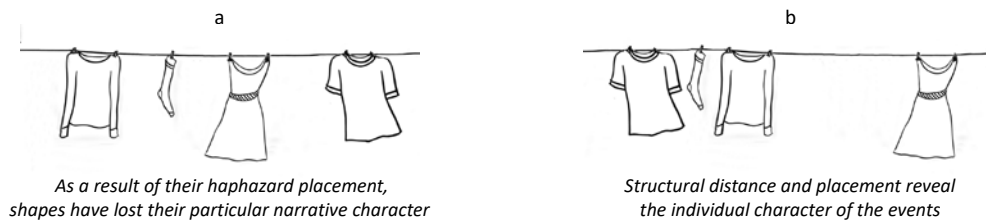Markos Lekkas

Running (in and out of) Time

A matter of distance?

Time seems to have been perceived as a meaningless space, a never-ending empty line on which meaningful events are being attached, in the same manner already shaped elements hang one after the other on a bare – non architectural – cloth line. It is possible however that time is structured in such a way that the events assume their form not according to their individual characteristics but following the obligatory relation to other events, dictated by the particular structure of the temporal environment they live in. Unless time exists as such, there is no meaningful way to explain the architectural distance between events, which otherwise would seem to denote a vacuum, in which individual sensible moments occur unconnected to each other. Time can thus be defined as the functional plain upon which successive events form a larger whole, by being placed at a certain distance from each other.

In the next example it becomes apparent that meaning is not a matter of individual shape, but one of structural placement including distance.


As a result of their haphazard placement, shapes have lost their particular narrative character

Structural distance and placement reveal the individual character of the events

Example 1. Shapes and structural placement

Since the events themselves constitute no layer of their own and, as a result, have no consciousness of the power linking them to one another, their distance can only be measured on the surface of time. In this respect, what they form depends and is depended largely upon the frame in which they exist. Events therefore after entering the frame of time become members of a society which is governed by structural boundaries dictating their social role and function, dictating what they actually are. In this respect, the event is not the signified, it is the signifier.

What then is the signified?

The syntax of time

Time as it has been expressed by Immanuel Kant (1770) is an intelligible concept, a plain upon which events are placed in order for their interrelation to be comprehended, as it is not possible for such relations to exist without the conceptual preexistence of time. In this respect, there exist periods of time, marked by instants showing their beginning and end, within which events occur at certain intervals.

Example 2a. Structural placement of sensible events upon the intelligible (non sensible) time
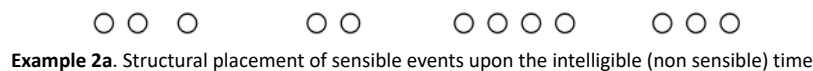
Time is therefore divisible and can then be fragmented into fractional units, each of which is possible to be further fragmented without being a separate entity itself, but instead a fraction of the whole, relating functionally to other fragments. As a result it can be deduced that time contains structure or that time is by default already structured.

Example 2b. Structure not as an event-(property) but as a time-property

In this respect, events exist and behave according to the structural properties of time, acquiring – by way of this relation – syntactical characteristics they did not possess before.

Looking for the rhythm

In music what actually defines the events in a composition is not the individual way they sound but the way they are being connected to each other, the way in other words they are placed (within the frame of time) regardless of whether they represent notes, motives or even phrases. In many ways they resemble the manner that ancient columns function within a larger structure, where they are able to denote (but unable to represent) rhythm on their own, for rhythm does not exist in the parts themselves, it is the result of the moulding of these parts as they form larger structural units.
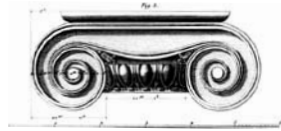
Example 3a. Rhythm on the level of the event

As a column is by default part of a larger formation – each consequent column being only a repetition of the one before – its most important syntactical property is the distance from the one before and the one after. In this respect the different formation of the structures below, are far more characteristic of the structural rhythm than the type of column used, which ultimately becomes almost an incidental stylistic detail.

a   b

Semicircular formation   *Straight formation*

Example 3b. Rhythm as expressed in relation to the whole, expressing its immunity to the rhythmic properties of the event

Thus a column is only a structural indication of the whole, with no syntactical meaning in itself, without the ability to define the building or its use, as it only represents just a small aspect of style, which is perhaps structurally irrelevant, in the same manner a C sharp is largely irrelevant to the motivic structure.

The events then act as pins on a map, marking the map property without relating to it, outlining no shape of their own, in the same manner that a signpost indicates a place, by being geographically but not architecturally connected to it, in the same manner that street signs are being signifiers without being part of the actual structure.[1]

Time is not real and for that reason it is just an invention of the mind, outlining the fundamental geography upon which the events are placed in order for them to acquire relation to one another, not as constituents but as points of reference to the lines, which constitute the actual shape.

The space in between

Time could thus be defined as the apparatus which sets in order not the events themselves but the invisible distance between them, existing on its own intelligible (and for that reason invisible) body. In this respect, time does have a body and constitutes both structural and functional geography, the result of which is inferred by the visible events.

In the same manner, Ursa Major is what it is not because of the characteristics of the individual stars, comprising the constellation but because of the distance (and the direction) from each other; it is therefore not the stars that which defines its final total shape, but the empty space between them.


Example 4a. The constellation drawn using only the sensible events

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[1]   Such a signifier in music is the barline, a sensible sign, denoting the existence of pulses and measures, without being itself part of the structure.

Since there are no lines involved but a mere aggregation of points, showing only where the non visible lines are apparently passing through, the representation constitutes only a signifier of a supposed outline, which is formed in approximate terms, exclusively inside the brain.

Here too, the structural factor is again the distance in between, the frame within which structure exists. In order to define the scheme, it is therefore necessary to draw the lines connecting the points, since the dots themselves are no more than footprints showing the covered distance.
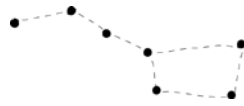
Example 4b. The constellation using the intelligible lines connecting the sensible events

In the case of the musical score one sees the notes which represent the actual events, the sounds behind them; the sounds which need to be put at a certain distance within the frame of the non sensible intelligible time, in order to acquire meaning and structural narrative. In this respect what actually comprises a composition is not really the dots but the 'space behind', the invisible lines running from one dot to another connecting them, made up by the mind, not detected by the eye.

The dots seen by the eye are merely a notational cartographic shorthand approximation, showing where the invisible lines meet and how they travel, it is therefore a plain map of the (drawing) route, not of the actual geography.
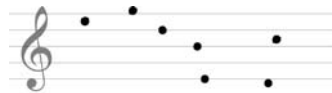
Example 4c. The constellation drawn using only the sensible events projected upon a 5-line matrix,
omitting the structural lines which constitute the route of the travelling sound,
denoting not the actual trail but the marks the moving sound has left behind

Events (thus) are the visible parts of an invisible whole, in the manner that people are visible sensible units of an invisible intelligible whole, the family, inside which they function, unable to exist meaningfully on their own. Thus it is possible to sense people (representing events), through whom it becomes possible for the mind to invent the conceptual preexisting whole, the family, which is a representational product of the intellect, a concept, without which however people would be stripped of their relational links.

> Shapes are made of (structured) lines, not of points.
> Music is made of (structured) periods of time, not of events.

A placeholder for the slip of the tongue

Language strangely has not yet devised a term to define the function pertaining to the internal structure and dynamic relations within concepts. Thus terms such as *family,* although governed by organic relations, are often perceived as mere aggregate summations, betraying a rather loose and inexact perceptual status.[2] The reason is rooted in the habitual fact that language feels more content dealing with the sensible (events) rather than with the intelligible (functional frame) arriving often at the erroneous conclusion that the events (as a result of their visibility) are structural elements in themselves, instead of being the content, that people themselves constitute the structural family, that people *are* the family.

In the same manner in music, what is visible on paper seems to denote a corresponding element in the sound domain, a rather deceiving notion, as one cannot hear neither the omnipresent barline, which represents a mere point between actual time periods, nor can conceptualize the invisible pulse, being actual structured time, upon which the narrative obtains existence.[3]

In this respect the barline, as a result of its striking visibility, is perceived as a structural element while the pulse is perceived either as an applied mechanism for dividing the beat into two equal parts or as a mere placeholder, pertaining more towards a storage box of sounds, rather than a functional frame of relations, diminishing thus – even at times nullifying – its structural properties.

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[2]   The closest term *placeholder*, denotes a non-functional container and cannot properly describe relational functions.
[3]   This resembles the way the (sensible) added odour, acting as signifier, is taken as the main property of the otherwise (intelligible) odourless gas, spreading the fear than one is bound to die from excessive intake of smell.

Structuring time

Pulse is an empty functional frame consisting of structured time, whose properties forge the laws events entering its boundaries are obliged to obey. The events themselves have no properties of their own in relevance to time and their other properties such as pitch, duration, color etc. are irrelevant to structure. A sound event in relation to time is thus a phenomenon with a sole structural feature, the moment of its attack, dictating in this way its geographical placement, illuminating its relation to other such events governed by the same laws. Pulse is thus a period of relations, the beginning and end of which are actually concepts and do not constitute part of its property, acting as plain indications of its size, two non-structural points at each end, in the same manner the heartbeat marks the structural period to the next heartbeat, containing no relations of any kind, since points are not made of time.

In music the role of the heartbeat is assumed by signposts at the beginning of periods, measures, pulses and pulse elements, of which the only one visible is the barline, a largely 17th century invention, acting as a structural barrier, breaking the narrative just for the fact that is visible, based on the premise that the mind is prone to deception, while everything else is either assumed or sometimes just ignored either by will or by habit.

According to the principle of proximity in Gestalt Theory, events having a close distance to each other are perceived as belonging to the same group. The final event of a group is therefore the one situated at a greater distance from the next one, which by default belongs to the following group.

**Example 5a**. Events according to the principle of Proximity leading to the final

The final event of each group is perceived by the brain as having an agogic accent, based on the premise that each successive event leads to the next until they reach the final one, completing in this way the group.

Looking at the following example the end of the group seems to be determined by the duration of the last note, giving the false impression that duration itself is a structural element.

Example 5b. Duration and Proximity groups (Schumann, *Album für die Jugend* op. 68.16)

In reality duration in general is irrelevant to both structure and narrative, since events in time, relate to each other in terms of succession and their structural characteristic is their placement within the time period, their impact being only terminated by the presence of the next event, in the same manner a day ends when the next event (night) arrives. In this respect the duration of a certain event is not the property of the event itself, but a side effect caused by the beginning of the next one. Thus in the following example both versions are identical since their relation to time is determined by their attack and not by their duration.
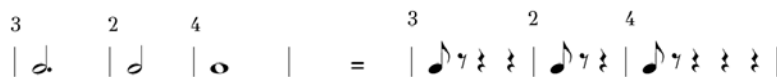
Example 6. Structural irrelevance of duration

In this respect it can be said that an event has only beginning, its ending is irrelevant, since duration itself is not an evental property. Thus an event gradually disappears from memory, even in full presence, led to obscurity by the impact of the next events in order.

The invisible framing of the sensible

A functional frame is a frame whose function is to lend relational properties to its content, which did not exist before and would be lost as soon as the content exits the frame. Most of the time either the frame itself or its functional properties, belong to the realm of concepts. Thus the frame although itself at times sensible, its implementation of properties such as inertia or gravity to its content is neither sensible, not otherwise

empirically understood, remaining exclusively a property of the intellect. In this manner, the relations developed inside the frame remain unavailable to the senses, causing as a result the habitual ignorance by choice, of their very existence, since a reminding sensible impact of their presence, is either not received or not processed by the brain.

This rather peculiar phenomenon has also penetrated language which has not felt the need to define the functional properties of frames, perceiving them instead as mostly aggregational containers, as holders of objects rather than agents of relations, supported by the use of terms such as the suffix –*hood* (as in manhood) which in the best of conditions would mean an aggregate summation and hardly a procedure of function and relations.

Following, however, the actual process, the frame would lend its function to its content, until the inhabitation within is terminated. By default then, these characteristics are the real-time property of the frame, forcing the events to behave accordingly. Transferring the procedure to music it can be deduced that it is not the events but time, which is structured and its structural characteristics are mirrored on the otherwise characterless events, which by being sensible, delude the mind to believe that they themselves and not the frame have organic structure. Hence, it is the Pulse which although can be neither seen nor heard, that actually determines the attitude of the visible and audible events which inhabit it.

Inside the invisible pulse
Musical pulse could structurally be either binary or ternary, containing respectively two or three equal fractional fragments called pulsar elements.
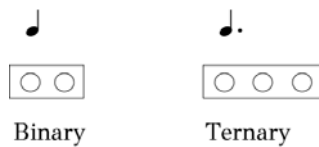

Example 7a. Binary and ternary pulse with their respective pulsar elements

The pulse is structured time, containing an accent at its start. This pulsar accent is a unique property of the pulse and is applied to the first event in order, regardless of its duration, since duration is not a structural element.
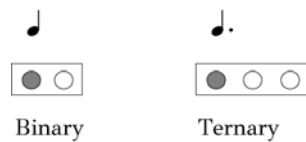

Example 7b. Pulsar accent

In this manner, structural time and groups of events, made of organized musical phthongs locked inside the pulse, run simultaneously, the former constituting functional relations and the latter forming the sensible part of their existence, the cell.
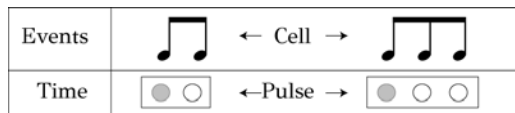
Example 7c. The (intelligible) pulse and the superimposed (sensible) cell made of organized phthongs

It is important to note that the pulse, due to its non-sensible character, remains largely undetected, its existence being only assumed by observing its impact on the sensible.

The accent at the beginning of each pulse causes the first event to be noticeable, more than the consequent ones, which have no such property. The accent is applied regardless of whether it is a note or a rest, since a rest is also an event taking up actual structural time, regardless of the fact that is not sensible to the ear. As far as structure is concerned, a note is identical to a rest, making the lingual rendering inadequate, for there is no rest anywhere in music. What is called a rest is an actual temporal event whose volume has been set to zero. In this respect a rest is a note.
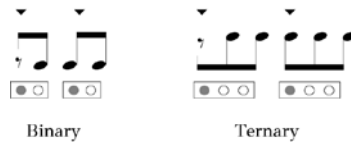
Example 7d. Application of the accent on the first event of the cell, whether a note or a rest

Forging the visible

Two of the most important functions of the pulse are the Thesis and the Arsis, both of which appear and operate on the evental level, occupying each an inversely proportional, non fixed, time interval. The main characteristic of their function is that the Thesis contains one single event while the Arsis as many more as the pulse can hold.

Traditionally the theory of music has accepted that the Thesis comes first and Arsis follows, which is inaccurate since the thesis occurs at the conclusion of a series and not at its beginning, containing one only event, after which, another Arsis begins repeating the process over again. In this respect, a series of tones has one final event at the end, at the place where the Thesis lies.
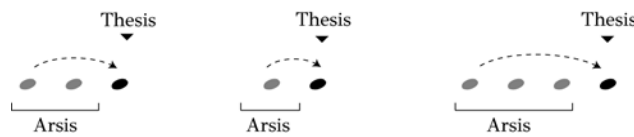
**Example 8a**. The preceding Arsis and the following Thesis

In this respect the organic accent at the beginning of the pulse (the Thesis) is perhaps the most characteristic pulsar function, serving to carry the structural meaning and give direction to the music, forging in this manner the structure into larger formations of narrative.

As it has already been stated, duration is not structural and for that reason the function of the thesis is not applied on the level of time but on the level of the event. Thus, when the tones enter the pulse are being transformed into phthongs, following one another, leading by default to the first pulsar element of each (next) pulse.[4]

Example 8b. Pulsar accent driving the narrative forward

In this manner the first event within the pulse concludes the previous event-group, functioning as a point of arrival, after which a new group would start, repeating the process, directed towards the next Pulse. The point of arrival then, lies not in the same but in the next Pulse.
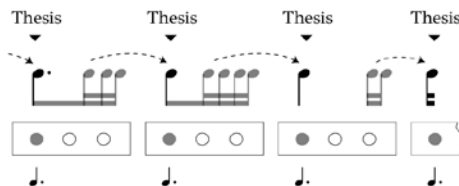

Example 8c. The reciprocal spatial relation between the Arsis and the Thesis

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4   In the case of the non-structural tones the last event is also perceived as the first of the next group.

As it can be seen, the more space taken by the Arsis the less space is left for the sole event of the Thesis, which only requires a minimum vicinity, efficient enough to render it sensible. In this manner this event could vary in agogic value from the smallest possible fraction to occupying the entire pulse, under the condition that the space is made available by the absence of events inside the following Arsis.

Towards language

When the almost characterless twelve tones of the tonic system enter the premises of the pulse, are forged to form organic cells, within which they are transformed into living structural elements, able to assume syntactical role towards the formation of lingual narrative.
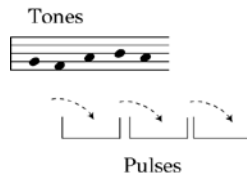

Example 9a. Forging the tones into phthongs

Entering the Pulse, tones acquire new characteristics being transformed into phthongs. Phthongs are organized tones on their way to constituting language, cellular formations which exist solely inside the pulse. The moment they no longer inhabit the pulse they become single tones again and belong back to the Tonic System since the function of the pulse is a real-time one. Pulses then are organized into larger fragmentary units, the measures, which by default could only be, either binary or ternary, following the Tempus and Prolatio principle of the Medieval Music.

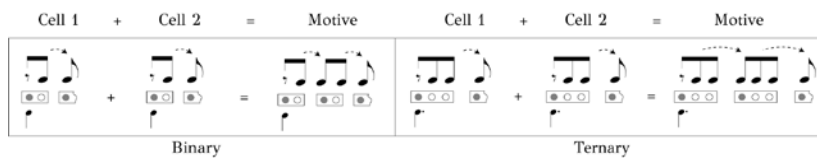**Example 9b**. Binary and ternary pulses inside binary and ternary measures

When such a succession of phthongs enters the pulse, acquires pulsar characteristics no longer pertaining to mere tones but instead, to factors of language, able to form cells and motives.

A cell therefore is comprised of phthongs inhabiting inside the Pulsar Elements. As soon as the pulse is filled, becomes functionally locked, containing a whole cell made of phthongs. In this respect a cell is correspondingly equal to a pulse, ending on the Thesis, being also either binary or ternary.
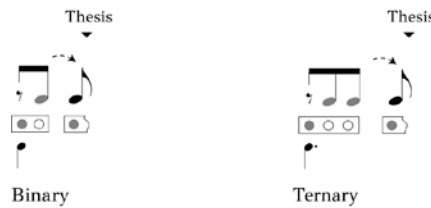

Example 10a. Direction and structural correspondence of the cell

In this manner, on the level of language the pulse represents a musical syllable, a functional frame containing a corresponding musical cell. When two or three pulses are joined together building thus larger structural units, the cells inside form also binary and ternary motives, which on the level of language represent the letter formation of the word, a functional frame containing syllables.

Example 10b. Forming the motive

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As the pulses are put in succession one after the other forming binary and ternary measures, the events inside follow by default in simultaneous formations of cells and motives.
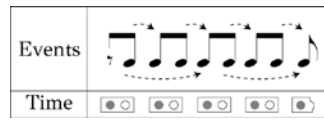

Example 10c. Moulding the (sensible) events inside the (intelligible) structured time

Two examples from the repertoire are shown below one binary and one ternary, following the notation of the sensible, superimposed on the intelligible pulse, which determines the formation of the sensible into cells and motives as well as its syntactical attitude.

**Example 11a**. Binary structure (Schubert, *Schöne Müllerin* D.795.02)
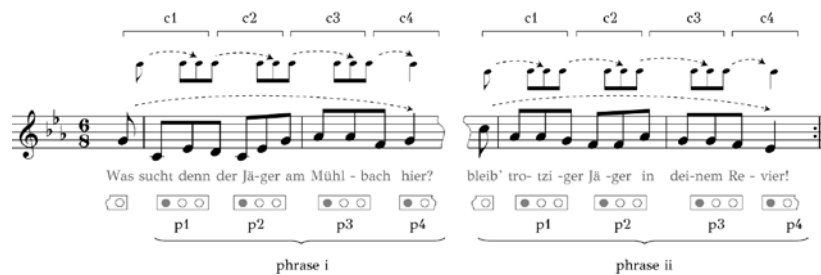
Example 11b. Ternary structure (Schubert, *Schöne Müllerin* D.795.14)

As a result of modern theory of the Rococo period and its preoccupation with the light and the elegant, there are almost only binary units of pulse measurement in music. Thus when the need comes for ternary, an alteration is necessary through the so-called dotted values. In this respect since a value of three eights does not exist one has to resort to altering a binary quarter value by placing a dot after it (altering incidentally its value to one-and-a-half) a device for which there is no corresponding fraction to denote it. Thus a 6/8 measure although it is just a common simple binary measure of 2/3 and the 9/8 just another simple ternary measure of 3/3, both are presented as compound measures pouring incoherence into basic practical musical procedures.

Invisible language

Thus the tones of the tonic system are grouped together according to their pitch relation, forming groups of phthongs which eventually, entering the pulse are transformed into cells locked functionally inside the pulse.
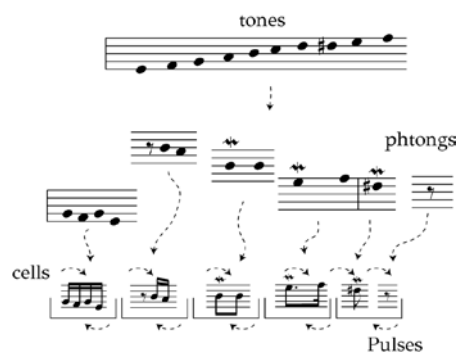

Example 12a. From the tones to the cells (Bach, *Invention 7*, BWV 778)

The next step involves the relational organization of the pulses themselves, their syntactical placement within a larger structural unit such as the measure, carrying with them their, already structured, cellular content.

Example 12b. From pulses to measures (Bach, *Invention 7*, BWV 778)

Having already been shaped into musical syllables, following the laws of intervallic succession inherent in the tonic system, the cellular content is being moulded eventually into phthongs, forming consequently larger syntactical units in the shape of motives and phrases.
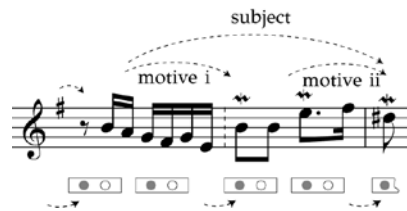
Example 13a. Formation of syntactical units towards narrative (Bach, *Invention 7*, BWV 778)

Following the structural organization, the subject of the example is formed within a binary frame, with each cell reaching the final phthong at the beginning of every pulse, completing ultimately a compound binary measure.

Example 13b. Cellular and motivic narrative direction towards the next syntactical unit (Bach, *Invention 7*, BWV 778)

Desensitizing music

As a result of the fact that events are the only ones sensible, they inadvertently take precedence over the invisible structure of the pulse, giving the false impression that they themselves are the language of music.

Being deceived from following only what is sensible, performers then render the events according to the vertical distance from each other, placing a false accent inside the arsis, turning as a result the (binary) cell into ternary, placing an extra thesis where there isn't any, with consequence to disturb the narrative, resulting from the inherent habit of the mind to be deceived from events lying close to each other.

Example 14a.Ignoring the pulse, caused by visual deception (Bach, *Invention 7*, BWV 778)

As the other voice enters also on the Arsis, the repetition of the false execution of the motive as ternary, being placed against the binary of the other part, has as a consequence to make the structure incoherent, rendering a performance, which is both haphazard and illogical.

Example 14b. Haphazard execution (Bach, *Invention 7*, BWV 778)

Thus the language of music, following what is sensible, forms its narrative based on the shape of the dots, instead of on its structural principles towards a syntactical narrative.

Epilogue

Time could be expressed as consisting of periods of relations representing change; in music, however, it has often been used as a line upon which individual events take place, one after the other, regulated by the barline. As a result, the outcome often leads towards a mostly binary, repeated pulsar pattern, where the difference is expressed almost exclusively by vertical sonority, a reflected propensity of the Rococo environment. In this respect, the mensural possibilities are being reduced to a measuring mechanism of distance between fixed units, where the container dictates not the function but the shape of the content, superseding thus the gestalt properties of music, forcing the human mind to be concerned with measured blocks, which does magnificently, instead of the meaningful juxtaposition of notes forming cells, motives and phrases.

Time perhaps, could be thought as a preconceived long strip of silence upon which partial whole events could be unfolded, forming a complete whole. In this respect, time in music is the frame not of sounds but of narrative; narrative meaning.

Music happens in time. Its form and structure also happen in time. They run in the so-called real time, for no other time exists, everything else is a fictional metaphor. That which remains in memory afterward is not music, it is the recollection of an experience at a different, non-real time.

Thus, its basic structural unit – the invisible pulse – is also running, because this is what music is: structured time using notes to draw its footprints, in order for its trail to be understood and followed.

Santrauka
Laike ir už jo ribų

Laikas gali būti apibrėžiamas kaip besikeičiančių santykių periodų, o ne individualių momentų seka. Muzikoje vis dėlto jis dažnai suvokiamas kaip linija, greta kurios vienas po kito išsidėsto individualūs įvykiai, valdomi išradingos įprastos priemonės – takto brūkšnio. To rezultatas – daugiausia binarinis, pasikartojantis pulsinis modelis, kuriame skirtumai išryškėja beveik vien dėl vertikalaus sonoriškumo.

Taigi menzūrinės galimybės yra laikomos matavimo mechanizmu, apibrėžiančiu atstumą tarp individualių periodinių vienetų (tokių kaip taktai), nustatant principą, kaip jie užpildomi, kai talpa diktuoja turinio formą ir verčia žmogaus protą rūpintis vienetų matavimu, o ne siekti prasmingo natų išdėstymo formuojant ląsteles, motyvus ir frazes, taip išstumiant muzikos *geštaltines* savybes.

Laikas gali būti suvokiamas kaip išankstinė sąlyga, ilgas tylos tarpas, per kurį gali plėtotis visumą sudarantys įvykiai. Tokiu požiūriu laikas muzikoje yra ne garsų, bet naratyvo dalykas. Pagal naratyvo prasmę muzika yra struktūruotas laikas su kelią rodančiomis natomis.