhythmic pattern, with some notes being lengthened. The text "Spi rali fugio" is written in a large, stylized, black font across the middle of the score. The first staff has a treble clef and a common time signature (C). The second staff has a treble clef and a common time signature (C). The third staff has a bass clef and a common time signature (C). The fourth staff has a bass clef and a common time signature (C). The music is divided into two measures by a double bar line. The first measure contains several notes, and the second measure contains several notes. The notes are written in a way that suggests a specific rhythmic pattern, with some notes being lengthened.

The power of this comes not from the core value changes, but situations in which "uneven" or "nonproportional" values are created: lengthening only the black note causes it to have the same fundamental rate as a normal white note, 2:2, despite the essential rhythmic units not changing. The consequence is that the experience of time as we conceptualize it is distinctly out of step with what the actual object is.

In a sense, we create the time by thinking about it, but because this musical time is fabricated out of our perception, the core aspect of it is naturally without time. The idea is that, since in my original

conception of "true" music being vocal, it is the vocal that creates a feeling of time in performance. The instrumental is out of time, and it is only given a sense of time by being given a rhythmic body to latch upon, otherwise it occurs and just decays, fading away.

At the core level of this development into polyphony I am fundamentally attempting to deal with time dilation. The rate of the word is not as truly what we think it is in theory. According to the tactus, it should fit to a certain grid, but because the actual horizontal space we're moving is the word itself (Time as Verbum), and we are all approaching the same length of a word at completely different speeds, you sort of experience multiple layers of time.

Ockeghem is most famous for this with his prolation canons, but here is the important distinction: in Ockeghem's work, the object of time is the durations, and thus the melodic nature of the canon. Because the text is not the primary object of time, the words overlap in such a way you do not necessarily identify or think about time being shifted.

However, when the object of time is the word, and you only move on in the piece word by word by word, as if homophonic, but have multiple layers of varying rates of speed, your focus is on the word, and only the word, so the effects of time dilation are heightened.

See in pure musical canons you don't really have a true frame of reference to determine time, you're more focused on the overall landscape, where multiple layers of time form a composite, which is the Gruppen experience: Stockhausen looking into the distance and seeing layers of mountains. Ligeti would make use of this concept as well, turning several layers of rates of speed, at the rhythmic level, into imperceivable sound masses. The essential goal of this fabric is to deal with sounds and time as composite, many layers of things happening at once as to create so much noise your focus is directed towards identifying and parsing that. Time is being overlapped, but time is also being ignored in favor of texture, so you are not identifying the time in the first place, and thus dilation is not really being experienced.

In this situation, the reason why I am not making the prolation a canon is particularly to avoid turning the ear to this composite aspect. If the waves are to be enjoyed aesthetically in this sense, then we will listen for the craft of the canonic line, and in listening for harmonic events, we will ignore the dilation effect. This is the core problem of the *Missa Prolationem* as an example of effective dilation, because, though we hear the effect at the beginning of each phrase, due to the "rhythmic consonance," Ockeghem writes the canon artfully: the point of the craft is to hide the means of creation, and in doing so the

actual experience of time is sublimated to create a perfect piece of music according to all the rules of counterpoint.

The notion is the same in the 20th century examples, ala Ligeti, Stockhausen, Xenakis: the results obfuscate the experience of time. The intended results are not really meant to be understood, the notion is that in standard perception and experience there is a lot of noise that, if not filtered out, becomes this stochastic experience. The world is filled with a great deal of information and we experience it as a great sound mass, in the same way a canon is not experienced as all the lines, but as a result of the lines.

But this is not really how we experience dilation as understood in a relativistic sense. If a given object is isolated, then we understand that, the perspective of each individual viewer of it will change in the rate they experience it based upon the time it takes for the appearance of it to them, because the speed of light is constant, but our experience of it is not. Even if something moves at a consistent rate, it still must travel a certain distance as to be perceived. Therefore, with two viewers of one object, one will experience the occurrence of it at a different rate than another based on various parameters.

Making sound your target of a dilation effect cannot work the same way because the speed of sound in air is much faster than light, and so the distinctions are harder to perceive by most ears. Space physically matters in these concepts, but because these things are very hard to effectively set up as to be perceived by the ear, I am not interested in the physical qualities of this phenomenon. Though I do like the effects of spacing in music, I am much more interested in the question of how this works with the psychology of perception.

Therefore, when we make the word the object of time, we direct the attention of the performer and the listener to this word, and there can be a certain psychological effect, without any question of physical distance involved, because the manner of conceptualizing time has created a space in which to hear time shift.

Returning to the *Missa Prolationem*, there is an interesting aspect to it for the singers. Because they perform from partbooks, and not a full score, their experience of the music is isolated. They know the other part is the same as theirs, but they experience hearing what someone else is singing as being slower or faster than what they are. This is true of Stockhausen et al, who only experience difference in time due to working from a situation in which they are only aware of their perspective in the musical fabric.

But what we are missing in this is that the listener is not privy to this, so they only experience the result without having a way to understand how time is moving. So to use the word as the source, as

the target of focus and time through my compositional techniques in this genre, the listener hears the result of time dilation because they are hearing the same word being pulled out of a standard homophonic syllabic experience into various strands of time based on the manipulation of the phonetic material.

As long as we are focused on pitch and rhythm within a musical fabric as the objects of time, then the listener will simply be unaware of what is actually happening unless they have the score; however, by calling the listener to focus on the same thing the performers are, the word, the object of time shifts away from the pitch and rhythm, and to instead what the pitch and rhythm are determined by, which then can facilitate the experience of time being pulled into multiple directions at multiple speeds.