THE PRESENT MOMENT AS A SIGN OF ETERNITY IN THE MUSICAL TIME OF THE EUROPEAN TRADITION

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Abstract

Based on Igor Stravinsky's thinking that it is only in music that a person experiences the present moment, we aim to explore the differences in understanding musical time, moment, process, eternity and their correlations in various historical epochs of European music in the Modern era.

The main method is the study of musical-temporal structures as they are perceived by the listener, as well as the method of comparative historical analysis.

As a result of this research, we 1) demonstrate the difference in the feeling of musical time in European music from classical to avant-garde, 2) explore the connection of these disparities through different paradigms of music – ritual, speech and natural (these concepts are introduced for the first time), 3) present the specifics of information processes in different types of music, 4) and, since the moment of the musical present reflects eternity to one degree or another, demonstrate the ways in which tendencies to mystery play are formed.

Keywords: musical time, moment, process, eternity, information, Stockhausen.

1. Introduction

The main task of music was very accurately defined by Igor Stravinsky: "Music is the only area in which man realizes the present. The imperfection of his nature is such that he is doomed to experience the fluidity of time, perceiving it in categories of the past and the future and never being able to feel it as something real, and therefore a stable present. The phenomenon of music is given to us solely in order to bring order to everything that exists, including here, first of all, the relationship between man and time" [6, p. 99]. A very important thought was expressed by the outstanding contemporary composer Sofia Gubaidulina, who openly transformed the entire conversation on the given topic from a formal and purely scientific context to a semantic and, moreover, religious one: "Art is the area where very important things happen. From my point of view, this is the Present Lasting Time [highlighted in the original by letter-spacing]. Only in art, and only in a religious act and, perhaps, in a dream"; "In essence, time does not exist, and yet we live in real cosmic time, an eternally lasting present. But this time is not redeemed. It is redeemed only in art, the creation of essential time occurs" [2, p. 93]. Let us consider what the "redemption of time" might mean; that is moreover, time understood as the ongoing present. Of course, it may not seem entirely productive to discuss time – a category about which even physicists have no consensus on its reality. However, we are guided by those ideas about time (regardless of whether it is real or illusory) that are based on common sense and inspired in us by art and music in particular. First of all, the redemption of time can be understood as giving the present ongoing moment such a meaning that would justify it in terms of eternity. Of course, it concerns psychological and virtual time of art. Secondly, since time is a process and musical form is also a process, the question of the expediency and purposefulness of this process must be raised. If the process is understood as an end in itself (remember the famous Bersteinian slogan: "The final goal is nothing, movement is everything") then this will be a profanation of the very idea of development and its nullification.

2. The Moment and Eternity in Eurasian Cultures: Some Options of Understanding

However, before talking about the process, let us clarify the role of the present moment. Stravinsky's statement gives us grounds to believe that the feeling of the present moment is necessary for a person; he himself does not say why and for what, but makes one think about this question. Indeed, if at least some moments in a person's life rise above the ceaseless flow of time and are perceived as real (regardless of their duration), then life acquires meaning and purpose, and these moments themselves testify to the eternal – to that which is outside of time and above it.

On the other hand, one cannot help but recall the Goethe's famous thought: "Stop, moment" and the context in which it was expressed. If Faust had uttered this phrase, even in his mind, it would have meant the death of his soul and the victory of Mephistopheles. This means that the formation of "redeemed" moments of the present does not mean stopping time; in fact, it occurs in the very thick flow of living – within unstoppable time.

The concept of eternity is also far from unambiguous. Thus, in ancient Egyptian cultures, eternity was understood as the perfect immobility of forms, the eternity of death (which fully reflected the cult of the dead as the leading ancient Egyptian idea). Many statues of Buddha also suggest the idea of immobility, the impossibility of any movement – the Eternity of nirvana (although images of another type – the walking Buddha and even, paradoxically, the lying Buddha – testify either to movement or to its possibility). However, for archaic times, the immobility of forms was, apparently, necessary in terms of the ritual affirmation of the world order. Music was an integral part of the ritual, and the repetition of the structures of archaic music carried as much information as possible about the sequence of events. It should be noted that the quoted statement by Stravinsky projected onto music (quite rightly!) the function of ritual, and Gubaidulina added the function of mystery. Archaic music did not carry any "new" information (which prompted Yu. Lotman to introduce the concept of "information paradox" [4]). In contrast, in the distant times of archaic cultures, music had not yet assumed the function of narrative. In ancient epic tales, such as the Runes, Homeric poems or the Kyrgyz Manas that have been passed down to us, the narrative was exclusively verbal, and music consisted of the repetition of one figure; it was likened to the multiple reproduction of the same element in an ornament. The principle of periodicity, which dates back to pagan rituals, was supplemented at the macro level by the principle of cyclic repetitions – both principles embody the understanding of eternity as endless reproduction. Thus, in archaic worldviews, time and eternity are immanent to each other. Eternity is endless time, and moments of time, due to their repeatability, acquire a special strength, one might say, "materiality" – the materiality of gesture and word – but the word not as an element of narrative, but as a factor of magical suggestion. In musical organization, the above was manifested in the rhythm of the modal type, when the same rhythmic figure is repeated (the most archaic form is the repetition of melody and rhythm with the renewal of words; the next phase, logically speaking, is the repetition of rhythm with the renewal of words and melody). Furthermore, since modal rhythm is based on the alternation of long and short syllables, its specificity is the presence of the smallest unit of time – "chronos protos" (literally "first time") in ancient Greek music or "matra" in Indian Classical music. As a result, even the smallest moment of time had definite boundaries and seemed to "materialize"; i.e. it had "weight". In the 20th century, this feature of modal rhythm was revived by Messiaen, although he combined it with the experience of all new music (neomodality). Thus, with modal rhythm proper, musical time is discrete.

The replacement of archaic mythologies (paganism, Hinduism, Judaism) with more modern ones significantly complicated the understanding of time, eternity and their relationship. It is true though that Islam retained the interpretation of eternity as endless time, where Buddhism adopted the idea of circles and reincarnation from Hinduism, significantly supplementing it with the possibility of leaving the "wheel of Samsara" by achieving eternal detachment (nirvana). Perhaps the most radical innovations were introduced by Christianity, in which eternity is not immobility, but "Eternal Life," and time has a beginning and an end – it was created and must end ("Time will be no more," says the Apocalypse). Eternity, therefore, began to be understood as an essence transcendental to time. The art found with churches from the Middle Ages sought to embody this transcendental world, and church music was likened to "heavenly," angelic music (in the Russian Orthodox tradition – singing only). At the same time, the elements of repetition and cyclicality inherited from the archaic did not disappear completely, but were subordinated to the idea of eternal life (thus, the annual cycle of Christian holidays "fitted" into linear time, going from the creation of the world to the Apocalypse). All physical manifestations of music, coming from gesture, ritual and dance, were rethought in terms of this new understanding as a spiritual essence, oriented towards the word – the Word of God, prayer, sermon, confession. The highest manifestations of the spiritual music of Christianity remain the Catholic Gregorian chant and the Orthodox Znamenny chant, which do not contain any signs of our "earthly" time, expressing the "time of Eternity" – eternal life.

3. Moment and Form-Process in Modern European Music

Our focus, though, is on the European music of the New Age – an era which, while preserving Christianity, paid close attention to earthly reality. In music, the main manifestation of this reality was the new concept of time. The gradual establishment of a bar, i.e. metric organization, which fully realized its potential in the 18th century, leading to the fact that we began to hear the "beat of the pulse", similar to a ticking of a clock, only not mechanical, but living and "breathing". Already by this it had become obvious that music not only exists in our real time and not only organizes it (this has always been the case), but also absorbs it as its basis. According to M. Arkadyev, meter is the "inaudible basis of music" [1]. He also drew attention to the fact that in bar-metric music the concept of the shortest duration, and therefore the moment of present time, disappeared. In other words, musical time ceased to be discrete, but began to be divided into conventional segments (bars and beats of a bar, independent of their duration). Just as in our reality we cannot determine the boundaries and magnitude of the present moment, so we cannot do this in bar-metric organization: beats of a bar cannot help here in the same way as seconds and minutes cannot help – conventional units and purely formal constructions. But let us recall the words of Stravinsky, quoted at the beginning of the article: he attributed to music (and quite reasonably) the ability to shape the present moment and therefore European music developed a whole system of means by which

to achieve this goal. But first, let us note that, in full accordance with the logocentric essence of Christianity, European music began to focus on speech utterance as a model and paradigm, which introduced its own significant adjustments to the concept of time. A speech utterance, no matter how long it is, is still perceived as a single act in present (continuing present) time – this unity is determined by a single theme and the information contained in it. Therefore, a musical work, in which one theme can replace another and development comes to replace the theme (that is, within the text there is a past, present and future), still remains a single present of a higher order. Furthermore, unlike musical artifacts of ritual, a musical work from within, by its own (musical) means, forms a clearly delimited time. The time of a narrative, which has its beginning and end, can be likened to the finite life of a person. Thus, musical time is antinomic: it manifests the present and lives in this present, but within itself it contains an emphasized flow of time on different levels: pulsations of beats, changes of events (themes, subthemes and development).

The feeling of the present moment is also created on various levels. Let us emphasize once again that the rhythmic pulse only "marks" time, creating "marks of the present" – dimensionless, like dots on drawings (they really exist, this is not fiction – they mark space, but at the same time lack a specific size). Just as in a speech utterance, the smallest level of the present exists through words, which are put together into phrases and sentences; so, in music, its own means for creating wholes of various levels have been formed. Similarly, in music, a single thought-sentence corresponds to a period – a form most suitable for the presentation of a theme in the classical and romantic music (it is not without reason that the concept of "musical thought" served as an old synonym for theme). The unity of a period, especially if it is square, is based on the principles of, firstly, metric extrapolation (H. Riemann), and secondly, the cyclical "circle" of harmonic functions that create a feeling of completeness and unity. Metric extrapolation is a consequence of the original connection of music with dance and poetic speech. Although what occurred was that all gestural and poetic features were absorbed by music and began to be perceived as purely musical.

As a result, classical European music forms moments of the present (continuing and simultaneously counted) time, which, overcoming its ceaseless flow, are thus capable of being perceived as peculiar signs of eternity. But since all European music is a series of "statements", then at least for this reason the eternity present in it is not substantial, it is mental; it exists as an idea, as information. When a work is finished, it does not really sound anymore, but due to its clear delimitation in time, it seems to remain forever. Moreover, when, for example, at the end of Beethoven's Ninth Symphony, the theme of "Ode to Joy" sounds as a conclusion, it also remains with us forever as a semantic conclusion. Thus, music itself comes to transform the idea of mystery in its own way and by its own means (let me remind you that Vyacheslav Ivanov saw in Beethoven's Ninth Symphony a prototype of a new theurgy as a universal action that Scriabin planned to create).

The delimitation and isolation of time in a musical work is also facilitated by the contrast between "solid" and "loose" constructions (according to A. Schoenberg's theory of form). The present moment of a part of the work, and then of the entire work, grows like a "snowball", absorbing the movement and contrasts of stable (solid) and unstable (loose) elements; and, in the end, the entire work is formed as a crystallized solid form.

The solid forms of the narrative are imprinted in eternity. Of course, this is not real eternity, just as it is not a real mystery, but its expressive signs, which are capable of forming in an intensively current time. This is quite natural from an ideological perspective: after all, the life of people in the 18th and 19th centuries, despite the spread of atheism, still embraced (especially at the subconscious level) the light of Christian ideas and values, which were often modified and acquired new names in a non-Christian context.

4. From Romanticism to the Avant-garde. The Path to a New Musical Mystery

Romantic music brought a number of significant moments to the construction of musical time. In the music of the Romantics, the duration of the present moment acquires a new quality and depth. In this case, it is not only a pulsation or counting of beats, not only a change of events, but also a continuous internal experience, a duration (remember the continuous, vibrating background in Chopin's nocturnes, the prolonged listening to one harmonic ornament at the beginning of Wagner's *Das Rheingold*, and many more examples). Romantic music began to modify the linear flow of time even more intensively, creating its other forms: cyclical, static, as well as a sense of the eternal and timeless [7]. Time began to be intensively experienced within the sound, as a life-sign. It was the Romantics – especially Weber, Schubert, Chopin, Liszt, Wagner, Bruckner, and Rachmaninoff – who first paid close attention to the internal life of sound. As Ernst Kurth wrote, "Classical perception inclines toward finding something definite, fixed in sound, whereas Romanticism perceives sound in its vibration, in its striving to escape its enclosing boundaries…" [6, p. 43]. The classical principle of "sonic events in the flow of metered time" was not abolished but was complemented by a counter-energy of striving, which infused sound, pauses, motifs, themes, and entire compositions. At each scale-time level, its own techniques are developed that correspond to the romantic sensation of sounding time. At the phonic level, it is enough to compare the "point" sounds-atoms of the harpsichord or hammer piano with the tremulous sound of the piano when using the pedal.

But it is not only about the instrument: the sound of Chopin's nocturnes, for example, is helped to last by the entire texture, harmony and rhythmic organization. At the syntactic level, the sound-process was continued in a new type of melody – the romantic cantilena, "stretching" the moment and striving to become an "endless" melody. Finally, at the compositional level, the accumulation of processuality was clearly manifested in the affirmation of the poem principle of composition, which transforms symmetrical classical compositional schemes by actively introducing the logic of an individualized narrative, and often a literary plot. According to A. Losev [3], romanticism, on a subjective basis, on the basis of the absolutized 'I', expresses the entire universe and, among other things, restores lost objective values. These values also include all the classical forms inherited by romanticism, from the construction of the present moment as a sign of eternity to the growth of mystery within the musical statement. The process of the frank transition from romantic opera into mystery is demonstrated by the evolution of German (Weber, Wagner) and Russian opera (Glinka, Rimsky-Korsakov). Moreover, the creative paths of both Wagner and Rimsky-Korsakov demonstrated how each of these composers, for a long span of time, were somewhere close to mystery or creates its transformed forms, but ultimately comes to mystery as such – regardless of whether the composers themselves used this concept or not. Wagner's *Parsifal* and Rimsky-Korsakov's *The Legend of the Invisible City of Kitezh and the Maiden Fevronia* demonstrated that opera had become a theatrical mystery – that is, it remained a depicted mystery, with a division into performers and spectators-listeners, as in medieval street performances, and not in ancient Greek mysteries or Scriabin's hypothetical mystery, where everyone was or should have become participants. Even the symphony has discovered a striving for mystery (which is much more difficult to do outside the theatre): after Beethoven's Ninth symphony, these include the symphonies of Liszt, Bruckner, Mahler, Hindemith, Honegger, Karamanov, and Schnittke amongst others. But what is mystery if not the affirmation of Eternity in one way or another: transformation, resurrection, atoning or sacrifice. Having unconsciously performed functions relating to the concept of mystery for a number of centuries (in direct, transformed or hidden form), music has finally begun to come to their open, purposeful revelation.

The peculiar counterpoint of duration and pulsation in the most penetrating lyrical (precisely subjective) moments of romantic music led to the following results: pulsation loses its former, almost complete, immutability. Now (I repeat, precisely in lyrical moments, but not in scherzos, usually associated with the flickering of images of the "external" world) it, its very uniformity, depends on the internal continuous duration, its energy, which can vary significantly in each new performance. The principle of romantic time is tempo rubato. In the large plan, processuality grows in the form, which deforms the old structural principles and becomes the basis for new, process-like structures, for example, a smooth "wave" (orchestral introductions to Wagner's operas *Lohengrin* and *Tristan und Isolde*). Finally, the form acquires the features of "openness" in the sense that H. Wölfflin gave to this concept [10]. Often, a romantic work ends as a narrative and structure, and at the same time the sound gradually "melts", going into eternity as a process (which Rimsky-Korsakov did especially clearly and purposefully in the aforementioned *The Legend of the City of Kitezh*, in the sound of the last chord).

With the departure from Romanticism in 20th century music, the duration of the present moment began to be felt even more deeply. Note that this does not apply to such anti-romantic movements such as neoclassicism and neofolklorism, which strove for "objectivity," and which was realized in only one thing – the objectivity of bar-metric pulsation. But if we turn to the music of Debussy, Schoenberg (especially the pre-serial period) or Webern, we will see that the feeling of the duration of the present moment has intensified, however, the countability of time (as a remnant of the "objectivity" of the world order) has been practically neutralized. Henri Bergson said of Debussy's music that it is "*la durée* music," [5] that is, that it is not subject to countability and spatialization.

In avant-garde music of the second half of the 20th century, the quality of duration was supplemented by a completely new phenomenon: it often became almost impossible to determine the boundaries of a moment. In overcomplicated music, in the spirit of Boulez, early Stockhausen or Bernd Zimmermann's *Die Soldaten*, moments, even if they stand out to the ear, practically do not remain in the memory – and of course, such moments are no longer signs of eternity, they are signs of an elusively flowing time; i.e. when consciousness has no support, music deliberately creates such conditions so that it may be impossible to hear and remember. In this case, not only the moment of the present time is denied, but also the process, since memory and the ability to connect neighboring links are necessary for the awareness of the process. This denial also has its own special meaning and indicates that time has ceased to be linear and is rather simply, without much difficulty, perceived. The opposite case is when the texture is "simplified," so much so that we hear a prolonged, extended moment (bringing the idea of *la durée* to its limit) – a "prolonged present" in the most literal sense of the word (as in *Stimmung* and other works by Stockhausen).

5. The Processual Nature of Music (Sound and Form) as an Informational Factor

From a physics standpoint, any sound is a process since it unfolds over time. However, musical practice, theory, and aesthetics of different eras and cultural traditions have employed the properties of sound in various ways. For instance, European musical thought was profoundly influenced by linear notation, which dominated for the last millennium and only in the 20th century revealed its limitations. The graphical representation of sound as a dot shaped the corresponding perception of it as an indivisible "atom," the smallest unit of musical material. The term "counterpoint" (from *punctum contra punctum* — "point against point") reinforced this understanding. Although sound, by its very physical nature, remains a process, musicians have predominantly perceived it as an object.

Furthermore, if we move beyond the level of an individual sound, we see that music (like dance) exists only in time, as a process, and leaves no material trace once it has been played. Nevertheless, music, according to Igor Stravinsky, is meant to establish "order between man and time" [6, p. 99]. Stravinsky elaborated on this idea: music overcomes the fluidity of time, the elusiveness of the moment. In other words, it makes the present moment (which physically is a dimensionless point) perceptible and whole, "condensing" into it processes of any duration. For example, M. G. Kharlap characterizes the specificity of musical time in oral traditions – many of which trace back to archaic roots and pagan rituals as a means of "influencing" reality – as follows: "The stabilizing role of music in oral creativity accounts for the predominance of stasis over dynamism, of architecture over dramaturgy, and the subordination of rhythm (the 'flow' of music) to metric norms. Music essentially reduces to invariant formulas, mathematical ratios of pitch and duration, which can be repeated an indefinite number of times. Repetition (metrical feet, stanzas), unlike in new music, serves not as a means of development but as a means of reinforcing aesthetically valuable relationships, thereby 'freezing the beautiful moment'" [18, p. 68]. This description characterizes a type of musical art based on "canon" and, in the words of Yuri Lotman, represents an "informational paradox" [4].

The essence of this paradox is that the texts of archaic oral traditions are well known to all – meaning that the new information they contain equals zero – yet their impact does not diminish. Lotman, however, considered information primarily in terms of the meanings conveyed through verbal statements. If we shift the focus from the semiotic aspect of information (information as new data) to the mathematical aspect (information as the reduction of uncertainty), then maximal information decreases the entropy (uncertainty) of events, including those within a text. There is no contradiction between these two aspects of information when dealing with processes such as life or, on a smaller scale, a journey. Suppose we are fully informed about an upcoming trip from point A to point B, knowing the route and schedule in detail. However, during the journey, we unexpectedly receive information about unforeseen circumstances – traffic jams, road closures, or suggested detours. Naturally, this new information increases entropy (uncertainty). Yet without it, the journey would be impossible. The challenge lies in assimilating unexpected information and converting it from an entropic factor into a negentropic one: the structure of the process is not only predetermined by its "program" but is also adjusted "on the go" based on new data.

Ultimately, *post factum*, any information contributes to increasing the determinacy of processes – clarifying their structure. Determinacy, or prediction, functions as an expectation factor in musical texts: anticipation and pre-hearing. Musical meaning arises from the interaction, the "friction" between the anticipated and the realized, between foreseeing (pre-hearing) and the outcome – an experience that is not only registered but also emotionally perceived. Thus, information – in both its forms, whether as an increase in determinacy or as new, unexpected data – remains equally crucial for the "step-by-step" perception of a sounding musical text.

Clearly, the very phenomenon of anticipation attests to the indispensable, universal significance of processuality in music: not merely as a fundamental physical condition of its existence but also as a field of meaning-making.

At the same time, a number of composers – primarily avant-gardists of the 20th century – rediscovered the processuality of music, interpreting it in a radically new way. Karlheinz Stockhausen writes: "But now, in our century, a new type has emerged in music for the first time – the principle of process" [21, p. 62]. Edgar Varèse, in *The Liberation of Sound*, predicted: "The old concept of melody or the interplay of melodies will not persist. The entire work will become a melodic totality. The whole composition will flow like a river" [11, p. 7]. A similar idea was previously expressed by Debussy, who dreamed of "a music truly free of motifs or formed from a single continuous motif that nothing interrupts and that never returns to itself" (quoted in: [36, p. 164]).

To understand the specifics of the new concept of musical process in the second half of the 20th century, it is necessary to take a brief excursion into the realm of classical music and, even more broadly, into the Baroque-Classical-Romantic tradition, as well as into the realm of music theory, which has documented manifestations of processuality within this tradition. It is well known that the musical form of the Baroque and Classical eras was significantly influenced by the principles of rhetorical disposition; in other words, form, following this

disposition, was constructed as a process. This principle is easily recognizable in the title of Boris Asafyev's book *Musical Form as a Process* [9], which is no coincidence. He specifically drew attention to the processual side of musical works, which, under the influence of Viennese Classical forms, had been overshadowed in the 19th century by an understanding of structure primarily as an object, a "crystal." Asafyev himself considered the movement of form as a correlate to the "crystal," the "scheme," and dynamics as a correlate to statics. In his view, statics manifests either as exact repetitions (as in the canon) or as complete, self-contained structures – periods and other closed forms. Thus, Asafiev's dichotomy of "dynamics – statics" is a variation of H. Wölfflin's dichotomy of "open form – closed form" [8, p. 126]. According to Asafyev, one can speak of statics when the totality of links "is grasped by thought as a crystallized unity in all the complexity of its relationships and as a whole in complete peace and equilibrium of all forces" [9, p. 50 (in the original, instead of italics, there is a letter-spacing)].

It also makes sense to pay attention to the theory of E. V. Nazaikinsky about the levels of musical form: sound (phonic), intonational (syntactic) and compositional [15, p. 142]. At the phonic level, we hear individual sounds and the shortest intonations – what is commonly called material. The syntactic level is the level of motives, phrases, sentences – the simplest forms of organizing material (both form and material at the same time: there is an expression "thematic material" as a basis for constructing the form of the whole). It is at this level, Nazaikinsky believes, that the phenomenon of prehearing takes place. Finally, at the compositional level, we deal with the forms of sections and the form of the whole. And here, since classical and romantic music (in the predominant part) is based on compositional schemes – invariants, there is a practically infallible prediction of the development of form – more speculation than prehearing. Compositional invariants of the 18th – 19th centuries are as familiar to everyone as folk songs or ritual chants (melodic invariants).

As can be seen, the prerequisites for such a three-level structure of musical time were, firstly, our usual perception of time in life, reflected in such commonly used things as a clock and a calendar: time of the levels of seconds, minutes, hours, then days, weeks, etc. Secondly, one cannot help but see the construction of verbal texts as a prototype: the phonic level is analogous to the level of individual phonemes and words, syntactic and compositional – their designations speak for themselves, referring to the levels of speech organization. It is important to emphasize that both of the noted analogies are associated not with the sound-process itself, but either with countable, calculated, and therefore spatialized time, or with rhetorical – verbal, and not actually musical organization. The two noted factors, reinforced by musical notation, in which music is reflected in the form of a motionless scheme – an object, an item – led to a specific understanding of form in European music of the New Time, when the process is "inscribed" in a static "crystal". This is eloquently demonstrated by the formula of the process proposed by Asafyev: *i:m:t* (*initio* – *motus* – *terminus*: impulse – movement – limit) [9, p. 129]. We emphasize that the model for this formula was classical-romantic music and, in particular, the sonata form. In pre-classical music, the function *m* – movement, development, the essence of the process – was not always expressed by any specific means, and the process could be presented as a series of "crystals."

Thus, European music of the Modern era, in the words of Gennady Orlov, "freezes time within its structure" [16, p. 49]. However, it is important to note that "freezes" may sound unfairly harsh: first, because even the most rigid metric organization never managed to "freeze" or "mechanize" musical time, which always remained "alive" and breathing freely, not enslaved to the uniform ticking of a metronome; and second, because the new sense of time that emerged in the second half of the 20th century had been prepared gradually over a long period. Romantic composers of the 19th century played a particularly significant role in this preparation.

The multi-level processuality of classical-romantic music, which created original compositions based on traditional, well-established models, ensured a high degree of informativeness in musical speech. This concerns, first, typical techniques that provide a greater degree of prehearing at all levels: the resolution of harmonies (and the expectation thereof), the presence of characteristic rhythmic figures and their placement in relation to strong beats, the construction of melody as a free combination of invariant formulas, and, finally, the use of typical compositional schemes. Second, cases of disrupted expectations or the absence of expectations are compensated by the development of special mechanisms that provide information about a given work as a new order and structural regularity. The mechanism of such information is no longer typical linguistic techniques but rather special, individualized factors – such as leitmotifs, individual harmonies, textural solutions, etc. This layer of information, of course, is not related to prehearing but rather to the generalization of everything that has been heard *post factum*. Third, the language of classical-romantic music, particularly its genre associations, creates a significant layer of information about extra-musical phenomena – here, one can draw a conditional analogy with the semiotic information of verbal texts.

It would not be an exaggeration to assert that the originality of musical works in the classical-romantic tradition is formed against the backdrop of a powerful layer of the familiar and the predictable. The situation where, in the words of Rimsky-Korsakov, Mahler does not know what will happen in his next measure [24, p. 439], is entirely untypical of all music before the turn of the 19th and 20th centuries. The redundancy and density of new

information in Mahler's music provoked criticism from the traditionalist composer, vividly marking the end of an era. Processuality ensures textual coherence and, consequently, its informativeness (high determinacy and logical predictability). An excess of information, as we see, can disrupt processuality as a habitual form of coherence and necessitate the discovery of fundamentally new forms of both coherence (order) and processuality itself.

Several directions in new music of the first half of the 20th century developed the Romantics' discoveries regarding sound filled with its own time. This is especially true of works by Debussy, the Second Viennese School (Schoenberg, Webern, Berg), and Messiaen. In their compositions, the processuality of individual sounds increased, while the processuality of form as a whole took on a somewhat different appearance. Unlike classical-romantic music, form as a process most often lost its directionality, its striving toward a goal. The veiling of metric accents and harmonic functional gravitations found its logical culmination in Messiaen's discoveries in the realms of modes and rhythm. Often, the process became static, almost motionless, as in Debussy's landscapes, Schoenberg's *Farben* from op. 16, or Webern's "frozen time" [19, p. 167]. In such processes, information-as-prehearing was reduced almost to zero, while the density of information about new events increased significantly, sometimes to the extreme. It was precisely the widening gap between these two aspects of information that the "aesthetics of avoidance" (*Ästhetik des Vermeidens*) – the avoidance of any familiar sounds – of the Second Viennese School was directed toward [35, p. 1241]. At the same time, information about the order of structure remained the most important task for composers, who, however, began to prefer conveying such information in an encrypted, hidden manner, thus posing serious creative challenges for the listener in perceiving and assimilating new music. The task of revealing a hidden order emerging through chaos, which had already been approached in its own way by Schumann, attracted Debussy to a new level and became the aesthetic foundation of serial technique. However, the total renewal of material (sounds, sonorities, and their system of connections) did not immediately entail transformations in the processes of its organization at the syntactic and compositional levels (Boulez, as is well known, criticized Schoenberg for his adherence to old syntax [10, p. 87]).

6. Stockhausen: the Fusion of Moment and Process, Sound and Form

Stockhausen, one of the most striking exponents of the new musical worldview, confirmed with his theory of a unified temporal field that sound is a process and that even pitch (as an expression of the frequency of an airwave oscillation) is a temporal category. For Stockhausen, the process within sound is essentially the same process that shapes an entire composition, only at different time scales. In many of his works, the relationship between pitch and duration is interconnected and derived from a common "root" (*Gruppen, Kontakte, Klavierstück XI*, etc.). Reflecting on the nature of contemporary music, the composer cites the opinion of biologist Viktor von Weizsäcker: "The traditional concept states that 'things exist in time,' whereas the new concept asserts: 'time exists in things'" [23, p. 219].

If "things exist in time," this implies that any temporal process is "larger" than the things themselves and that the "fate" of things in time constitutes their "history"—essentially, the entire worldview resembles a "book" (*The Book of Being*, Homer's epics, and similar texts from various cultures). It is easy to see how this fosters the spatialization of time.

However, if "time exists in things," then the object itself becomes "larger" than the temporal processes that shape it; each thing will have its own time, with its own duration and tempo. "Each sound becomes a mysterious object with its own time" [18, p. 218], Stockhausen asserts. Here, the analogy shifts away from spatialization and toward durational time (*la durée*, according to Bergson). However, the overarching time "in which all things exist" is not negated – instead, it is understood as a continuation of *la durée*, now conceived as multilayered, with different tempos at different levels [17, pp. 410–413]. In this regard, it is important to clarify that when we spoke about the three levels of musical time in Nazaikinsky's theory, we were not referring to a multiplicity of times or a layering of time, but rather to different levels at which our consciousness can form a perception of the present moment – just as the existence of different units of measurement (from seconds to millennia) does not violate the unity and singularity of world time, which, according to classical views (Newton), is independent of any objects.

If "time exists in things," then the "picture of the whole" (a concept that itself becomes problematic) will resemble not a history or a book but a detailed "anatomy" or "psychology" of a phenomenon (one of the "programmatic" expressions of this new worldview was Joyce's *Ulysses* – an Odyssey, or, if you will, an Anti-Odyssey of our era).

The notions of durational time, a multiplicity of times, and independent objects led to a new understanding of process, in which the connection between phases (without which a process as such is impossible) took on a different nature:

1. the stream of consciousness, as applied by Joyce;
2. the understanding of stasis ("immobility") as a process of minute changes;
3. the non-directionality of processes, whether static or dynamic (in classical music, processes were always directed toward the crystallization of syntactic and compositional structures);
4. the openness and incompleteness of processes.

The multiplicity of "autonomous" time-objects logically led to a new type of form, established by Stockhausen – the moment-form. However, perhaps the most significant consequence of the principle "time exists in things" is a fundamental shift in the understanding of sound. Sound ceased to be mere material in the conventional sense and became the result of composition – or, in many cases, the composition itself. Many composers in the second half of the 20th century discussed this new status of sound. Stockhausen wrote: "Today, the relationship between form and material is very subtle. I would even say that form and material are one and the same. [...] The old dialectic, based on the antinomy – or dichotomy – of form and content, has in fact ceased to function ever since we began creating electronic music and came to understand the nature and relativity of sound" [18, p. 229]. This idea is further developed by Gérard Grisey: "The object and the process are analogous to each other. A sound object is nothing but a compressed process, while a process is nothing but an expanded object. Time here is like the atmospheric air that these living organisms breathe at different altitudes" [5, p. 103]. Summarizing the thoughts of Helmut Lachenmann, S. V. Lavrova writes that the advent of electronic music "legitimized the interchange between the micro-scale levels of sound and macro-composition" [7, p. 16]. Lachenmann differentiated between types of sound-processes ("cadential sound", "timbre-sound", "structural sound", "fluctuation sound") and identified them even in 19th- and early 20th-century music (for instance, fluctuation sound in Chopin's Études or Debussy's *Feux d'artifice* from Préludes) [25]. Analyzing Ligeti's *Atmosphères*, Lachenmann argues that it is "a single sound that slowly transforms" [7, p. 24]. Perhaps the most consistent manifestation of the connection between the micro-world of sound and macro-form today is the so-called spectral music, in which composition is the result of analyzing the sound spectrum – essentially, a deconstruction of sound itself. From the spectralist perspective, music is sound unfolding in time [24].

Let us turn to Stockhausen's ideas as the source of all the aforementioned perspectives and highlight the most obvious and easily perceivable forms of processuality in sound within his music.

- Sounds as "moments" in serial music. Works composed using the technique of total serialism, as well as the group technique derived from it, often feature a "pointillistic" texture, which, at first glance, does not particularly contribute to the perception of sound as a process. Above all, we hear a multitude of sound points (which is precisely reflected in the term "pointillism"). However, the active use of duration as a parameter, alongside pitch, gives the extension of individual sounds a completely unique significance. Notably, Stockhausen wrote the title of his piece *Kontra-Punkte* with a hyphen and included the English translation *Against-points*, which, compared to the original historical term "counterpoint," endowed the title with additional meanings.
- Sustained sounds in electronic compositions. Here, in contrast to the previous technique, the composer had boundless opportunities for constructing processual sounds with any desired transformations.
- Sound as movement in space. Another technical possibility provided by electronics is the ability to construct real spatial movement of sound. In *Gesang der Jünglinge* (*Song of the Youths*), for example, sounds shift from one speaker to another, emerging sequentially from different points in space. However, it is important to emphasize that Stockhausen developed the idea of spatial sound movement not only in electronic compositions but also in instrumental works such as *Gruppen* for three orchestras and *Carré* for four orchestras and choirs. In these works, each orchestra functions as an independent sound source, freely moving in space from one orchestra to another.
- Sound in statistical compositions. Stockhausen used this term to describe music composed not of point-like sounds of a defined pitch but of sound masses and timbres that persist in time – sonoristic music, whether electronic or instrumental. "This whole concept – music that is reducible neither to melody, nor harmony, nor rhythm, but which is perceived only as a vibrating sound phenomenon – was very engaging to me" [20, p. 67], wrote the composer, who deliberately sought to deepen the "atomic concept" by exploring it at a more profound level. Stockhausen saw the origins of statistical music in Debussy's *Jeux* and his piano preludes.
- Sound in "static" compositions (*Stimmung*). Perhaps the most striking and expressive example of understanding sound as a process, where an entire composition is built on oscillations, pulsations, and fluctuations of sound. Here, the concept of time as *la durée* – duration in which different hierarchical levels are not articulated – manifests itself most directly. As a result, sound gradually becomes the composition itself, and material becomes equivalent to form.
- Sound reflected in the performer's gestures. Essentially, this is another variant of sound movement in real space. Stockhausen often composed gestures (head and body movements, etc.) as an integral part

of the music, extending its presence outward. This is particularly evident in *Harlekin, Inori*, and, of course, throughout the *Licht* cycle.

Before addressing the specificity of sound in formula composition – typically incorporating all these variations – let us first consider two music-theoretical concepts that are of paramount importance in the context of this discussion.

These are the notions of moment-form and process music. Both terms, especially the first, are well known and have been extensively described by Stockhausen himself and numerous researchers. Our focus is on their connection to musical processes, from individual sounds to entire compositions. Since a process implies some form of connection between its phases, this question becomes particularly problematic in works that employ moment-form. In such a form, even the sequence of moments may vary (although moment form is not necessarily mobile – "polyvalent" – and can also have a fully notated score). How, then, can one speak of process and its anticipation under such conditions?

According to Stockhausen, moments can be static or dynamic, indivisible or structurally composite, closed or open, short or extended [33, p. 201]. In his vision, moments ("now") have not "horizontal" connections with each other but "vertical" ones – with Eternity. However, the sounding of a work that follows the principle of moment-form cannot escape the conditions of its processuality in time. Moreover, within this framework, targeted processes are not excluded – some compositions belong simultaneously to both moment-form and process music, such as *Kontakte, Mikrophonie I*, and *Michaelion* (the fourth scene of *Mittwoch aus Licht*). Narrative and, in general, the linearity of time are intentionally excluded. One of the primary aims of moment form appears to be creating a situation of uncertainty, rendering the further course of the music unpredictable. The existence of an underlying structural principle becomes the sole criterion for the work's coherence, which is often variable. For the listener, any process – from an individual sound to the realization of an entire scheme – becomes a journey into the unknown, into Mystery. Yet, a perceptive listener intuitively grasps the most general patterns of the structure: thus, when listening to *Stimmung*, no one – not even the composer – can foresee its exact sound in detail, but the degree of anticipation of the overall logic of this sustained resonance is no less, if not greater, than in any classical symphony. The issue is not the simplicity of *Stimmung*'s material (its simplicity merely makes the example more illustrative) but the fact that, regardless of the material, Stockhausen reveals the laws governing his structures not only through form schemes and theoretical analyses but also in the very sound of the music itself. It may seem surprising that composers like Stockhausen and Grisey, whose music allows for the possibility of anything happening at any given moment, still speak of prehearing and ascribe great importance to it. But what can be preheared in such music? If in European music of the modern era harmonic logic and other factors allowed for fairly precise prediction of events, now we are dealing not with prediction and expectation but rather with probabilities of certain events. The likelihood of further development is determined by a set of parameters of the current sounding moment, and anticipation consists in expecting some change in certain parameters. There is no other way to foresee transformations within a sound, and this principle extends to the entire composition. Here, prehearing is less about precise forecasting and more about probability, a "soft" assumption. The conventional textual invariants, previously familiar to listeners in "old" music, no longer exist. In each work, unique invariants may be established – or rather, they can be derived from the underlying structural principle of the piece. This is where the new understanding of musical processuality originates, particularly the concept of process music.

The idea of music as a process – in a new, non-Asafyevian sense – became relevant as early as the 1940s (E. Carter [28, pp. 90–91]). In the second half of the century, it was developed by leading composers and musicologists [25, 26, 31, 34]. In 1968, Steve Reich published the manifesto *Music as a Gradual Process* [32, p. 34], emphasizing that by "gradual" he meant that the process develops so extremely slowly that changes may not be immediately noticeable. This principle became crucial for minimalist composers, whose music, at first glance, may create an impression of complete statics. Reich stressed that these processes must be perceptible to the listener. Thus, the listener is fully informed about both the immediate stages of development and the overall logic of the composition, which led to an association between minimalist music and magical rituals – hence the emergence of "sacred minimalism."

From the early 1960s, Stockhausen began using the term "process music" to refer to works whose notated texts (or rather, their "form-schemes") did not specify pitch material but only outlined its transformation parameters (*Kontakte, Plus-Minus*, *Mikrophonie I*, *Prozession*, *Carré*, *Kurzwellen*, *Aus den sieben Tagen*, *Spiral*, *Ylem*, etc.). That is, the process of changes in the source material as such was recorded. The material could be chosen by the performers quite arbitrarily or "caught" on the radio, as in *Kurzwellen* (*Short Waves*). The parameters of development could be indicated in graphic scores with varying degrees of clarity – including "plus" and "minus" signs – or exclusively verbal characteristics, as in "intuitive music" – *Aus den sieben Tagen* (*From the Seven Days*).

By defining the parameters of processual development in a composition, Stockhausen thereby constructs both the structure itself in its pure form (without material) and – most importantly – its perception. Let us cite G. Grisey's statement on the significance of the category known as "degree of prehearing":

"To influence the degree of prehearing is the same as directly composing musical time, that is, perceptual rather than chronometric time. Karlheinz Stockhausen had already anticipated the importance of this factor, using in some of his works (*Carré* for four orchestras and four choirs, 1971) what he calls the degree of change […], a concept directly derived from information theory. 'I believe that this is precisely where composers who seek to give time a musical dimension should focus their attention. It is no longer so much about the sound itself, whose density gives time its substance, but rather about the difference or lack of difference between successive sounds; in other words, the transition from the known to the unknown and the percentage of [new] information received with each sonic event'" [12, pp. 98–99].

Unlike the minimalists, however, Stockhausen did not assume that the process must necessarily be perceived by the listener; in many cases, a minimal degree of prehearing is intended. One illustrative example is the early composition *Kontra-Punkte*, which does not belong to process music but features three simultaneous processes as conceived by the composer: timbral (from a diverse chamber ensemble to monochrome piano sound), rhythmic (from a variety of durations to their "equalization"), and dynamic (from a wide range of dynamic shades to a predominance of soft sounds). For Stockhausen, these processes bind the entire compositional logic, and he even compares *Kontra-Punkte* to Ravel's *Bolero* and Haydn's *Farewell Symphony*. Despite this comparison, recognizing these processes by ear is not so simple: first, they do not unfold sequentially and gradually but rather in a zigzag manner, making it difficult for the listener to focus on the changes in these particular parameters.

A similar situation – where it is unclear to the listener exactly which parameters are changing – can be observed in works belonging to process music. Stockhausen deliberately worked with concepts such as the frequency (density) of changes and their degree. He believed (according to translator's commentary): "…the experience of time should not slow down; the degree of experience must always remain high. To achieve this, one of two things is required: either, with a constant degree of change, their temporal density (saturation, frequency) must increase, or, with a constant frequency of changes, their degree must increase" [22, p. 212]. Equally important to him was the relationship between suddenness and anticipation: "The effective degree of change, as well as the moment of suddenness, always require that we experience a certain logical flow for some time, which forms the basis for our premonition and expectation" [22, p. 211].

It can be said that in the formula technique, which became established in Stockhausen's music from the early 1970s, all previous methods were synthesized, and this synthesis became the optimal solution to the problem of compositional perception. The processual nature of sound in the formula is understood by the composer in a particularly broad and diverse manner: "Sound can change rhythmically, slow down, and accelerate – all these rhythmic *accelerando* and *ritardando* within the sound (he sings as if rehearsing the sound at different tempos). […] What was once a single sound has now turned into an entire figure. And therefore, all information is contained within one tone, that is, the most important distinction lies in the relation to the tone" [21, p. 61]. Stockhausen explained in detail how a piece grows from a formula and how changes occur within the sound itself in his commentary on one of his key works – *Inori* (including the *Lecture on Hu*). Just as the formula-melody itself is a projection of its core of non-repeating sounds (Kern), so too individual parts and the entire composition represent expanded projections of the formula. It is no coincidence that Stockhausen, commenting on the structure of the *Licht* cycle, generally does not differentiate between the core and the formula – for him, they are one and the same. If this is not taken into account, the dominant principle of projection in formulaic compositions may seem overly mechanistic. But if we realize that sound-processes continue and grow into form-processes, then it becomes clear that Stockhausen relies on a living, breathing organism as a model – it is no accident that he compares his formulas to DNA molecules [27, p. 37]. Sound-process and form-process often completely coincide – especially in static compositions. In any case, for Stockhausen, they are manifestations of a single "multiprocess" – a conclusion reached in both theory and practice by one of the greatest innovators of the 20th century.

It can be said that in terms of information, Stockhausen's formula technique represents an optimal "golden mean." When listening to *Inori* or *Licht*, we constantly stand on the threshold of mystery, surprised by every unexpected turn, yet at the same time, we feel the coherence and naturalness of this development, often resembling the growth of a living organism or crystal. This is facilitated by a crucial circumstance: the fundamental structural principle (formula), unlike works written using group techniques or process music, sounds and remains in memory. Formulas provide numerous melodic invariants and can be used as traditional leitmotifs, but that is not their primary significance. We ourselves exist within the musical text of the work – a projection of the generative model – the formula (its expanding sounds), just as within an expanding but enclosed universe, a journey through which always takes unfamiliar, mysterious paths. The image of the

Operator (*Michaelion*, Scene 4 of *Mittwoch aus Licht)* is highly symbolic, capturing shortwave signals from "different points in the Universe" and transforming them. Similarly, metaphorically speaking, the listener of Stockhausen's music functions in the same way: all unknown new information is assimilated and transformed post factum in the consciousness within the framework of the given intonational-structural principle – the formula.

7. Conclusion

Thus, historically, changing images of eternity in musical time have radically changed their forms up to the point of complete opposition: from repetitions with clear divisibility, through the formation of a lasting present in a living and eventful flow of time – to duration as such with indivisibility and static "eventlessness". The first form is genetically derived from the order of the ritual, the second from the logic of narrative, speech utterance. The third form is associated with the establishment of a new paradigm in the 20th century as the leading one – the paradigm of natural processes that can occur completely unnoticed by human senses (and therefore are perceived as static). And in this case, too, we cannot indicate the boundaries of individual moments, since they are practically non-existent – the "static" form merges all the moments into a single, long-lasting present. Such a "static", but at the same time an internally mobile moment creates a fairly direct image of eternity, perhaps even of eternal life.

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