

PRACTICES OF VISUAL ARTS IN THE MUSIC OF THE TWENTIETH AND EARLY TWENTY-FIRST CENTURIES

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SUMMARY. The study of transformational processes in contemporary music art under the influence of the fine arts practices is one of the important problems of musical culturology and aesthetics. The study is topical because of the new efforts aimed at understanding and arrangement of the evolution of established aesthetic systems and experiments in music and fine arts in the 20th century and at the beginning of the 21st century, as well as their influence on modern practices of introduction of meaningful elements of painting, graphics, architecture, and multimedia technologies into music creation processes. The aim of the research was to identify current trends in music visualization through the arrangement and generalization of the experience of artists of the 20th — early 21st centuries, who used expressive arts, synthesizing one art into another in their musical compositions, as well as to identify the background of those synthetic ideas and ways to implement them. The scientific research established that the development of synthetic art has its roots in the disposition towards merging arts and versatility. The fine arts practices applied in music has contributed to the expansion and enrichment of artistic means and techniques and has entailed further complication of sound and visual components in the overall concept of the work. It is concluded that the individual creative and personal traits of the artist, who seeks to fully convey the multidimensional figurativeness of the

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work determine a significant impact on implementing fine arts practices in music. Prospects for further research of the evolution of fine arts practices and audio-visual media in music involve the development of description techniques in the context of the dominance of the visualization factor over music one in artistic perception, as well as the study of the impact of cultural technologization on contemporary music art.

Keywords: music, visualization, fine art, artist, interconnection of the arts, synthesis, intermediality

Introduction

Culture in itself is an integrity, with its components existing in internal interdependencies. Integration in culture reveals the procedural nature, which is the dominant internal mechanism of its development. According to author⁶, the integrity of culture in general and artistic culture in particular, in which arts exist in different forms of relationships, syncretic and complex interaction, forms of artistic synthesis that transmit natural and cultural universals of the world which are expressed through the linguistic means of various arts are artistic and cultural prerequisites for artistic integration. The art, which is syncretic in nature, has shown two polar tendencies over the centuries: towards differentiation on the one hand, and towards integration on the other, determined by the natural attraction to genetic “ancestral unity”. Each type of art aims at maximizing the identification, strengthening of specific and unique artistic and linguistic features on the one hand. On the other hand, art and historical practice shows that all of them try to consider and use the experience of other arts to expand their boundaries and capabilities. The movement towards interaction and synthesis is being supplemented by the movement towards autonomy and individualization.

The integration of fine arts and music also has a long history. The initial stage of the synthesis of music and other arts can be traced back to ancient times. Posture, gesture, movement, drawing, dance was inseparable from words, sound, intonation, and rhythm in the syncretic art of music. Different types of art separated during the development of human civilization and the formation of artistic culture, but the interaction between them is ongoing, acquiring new, more complex forms. Composers of different eras

⁶ Beregova, Olena, *Tendencies of visualization in modern instrumental academic music in the aspect of musical communication*, Culturological thought, no 11, 2017, pp. 35-45.

tried to enrich the artistic concepts of their works by means of visual arts in search of ways to render the content of a musical work more concrete in order to strengthen the emotional impact on the listener.

Author⁷ writes: “The peculiarities of the current state of the problem of music analysis are currently determined by the complex intertwining of integration and differential processes”. Integration is actively penetrating the field of music art and modernizing it. These changes are caused to a large extent by technical progress, which has significantly affected the art. The main impetus that currently motivates modern composers to turn to visual aids is that they provide the authors of compositions with new aesthetic and technical opportunities, thus helping to update the content of the musical work. The above makes it possible to consider the use of various aspects of visualization in contemporary music as a significant phenomenon of artistic practice that requires scientific comprehension and arrangement.

Literature review

The problems of understanding the interpenetration of music and fine arts in culture are covered in several scientific works and advisory materials, which served as a reference for this study. The works of researchers of the beginning of the last century and the beginning of the 21st century was used in this study because the period under consideration covers the beginning of the 20th century to the present. The study of this phenomenon required both the involvement of a wide range of scientific issues and concentration on the specifics of its manifestation in certain types of art.

The theoretical aspects of the problems under research were comprehended through the analysis of achievements and theoretical works of musicologists and composers. Sabaneev L. (1925-1927) — musicologist, music critic and composer — studied the expression, dynamics, colour in the art of music, as well as ultrachromatism as a new approach and aesthetic direction in music. The work of Sitsky Larry entitled *Music of the Repressed Russian Avant-Garde, 1900-1929* (1994) revealed a significant pool of studies on artistic figurativeness in composing of the early 20th century. The study of works of Iannis Xenakis reviewed the formation of avant-garde techniques and experiments in instrumental music⁸. Several works of a figure

⁷ Beregova, Olena, *Tendencies of visualization in modern instrumental academic music in the aspect of musical communication*, *Culturological thought*, no 11, 2017, pp. 35-45.

⁸ Xenakis, Iannis, *Science and Music. An interview with Iannis Xenakis*, *The UNESCO Courier*, 4, 1986, pp. 4-7. <https://unesdoc.unesco.org/ark:/48223/pf0000068918>

in musical culture Arnold Schoenberg himself⁹. Models for Beginners in Composition¹⁰, Structural Functions of Harmony (1954), and the works of researchers of his work — Hahl-Koch¹¹, Paffet¹² covered the formulation of musical thought in terms of the idea of harmony and composition.

Alexandr Scriabin dealt in his creative work with the development of ideas for combining color and sound. A few scientific works on the activities and works of musician Engel¹³, which analyzed the search for a new musical language and innovative opportunities to combine sound and light, were the source of understanding the idea of sound-to-color synesthesia (chromesthesia). Among others, Roziner¹⁴ studied extrapolation of abstractionism and symbolism as currents in painting with recognition of the influence of music in the works of Mikalojus Čiurlionis¹⁵. Both the musical works of Mikhail Matyushin and his theoretical treatises reflect the search for a new worldview. The work entitled K Rukovodstvu Novukh Deleniy Tona (New Tone Division Guideline) (1923) provides conclusions on the variability of form and color. The theoretical works of Malevich¹⁶ and studies of his creativity¹⁷, represent significant achievements that reveal the problems of studying the evolution of fine arts and music. Wassily Kandinsky's work also made a significant contribution to the innovations in the synthesis of fine arts and music. In this study, we relied on analytical articles and research dealing with the synesthesia in his work¹⁸¹⁹.

⁹ Schoenberg, Arnold, *Harmony theory*, Universal edition, 1922.

¹⁰ Schoenberg, Arnold, *Models for beginners in composition*, G. Schirmer, Inc, 1943.

¹¹ Hahl-Koch, Jelena, *Arnold Schönberg — Wassily Kandinsky: Letters, Pictures and Documents of an Extraordinary Encounter*, Wien: Residenz Verlag, 1980.

¹² Puffett, Katherine, Schingnitz, Barbara, *Three Men of Letters. Arnold Schoenberg, Alban Berg and Anton Webern, 1906-1921*. Hollitzer, 2020.

¹³ Engel, Julius, *Through the eyes of a contemporary*, Music, 1971.

¹⁴ Roziner, Felix, *The art of Čiurlionis: life, personality, painting, music, poetry, philosophy of creativity*, Terra, 1993.

¹⁵ Golynska, Olga, *Music in painting and painting in music: Presentation of the ImprezaTerra center for contemporary art*, Muzyka. Ukrajinjskyj internet-zhurnal, 2020, <http://mus.art.co.ua/muzyka-v-zhyvopysi-ta-zhyvopys-u-muzytsi-prezentatsiia-tsentru-suchasnoho-mystetstva-impreaterra/>

¹⁶ Malevich, Casimir, *Collection of works in five volumes: V 5. Works of different years: Articles. Treatises. Manifestos and declarations. Lecture projects, Notes and notes. Poetry*, Gileya, 2004.

¹⁷ Ushakin, Sergey, *Kazimir Malevich, Non-objectivity*, Armchair scientist, 2016.

¹⁸ Hahl-Koch, Jelena, *Arnold Schönberg — Wassily Kandinsky: Letters, Pictures and Documents of an Extraordinary Encounter*, Wien: Residenz Verlag, 1980.

¹⁹ *Etudes by Chopin in the light of the law of the golden section. Experience of positive substantiation of the laws of form*. No. 2., 1925, https://www.naxos.com/catalogue/item.asp?item_code=8.554528

The works of musicologists, specialists in the theory and history of music culture — Galejev²⁰, Vanechkina²¹, Dubinets²², Amblard²³, Avramenko²⁴ etc., which set out a plan for creative research of artists of the last century, analysis of graphic music and research aspects of audio-visual synthesis, represent a significant pool of analytical research. The visual art practices applied to sound, namely synthetic stage works, which brought the interaction of music, drama, and scenography to a new level, were analysed on the basis of musical works of the 20th century. First of all, the creative achievements of artists whose musical works embody the idea of sound and colour synesthesia: Arnold Schoenberg (*Herzgewächse* (Foliage of the Heart) (1911), *Pierrot Lunaire* (1912)); Alexandr Scriabin (*The Poem of Ecstasy* (1907) and *Prometheus: The Poem of Fire* (1910)); innovative ideas of painting by Mikalojus Čiurlionis — *Sonata of the Sun*, *Sonata of the Spring* (1907), *Sonata of the Sea*, *Sonata of the Stars* (1908) and his symphonic poems *In the Forest* (1900-1901) and *The Sea* (1903-907), overtures *Kęstutis* (1902), etc.; Mikhail Matyushin – futuristic opera *Victory over the Sun* (1913); works by Kazimir Malevich and Wassily Kandinsky; samples of graphic scores (Roman Haubenstock-Ramati, Earle Brown, John Cage); inclusion of visual elements in the musical work (Elmir Mirzoev, Karmella Tsepkoenko, Asmati Chibalashvili); visual multimedia projects that include photography, drawing, video, sound (Victor Sydorenko).

Works by foreign authors provide a separate pool of analytical materials. They include, first, the first printed musical publications of Schoenberg²⁵, which presented musicological articles, music-related photographs and graphics. Another one is a study *Music and Image in Concert* by composer, graphic designer, and writer Stevens²⁶, which explores music and images, and provides a practical approach to presenting images in music concerts. The work *Image-Music-Text* by Barthes²⁷ is important in the context of the study, which

²⁰ Galejev, Bulat, *Fire of Prometheus: Music-Kinetic art Experiments in the USSR*, Leonardo, 21, no. 4, 1988, pp. 383–396.

²¹ Vanechkina, Iryna, *Where does Der Blaue Reiter go? (Schoenberg, Scriabin, Kandinsky: The idea of synthesis of the arts)*, Academy of Music, 1, 1994, pp. 122-124.

²² Dubinets, Eugene, *The signs for the sounds. On contemporary musical notation*, Gamayun, 1999.

²³ Amblard, Jacques, *Visual Temptation in 21st Century Music*, Contemporary Art, 15, 2019, pp. 23-26.

²⁴ Avramenko, Oleksandr, *“Playing with the sacred Authentification”. Hero, Object, Phantom of Victor Sydorenko: A lexicon*, Edited by O. Klekovkin, V, Sydorenko. ArtHuss, 2019. http://sydbook.com/index_uk.html

²⁵ Schonberg, Arnold, *Harmony theory*, Universal Edition, 1922.

²⁶ Stevens, Meghan, *“Music and Image in Concert”: Music and Media*, Ferst Published, 2009.

²⁷ Barthes, Roland. *Image, Music, Text*. Fontana Press, 1977.

combines the main ideas of the scientist on structural analysis of narrative and literary theory, semiotics of photography and film, music, and voice practice.

Researchers of sound-image relationship — Chion, Gorbman, Murch^{28,29} — pay attention to audio vision and comprehend the media environment in this context. The study entitled *Content-Based Mood Classification for Photos and Music* by Dunkerdkr, Nowaknwk, Begaubga, Lanzcor³⁰ reveals different approaches to music, photo- or multimodal classification, and presents a new set of reference classifications of music and photos for evaluation. The presented reference set can be used to compare different algorithms from different research groups, but it does not fully satisfy the aim of our study. Weaver³¹ covers the issue of traditional visual and theatrical means of music representation. Amblard³² focused on the metamorphoses of traditional art and transformations in music and art. His studies of the works of composers who were engaged in the design and installation, called “imaginary listening” by the author, became important. The recent works dealing with the research in the field of sound design³³ also became the basis of the article. A thorough composite analysis has not been conducted despite the significant pool of music studies³⁴, research on aesthetics and musical culturology, as well as creative heritage of composers and artists. The need to arrange the tendencies of the evolution of innovations and mutual influence of music and fine arts has become the basis of this study.

Methodology

A set of methods and research approaches to art history, aesthetics and musical culturology constituted a methodological background for the argumentation of the scientific provisions of the study. A general definition

²⁸ Chion, Michel, Gorbman, Claudia, Murch, Walter, *Audio-Vision: Sound on Screen*, New York, 1994.

²⁹ Chion, Michel, *The voice in cinema*, Columbia University Press, 1991.

³⁰ Dunkerdkr, Peter, Nowaknwk, Stefanie, Begaubga, André, Lanzcor, Lanz. *Content-based Mood Classification for Photos and Music: A Generic Multi-modal Classification Framework and Evaluation Approach*, 2008, <https://www.ismll.uni-hildesheim.de/lehre/semML-09s/script/p97-dunker.pdf>

³¹ Weaver, Andrew, *Sacred Music as Public Image for Holy Roman Emperor Ferdinand III: Representing the Counter-Reformation Monarch at the End of the Thirty Years' War*, Routledge, 2016.

³² Amblard, Jacques, *Visual Temptation in 21st Century Music*, *Contemporary Art*, 15, 2019, pp. 23-26.

³³ Filimowicz, Michael, *Doing Research in Sound Design*, CRC Press, 2021.

³⁴ Goryacheva, Tatiana, *About Old and New Music*, Almanac Unovis, no. 1, 2003.

provides no strict delimitation between art history and culturology, but there is a significant difference: art history focuses on its type of art, while culturology seeks to explore the place of an artistic phenomenon or figure in a general cultural context. The research was based on theoretical developments and studies of musicologists, philosophers, cultural studies scholars, and creative works of composers and artists, specialists of the 20th — early 21st centuries. The study involved analytical and synthetic methods while analyzing and combining various elements and features of musical works to achieve the objectives.

The historical method and structural semiotic analysis revealed the patterns of influence of the era's historical background on the composer's expressive means. The study involved diachronic method to consider the facts and distinguish stages of development of phenomena in chronological order. A synchronous method was used to carry out the simultaneous study of events, achievements, and experiments in the works of artists, as well as to establish relationships between phenomena and processes that took place during the 20th and early 21st centuries in the arts in the same period in different territories. Systemic and culturological approaches were applied to classify and arrange the results of the research to form an integrated research concept.

Classification as a kind of consistent division of material with the formation of an expanded system is presented in graphical form — in the form of a table. The table presented in the Research Results section was developed by the author. The analytical material presented in the table allowed to provide consistent textual material, draw conclusions, and facilitate the perception of identified trends in the evolution of established aesthetic systems and experiments in music and fine arts in the 20th — early 21st centuries.

Results

Table 1 presents the research results. This arrangement of material and drawn conclusions are the author's development and are provided for the first time. The analytical material was presented in a graphic form as a comprehensive system of consistent division of material. It graphically demonstrated the main trends in the formation and interaction of fine arts and music, identify the main milestones in the evolution of established aesthetic systems and present research findings.

Table 1

Period	In music	In painting	General trends
Preconditions and influences	experiments of combining the visual component and the musically designed sound process in a work of art (cinema)	Painting departed from the rule of realistic depiction of the surrounding reality (emergence and development of photography).	intersection of music and visual art
Early 20th century	experiments in music under the influence of Arnold Schoenberg and others (dodecaphonic method of composition, the division of the combination of sounds into consonances and dissonances) and the invention of sound-colour melody, or Klangfarbenmelodie	Creative associations of artists – Der Blaue Reiter (1911). Der Blaue Reiter Almanach by Wassily Kandinsky and Franz Mark. Creation Impression II with the dominant yellow colour.	the transition from figurative to abstract painting and the invention of sound-colour melody
	Experiments with a synthetic colour-and-sound combination — A. Skryabin (Prometheus: Fire Poem (1908-1910))	Wassily Kandinsky tried to combine colour, sound and movement (synthetic work The Yellow Sound (1909)).	combining several types of art in a new common form
	Development of ideas, synthesis of arts and use of the counterpoint principle (A. Scryabin)	Wassily Kandinsky uses the counterpoint in the third picture of The Yellow Sound (the crescendo of light effects corresponds to the diminuendo in music, and the whisper of the giants contrasts with the bright flickering light)	use of the counterpoint principle (of all available tools of music, choreography and colour)

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Period	In music	In painting	General trends
		<p>Mikalojus Čiurlionis - opposed the distinction between music and painting in his works (series of paintings Sonata of the Spring, Sonata of the Pyramids, Sonata of the Sea, Funeral Symphony, Fugue (1907-1909)). He arranges and develops material according to temporary laws of musical thinking and form.</p>	<p>musical substance temporary development principle is transferred and applied to the fine arts</p>
		<p>Aleksandr Sardan created his paintings according to the same laws that Čiurlionis used in his painting practice (for example, Harp Timbre (1920) is full of dynamism and movement.</p>	
<p>Second half of the 20th century</p>	<p>Svyatoslav Krutikov devoted himself to music and painting, created his own “sound opuses” (1960), in which “metaphysical realism” is compared to improvisation in music (because it frees the hand and mind when drawing).</p>	<p>avant-garde trends in art</p>	
	<p>Sylvano Bussotti, composer, artist and film director, developed new forms of musical notation for his musical works (Piano Piece XIV for David Tudor). 4th notation is more like an abstract picture with jagged lines devoid of a core.</p>	<p>Since the 1950’s, the notation has been significantly enriched with graphic elements, the score is gradually acquiring features that bring it closer to the fine arts</p>	
	<p>Viktor Yekimovsky (Baletto) – aleatory performance for conducted instrumental ensemble. His idea is that the conductor works with a kind of notation, where graphic symbols indicate the movements of parts of his body, and musicians improvise accordingly.</p>		
	<p>Roman Haubenstock-Ramati combined music and abstract painting, the horizontal axis of a sheet of paper as the axis of time (time-space),</p>		

Period	In music	In painting	General trends
	and the vertical — as a step (upwards — higher, downwards — lower), while the point, line and plane (the main elements of abstract painting and graphics) become the main elements of musical notation, free from any non-musical elements.		
	Iannis Xenakis — architect, composer, author of the Philips Pavilion at the Expo 58 World Fair. The basis of architecture is the Metastasis graphic score written through stochastic composition — the creation of music using mathematical calculations and graphs. He creates hyperbolic paraboloids in architecture and glissando masses in music.		intensifying interaction between music and architecture
Early 21st century	Karmella Tsepkenko uses multimedia tools in musical works. Audio-visual synthesis takes place with the use of original sound effects, allowing to realize the concept of this work in audio format and display photos on the screen.		Integration of technologies into composing. Application of multimedia tools.
	Elmir Mirzoev — inclusion of multimedia into his musical work Allegoria Sacra. The composer goes beyond the boundaries of music and includes visual components in the work.		The rapid technological progress has contributed to the expansion of the range of tools available to composers
	Asmati Chibalashvili applies the idea of comparison and interaction of natural and artificial light, as well as video in his work Light for violin, cello, piano.		
		Victor Sydorenko , Millstones of Time (accompanied by the composition by Alla Zahaikevych).	Interdisciplinary practices that include both music visualization

Period	In music	In painting	General trends
		Polymedia project (involving video, sound, photos, sculptures, as well as positioning of project elements in the exhibition space) appears as a cohesion in an integrated holistic performance	and sound in visual arts projects

Evolution of established aesthetic systems and experiments in music and fine arts in the 20th —early 21st centuries

So, the process of experimenting with the visualization of music has been launched in the early 20th century. Visual and musical reality in cinema, painting, music has been gradually intersecting. The modernist trends in the artistic culture of the early 20th century entailed the transition from figurative to abstract painting and the invention of sound-color melody in the musical art of domestic and foreign composers. Those trends intensified, picked up by experiments in notation in the 1950's, which was enriched with graphic elements, and the score was gradually gaining features that bring it closer to the fine arts. The experiments of fine arts with music have undergone significant changes from the middle of the 20th century until the end of that century. The general trends of intensified interaction between music and architecture manifested themselves. The beginning of the 21st century in culture was distinguished by the active development and introduction of new technologies. The technologies were integrated into the compositional process. The experiments with the use of multimedia tools were conducted in the art of music. The rapid technological progress contributes to the expansion of the range of tools available to composers. The trend towards the visualization of music and the inclusion of sound in visual arts projects has been growing in recent years. Interdisciplinary practices are being updated. The active use of technological tools in artistic practices has been promoted by their availability and openness, entailing blurred boundaries between different arts, growing experimentation with tools to implement the ideas in the works of contemporary artists. The artist's personality, namely his or her self-improvement and self-affirmation in the creative space are

emphasized in the search for new expressiveness and synthesis of artistic practices aimed at visualizing music and the inclusion of sound in visual art projects. The Master is the core of this process is, who strives for self-identification, self-awareness, and who can convey his or her thoughts through various arts, skillfully using the language of each of these arts, realizing the multicomponent idea of his or her work.

Discussion

In the early 20th century, because of evolution of the established aesthetic systems, the functions of art underwent changes as well. In music, these changes were manifested in rejection of tonality, mode, and traditional form³⁵. Painting drifted away from the reign of realistic depiction of the surrounding reality, as the latter was more efficiently captured by photography³⁶.

That fact that should be taken into account is that combining the visual component and the musically arranged sound process in an artwork engages the listener to a dialog of artistic languages, when recipient becomes an active participant of artistic communication. Consequently, while acknowledging the unconscious processes, perception and thoughts are defined by personal experience and are subject to the laws of apperception, formulated by Gottfried Leibniz. According to the principle of activity of the subject, listener is presented as “hungry for information”, with demands he is trying to satisfy while perceiving the artwork, gaining new experience and proceeding with self-education. It is no coincidence that musical discourse accompanied such popular art as cinema since its very emergence, as visual and musical effectuality intersect in cinema in both their basic aspects: in the temporal nature of their realization and in the essence of influence on the emotions and perception of the recipients.

In the early 20th century, creative associations of artists, i.e., Der Blaue Reiter, founded in 1911, were an important factor of art life. The starting point for this group was the publication of the Der Blaue Reiter Almanach by Wassily Kandinsky and Franz Marc that presented texts, scores, and visual material reflecting the experiments with the development of art. Synthesis of the arts was a primary interest of the members of this group that included the artists of different art movements, Arnold Schoenberg

³⁵ Pryanishnikova, Nastia, Tompakova, Olga, *Chronicle of the life and work of A. N. Scriabin*, Music, 1985.

³⁶ Pigeon, Elena, “*It all started with watercolors. Abstractionism celebrates its 100th anniversary*”, YouTube, 2010, <https://www.youtube.com/watch?v=tOwOz8IBM7g>

among others. Dodecaphonic method of composition, developed by Schoenberg, allowed composers to reject mode and tonality, as well as the division of combination of sounds on consonances and dissonances; thus, what he achieved in music may be compared to the shift from figurative to abstract painting. In his *Five Orchestral Pieces*, Op. 16 (1909) Arnold Schoenberg used his another invention — the sound–color melody, or *Klangfarbenmelodie*. Upon listening to this piece, Kandinsky created the painting titled *Impression III*, with yellow as the dominant color. Schoenberg's synthetic thinking was also reflected in painting: the composer authored over 300 paintings of different genres. Kandinsky's and Schoenberg's experiments in painting and music were a proof of topicality of search for a new synthesis, common for this historical period.

Later, Kandinsky also attempted to combine color, sound, and movement in the so called “scenic composition”. The idea of his synthetic piece *The Yellow Sound* (1909), with the music composed by Thomas de Hartmann, was based on the fusion of several arts in the new joint form. Two Kandinsky's programmatic works—*On Stage Composition* and *Concerning the spiritual in art*—were the theoretical foundation for *The Yellow Sound* script. It is indicative that in the third picture of *The Yellow Sound*, crescendo of light effects corresponds to diminuendo in music, while the giants' whisper is contrasted with bright shimmering light. In the fifth picture, Kandinsky advises performers to use the effect of discrepancy in tempo of music and dance. It proves that the author employs the counterpoint technique out of all other available instruments of music, choreography, and color for a reason. Counterpointing the main idea of the piece with the means of different arts enabled him to put an additional accent without making an unnecessary double emphasis.

In his publication on *The Yellow Sound* in the *Der Blaue Reiter Almanach*, Wassily Kandinsky provides a detailed light score for the piece that shows not only his knowledge and interest in Scriabin's ideas (the volume also includes publication of Leonid Sabaneev's analysis of the *Prometheus* by Alexander Scriabin) but, overall, similarities in their interpretations of the ideas of synthesis.

As it was previously mentioned, Alexander Scriabin experimented with synesthetic combination of color and sound in his composing practices. In *Prometheus: The Poem of Fire* (1908–1910) he devised to color the space of the concert hall in different tones which would correspond to the changes in tonal harmony of the music. His part for color organ—*Luce*—was rooted in the analogy between the colors of the spectrum and tonality of the circle of fifths. In his later works, Scriabin retracted from such correlation between color and sound and used counterpoint interplay of them instead. In this

regard, he noted, "...In my Action the principle of counterpoint is used. Music sometimes has one mood, while movement and even text have other moods instead. This contrast provides a very special sensation"³⁷³⁸. Regarding the abovementioned technique of contrasting the means of choreography and music used by Wassily Kandinsky, the commonality and mutual influence of the ideas of synthesis in the works of Kandinsky and Scriabin may once again be emphasized, all the more so as the Prometheus and The Yellow Sound were created approximately at the same time.

According to Vanechkina³⁹, the views of Kandinsky, Schoenberg, and Scriabin on color, sound, and movement continue the line started by Richard Wagner, namely by his Gesamtkunstwerk.

The original technique, when the principle of temporal development of musical substance is transferred and applied to fine art, may be seen in the paintings of Mikalojus Čiurlionis who opposed differentiation between musical and pictorial creativity in his works. The said principle was employed primarily in many of his multi-part paintings: cycles Sonata of the Spring, Sonata of the Pyramids, Sonata of the Sea, all created in 1907–1909. These pieces are based on the principles of structure of sonata-allegro form in music, when character of the parts, development of the material, tonal and thematic contrasting are consistent with the musical laws of sonata form⁴⁰.

The influence of the patterns of form, typical to the musical pieces, may be traced in the Funeral Symphony by Čiurlionis, for instance, when two contrasting images (both in meaning and coloring)—the sun as the symbol of life and the coffin as a symbol of death—are developed and clashed. In his Fugue painting Čiurlionis organizes and develops the material according to the temporal laws of musical thinking and form⁴¹.

The one who developed the Čiurlionis' experiments with interplay of sound and color was painter and musician Aleksandr Sardan, member of the Amaravella group that existed in the 1920s in the Soviet Union. Sardan created his paintings according to the same laws that were used by Čiurlionis in his pictorial art practice. Sardan's pieces are full of dynamism and movement. For example, in his painting Timbre of the Harp Sardan clearly conveys the features of the timbre of this instrument by showing the motion and vibration of harp strings: "The power of artist's imagination is that strong

³⁷ Sabaneev, Leonid, *General history of music*, Worker of Education, 1925.

³⁸ Sabaneev, Leonid, *Memories of Scriabin*, Muzsektor Gosizdata, 1925.

³⁹ Vanechkina, Iryna, *Where does Der Blaue Reiter go? (Schoenberg, Scriabin, Kandinsky: The idea of synthesis of the arts)*, Academy of Music, 1, 1994, pp. 122-124.

⁴⁰ Sabaneev, Leonid, *Modern Russian Composers*, International Publishers New York, 1927.

⁴¹ Schmid, Bernhold, *News about the Doctor Faustus dispute between Arnold Schönberg and Thomas Mann*, Augsburg Yearbook for Musicology, 6, pp. 149-179.

that the viewer finds himself thinking it is not possible to capture the ‘timbre of the harp’ any better or more precise. The space is multi-layered, like a canvas made of laced graphics of different timbres, it is so fascinating that the viewer as if actually hears the music. The form, as Aleksandr Sardan perceives it, has a sound, and the sound is recreated in certain pictorial formulas”^{42,43}.

Svyatoslav Krutikov, a prominent Kyiv-based avant-garde composer of the 1960s, dedicated himself to music and painting, just like Mikalojus Čiurlionis. His pictorial pieces are a “‘recreation’ of his own sound opuses” that gave impetus for his paintings. Krutikov’s definition for his style is “metaphysical realism”; he also compares it to improvisation in music (as he frees his hand and mind while painting)⁴⁴.

According to Svyatoslav Krutikov, “There is no music detached from the other arts, or painting detached from the other arts ... There is not some specific approach to things. Instead, there is synthesis, unity, though not always as straightforward, as people are used to see it. Only imagine, an individual bears his own special synthesis. A man has a whole world within!”

Since the mid-20th century, interplay between music and architecture intensifies that may be illustrated by the works of Iannis Xenakis. Being both an architect and a composer, he authored the project for the Philips exhibition pavilion at the Expo ‘58 World Fair. The basis for this architectural solution was the graphic score for his *Metastaseis* (orchestral work for 61 musicians), written in the method of stochastic composition (the latter, in turn, is rooted in composing music with the use of mathematical calculations and graphs)⁴⁵. Thus, this interplay between music and architecture resembles concentric circles: at first there was graphic notation that captured the music and eventually the graphics of the score inspired Xenakis to create the project for the Philips pavilion. As a result, this musical piece was stereophonically played in the pavilion that was the author’s main condition. In Xenakis’s opinion, *Metastaseis* was the most suitable background music for the visitors to hear in this building. Construction of the pavilion opened the new understanding of the ways for synthetic art. In this regard, the composer

⁴² Zorin, Sergey, Knizhnik, Tima, *Heralds of distant worlds. Catalog of exhibitions of artists of the Amaravella group*, 2000, <http://www.optical-teatr.ru/library/files/009/pdf>.

⁴³ Sitsky, Larry, *Music of the Repressed Russian Avant-Garde, 1900-1929: 31 (Contributions to the Study of Music & Dance)*, Greenwood Press, 1994.

⁴⁴ Zinkevich, Olena, *Informality: about the “human manifestation” of Svyatoslav Krutikov*, The Gnesin Russian Academy of Music, 2010. <http://www.gnesin-academy.ru/sites/default/files/docs/Zinkevych.pdf>

⁴⁵ Vorobiov, Igor, Sinayskaya, Anastasia, *Composers of the Russian avant-garde*, Kompozitor, 2007.

mentioned that “there is a bridge between architecture and music. It is based on our mental structures, which are the same in both cases. Composers, for example, have used symmetrical patterns which also exist in architecture. ... Another example is the Philips Pavilion. To design this, I used ideas borrowed from the orchestral music that I was composing at the time. I wanted to create changeable spaces, which could be continuously altered by the displacement of a straight line. This produces hyperbolic paraboloids in architecture and masses of glissandos in music”⁴⁶.

Since the 1950s, notation has been significantly enriched with the graphic elements; in other words, the score gradually acquires features that bring it closer to the visual artwork. Usage of graphic symbols broadens the possibilities for expressing new performing techniques. Diversity of styles, techniques, and methods—the trademark of the 20th-century music—as well as the trends for individualization of all the parameters of the musical work acted as a catalyst for composers’ experiments with unique symbols in notation⁴⁷.

Dubinets⁴⁸ suggests that “graphic notation paved the way for free and unrestricted improvisation in art. It was graphic music that prepared the ground for the emergence of aleatoric music and other similar phenomena (for instance, instrumental theatre, happening, multimedia art)”. Sylvano Bussotti, a composer, painter, and film director, developed new forms of notation for his musical pieces. For example, in the XIV piano piece for David Tudor 4, the notation resembles more of an abstract painting with jagged lines, devoid of the staff. Also interesting is Baletto—an aleatoric performance for the conductor and instrumental ensemble—by the Russian composer Viktor Yekimovsky. The essence of his idea is that a conductor works with a notation of sorts, where graphic symbols point at the moves of his body parts, and musicians improvise accordingly.

Roman Haubenstock-Ramati notes that “if horizontal axis of a sheet of paper is viewed as time axis (time–space) and vertical as a pitch (up—higher, down—lower) than point, line, and plane (the main elements of abstract painting and graphics) are transformed into basic elements of music notation, free of any extramusical elements”⁴⁹. He adds, “Because my graphic

⁴⁶ Xenakis, Iannis, *Science and Music. An interview with Iannis Xenakis*. The UNESCO Courier, 4, 1986, pp. 4-7. <https://unesdoc.unesco.org/ark:/48223/pf0000068918>

⁴⁷ Stasys Urbonas, *Čiurlionis in Vilnius*, Leidykla Kranta, 2010.

⁴⁸ Dubinets, Eugene, *The signs for the sounds. On contemporary musical notation*. Gamayun, 1999.

⁴⁹ Tsenova, Valeria, *Composers on contemporary composition*, Scientific Publishing Center “Moscow Conservatory”, 2009.

music aesthetically is linked to the art of abstract painting, in the sphere of musical graphics I firmly united both these arts—music and painting—at the point where they intersect and should initiate contact”⁵⁰.

Leon Schidlowsky, whose graphic scores (that is over 70 works in graphic notation) were presented at the numerous late-20th century art exhibitions, was an outstanding follower of Earle Brown and Roman Haubenstock-Ramati. Schidlowsky, just like Richard Wagner with his *Gesamtkunstwerk*, sought for a synthesis of movement, image, sound, and text. Art researcher Karin von Maur compares Schidlowsky’s graphic scores with the abstract paintings by Wassily Kandinsky⁵¹. In Schidlowsky’s view, “Notation, especially for singers and reciters, no longer is an instruction aimed at the audio aspect of the work; instead, it is linked to the other fundamental parameter—movement”. The composer prefers the term “graphic music” over “graphic notation”. This broadens the limits of perception and interpretation of this phenomenon. “Graphic music is presented as spatial unity, total visualization of art that is temporal and hardly feasible. It is for that reason its temporal nature transforms into eventual spatiality”⁵².

In her analysis of Schidlowsky’s *Deutschland, ein Wintermärchen* (1979) Daniela Fugellie Videla emphasizes that “the conception of this work as multimedia derived from the collage technique synthesizing the different musical, visual and performative aspects of the work into a simultaneous visualization of what amounts to be an essentially temporal art”⁵³.

Upon reviewing different variants of incorporating the elements of graphics into the musical scores, it may be concluded that some “universal vocabulary” of “graphic language” is yet to be developed. Instead, each composer introduces his individual signs and symbols into circulation. The functions of these signs are usually explained in the foreword to the score. Undoubtedly, graphic score is the point of intersection for music and fine art when usage of individual graphic symbols adds to the “vocabulary” of the composer and introduces new playing techniques for the performer.

Early 2000s were marked with the integration of technologies in composition process, when the essence of the musical piece was conveyed through the inserted visual elements. Namely, that is multimedia means in the musical pieces used for displaying photographic and video tracks.

⁵⁰ Tsenova, Valeria, *Composers on contemporary composition*, Scientific Publishing Center “Moscow Conservatory”, 2009.

⁵¹ Maur, Karl, “Notes on the subject of music - painting - musical graphics”. *Musical graphics by L. Schidlowsky*, Stuttgart: State Gallery Stuttgart, 1979, pp. 5-10.

⁵² Fugellie Videla, Daniela, *The Graphic Music of León Schidlowsky: Deutschland, ein Wintermärchen (1979) as a Multimedia Score*, Revista Musical Chilena, 2012, 218, pp. 7-37.

⁵³ Fugellie Videla, Daniela, *The Graphic Music of León Schidlowsky: Deutschland, ein Wintermärchen (1979) as a Multimedia Score*. Revista Musical Chilena, 2012, 218, pp. 7-37.

Forgotten Peoples' Exhaustion. Funeral music for accordionist, percussions, voice, and series of tombstone photographs at the former Austro-Hungarian Empire by the Ukrainian composer Karmella Tsepkenko is a striking example of realization of the author's intent through audio-visual synthesis. While the piece is performed, a series of photographs (taken by Christopher Ling) is demonstrated, for 20–30 seconds each. The photographs present the abandoned cemeteries in the territories of former Austro-Hungary, where people of different faiths were laid to rest. The expressive means used for the piece, i.e., original sound effects, enable realization of the concept of this artwork in the audio format. Meanwhile, presented imagery enhances visual impressions and allows to optimize the presentation of the general idea of the project.

Another example of incorporation of multimedia into the musical piece is the *Allegoria Sacra* by Elmir Mirzoev. The conceptual basis of the work defines its dramaturgy and formal aspects; that prompted the author to search for relevant choice of artistic solutions, including the choice of formative expressive means. Thus, to achieve the proper realization of his idea, the composer crosses the boundaries of music and includes the visual components to the piece, i.e., the visual images. The question about the meaning of life is being solved in the work through involving the senses of the other arts of various historical periods, for instance, *Allegoria Sacra* by Giovanni Bellini and *The Black Square* by Kazimir Malevich. In addition, the piece has changing verses, placed above the presented paintings. Simultaneously, the recording of these texts is played and recited by the performers. The performers chose the lines out of the number of variants of poetic texts, proposed by the composer, with the general themes being life and death, love, and the flow of time.

The dramaturgy of the *Light*⁵⁴ by Chibalashvili⁵⁵ (a 2012 piece for violin, cello, piano, and video) is based on the idea of comparison and interaction of natural and artificial light. It was performed at the World New Music Days festival (Vancouver, Canada, 2017)⁵⁶. A. Chibalashvili composed *Overcoming* (2020) for violin, percussion, piano, cello, double-bass, and video inspired by the paintings of Victor Sydorenko, the also became the basis for the video⁵⁷. The work is based on idea of opposition and overcoming

⁵⁴ Tymofiyenko Bohdan, "A. Chibalashvili. *LIGHT*", YouTube, 2013, April 25.
<https://www.youtube.com/watch?v=5x86wfs5fk>

⁵⁵ Chibalashvili. Asmati, "A. Chibalashvili. *OVERCOMING*", YouTube, 2020.
<https://www.youtube.com/watch?v=2a2iiU0xcLQ>

⁵⁶ *ISCM Land's End Ensemble*. 2017.

<http://iscm2017.ca/wp-content/uploads/2017/11/ISCM2017-Lands-End-Ensemble.pdf>

⁵⁷ Chibalashvili. Asmati, "A. Chibalashvili. *OVERCOMING*", YouTube, 2020.

internal and external obstacles by the hero followed by the transition to another state, signifying liberation. The piece premiered at the Two days and Two Nights of New Music International Festival of Contemporary Art (Odesa, Ukraine, 2020).

Though the performance of these works implies the video sequence, the listed works also may be performed without the visual component. Nevertheless, it is important to note that the video is aimed at deepening the overall concept of the work and generalizing it in order to make it more readily understandable. Furthermore, visual images presented in the video, often gave impetus to creation of the musical work and became the basis for the dramaturgy of the latter.

In Amblard's⁵⁸ opinion, incorporation of the visual component in the musical work is caused by the composers' aspiration to promote their works and highlight them within the socio-cultural space. Unlike Amblard, we consider this process to be a natural one, as during the mentioned historical period the range of instruments available to composers broadened because of rapid technological advance. Availability and openness of technological means caused their active use in the art practices and enabled crossing the lines between different arts—which was done by the creators in their experiments with the new ways and instruments of realization of their intent.

Multimedia projects by the famous Ukrainian artist Victor Sydorenko are a convincing example of achievement of this goal. His *Millstones of Time*⁵⁹ (Ukrainian project at the 2003 International Art Exhibition in Venice) and *Authentication* (presented in 2006 at the Eastern Neighbors international festival in the Netherlands) draw the audience's attention to the temporal regularities of human existence. The sound component for the video of the *Millstones of Time* (composed by Alla Zahaikevych, known as the founder of electronic music in Ukraine) focuses on the dialog with the past. That enables the viewer to start interacting with the very category of time—being one of the basic categories in artistic communication—as the main expressive mean of the soundtrack is the monotonous rhythm that conveys the rhythms and dynamics of time.

Polymedial realization of the mentioned projects (when video, sound, photo, sculpture is involved, as well as positioning the elements of the project in the exhibition space) allows Victor Sydorenko to achieve a rather complex

<https://www.youtube.com/watch?v=2a2iiU0xcLQ>

⁵⁸ Amblard, Jacques, *Visual Temptation in 21st Century Music*, Contemporary Art, 15, 2019, pp. 23-26.

⁵⁹ Sanin Oles, "*MILLSTONES OF TIME. Victor Sydorenko*", YouTube, 2013, July 23, <https://youtu.be/t65yFFSPq-s>

task—processuality, as all these elements act not like separate arts but as the components of integral performance. “Organization and presentation of the Authentication project resembles the drama of the sacred act of some archaic culture. Sydorenko’s project is organized in a manner that actively involves the viewers to ‘play’. In turn, the viewers dynamically produce different interpretations using the parameters and limitations of time and space”⁶⁰.

Similar concept of perception in space was implemented by Iannis Xenakis in the Philips pavilion project, applied to sound events. In such manner, both in the projects of Xenakis and Sydorenko, the polyvariance of perception of the artistic concept is achieved, depending on the perceptual reactions of the recipient and of his actions during perceiving the audio-visual imagery of the work.

Conclusions

New search for comprehension and arrangement of the evolution of established aesthetic systems and experiments in music and fine art in the 20th—early 21st centuries is driven by the intensification of transformational processes in modern musical art, integration of new technologies into a creative process. Arranged and generalized experience of the masters of the 20th — early 21st centuries (Arnold Schoenberg, Mikalojus Čiurlionis, Iannis Xenakis, Aleksandr Sardan, Svyatoslav Krutikov, Roman Haubenstock-Ramati, Sylvano Bussotti, Leon Schidlowsky and others), who used expressive means of fine art in their musical compositions synthesizing one art into another, was the basis of analytical elaboration in order to identify current trends in music visualization, as well as determine the background of those synthetic ideas and ways to implement them. It is concluded that modern musical creativity increasingly tends to the synthesis of arts, visualization of musical art, experimenting with new forms and genres of media art, foregrounding other measurements of perception, understanding and interpretation of artistic works. The general trends were identified in the synthesis of fine and musical arts. It was established, among other things, that the development of synthetic art roots in passion for the merger of arts and versatility. The expansion and enrichment of artistic means and techniques was promoted by the practice of fine arts in music. The latter

⁶⁰ Avramenko, Oleksandr, “*Playing with the sacred Authentication*”. *Hero, Object, Phantom of Victor Sydorenko: A lexicon*, Edited by O. Klekovkin, V. Sydorenko. ArtHuss, 2019. http://sydbook.com/index_uk.html

entailed further complication of sound and visual components in the overall concept of the work. Individual creative and personal features of the artist, who seeks to fully transmit the multidimensionality of the product, determine the processes of introducing practices of fine arts in music. A more complex relationship between sound and visual components in the general concept of the work resulted from the passion for the synesthetic perception of sound and colour, as well as other experiments of creators of musical art. This can be illustrated by the creativity of different artists: from Alexandr Scriabin in the beginning of the 20th century to modern composers. The inclusion of graphic elements in notation reflected this approach; this initiated the current development of a traditional system of individualization of graphic designation. At the end of the 20th — early 21st centuries, interdisciplinary interaction was implemented in multimedia projects, which resulted from the integration of photo, video, and audio technologies into a creative process; this was followed by the emergence of new types of art and genres.

A musical work involving a visual component and the visual projects accompanied by sound enable implementing new ways to interpret the author's conceptual idea and extends the range of available tools that allows overcoming the restrictions of traditional art.

Therefore, issues raised in this article shall be investigated in subsequent research papers in terms of the relationship of modern interactive art with other relevant forms and models of artistic culture — the relationship, which determines significant changes in the functioning of established communicative models.

The development of description techniques in the context of dominance of a spectacular factor over musical in artistic perception, as well as studies on the influence of cultural technology on modern musical art are the prospects for further research of the evolution of fine arts and audio-visual means practices in music.

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