

## Parametrical Judgment of the Cognitive Melodic Realm: A Technological Aspect

### Annotation

The purpose of the present paper is to suggest tools for a closer look at the cognitive quality of musical parameters. “Closer” means that tools are supposed to expand the boundaries of traditional analytical instruments that are based on finding confirmation to creative systems of various musical styles (e.g. classical harmonic style, dodecaphony, etc). Instead of this, suggested analysis relies on the connotational meaning of parametrical expression (like rhythm, tones etc.) in music in question, its cognitive impact on the listener, and in a still broader sense – musical communication. “Closer” also means the possibility to measure and depict unconscious constituent of musical expressing power usually considered as an immeasurable creational mystery. To achieve this a strict procedure of gestural graphics was formed to depict the cognitive quality of particular parametrical expression.

**Keywords:** musical informatics, communicational dimensions of musical structure, musical gestures, communicational analysis model, graphics of gestures and hyper-gestures, validity of composer’s intention realization.

### 1. Theoretical background of parametrical judgment

#### 1.1. Dimensions of musical communication

The attitude to analysis used in the present paper relies on semiotics – for definition of analytical instrument, and on informatics – for defining scales of measuring. Insights of both fields are applied to analyze the cognitive impact of a particular parametrical expression. If the cognitive impact is to be described in semiotic terms (that is, what “impact” notion shows), it is helpful to apply the categories of a communication process – thus it can be traced what is causing cognition, what is the media agent of a cognitive impact, and what exactly this impact is in strict scientific terms. According to Jean-Jacques Nattiez (Nattiez 1990: 3–30), a symbolic process, which causes cognitive communication, has:

1. *Poiesis* is dimension-source of cognitive message. In musical realm, *poiesis* is of different kinds and it depends on musical activity in question. According to Mieczysław Tomaszewski (Tomaszewski 2000), activities (or phases, as he put it) are conception (composing), realization (playing), perception (listening) and reception (critics). For example, for the perception phase *poiesis* can be some listening habits or particular places, likewise for the realization phase it could be, for example, traditions of artistic execution in a particular region. For the sake of narrowness and clarity, in the present analysis only the conceptual phase will be considered – e.g. composing *poiesis*. Thus, every statement in this analysis describes compositional impact on sonority.
2. *Trace* – this dimension means the condition, through which *poiesis* is mediated, reality in which a message lives. A particular musical activity phase relies on particular reality. According to Guerino Mazzola (Mazzola, Park, and Thalmann 2011: 6–10), there are three musical realities:
  - a) *Symbolic* reality trace for meaning of whatever tool used for music conceptualization – like a score, instrument, text or mathematical theory. It is important to stress that what is symbolic is a tool’s action, not the device itself – for example, symbolism of musical instrument is its playability, not its physical sounding construction.
  - b) *Physical* reality is responsible for a symbolic tool’s sounding action – any manifestation, capable of causing musical communication. This could not necessary be communication waves transmitted through the air. For example, a composer is capable of playing music in his head, performing in mind, not in an actual physical moment, but in so-called logical time.
  - c) *Psychological* reality – that is an emotional/artistic side of music.

Different time of musical communication is crucial for analysis of cognitive impact. Again, according to Mazzola (Mazzola, Park, and Thalmann 2011: 236–246), there are **three different communication times**, where sounding (or physical reality trace) occurs:

- 1) Composer plays music (in his mind) in **logical time** – time, where an event can be identified not by occurring in usual timeline, but according to some logical path between events. This logic comes from memories – musical experience and knowledge. By nature, logical time is much slower than real time, allowing a composer theoretically a never-ending proof of the event’s validity, and thus check the quality of the musical ideas.
- 2) Actual air vibrations emitted by musical instruments happen in **real time**. Theoretical analysis is quite limited in this time – a sounding moment is gone at the exact moment when someone tries to think

about it. Therefore, considerably more useful for the scholar's activity is next time, where musicians really have the power to make some conceptual messaging in his music. This creative domain is called time of imagination.

- 3) **Time of imagination.** In this time it is possible to trace musical gestures and hyper-gestures and thus to plan ahead a gestural expression of music, thus its cognitive impact. This trace is central to analytical activity of this paper, so there is a need of a clear definition of the gesture's notion.

In the context of informatics, **gesture** is a result of communication between earlier defined times of physical reality. As for all communications, it has its *poiesis*, trace and (still to be discussed) *aesthesis*. For the gestural *poiesis* stands a current musical situation that is physical time, for example, melody moving diatonically (three further examples are created by the author):



Example 1. Gestural *poiesis* – melody evolving stepwise

A musician can extend this current moment of music by linking pre-existing knowledge in logical time and the future of sounding in imaginal time, that way to predict what music will be when we apply our knowledge. This linking occurs in a gestural trace environment, which is operation to be applied to the current musical situation, for Example 1, it could be a decision to apply a hidden polyphony device (marked PT in Example 2), best known from works of J. S. Bach as a combination of register and intervallic changes:



Example 2. Gestural *trace* – hidden polyphony operation

The described communication source in Example 1 (e.g. *poiesis*) and media (*trace*) in Example 2 cause the actual changing of musical flow, its *aesthesis* – melody interweaving in a way that is more indirect:



Example 3. Gestural *aesthesis* – stepwise melody is changed to more relief motion

That change of musical flow is a predicted gesture – *aesthesis* of communication in imaginative time. As can be seen, knowledge, existing in the past (a hidden polyphony theoretical description), connects the present time (a stepwise melody motion) to realized future – sophisticated melody landscape in time of imagination. That is how the former linking in time through gesture expression occurs, and that is, what exactly will be shown in the analysis of the present paper.

To sum up, for the cognitive impact to occur, we need to trace music communication, and first thing first to identify the communication source – some musical activity, which is happening in particular reality (so far we have discussed two of them) for the musical phase in question. This source impulse is mediated through communication trace realities and of particular interest in this analysis is physical – through application of a different sounding time device physicality can be detached from actual instrumental performance of music and can be used to measure the product of conceptual phase of musical activity (that is, to judge the composer's intentions and realizations).

Physical reality is very much of measuring, which is the main concern of this paper, and this measurement should be applied to the final stage of activity, the result, which can be actively comprehended, and that is **aesthesis of communication's symbolic process**. For the validity of measurement, there should be a clear distribution of musical realities in the communicational dimensions of musical phase, as this implies different referential scales of measuring. Namely, for symbolic reality various scale structures of systemic knowledge

should be used, mainly concerning proper style logic (for example, conforming of piece’s texture to counterpoint rules). For physical reality, various gestural process measuring devices are to be applied (this will be exemplified in the paper). As to the conceptual phase (composition), its *poiesis* lies in psychological reality. This reality cannot be actually measured by scales, but can be projected through a series of psychological devices, namely – motivations, meta-theories, connotation study, and these are in turn *poiesis*, *trace* and *aesthesis* of psychological communication in music. Analysis of such psychological communication contains validation of the composer’s intentions and ideas and subsequently the evaluation of parametrical realization of these ideas is to follow. That is exactly how the two-stage analytical method, proposed in this paper, is described. To exemplify this analytical routine, psychological communication dimensions will be shown for meter parameter (it is almost impossible to show workaround for all parameters responsible for the melodic realm structure due to the limited volume of writing). Speaking not in strict scientific terms, analysis will show why and how a composer can use a particular parametrical expression to communicate his initial creative intention, to convey his imaginative constructs through musical language.

### 1.2. Two-stage analysis model

A two-stage model for parametrical judgment technology is based on communicational dimensions of the conception phase (shown in Figure 1). Most constrains of these communicational dimensions already are or will be analyzed in this paper.

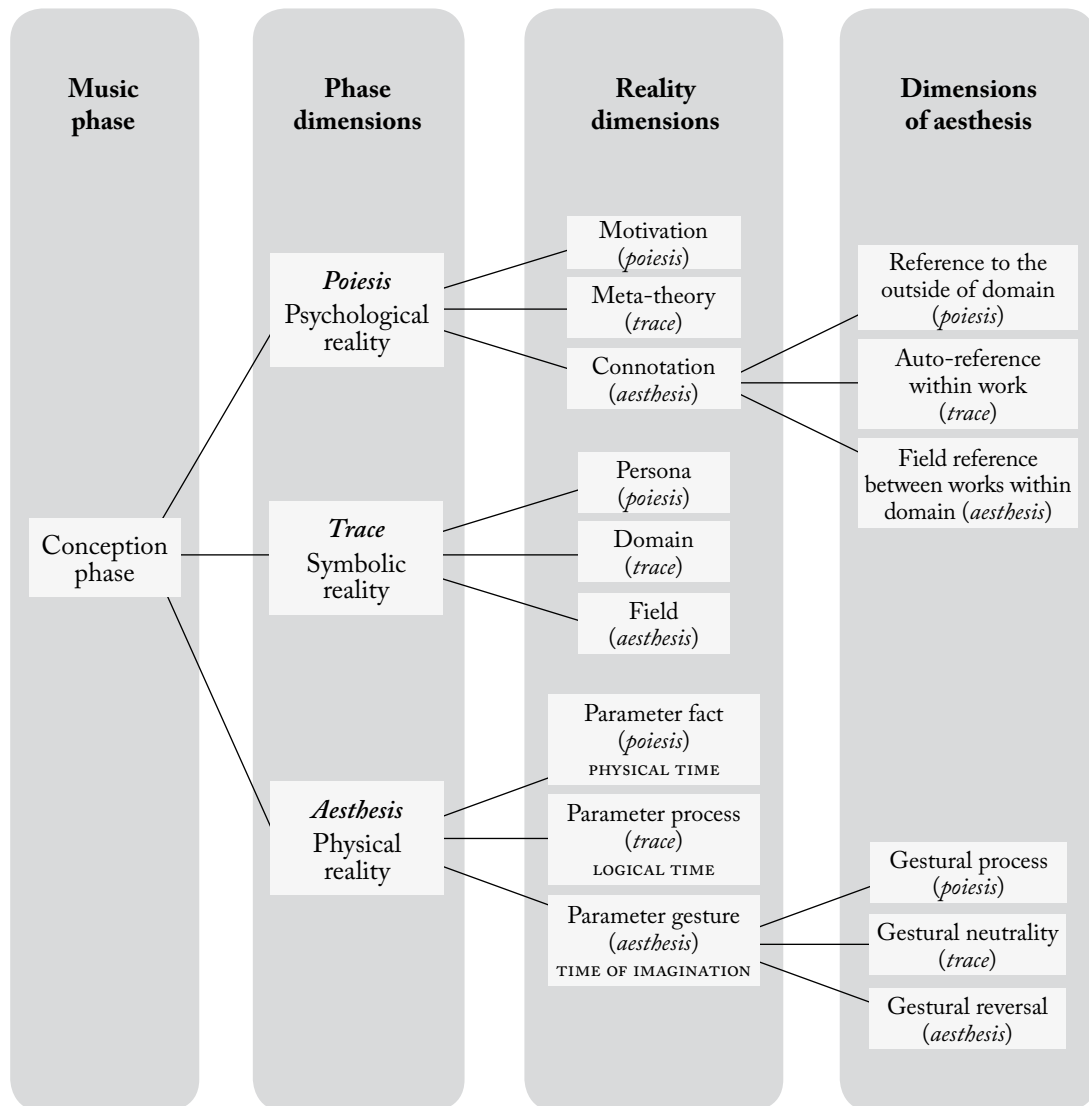


Figure 1. Symbolic dimensions of conception phase (Mickis)

The first stage of analysis comprises detailing of psychological reality that is to examine the structure of the composer's initial ideas. The following actions should be taken:

- a) look for the motivation of the parameter usage as poiesis of implied meaning in parameters;
- b) describe meta-theoretical background as a trace for parameter communication;
- c) comprehend connotation the parameter can convey as a psychological aesthesis.

**Analysis of psychological motivation** of parametrical expression reveals ways of meaningful usage of the latter, that is, to present what inspires the composer's activity in modeling parameter's flow (in other words, writing music) and what meaning this inspiration carries. For the musical meaning the classical definition of Leonardo B. Meyer is referred to (Meyer 1961: 43–50): musical meaning (in case of actual study – in psychological reality) arise when some change in the musical flow is evident. So analysis of motivation shows the ways a composer can think and produce changes in sonic impact through parametrical usage.

Meta-theoretical background analysis shows “useful” knowledge of music theory for the parameter in question, that is, knowledge, which can support (or trace) gestural aesthesis; delete or to put another name for psychological reality – parametrical connotation. These connotations should be analyzed in the third step of the first stage of analytical routine and types of connotation to be examined needs a little more explanation.

Connotation stands for the communication (delivery) of implied (through parameter's usage motivation) content of gestural expression. This communicational delivery is between two subjects of music culture, namely, context and content (that is, the audience, in the widest sense, and the composer) and thus symbolic dimensions of connotation define the way the piece in question relates to the context. Namely, it shows whether it is a result of context influences, a closed system of inner relation of musical language (trace), or it is influential work, defining some sort of standards in musical culture (aesthesis). In Table 1 these dimensions are shown in relation to scientific tropes of several scholars. Michael Cherlin (Cherlin 1998) uses these differences to analyze the hierarchy of the structure of content reference. Rūta Stanevičiūtė-Kelmickienė (Stanevičiūtė-Kelmickienė 2015) with her value of meaning distinctions classifies different content construction technologies to be applied. Leonardo B. Meyer (Meyer 1997: 337–347) defines by “musical discourse type” the notion that he calls “stasis” or balance of three approaches of music comprehension in time line of music history; according to him, in every moment of history there is particular balance of all the three types of discourse related to music in question.

Dimension of connotational communication	Michael Cherlin Reference of content	Rūta Stanevičiūtė-Kelmickienė Value of meaning	Leonardo B. Meyer Musical discourse	Analytical inquiry of parametrical expression
<i>Poiesis</i> (from context to content)	Reference to topics outside music domain	Metaphorical meaning (affects, rhetoric)	Referential discourse	Expression of depiction
<i>Trace</i> (from content to content)	Reference within a work	Symbolic meaning (structures, combinatorics)	Absolute discourse	Intra-musical expression
<i>Aesthesis</i> (from content to context)	Reference between different works in music domain	Allegoric meaning (“divine music”, “sounding number”)	Transcendental discourse	Expression of genre

Table 1. Symbolic dimensions of connotational communication (Mickis)

Exploring the meaning of connotational symbolism in analytical routine, for the contextual *poiesis* of connotation it is supposed that music “depicts” some outer phenomenon, one of examples being program music of romanticism. **From the analytical point of view, poetical connotation helps to find out parametrical expression of depiction of non-musical things.** For the contextual trace (or to put another name according to J.J. Natiez, “neutral”), there is music, which relates to the context only indirect way – through knowledge and cultural habits. This is absolute music, the highest point in Europe's music being classicism of Ludwig van Beethoven. Again, **analysis of neutral connotation should reveal the inner power of parameter's expression, the forces, perceived by what Eugene Narmour calls the “automatic input system of the listener”** (Narmour

1990: 48–54), that is, what the composer could express only by musical modeling without any other references. And finally, contextual aesthesis is music, which thrives as a cultural phenomenon, not a compositional one, examples being dance music (e.g., passacaglia or waltz), early organum styles, as well as jazz music styles (in terms of swing types) and many more. **Analytical view from the aesthetical connotation perspective can acquire features of genres particular parameters can support.**

The second stage of analysis is the creation of graphics of gestural expression. This graphics depict the encoding of analyzed psychological gestures through musical parameter gestures. Dimensions of psychological reality, explored in the first stage of parametrical analysis, are expressed through the trace of symbolic reality (musical knowledge) in physical reality of time of imagination. For the analyst this includes selection of constructs of music theory that are to be measured to explore parameter's gestures and actual expert judgment of gestural expression of musical text and the parameter in question.

Now, having defined the way of analytical insights, let us show an example of application of this theoretical background.

## 2. Example of parametrical judgment

### 2.1. Conditions for meter formation

To set an example of parametrical judgment, technique of meter analysis was chosen – it is the simplest and the strongest parameter in formation of melodic realm. Though the common notion of melody is “sequence of tones”, in fact, all parameters are responsible for the shape of melody and it is impossible to analyze tonal structure in an isolated manner. There is parameter hierarchy, responsible for sonic impact of a particular melody and the start of parametrical judgment lies in establishing metrical structure.

Let us recall structural elements, which are responsible for the cognitive formation of meter. Jay S. Jackendoff and Fred Lerdahl in their generative theory treatise (Lerdahl and Jackendoff 1996) took enormous efforts to count every possible situation for meter configuration conditions. In Example 4 “most. s.,” “moder. s.” or “least s.” indicate the suitability of events for meter establishment, and the higher periods below the first score system, the more pronounced meter cognition is achieved (more likely metrical beat to be formed). Meter conditions can be summarized in two categories:

1) Cumulative process of various musical parameters:

- change of rhythm value (longer duration, which can happen also by adding a rest) – 4a in Example 4;
- change of dynamic (louder sections vs. quiet ones or accents) – 4b;
- change of articulation (legato vs. non legato) – 4c;
- change of harmony – 4d as a passage of hidden polyphony (arpeggio is forming triads of thirds).

2) Repetition:

- 4e repetition of registral change (lateral vs. down-up movements of melodic realm);
- 4f transposed repetition of change of the trill's modal register (trill from D and C is transposed third down from B and A).

Example 4. Conditions of meter's formation (Lerdahl and Jackendoff 1996: 110)

Example 4 also shows the ambiguous nature of meter: 4a and 4b show the most suitable and less suitable metrical stress, the clashing of parameters is shown in 4g (articulation vs. length) and 4j (articulation vs. repetition). In order to resolve such conflicts in analytical routine, the hierarchy of strength of parametrical expression is needed (see below). As mentioned, the most influential parameter for sonic impact is meter; other parameters in order of descending cognitive power are:

- 1) meter (including repetition),
- 2) rhythm,
- 3) tones,
- 4) register,
- 5) harmony,
- 6) articulation (“instrumentation rhythm”),
- 7) timbre (“instrumentation tones”),
- 8) tempo.

This taxonomy is based on the analysis of the insights of the author’s compositional practice and serves as a constant for helping to solve parametrical contradictions in cognitive analysis. Therefore, back to Example 4, in 4g the most suitable metrical beats are on the rhythm parameter (longer rhythm value); in 4f most likely metrical beat places are on A tones (instrumentation rhythm (articulation) fails in face of the meter structure). Now having to know conditions of the formation of meter (tools for meter expression), it is time to analyze the ideas meter could carry – that is, communicational qualities of meter’s psychological reality.

### 2.2. Motivation of meter’s cognitive impact

Analyzing meter structure in the first stage (i.e. communication in psychological reality), the motivation (*poiesis*) of meter (see Figure 2) stands for cognition of the prevailing at given time the scale of meter pulse (see Example 5 and explanation to it) and modulation between those scales levels, feature, commonly named as metro-rhythm. This feature of meter constantly motivates the listener’s attention to search for rhythm’s cognition basic and the shorter pulse values is, the sharper this aural attention (the lower graph in Ex. 5). If we compare how we listen and how we observe viewing the object details we bring the object closer to our eyes. On the contrary, in order to get the whole panorama we climb into the tower for a wider sight.

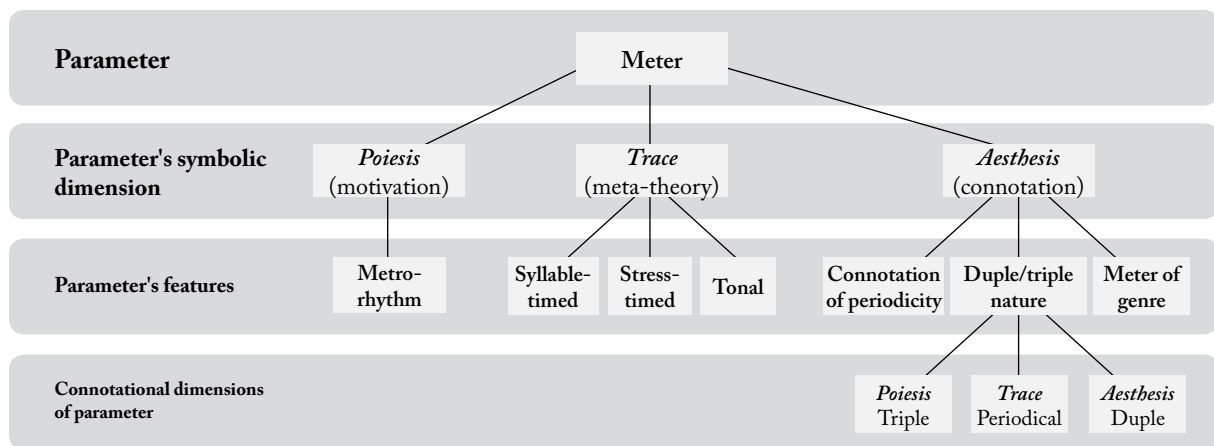


Figure 2. Communicational qualities of meter’s psychological reality (according to the author)



Example 5. Metro-rhythmical motivation of meter – connotational *poiesis* (supplemented example from Lerdahl and Jackendoff 1996: 47)

If we follow the rhythm flow in Example 5 a) from the beginning, the first onset C# hypothetically starts the stable pulse with the speed of the usual heartbeat of the listener (ca. 100–120 bpm), that happens before the music starts. When this onset is followed by second onset D, the latter immediately breaks this stability – the length of onset D is three octaves lower (that is three times shorter) and it is followed by the third onset C#, which should confirm implication realization, but is one octave higher than the second one (again, one time longer than second onset). This is exactly shown in the period configuration below the score and graph above, the latter showing the direction of metrical modulations: there is no stable pulse, and cognitive attention immediately lowers the pulse value (to sixteenth) to grab a new basis for psychological *poiesis*. The fourth onset E once again raises the pulse value of rhythm one more octave up, so no stability so far, but this time the third (C) and fourth (E) onsets implicate pulse, which is roughly compatible with initial tempo hopes (already described tempo hopes at the start of the example hypothetical sounding). This guess is confirmed by the last onset of first measure, establishing retrospectively two-times-triple meter, where strong beats (first C# and first E) are distinguished due to the length parameter and the second one (E) is more important due to a higher position in metro-rhythmical landscape. This setup of the metrical pulse is confirmed through repetition in second bar, which creates gestural trace or neutral state, which will be discussed very soon analyzing the inner aesthetical connotation of meter. The third bar demonstrates influence of metrical syncope on metrical scale modulation – it anticipates onsets (compare it with the beginning of the second bar where metro-rhythmical modulation on C is preceded by “swallowing” beat; shown in parentheses). The effect of syncope usage in the metro-rhythmical landscape layout is comparable to the role of adding harmonization chords in melody: harmonization adds a “third” harmonic dimension to two-dimensional sequence of tones in melody; and syncope adds a third dimension to two-dimensional metro-rhythmical setup (effect, extensively used in “canon-like” polyphony). The b) case of Example 5 demonstrates the intervallic quality of distance between scale levels: while a) part has only double ratios (metro-rhythmical octaves), here (in b.) speed ratio is 2:3, and that corresponds to the fifth interval. By motivating expression this way, a composer can achieve a more sophisticated delivery of his ideas – only the parameter of meter so far is engaged and other parameters are still pending. Thus a more varied scale modulation within the metro-rhythmical landscape is possible – possibility, successfully utilized in polyrhythms, where, for example, in *hemiola*, division by two concurrently runs with division by 3. This is exactly how the inner connotation of the meter parameter works and will be explained later in this paper. Now is the time for the meta-theoretical content of psychological reality for meter expression.

### 2.3. Meta-theory of cognitive meter impact

The versification of poetry serves as a meta-theoretical base for meter usage. In poetry, the linkage of words in strophes can be realized in three ways:

- syllable-timed way – counting syllables in line, as for example in the French language; musical analogy of establishing meter that way is *modus* rhythms;
- stress-timed way – counting intervals between stressed syllables; unstressed ones are fitted in between, as in the English language (for music it is meter in its classic sense);
- tonal way, where different sections are separated by intonation, especially in languages, where the height of pitch plays an important role in the establishment of communication (as in Chinese or African dialects). For music the latter option can be realized, for example, in cadenzas, where sections are indicated by a particular parametrical expression (for example, supported by the chords’ function of VII degree in the chord structure, or particular articulation, e.g. an accent or different length), or in *melisma* organum-style textures.

For demonstration of these theoretical constructs in score, let us examine the change of meta-theoretical basis – that is, ways of metering – in Léonin’s composition (Ex. 6).

Example 6. Example of meter type modulation (Léonin)

In Example 6, Section a. the organization of section meter is tonal, where every new meter section is defined by onset in a lower tenor voice. Rhythm actually does not matter for building up upper organum voice, except small caesuras after the third onset in the first and second lines, forming cadenzas on tenor and *mediante* tones. Sections differ in tonal organization, so there's nothing else to say about this first section. On the contrary, Section b. is built upon syllable-timed domain with the use of modes of modal rhythm. Actually, this example shows the way meter can imply aesthetical connotation of genre (see Meter of genre strain in Figure 2) and the character of melody realm in its broadest sense – hypothetically we can “hear” improvisation like a melodic flow in Section a. and hierarchical play of metro-rhythmical modulation (change between longer/shorter rhythmical values) in Section b. More analysis of meter’s psychological connotation is to follow in the next section of the paper.

#### 2.4. Connotations of the sonic impact of the meter

The *poiesis* of connotation, that is, the ability of meter to convey non-musical topics, is the simplest one – meter is about periodicity (of various kind, see inner connotation next), and periodical activity is crucial for the humankind time organization, starting with circular time metering (periodization in hours, minutes etc.), cyclical way mechanics can be realized and so on.

The trace of connotation, inner organization of the meter structure, comprises connotation (or move) in three directions. Two directions are defined by the nature of meter – it can be either duple or triple or a combination of both (such as compound meters, and that is metro-rhythmical hierarchy). The psychological content of this connotation is traced back to the famous notion of medieval mensural notation – perfect (by 3) and imperfect (by 2) division. Division by two gives more strict subordination – there could be only strong beat for the start and weak as its subordinate. In the case of three, the strong beat remains in the beginning of group, but the second and third beats can interchange their functions of weaker and weakest, or even can have an equal role as a metrical syncope (the weak beat is twice longer than the strong one). Referring to Example 7, exactly this inner power of meter expression is a connotational source of the meter structure. The first three onsets in the right hand of the first bar retrospectively (as shown in the third bar in parentheses) creates a setup with a “swallowed” second beat, creating metro-rhythmical modulation with return on the third beat (follow the red graph below the score while playing music in your head or on instrument). On the contrary, two-fold subordination of the eights in the left hand staff in the second bar is confirmed through continuation in third onset of quarter length (that is, eight value plus additive rest of the same value, shown in small notes above the lower staff).

Example 7. Gestural connotation of meter (excerpt from “Berniukas” by Mickis)

In Example 7 the graphs above the score show directions of meter’s connotation and it should be read as follows: the triple-kind nature of connotation is based on *poiesis*-trace-aesthesis dimensions (see connotational dimensions in Figure 2), and specifically for melodic realm in this analysis Eugene Narmour’s mnemonic is used. For connotational communication, accordingly, mR (move right – as a metaphor for melodic realm moving forward from the source) stands for tension building, mN (move NIL – “zero” movement without aim) stands for the static state of expression and mL (move left – aesthetical move towards relaxation) stands for the end of dramaturgy’s development in the musical section. To transfer this thinking device into the meter’s connotational field, some reliance on utilitarian function of music is needed.



Generally, expression of meter's connotation tend to be more "pop" when it is based on meter dividable by 2, while a more romantic musical flow is more usually based on triple division. Specifically for more world oriented music usage of polyrhythms is the norm and it should contain simultaneous use of both divisions. These examples show **aesthetical connotations** of the metre. And inner connotations of the metre are also defined by types of division:

- Triple division is a moving meter's expression right (mR), being *poiesis* for more fluent flow of melodic realm. In Example 7 it is depicted by the upper position of the lowest graph above staff system.
- Duple-based meter is a moving expression more towards aesthetical conclusion, which is moving left (mL). In Example 7 this direction is depicted by the lower position of the same graph.

These two-of-three activity directions of inner meter connotation correspond closely to the known notion of openness and closure, this time applied to the building and relaxation of metrical tension. This metrical dramaturgy occurs in the landscape of the third mN direction, as shown in Figure 3: interrelation of all three directions can be thought as detaching and coming-back gestures based on periodical meter setup.

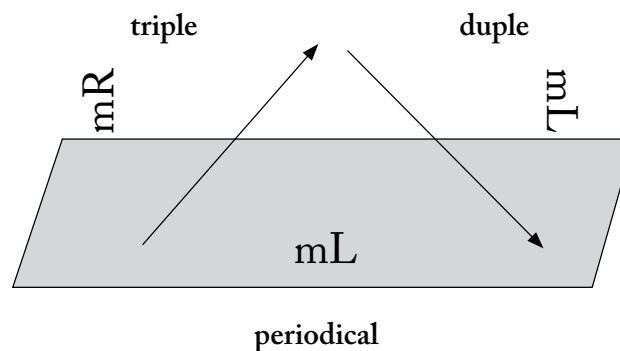


Figure 3. Types of meter in the inner-connotational landscape of movements

This periodicity is formed by the interplay of duple/triple meters on the second level of metrical hierarchy, as shown in Example 7 by upper gray brackets. As can be seen, repeated movements right and left (higher and lower graph positioning accordingly) are summed on the second level as a stable "no movement", and is supported by harmony changes (every bar gets different harmony chord). This mN state means communicational zero in regard to dramaturgy in the meter parameter. Such a low activity in one parameter leaves room for other parameters to an influent melodic realm flow – in the given example, gestures of rhythm and prolongation of harmony in melody line comes into play.

To sum up, the described psychological dimensions of communication shows the way the meter can be analyzed as a gestural expression – every change of described meta-structures and/or duple-triple-compound-odd counting, as well as non-metricity (as a new section in comparison to metrically organized ones) can be depicted in graphics as a gestural change. These "visualized sounding" of parameters can be used as an idea for music creation or performance or as a double-proof of ideas carried out through parameter expression.

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## Kognityvinis meloso parametrų įvertinimas: technologiniai aspektai

### Santrauka

Šiame straipsnyje sonorinis meloso poveikis klausytojui vertinamas muzikinės informacijos požiūriu. Į informaciją žvelgiama remiantis Jeano Jacko Nattiez koncepcija, kuri nurodo sėkmingam komunikavimui būtinas procesines dimensijas: tai 1) komunikacijos šaltinis (*poiesis*) – muzikinės žinutės pradžia; 2) komunikacinė medija (*pėdsakas*, angl. *trace*), palaikanti *poiesis* žinutę; 3) komunikacijos suvokimas (*aesthesis*), apimantis žinutės sklaidos rezultatus. Informacinio proceso vertinimui sukurtas originalus dviejų etapų analizės modelis, susiejantis išvardytas Nattiez *komunikacines* dimensijas su Guerrino Mazzolos *onionologinėmis* (gestinės ontologijos) muzikos realybėmis – psichologine, simboline, fizine ir gestine. Šios realybės parodo, kokia informacija dalyvauja simbolinėje komunikacijoje. Kiekvienai Mieczysława Tomaszewskio muzikinės veiklos fazei būdingos savos komunikacinių dimensijų realybės. Straipsnyje analitinis metodas taikomas tik *konceptinei* muzikos kūrybos fazei. Šioje fazėje komunikacijos *poiesis* vyksta psichologinėje realybėje, turinčioje išankstines muzikinių parametrų raiškos sąlygas. Pagal Mazzola, psichologinės realybės komunikacinė *poiesis* yra raiškos motyvacija, *pėdsakas* – meta-teorijos, o *aesthesis* įgyvendinama konotacijomis. Konotacijos analitiniame modelyje parodo muzikos turinio apibrėžtį konteksto atžvilgiu: konotacinė *poiesis* nurodo muzikos referavimą į nemuzikinius reiškinius; konotacinis *pėdsakas* apibūdina nereferencinę muzikinę raišką; konotacinė *aesthesis* atspindi nuorodas į stilistines paradigmas. Šiose konotacinės komunikacijos dimensijose turinys apibrėžiamas klasikine Leonardo B. Meyerio samprata: muzikinė prasmė atsiranda tik įvykus pokyčiui muzikinės realybės komunikacijoje.

Apibrėžta informacinė struktūra yra pirmojo analizės etapo tirties laukas, parodantis kompozitoriaus parametrų raiškos intencijas. Antruoju analizės etapu atskleidžiama, kaip šios intencijos (konceptinės fazės etapo *poiesis*) virsta muzika (konceptinės veiklos fazės *aesthesis*) pasitelkiant muzikines žinias (konceptinės veiklos fazės *pėdsaką*). Tokiam analizės tikslui pasiekti komponavimo fazės *aesthesis* laikas yra padalijamas (Mazzolos koncepcija) į tris dedamąsias: fizinį aktualaus muzikinio vyksmo *poiesis*, loginį muzikinių konstrukcijų *pėdsako* ir vaizduotės *aesthesis* – gestinės raiškos komponuojant muziką momentą. Gestas (taip pat pagal Mazzola) yra apibūdinamas kaip muzikinės egzistencijos komunikacija, kai: *poiesis* yra dabar skambantis fizinio laiko momentas; *pėdsakas* yra žinios loginiame laike, pritaikysimos fizinės muzikos egzistencijos pokyčiams sukelti; *aesthesis* yra tokių pokyčių išikūnijimas, naujasis muzikos fizinis būvis, įvykęs pritaikius žinias. Šitaip gestinė raiška susieja *poiesis* „dabartį tada“, *pėdsako* žinias „praeityje“ ir *aesthesis* „dabartį dabar“. Tokią informacinę struktūrą analizuojant antrajame analizės etape gaunami grafikai, atspindintys kompozitoriaus intencijų (apibrėžtų pirmajame analizės etape) gestinę raišką muzikoje. Analizės grafikai sudaromi kiekvienam parametrui, lemiančiam kognityvinį meloso sonorinio poveikio klausytojui įvertinimą. Vertinimo rezultatai gali būti naudojami muzikinių idėjų realizavimo patikrinimui ir komponavimo būdų „*know-how*“.