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# Sound Attack in the Works of Olivier Messiaen: Total Serialism Revisited

*Garso ataka Olivier Messiaeno muzikoje. Totaliojo serializmo patikslinimas*

## Abstract

The technique of total serialism was realized in the works of post-war avant-gardists and they had at least two predecessors: Anton Webern and Olivier Messiaen. Both of them developed serial approach to rhythm and dynamic but Messiaen also serialized articulation. What were his intentions? After analysis of musical and musicological sources (Second rhythmic etude *Mode de valeurs et d'intensités* and the *Traité de rythme, de couleur, et d'ornithologie*) basic concept is to be revealed: accentuation became of great importance to Messiaen after his study of plainchant. His principal position was to interpret the music as an entity enclosing pitch, rhythm, dynamic and articulation. This position was adopted by Messiaen after Dom Moquereau, the notorious scholar and researcher of plainchant. As a result *Quatre études de rythme* were written. Additional factors, which led the composer to the invention of an attack row, were his own experience as an organ performer as well as outstanding piano articulation mastery of Ivonne Lorient.

**Keywords:** Messiaen, Second Rhythmic Etude, total serialism, sound attacks, mode, accentuation, plainchant, bodily gesture.

## Anotacija

Totaliojo serializmo technika ryškiausiai atsiskleidė pokario avangardistų kūryboje, o šie rėmėsi dviem pirmtakais – Antonu Webernu ir Olivier Messiaenu, formavusiais serijinį ritmo ir dinamikos traktavimą, tik Messiaenas taikė serializmą ir artikuliacijai. Ko jis siekė? Išanalizavus muzikos ir muzikologijos šaltinius (antrasis ritminis etiudas „Mode de valeurs et d'intensités“ ir „Traité de rythme, decouleur, et d'ornithologie“) atskleidžiama tai, kad akcentavimas tapo ypač svarbus Messiaenui po grigališkojo giedojimo studijų. Jis siekė interpretuoti muziką kaip visumą, apimančią garso aukštį, ritmą, dinamiką ir artikuliaciją. Tokią poziciją Messiaenas perėmė iš Domo Moquereau, žinomo mokslininko ir grigališkojo giedojimo tyrinėtojo. Jo paveiktas, jis sukūrė „Quatre études de rythme“. Patirtis grojant vargonais, taip pat iškilus Ivonne's Lorient fortepijoninės artikuliacijos meistriskumas paskatino kompozitorių sukurti artikuliacijų eilę.

**Reikšminiai žodžiai:** O. Messiaenas, ritminis etiudas Nr. 2, totalusis serializmas, garso ataka, dermė, akcentavimas, monodija, kūno gestai.

Total (or integral) serialism holds a special place among other phenomena of 20th century composition. The rigidity and discursiveness of this technique, its extreme rationalism finally emphasized the limits of musicality in music composition. *At the Limit of Fertile Land* – this title of Paul Klee's picture used by Boulez for his *Structures I* for two pianos<sup>1</sup> makes the status quo of serialism quite clear.

Defining total serialism Arnold Whittall writes: “**Integral serialism** or **total serialism** is the use of series for aspects such as duration, dynamics, and register as well as pitch” (Whittall, 2008, p. 273). It's a well-known fact that in serialism such parameters as timbre or sound attack could be also serialized.

The first composers who used more than one series of parameters were Anton Webern and Olivier Messiaen.<sup>2</sup> Webern clearly designated the connection between pitch and rhythm in his Concerto for nine instruments Op. 24 as it was shown by Karlheinz Stockhausen in his famous article.<sup>3</sup> In 1949, Olivier Messiaen wrote his experimental set of pieces – *Quatre études de rythme* (Four Rhythmic Etudes) for piano where he for the first time in 20th century

music used four synchronized series. After presentation of the Etudes in Darmstadt Boulez composed his “classical” piece *Structures I* where serialization was manifested as a perfect means of organization.

The basis of this technique is a combination of pitch and duration series.<sup>4</sup> Other parameters are more or less optional, the set of dynamics can be more preferable. Series of modes of attack is exceptional and used first by Messiaen, the inventor of a set, and then developed by Boulez in his *Structures I*. Sound attack does not have a precise scale, this parameter is particularly approximate and therefore the question arises: is there any real ground for considering sound attack a parameter? What was the way to such an idea? Compositional analysis and writings by Messiaen make possible to do some assumptions. The famous set of pieces *Quatre études de rythme* (1949) and the Second Etude in particular will be chosen for analysis to be accompanied by discourse of *Traité de rythme, de couleur, et d'ornithologie* (Treatise on rhythm, colour and ornithology).

Today scholars agree that Messiaen's technique in the set of *Quatre études de rythme* cannot be defined as integral

serialism in a strict sense (see Kogoutek, 1976, p. 165; Brindle, 1987, p. 23; Hakobian, 2010). More often researchers speak of multiparameter (multidimensional) technique. Obviously, this particular technique was intended to solve some special compositional tasks. Seeking for the answer what were these tasks we should enter the context: the program ideas and prototypes as well as the source of inspiration for these ideas. Special attention will be paid to the phenomenon of *sound attack*.

Among four etudes the most famous and most enigmatic is the second *Mode de valeurs et d'intensités*. How can this title be interpreted?

**Mode.** The concept of “modes with limited transposition”, specific scales made with symmetrical elements became a “visiting card” for the composer. But it’s obvious that there are no such modes in the Etude. In addition, there are no other known modes such as major, minor, church modes.

Pitch structure is based on 36 tones and it reveals three dodecaphonic series – 3 sets of 12 tones. The structure of series is quite specific: there are rows of descending order and unusual interval content – narrow intervals in the middle of the row, fourths and tritons at the edges. The overall contour graphically presents a sort of curve:



These three twelve-tone rows are shown by Messiaen in his own analysis (Messiaen, 1996). The composer points that these 36 tones are divided into three parts, which constitute three registers: high, middle and low (ibid., p. 126). He also pays attention to the fact that they intersect each other. Each row consists of 12 tones and it means that tones are repeated but repetitions take place in different registers, which means that composer tends not to repeat *frequencies*, not pitch classes.

Therefore, the aim of a composer is to make a system of 36 frequencies which are unique and comprise three times the 12-tone row. However, what kind of mode could it be? In addition, what is the logic of its development?

Before finding the answer we are going to examine the second word of the title – *valeur*, which accumulates the specific of rhythm.

**Valeur.** This term can be translated from French as “duration”. Messiaen uses for designating durations both “*valeur*” and “*durée*”. In the composer’s lexicon these words are not synonymic. In the context of visual arts “*valeur*” has additional meaning of “shade” or “tint”; as some dictionaries treat it – “additional shade, grading of light and shadow”. Knowing about Messiaen’s exceptional synesthesia (he wrote about seeing sounds and hearing colours) musical

“duration” gets additional qualities of “colour”. Duration as a sort of colour - such an idea corresponds to a treatise on rhythm by medieval Indian theoretician Sharngadeva, whose text Messiaen studied for a long time<sup>5</sup>. Here is the fragment of this treatise: “Three Deci-tala, united by number 26, are designated *varna*; designation of colour means aspect of Time, division of Duration” (Messiaen, 1994, p. 278). What is the link between colour and duration? French philosopher Henri Bergson sought for the answer to this question and his ideas were known to Messiaen who highly appreciated the learning of Bergson and devoted a lot of speculations to Bergson’s insight.

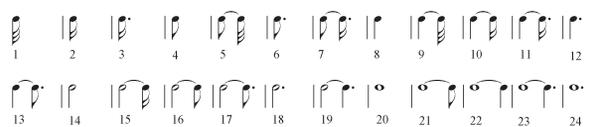
Bergson suggested that all our psychological sensations could be expressed through the notion of Intensity. How does it happen?

Every musician deals with a reality of sound and music with its vibrations initiates our sensations, feelings, passions. Feelings differ in quantity. Bergson writes: “Even the opponents of psychophysics can’t see any inconvenience in the fact that one sensation is more intensive than the other. Everybody says that he is more or less hot, more or less sad... Meanwhile this is a very obscure point and extremely complicated problem” (Bergson, 1983, p. 672).

Next question discussed by Bergson is the following: if the intensity of feeling is different, should we compare intensity to some sort of amount? The answer is “common sense being in full consensus with philosophers considers pure intensity as magnitude” (ibid., p. 674). Therefore, the intensity of colour is its shade, intensity of duration is its magnitude. Colour and duration become connected thorough the notion of intensity, and intensity itself can be meant as a quantitative property of our experience. For example, blind people learn to perceive the colour according to their wavelength. Correspondingly, we should interpret the notion of “*valeur*” as “intensity (shade) of duration”.

If we return to the notion of “mode”, we have to establish some kind of link between “mode” and “duration” because “mode de valeurs” literally means “mode of durations”.

Rhythmic modes exist in European medieval music, i. e. modes of plainchant (school of Notre-Dame). However, medieval rhythmic modes constitute simple ternary constructions meanwhile Messiaen produces a row of 24 durations. The construction of a row is made according to a principle which is called by composers “rhythmic chromaticism”. “Rhythmic chromaticism” is based on a simple arithmetic progression in an ascending order:



This row is based on a demisemi-quaver; other durations, such as crotchet or quaver can also serve as a basis for construction of a row. In the Second Etude, we see three rhythmic chromatic rows with different basic durations: first row is founded on a demisemi-quaver, second – a semi-quaver, third – a quaver.

The row, which is presented by Messiaen in his Introduction to the Etude is a sort of totality of durations used. If we thoroughly examine all three rows in this composition, we will see that they are not identical:

If we enumerate durations according to the basic row, we will get different results:

Row I –	1	2	3	4	5	6	7	8	9	10	11	12
Row II –	2	4	6	8	10	12	13	14	15	16	17	18
Row III –	4	8	12	14	16	18	19	20	21	22	23	24

As a result, the genuine basic form is used only in Row I while II and III have differences in relation to basic row.<sup>6</sup>

Dividing the rhythmic row into three divisions Messiaen calls them “rhythmic registers” (Messiaen, 1996, p. 126). Each frequency (i. e. pitch) corresponds to a specific duration. As a result, each note has its individual frequency as well as its individual duration. Both rows have a common foundation: it’s a *simple arithmetic progression*. Therefore, it’s possible to make a conclusion: the term “mode” can be interpreted as a sort of “order”. However, it’s not the only way of interpretation.

**Intensité.** Our previous analysis makes clear how intensity could be interpreted as such property, which unites duration and colour. But the first meaning of French word “intensités” is “dynamics”. Messiaen creates a row of dynamics and we can interpret it as “intensity” in its special meaning. This row isn’t very large: only seven levels of dynamic intensity are given from *ppp* to *fff*:

<i>ppp</i>	<i>pp</i>	<i>p</i>	<i>mf</i>	<i>f</i>	<i>ff</i>	<i>fff</i>
1	2	3	4	5	6	7

What can be considered as a foundation for a dynamic row? Dynamic symbols look like grades when written down; in any case designations like *p*, *pp*, *ppp* show us a sort of another “progression” although it’s obvious that equal grading of real sound is almost impossible in practice. Nevertheless, the basis for another analogy with the progression is visible and the idea of parameterization can be applied.

The parameter of sound attack isn’t included into the title of the Second Etude. However, we also can see the intensity as a basic property. Composer makes a row of 12 modes of attack:

The twelfth grade is normal attack.

Analysis shows that attacks are divided into four categories:

- 1) Single (accent, *staccato*, *tenuto*, *legato*),
- 2) Double (combination of an accent and other attacks as well as *sforzando* with accent),
- 3) Triple (simultaneous *sforzando*, accent and *staccato*),
- 4) And “normal attack” makes a sort of “zero” level.

Single attacks are organized according to the level of their “sharpness”: first goes the sharpest attack (accent) then the softer variants up to legato.

Once again, we see a relative “progression”, a sort of “attack chromaticism”. Where does it come from? Oddly enough it’s not a new idea. In general, the descriptions of sound attack are common in manuals for instrumental performance. However, if we looked through the manuals for organ performance we would notice a special approach for sound attack. Famous Russian organ performer Braudo writes that the manuals for organ performance point a special attention to attack and their execution. Attack on the organ is considered to have a precise metric value: “Many editors as well as teachers of organ playing insist in every single case: a dot above a note makes a half of its value; or “separate this note from the next by half shortening it”, or “repeated notes loose half of their value” etc. (Braudo, 1961, p. 7).

The scholar states that the metric interpretation of articulation (i. e. treating *staccato* as a shortening of a tone according to a determined value) is characteristic of organ playing because of the lack of dynamic accent on this instrument: “When playing the organ you have difficulties to clarify the metric basis of rhythm for listeners. And on the contrary the most easy is to loose this metric basis” (ibid.). If the performer makes clear not only the entries of sound attacks but the expiration of sound as well, he makes extremely clear the metric of a music piece.

That's why a relative scheme appears:

Staccato shortens the duration of a note, short staccato shorten it in a half etc.

Braudo explicates the sequence of attacks according to their level of sharpness: "The following gradation of connectedness and dismemberment is possible:

Connectedness – *legatissimo*, *legato*, dry *legato*,

Dismemberment – deep *non legato*, *non legato*, metrically determined *non legato*,

Brevity – soft *staccato*, *staccato*, *staccatissimo*" (ibid., p. 9).

Therefore, we may conclude that this *organ articulation practice* could serve as a basis for treating articulation as a parameter.

Given row of attacks is universal because it can be performed not only on the piano but on different instruments but it's important to consider attack as a specific factor for sound production, intimately connected to the structure of a particular instrument. We can conclude then that a *piano* was in the centre of Messiaen's intensions. Why?

Of course, Messiaen was a good pianist himself. Before composing *Quatre études* he wrote both *Préludes* (1929) and *Vingt regards sur l'enfant-Jésus* (1945) for piano. However, these cycles don't show any specific interpretation of attacks. In the late 40s composer might be impressed by the art of Ivonn Loriot and her exceptional manner. Levon Hakobian points that "mature manner of Messiaen was inspired by Loriot's ability to perform precisely the most sophisticated rhythms, her extraordinary attack, extreme wealth of dynamic level grades" (Hakobian, 2010).

Listening to the recordings of this pianist makes possible to imagine the unprecedented mastery of her touch. You really get the impression that the key of a piano is graded into several levels of depth and the strings of a piano have multiple grades of resonance. So we can conclude that the fact of creating *Quatre études* is due to individual qualities of a performer, that they are inspired by particular performer (though they are not dedicated to her). It's common case in music history, and we might make the conclusion that a particular unique coincidence (Messiaen as an expert on organ articulation and Loriot as an exceptional piano performer) made possible the creation of the cycle and serialization of attacks as a means of organization. If so, we may deduct that Messiaen embodied a sort of his eccentric fantasy in producing a unique multiparameter work.

Can we consider Messiaen as eccentric? We believe that the composer: 1) acts as a representative of French tradition; 2) develops a certain historical tendency.

The wealth of articulation means is said to be especially notable in French music. Describing Messiaen in the course of French music tradition Konstantin Zenkin says: "French music in the works of Berlioz or Couperin or Rameau or Debussy or Ravel is very concrete, it has a quality of a real sensed object that led to programme titles. Frenchmen have no

inclination to mean something abstract, to talk about 'pure spirit' they were inspired by colours and textures, physical movement and sensation of space" (Zenkin, 2012). This shift to physical sensations can be also captured by terms "corporeality" or "gesture". Applying these notions to Messiaen we arrive at a paradox: one of the most "learned" and "bookish" composers with his almost boundless erudition and fantastic "unreal" images shows evident attachment to real sensations, to sensitivity and even sensuality. Messiaen is inclined to make endless textual commentaries to his works, he acts as an adherent of Logos and at the same time he implies all this range of bodily sensations in the titles of his works (for example: "Non-palpable sounds of dreams"), modes of attack, articulation marks. All this corresponds to the ideas of French philosopher Maurice Merleau-Ponty, the contemporary of Messiaen. In his classic work "The psychology of sensations", he points at an opposition of consciousness and the world as an erroneous. The body isn't the opposite to the soul and the living body (*le corps propre*) defines the secondary nature of consciousness. Our existence is nothing but concrete bodily being, "embodied consciousness". The interaction of body and material world is accomplished through gesture which is formed by creative energy of an artist.

So we can consider "attack" as a gestural quality in the spiritual-bodily unity of a musical work. But what was the purpose of employing the rows of frequencies, durations, dynamics and modes of attack in the organization of the Second Etude?

The key word is "mode" and it displays different nuances of "ordering". But the most precise meaning of "mode" is connected to the notion of "coordination" We may propose the following interpretation of the title: "coordination of modes of attack, dynamic levels, rhythmic and pitch series". Yet there should be something that led Messiaen to such a concept of mode.

The answer to this question should be sought not in the spirit of experimentation as such<sup>7</sup>, but in the professional of Messiaen-composer and musicologist.

As an organist of Eglise de Saint Trinité he was obliged to improvise daily on the plainchant hymns. It stimulated his scientific interest to explore plainchant and to analyse its historic roots and qualities. His observations were published in the Fourth volume of *Traité de rythme, de couleur, et d'ornithologie* (Messiaen, 1997).

At first sight, the structure of the fourth volume looks bizarre:

#### Chapter 1. Plainchant

- 1) neumes
- 2) forms of plainchant
- 3) resume of Le Guennant
- 4) modes of plainchant
- 5) appendix: influence of neumes on the great composers

## Chapter 2. Arsis and thesis

- 1) Dom Moquereau and “Le nombre musical gregorienne”
- 2) Simplified theory of plainchant rhythm
- 3) Cheironomie after Dom Moquereau

Chapter 3. Analysis of *Messe de la Pentecôte* for organ

## Chapter 4. Mozart

- A) why I like Mozart
- B) Mozart and accentuation
  - 1) accentuation theory
  - 2) analysis of some Mozart`s phrases
- C) 1) detailed analysis of the Second movement of the “Jupiter” symphony
  - 2) detailed analysis of the First movement of Piano Concerto in A major
- D) analysis of the 21st Concerto for piano and orchestra.<sup>8</sup>

A more detailed approach shows us the main purpose of this volume – problems of *accentuation*. The chapters devoted to Mozart reveal it explicitly, the chapters on plainchant are more obscure but this problem is considered as one of great importance.

Second Chapter – Arsis and thesis – throw light on the Messiaen’s approach to *Quatre études de rythme*. Messiaen’s text should be characterized not as musicological analysis as such but as a sort of rough copy, a series of sketches outlining the logic of research. Sometimes it’s a commentary, otherwise – a dialog with the outstanding plainchant scholars.

In the beginning of 20th century, the research of plainchant was centered at the Solesmes abbey (France). The name of the abbey gave name to the school of researchers. It was founded by Dom Moquereau, author of the fundamental book about plainchant *Le Nombre musical grégorien, ou rythmique grégorienne, théorie et pratique* (1909–1927). This book served as a starting point for Messiaen’s research in plainchant rhythmic. The notion of plainchant rhythmic is problematic in itself: “Rhythmic interpretation of neumes is a point of controversy” (Preyer, 1983, p. 1238). Messiaen interprets rhythmic of plainchant not as “cantus planus”, but as a much more complex phenomenon.

From the rhythmic point of view neumes are simple: they have only two kinds of durations – “unum tempum” and “duo tempora”, which is not original. However, another concept – *arsis and thesis* – may be topical for plainchant. Messiaen considers the concept of arsis and thesis extremely important for neumatic rhythmic. This idea came into being through the position of Dom Moquereau. Messiaen wrote that “arsis and thesis theory... is very simple, evident but difficult for understanding” (Messiaen, 1997, p. 43).

The notions of “arsis” and “thesis” refer to Ancient Greece and the concepts of movement and rhythm.

Messiaen cites Plato: “Rhythm is an excellent order of movement”. Movement can be divided into visible (dance) and audible (music and poetry). Ascending movement (or gesture) in dance can be called arsis and descending may be called thesis. The same process is also characteristic of audible movement, or music. There ascending movement takes form of voice raising (élan)<sup>9</sup> or accent, descending – of decline (repos). Therefore, arsis and thesis lead us to accentuation problem.

Notably this problem arises from the duality of ancient verse. Old metres contain long and short vowels and naturally, the longer vowel was more accentuated. After the antiquity, syllables lost the longevity of vowels and only the accents were left. Metric foot contained accented and non-accented syllables. Accented syllable contains the same quantity of energy, which was characteristic of a long vowel. Therefore, longevity and accent could be equalized through the notion of energy. The word “élan” in Messiaen’s and Bergson’s writings also can be treated as having relation to energy. All this leads us to understanding of organic nature of arsis and thesis, its energetic quality and its flexibility: thesis will be a little bit more long than arsis even in the metric foot containing two equal steps (such as spondee, for example).

Dom Moquereau points at the fact that rhythm is transmitted through sound. The sound itself has four “accompanying phenomena” (*4 phénomènes accompagnant la production du son*): duration, dynamic, pitch, timbre. Pitch is closely related to melody. Other phenomena are related to rhythm and it makes basis for construction of four rows: quantitative (long sounds – brief sounds), dynamic (soft sounds – loud sounds; also dense textures – rarefied textures), phonetic (timbres – attacks), kinematic (the succession of tensions and relaxations, i. e. accentuation and speed, or tempo).

The tension and intensification of energy flow are the same. Tension has rise and fall (arsis and thesis), stressed and unstressed components (intensive attack – normal attack), activity and passivity (intensive movement and quiet tempo).

Strictly speaking, the microintensification of tension, which becomes an intrinsic characteristic of each arsis, crescendo dynamic but it produces a subtle semantic accent which separates live and “breathing” music from uniform motion music without any “breathing qualities”.

Melodic breathing, organic impulses make the performer to do microchanges in motion and dynamic. Obviously, this tendency was born not in the 19th century with its fondness for rubato. Plainchant is also fraught with aspiration for inspired and live performance. We can see it in the signs of *cheironomy*.<sup>10</sup> The level of energy in arsis and thesis can change in the same chant according to the meaning of the words and their accentuation.

podatus, pressus par apposition à un climacus  
(avec virga au lieu de punctum), distropha,  
punctum pointé –

San-ctus

A A T T T

Quatre arsis contractées :

et fi-li-us

A A A A A T T

Chironomie (d'après Dom Mocquereau) – suite

- Variations de la Chironomie sur des textes analogues –

Introit de la Messe des Morts

do-na e-is

dó-na é-is

perpé-tu-a lú-ce-at

perpé-tu-a lú-ce-at

**1 Example.** Dom Gaillard, outstanding researcher of plainchant<sup>11</sup>, compares arsis and thesis to the bouncing of a rubber ball: going upwards – arsis, going down – thesis (example source: Messiaen, 1997, p. 59).

That's why the conjunction "arsis – thesis" besides rhythm has its own dynamic and defines the dynamic contour of a composition.

The notion of energy rhythmic, accentuation and dynamic are united. In addition, if rhythmic is formed by the pitch (as was shown before) the whole system of parameters used by Messiaen in *Quatre études de rythme* becomes clear.

The way Messiaen treats rhythm, pitch, dynamic and accentuation in the Etudes can be likened to the mentioned above four rows found by Dom Moquereau in plainchant:

- 1) Quantitative row – combination of long and brief sounds, the number of rhythmic units;
- 2) Dynamic row – coordination of intensities, including dynamic levels and density of texture as well as timber;
- 3) Phonetic row – coordination of attacks;
- 4) Kinematic row – coordination of arsis and thesis, including tempo and accentuation.

Messiaen makes a "mode" of coordination and intersection of all these factors: "mode de valeur et d'intensité".

All this leads us to the conclusion: Messiaen's purpose in this Etude is to bring back to musical sound its syncretic entity, which was characteristic of plainchant, which composer considered to be the best music in the world. However, he doesn't stylize the sound of plainchant, he tries to follow

the way of deconstruction (using the term by Derrida) and re-create the main features of plainchant on a new level of understanding. The composer goes from inside out trying to reach the necessary level of inner harmony.

Trying to combine inside the sound its four characteristics Messiaen pays special attention to the individuality of each sound. Sound represents a specific point; the relations of sounds are regulated not by melodic logic but by numeric permutations and combinations. In this particular sense, we can treat pitch technique in the Etude as a special kind of pointillism. It is based on the common logical laws: principle of combination and another – of selection. Messiaen was inspired by the plainchant concept of sound with its fullness of functions of each note and combines it with his individual concept of time which is multiple and irregular. Time concept is explicit through rhythm row with its "rhythmic chromaticism" and proportional correlations, which give impression of three tempo levels.

Individuality of sound elements is intensified by adding of a dynamic set and a row of attacks so that each note has its own unique quality, a combination of frequency, rhythm, dynamic and attack. Recalling Messiaen's idea about 12-tone row as a black-and-white colour entity (opposition to symmetrical rows which are brightly colored, according to composer's idea), we can see a sort of "grisaille", a painting in grey shades recalling Renaissance etchings for example, Durer's *Melencolia*): also an allusion to Netherlands counterpoint with its proportional canonic technique seems possible.

Such an interpretation of the Second Rhythmic Etude leads us to the conclusion about the special role of articulation in Messiaen's music. The composer's logic looks like a chain of ideas: creative impulse – its transformation into spiritual as well as bodily sensations – shaping the sensation energy into image and gesture – defining the mediators (expressive means) for transmitting these impulses – as a result, multiparameter composition. Accentuation linked to sound attack, i. e. immediate contact with the musical instrument makes one of the most important features of the message, which carries the music of Olivier Messiaen.

Returning to total serialism, we now may value its nature more thoroughly: all young avant-garde composers – Boulez, Stockhausen, Nono and others – were, in fact, unprepared for sophisticated insights of Messiaen. They perceived the Second Etude as a study in numerical permutations and their interpretation of Messiaen's ideas may be regarded as a case of misunderstanding, as it often happens. It is said: "The history is pushed by misunderstandings", and it is quite fair to say this about Messiaen and his disciples.

## References

- 1 Still it's not clear whether Boulez used this title or not. Jonathan Goldman writes definitely: "Convinced for a time of the fruitfulness of this approach, Boulez originally gave the first piece the telling title *At the limit of fertile ground* after a painting by Bauhaus artist Paul Klee" (Goldman, 2011, p. 7). Pousseur tells another story: "For Boulez "Structures" presented in a way "absolute zero" in his investigations, [...] In fact, he had an idea to entitle this work – after Klee's painting – "At the limit of fertile land" (Pousseur, 1972, p. 106).
- 2 Brindle also recalls Russian composer-mathematician Joseph Schillinger, who left a very important work, *The Mathematical Basis of Arts* (about 1943; published after his death), where "mathematical and scientific lines of thought were invading the realms of music" (Brindle, 1987, p. 22).
- 3 Karlheinz Stockhausen. Webers Konzert für neun Instrumente Op. 24. In *Texte zur Musik 1*, edited by Dieter Schnebel, p. 24–31. DuMont Dokumente. Cologne: Verlag M. DuMont Schauberg. [First published in *Melos*, No. 20, 1953, p. 343–48.]
- 4 This circumstance is stressed by Hakobian who gives the following definition of serialism: Total serialism is a type of serial technique, dissemination of serial principle to other besides pitch classes' parameters of music which are subjected to serial organization. This can be tempo, rhythm, dynamics, articulation, timbre (the parameters are listed according to their structural potential, i. e. their ability to be measured in some kind of precise values; pitch has the greatest structural potential (Hakobian, 2010, p. 505).
- 5 In his conversation with Claude Samuel answering the question "How did you come to the idea of using Indian rhythmic technique in your work?" the composer answered: "It was sheer luck. By chance I got a treatise by Sharngadeva with its famous list of Deci-tala; this list was a revelation for me, immediately I knew that it was a marvelous source, I looked at it, copied, studied for many years to get into its hidden depths" (Samuel, 1994, p. 12).
- 6 Construction of rhythmic row is very important for Messiaen. Strict following of ascending order is rare, more often the composer employs sophisticated forms of numeric models. For example Third Etude from the set (*Neumes rythmiques / Rhythmic Neumes*) has a row of 15 durations and the model "every fifth" is used: (1 6 11 – 2 7 12 – 3 8 13 – 4 9 14 – 5 10 15); Etude *Ile de feu II* (Fire Island, No. 4) has a row of 12 durations and the model of "opened fan" is employed. The most complex from duration row has in the composition *Livre d'orgue* (64 durations in a row, following the principles of alternation of ascending and descending parts of a row: 1234-64 63 62 61 etc.).
- 7 This interpretation of the title makes possible to translate it as "Four investigations of rhythm".
- 8 We've kept the author's rubrication intact.
- 9 Notably the word "élan" corresponds to Bergson's terminology where it means "creative energy" or "vital force" (élan vital). It is a source of continuous formation (according to Bergson, "durée") in each living organism.
- 10 Cheironomy is explained by the composer himself: "hand signs used by the choirmaster to designate arsis or thesis" (Messiaen, 1997, p. 54).
- 11 Messiaen was fond of Dom Gaillard's works and published a number of abstracts in his treatise.

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## Santrauka

Totaliojo serializmo šaltiniu pokario avangardo kompozitoriai pasirinko Messiaeno kūrinį – ritminį etiudą Nr. 2 (1949), kuriame kompozitorius naudoja keturias serijas: garso aukščio, ritmo, dinamikos ir artikuliacijų eiles. Pastarosios serijos būdingos Messiaeno kūrybai, todėl kyla klausimas, kodėl kompozitorius sukūrė tokią trukmių ir intensyvumų sistemą ir kur slypi jos pagrindai. Nagrinėdami šios kompozicijos kontekstą randame įvairių įkvėpimo šaltinių, kurie galėjo būti reikšmingi kompozitoriui. Kalbant apie *mode* (dermę, eilę) jo etiude atsiskleidžia esminė sąvokos prasmė: sugretinti ir suderinti vizualiai. Ši *mode* sąvoka nagrinėjama atsižvelgiant į tuos komponentus, kuriuos Messiaenas mėgina derinti – garso aukštį, ritmą, dinamiką ir artikuliaciją.

Artikuliacija yra muzikinis parametras, kurį labai sunku transformuoti į gradacijas. Kuo rėmėsi Messiaenas, kūryboje pradėjęs naudoti šį nestabilų ir apytikrą reiškinį? Analizuojant išryškėja tam tikras būdas, valdantis įvairių serijų tvarką: tai progresijos principas, atsiskleidžiantis įvairiais aspektais, atsižvelgiant į reiškinio esmę: garso aukščio progresija paprastai laikoma kylančia chromatine derme, ritmo progresiją Messiaenas traktuoja kaip „ritminį chromatizmą“ – augmentuota trukmių serija, kai progresija sukurama pridėdant papildomą vertę mažiausiam vienetui.

Dinamikos serija taip pat turi tam tikrą progresijos savybių, tokių kaip gradacija tarp *p* ir *pp*, lyg intervalų seka nuo švelniausios iki garsiausios dinamikos. Artikuliacijos požiūriu manome, kad Messiaenas interpretuoja tušę (garso trukmę ir intensyvumą) kaip išaugantį iš grojimo vargonais *staccato* ar *legato* štrichais, atliekamais specialiai „reguliuojant laiką“.

Bet tikslo klausimas lieka atviras. Messiaeno noras koordinuoti keturis garso parametrus grindžiamas, mūsų nuomone, jo grigališkojo giedojimo tyrinėjimais, o interpretavimas remiasi Moquereau tyrimais. Šis mokslininkas

parodė įvairių reiškinių koordinavimo būdus grigališkojo giedojimo atveju – *arsis* ir *thesis*, sujungiančius garso aukštį, ritmą, dinamiką ir artikuliaciją į visumą. Laikydamas grigališkąjį giedojimą „geriausia muzika pasaulyje“, Messiaenas bando atkurti šią visumą naudodamas šiuolaikinės kompozicijos priemones. Grigališkojo giedojimo „dekonstrukcijos“ idėja buvo jo sekėjų klaidingai suprasta – ypač Boulezo ir Stockhauseno, kurie Antrajame etiude išvėlgė skaitmeninį principą, leidžiantį puikiai derinti skirtingus muzikos garsų komponentus.