

The Musical Graphics in Connection with Synesthesia in the Context of the Polish Avant-guard

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Abstract—The main problem of identifying musical graphics' phenomenon lies in the absence of obvious relationships between the graphic symbol and what it means in sound equivalent. The composer, creating a graphic score, assumes a certain psychological impact on the way of musical thinking through this graphic form. The process of graphic score's interpretation insists as the transformation of "painting" to sign's system that associated with sound content. The performer analyzes musical graphics from the point of view of searching for regular relationships between the graphic image and musical interpretation, requiring the performer to have such a quality as the ability to synesthesia. The Polish creativity provides rich material for study of synesthesia, and the most important graphic scores were created by Bogusław Schaeffer and Ewa Synowiec.

Keywords—the musical graphics; the graphic scores; the Polish Avant-guard; Wassily Kandinsky; Zygmunt Krauze; Strzemiński's unism; synesthesia; Bogusław Schaeffer

I. INTRODUCTION

In the musical art of the first half of the twentieth century, the means of painting acquire special significance, becoming not only the source of the plot and the figurative circle of the work, but also the starting point for the formation of the means of musical composition. In this regard, Polish creativity provides rich material for study, already at the beginning of the twentieth century distinguished by overcoming genre limitations, enriching techniques through the synthesis of expressive means of literature, painting and music.

Most often in connection with studies of synesthesia, the name of Wassily Kandinsky (1866–1944), one of the founders of abstract art, who began his journey in the mainstream of symbolism and then expressionism. Kandinsky's synesthetic views, expressed in his work *Concerning the Spiritual in Art*, written in Munich in 1910, are concentrated in chapters V and VI: *The Effect of Color* and *The Language of Forms and Colors*. Interest in his works is still relevant today: for example, the British scientist Jamie Ward used Kandinsky's paintings in his experiments with "color-sound" associations [1]. According to Anton Sidorov-Dorso, "the term 'color hearing', although it has been preserved to this day, is still not entirely accurate: it can

mean a color reaction to both music and speech, and until a certain time was generally a complete synonym for synesthesia in all its manifestations without exception; probably for the reason that other types of synesthesia were little studied or completely unknown" [2].

In Poland, starting in 1904, Kandinsky presented large collections of his paintings, however, the works of Kazimir Malevich (1879–1935) and Władysław Strzemiński (1893–1953), who had a major influence on the development of the Polish avant-garde and who accepted Kandinsky's avant-garde approaches to non-figurative painting, are connected with Russia. The works of Strzemiński, which began in the last years he spent before leaving Russia for Poland in 1922, was inspired primarily by the suprematism of Malevich, recognized as one of the most striking phenomena of the Polish pre-war avant-garde. It was Strzemiński who, in an article published in the journal of the Polish avant-garde *Zwrotnica* (1923, No. 4), first introduced the ideas of Malevich suprematism outside the Soviet Union. He interpreted suprematism as a direction with an accurate and unambiguous design of dynamic forms. Simultaneously with the term "suprematism", the definition of "suprematism" appears in Strzemiński's statements, which he originally denoted the phenomenon of unity — absolute merging of background and forms into a single original whole. Using the idea of the neoplasticism by Paul Mondrian, he understands by it the "denaturation" of art with the help of abstract geometric shapes and the limitation of the color scheme, contributing to its universal harmony.

After the artist settled in Poland in 1929, he founded the A. R. [in Polish: awangarda rzeczywista] group in Łódź, having previously presented his aesthetic views in the work *Unism in Painting* [3]. Criticizing the baroque concept of painting with its drama and dynamism of lines and contrasts, the Polish artist presented his own concept of unity in painting. According to Strzemiński, the image itself is an object. The composition is based on the uniformity of space and the uniform distribution of all image elements on the canvas, as well as the absence of contrasts. Another important feature of the unistic image for Strzemiński was its pointlessness. Strzemiński created unistic paintings in the periods of 1923–1929 and 1931–1935. In the first period the technique of composition is distinguished by the

representation on the canvas of several significant segments that create certain integrity. Images of the second period are marked by the fragmentation of a single space into a large number of homogeneous figures.

The innovative concept of Strzemiński's unism found a new context for further development in the minimal art that appeared in the 60s, which, like a Polish artist, proclaimed his credo as the absence of specific content, the objectification of a work of art, and the repeatability of elements at the heart of its composition. However, it found a response in the art of Poland in those years. Here, the original phenomenon of experimental music attracted Zygmunt Krauze (b. 1938). The concept of unistic music he created was directly inspired by Strzemiński's theory of unism, demonstrating the new aesthetics of musical composition and the search for corresponding possibilities in the field of composer technique. *Five Unistic Compositions for piano*, written in 1964, became the first example of such musical unity. The title of the cycle repeats the idea by Strzemiński, for example, *Six Unistic Compositions* (1924–1928), *Nine Unistic Compositions* (1931–1934). So in the cycle *Five Unistic Compositions*, the idea of unistic sound space is realized by a narrowly limited textured space, which in five movements has slightly different "configurations". These texture forms remain unchanged throughout the entire short movement, with the homogeneity of time and sound content. Noteworthy is the notation without measure, which evokes a sense of deformation traditional for a musical work temporary organization. Different dynamic solutions that create a certain dramatic cycle make a contrast.

As known to all, in the 1950s there was a rapid expansion of the search for extra-musical sources of composition. The appearance of musical graphics as the avant-garde trend of contemporary music also dates back to the late 1950s. This phenomenon has caused great interest and controversy in creative and scientific circles. Actually, the first graphic score is considered to be the composition *December 1952* by Earl Brown (1926–2002), like-minded John Cage, representing the so-called New York school. Brown's innovations had a significant impact on the European avant-garde thanks to his performances in Darmstadt. Silvano Bussotti (b. 1931) and Anestis Logothetis (1921–1994) were recognized as major masters of musical graphics.

However, the term "musical graphics" belongs to the Polish composer Roman Haubenstok-Ramati, who linked its meaning with the definition of notation. At first, the term was used in connection with the problem of actual notation, and only in the course of twenty years of development it became clear that this phenomenon represents a completely original direction of contemporary music, associated with the "decomposition" of a musical work (and the use of graphic notation is not identical to the phenomenon of musical graphics). Note that back in 1965, György Ligeti expressed this idea, justifying it by the fact that musical graphics do not have a system of signs proposed by the composer in compositions using graphic notation, which, in fact, are many Polish aleatoric and sonoristic compositions of those years. The intermediate position was taken by the German theorist Karl Dahlhaus, believing that everything depends on

the method of execution — spontaneous or analytical, reflective in relation to graphic forms, and, based on this, musical graphics can function both as a drawing and as a system of signs. In this regard, I would like to give here one more opinion of Sidorov-Dorso: "all phenomena that can cause synesthesia are the results of a person's practical or mental activity. These are, as a rule, symbols, concepts, systems of signs, titles, names" [4].

II. THE MUSICAL GRAPHICS AND PROBLEMS OF ITS INTERPRETATION ACCORDINGLY TO THE POLISH MUSICIANS

The interpretation of graphic scores sets the musician with complex performing tasks. Indeed, graphic forms serve as the expression of the composer's idea, which, while not being the key to reading musical structures, function as plastic forms: for example, as a drawing that is identical to itself and only then excites associations in the musical imagination, which the performer translates in accordance with his inner hearing in the sound row. As a result, the "drawing" is transformed into a system of signs expressing a conditionally functioning musical meaning. The main task of the performer is to search for analogies between graphic forms and specific parameters of musical structures, that is, giving the graphic certain specific musical meanings. The performance implementation resulting from the visual perception of the score is determined by the search for associative sound structures (always unpredictable as conceived by the creators of graphic scores). It is here that the main problem of such art is concentrated: it requires the synesthetic perception of the viewer, listener and performer at the same time; because it consists in the fact that visually perceived qualities in an involuntary way acquire "parallel" sound qualities in their subjective world due to the ability to synesthetic reactions. And the measure of this ability determines the completeness of perception of such a work.

By the way, it is here that an analogy arises between graphic scores and the concept of musical unity of Krause (who is an outstanding interpreter of such compositions), revealing the mechanism of interaction of the "drawing" and its translation into "musical language". Just as Strzemiński's unistic painting became an impulse for the composer to search for similar musical forms, any graphic becomes an impulse for a musician-performer. But, unlike the musical unism system, each performing interpretation in a certain sense becomes a "simplification" of the graphic idea, which initially implies ambiguity and understatement. After all, the performer chooses a pragmatic way of interpreting musical graphics, only one, based on subjective sound experience, individual visual impression, as well as the ability to synesthetic reactions.

As you can see, the equivalent relationship between musical graphics and musical structures is not so easy to establish, as well as the range of works really related to musical graphics. Not every score that looks like a graphic can be attributed to the direction of musical graphics. Indeed, graphic notation was also used in sonoristic scores, but in these compositions the graphic elements did not function as an expression of the tendencies towards the obvious endowment of the work with the qualities of ambiguity and

subtext. On the contrary, in sonoristic compositions, graphic elements were used due to the impossibility of using traditional notation and the transmission of special sound effects. In musical graphics, these relationships are absent, and it is analyzed from the point of view of searching for regular relationships between the graphic image and musical interpretation, requiring the performer to have such a quality as the ability to synesthesia. The composer, creating a graphic score, assumes a certain psychological impact on the way of musical thinking through this graphic form. This form becomes a special means of communication between the creator and the perceiving interpreter, its effect is based on the interaction of graphic elements, their spatiality, perspective, versatility, dynamism, play of colors and shades. These qualities of the "score" recognized for musical graphics, corresponding to the perception of the musician-performer, can be "translated" into the musical language depending on its sound preferences, rather than the specific wishes of the composer. Equating this phenomenon only with the problems of notation deforms its meaning. By the way, the phenomenon of musical graphics can also be viewed from the reverse side: as an expression in the visual images of sound fantasies of the artist.

In Polish music, in addition to the works of Haubenstock-Ramati, the phenomenon of musical graphics includes many compositions by Bogusław Schaeffer. The composer characterizes this phenomenon as follows: "Musical graphics, as can be determined by its almost thirty-year development, moves in two directions: in the direction of equivalence and aleatorics. Equivalent graphics are associated with the idea of composition, according to which between the individual elements (or parameters) interchangeability occurs, or can occur. <...> Equivalent graphics leave the performer complete freedom in the distribution of composition parameters. <...> One and the same graphic element can be interpreted in different ways, which, however, is not tantamount to absolute freedom of implementation, since even the most free musical graphics operate with such musical categories as spatiality, pitch, dynamics (depending on the quality of the graphic sign or picture)" [5].

In this situation, it can be stated that the performer invents the implementation system himself or improvises, and then his "musical equivalent" arises from the circle of idioms well known to him and does not have any special "stylistic" delights. "Aleatoric graphics are more suggestive of form than its elements. The composer gives the performer explanations primarily regarding the ordering of the material in time. If equivalent graphics require a penchant for fine arts, which may not be characteristic of individual musicians, then aleatoric graphics is only functional, accessible to those who are afraid of transposing graphic motifs with the help of musical imagination". In the case of equivalent graphics, the drawing can be interpreted objectively, regardless of other points; in the case of aleatoric graphics, there are rules of composition, temporal ordering of the form and the uniqueness of its elements. As you can see, Schaeffer's opinion is quite specific, but at the same time it expresses in its own way the main problems of this direction: "In case of the less 'musical' the graphic, it is the more equivalent, and

the composer's role is the less in the organization of performing" [6].

The most significant contribution to the development of this trend in Polish music was made by Ewa Synowiec, a well-known pianist, composer, theorist and teacher (b. 1942). Since 1964, carried away by the work of Bogusław Schaeffer, she began to study composition in his class. Synowiec turned out to be close to the idea of a constant search for new forms of expression, free from connection with tradition. The composer's active interest in musical graphics is associated, on the one hand, with an aesthetic interest in this direction, and on the other, due to the reasons for poor vision. Synowiec, who from childhood was used to writing down her ideas with diagrams and later developed this technique with enthusiasm. According to the composer, she presents her musical thoughts in plastic and color categories rather than in the traditional notation of the score. In the first graphic scores, Synowiec used the only black and white, and then preferred to work in colors; her works were shown at many international specialized art and music exhibitions (including *La Partition Musicale Comme Oeuvre d'Art* in Paris).

As a rule, graphic compositions of Synowiec do not provide for a specific instrument and can be performed in any composition of performers. The specificity of Synowiec's creative personality expresses particular interest in the relationship between physical reality and metaphysical subtext; therefore her graphic compositions are usually based on extra-musical associations, representing the idea of the extreme musical decomposition and the maximum expression of synesthetic thinking. Among them: *The Music and The Brain* (1982), *NDSL (Nula Dies Sine Linea / Not a Day without Marking)*, 1983), *Ant* (1984). Synowiec's comments on these compositions reveal a plurality of approaches to these works. Describing *NDSL*, Synowiec emphasizes that this is "a graphic composition using colors and new techniques that have purely graphic meaning and do not imply performing means; she is "anti-performing".

III. CONCLUSION

Of course, musical graphics by the end of the twentieth century has become a direction in which the features of the visual and musical work are interacted, but the problem of identifying this phenomenon lies in the absence of obvious relationships between the graphic symbol and what it means in sound equivalent. The main idea of musical graphics is to endow art and musical composition with the qualities of ambiguity to such an extent that it is impossible to predict a sound result: according to Haubenstock-Ramati, it conveys the same thing in every sound reproduction, but each time in a different way. Concluding my thoughts, I will return to the opinion of the English scientist, stating that, unlike Kandinsky, who transferred his sound feelings to visible images, "most of us do not have such an obvious ability to correlate meanings, <...> however, each of us has coordination between our hearing and vision, even if we do not put it into practice. Awareness of synesthesia can help us better understand how our feelings are related to our mind and how it can help us create and appreciate the art that

addresses music and sound" [7]. Indeed, musical graphics represents a truly original, but autonomous phenomenon in the world of contemporary music, which exists both on the stage and in exhibition halls.

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