Nadiia Goryukhina’s Individual Style of Scientific Thinking in the Context of the Issue of the Scientific Rationality Type

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Abstract

Nadiia Goryukhina (1918-1998) was an outstanding scientist, a hieratical Ukrainian musicologist with a profound individual style of thinking. She was head of the most significant theoretical scientific school, Corresponding Member of the Academy of Arts of Ukraine, Doctor of Arts, Professor, member of the National Union of Composers of Ukraine. Her doctrine of musical form, which had been formed throughout the scientific life of the coryphaeus of the Ukrainian music theory of the 20th century, became an invaluable foundation for the professional training of musicians. The phenomenon of her individual style of scientific thinking has become a deep learning resource, a scientific value for the development of a creative personality in the field of musical analytics. The period of Nadiia Goryukhina’s scientific work coincides with the turning point, when the change in the types of rationality, in particular, the transition from non-classical type to post-nonclassical one, took place. The post-nonclassical type is characterized by the remarkable link between science and culture, development of humanitaristic and interdisciplinary approach, involvement of non-scientific context into research. Nadiia Goryukhina’s research papers reflect a new scientific perception of the world. They also contain the anticipation of future methods and research techniques, new approaches to musical art and musical form, and, consequently, the features of the formation of epochal style of scientific thinking. The individual style of scientific thinking of Nadiia Goryukhina with its pronounced categories and levels represents the turning point in the change of rationality types. Thus, these rationality types can be researched as a separate phenomenon of science of the 20th century.

Keywords: Individual style of thinking, Theoretical musicology, Non-classical and post-nonclassical type of scientific rationality, Doctrine of musical form, Alienation in music.

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DOI: 10.7596/taksad.v8i2.2036

Introduction
The scientific and pedagogical activity of Nadiia Goryukhina was taking place in the 1960-1990s of the 20th century. If we take into account the substantive biographical scope of the scientist’s research, we can emphasize that the specified period is marked with evolutionary advance of the scholar’s scientific interests (Kalenychenko & Kuzyk, 2006). During the first period of scientific work (until the mid-1960s), the scholar’s attention was drawn to the issues of Ukrainian choral music, creative works of such composers as P. Kozytsky, L. Kolodub, M. Leontovich, B. Lyatoshinsky, L. Revutsky, K. Stetsenko, A. Shtogarenko. The second period (until the mid-1970s) is characterized by an increase in the theoretical component of the scholar’s scientific discourse. She focused on the research of the issues of musical aesthetics and creative method, analyzed the style and evolution of sonata forms as well as the phenomenon of symphonic style. In the 1960-1980s the researcher paid her attention to the research of musical style, which was one of the brightest evidence of shifting the emphasis from the differentiation to the integration of trends in musical works and musical art comprehension (Nemkovych, 2006, p. 380). In the third period of scientific work (1980-1990s) the issues of musical spirituality, modern methods of artistic thinking were raised. The textbook by Nadiia Goryukhina entitled "The doctrine of musical form" (1990) was the result of the creative, scientific and pedagogical activity of the well-known theoretician of musicology in Ukraine, and its content reflects the actual issues of Ukrainian musicology (Tykhyy, 2012, p.74).

It should be noted that during the period of scientific activity of Nadiia Goryukhina a shift away from the non-classical type of scientific rationality towards the post-nonclassical one takes place. The post-nonclassical type is characterized by the remarkable link between science and culture, development of humanitaristics and interdisciplinary approach, involvement of non-scientific context into research. The science is transformed from value-neutral knowledge into a value-oriented comprehension of the world, in which ethical, aesthetic, and other norms are not only implemented into the context of scientific text, but also determine it (Strel’nik, 2014). Nadiia Goryukhina’s research papers reflect a new scientific perception of the world. They also contain the anticipation of future methods and research techniques, new approaches to musical art and musical form, and, consequently, the features of the formation of epochal style of scientific thinking.

Literature Review
The issue of the scientific thinking style is researched in the works of quantum mechanics scientists (M. Born, N. Bor, V. Pauli), in the scientific works of "historical school" representatives of the post-positivist generation in the methodology of science (T. Kun, I. Lakatos, L. Laudan, M. Foucault, D. Holton), in the works of scientists of various spheres of knowledge (I. Dobronravova, R. Karpinskaya, S. Krymsky, B. Kuznetsov, V. Lapitsky, P. Malinovsky, etc.). In particular, the methodological and cultural-historical dimension of the scientific thinking style was researched by O. Skyba (2011). The issue of the evolution of Ukrainian musicology in the 20th century, as a system of scientific disciplines, was researched by O. Nemkovych (2006). A great variety of research papers of Ukrainian scholars is devoted to the biography of Nadiia Goryukhina (Murzina, 2013). Moreover, they carried out a deep analysis of her scientific heritage (Zharkov, 2016; Tykhyy, 2012).

Discussion
The phenomenon of the scientific thinking style initiates the fundamental strategy of scientific research and launches the general research program (Skyba, 2011, p.6). Nadiia Goryukhina’s individual style of scientific thinking can be viewed as a strategy for developing scientific foundations of theoretical musicology; this strategy is based on the constructive growth of knowledge on the issues of musical form. The article "Scientific basics of the theoretical musicology" (1985) demonstrates the features of post-nonclassical type of scientific rationality. The author highlights the need to move towards the philosophy, aesthetics,
sociology, and history. The author also draws the attention to the fact that it is very important for musical science to research all kinds of manifestations of mankind’s spiritual life, which are expressed in the artistic and musical forms. The scientist states the importance of the differentiation of types of theoretical studies, as she is sure that this differentiation should be turned into a tendency to develop common scientific principles, laws, concepts and categories (Goryukhina, 1985, p. 5).

The scientific thinking style is based on a kind of matrix, which records and structurally organizes the process of thinking (Skyba, 2011, p. 4). Logical and methodological norms of knowledge of Nadiia Goryukhina are determined by her adherence to the epistemology of humanitaristics, which has the prognostic vector for its current state. The methodology of musicology was defined by a scientist not only as a theoretical, but also as a practical discipline. She believed that theoretical affirmations, which are the results of the theoretical reflection, were always followed by their practical usage. Consequently, in the tradition of post-nonclassical rationality we can find a flexible relationship between fundamental and practical knowledge, the boundary between them is relatively conventional.

The scholar’s categorical emphasis is put on the phenomena of form and style, which are the most significant ones in the musical art. They are characterized by an extraordinary variety of aspectizing, musical material, and its historical range: the theory is born here and it is supported by the creative practice. Scientist’s research of these phenomena is aimed at the identification of the consistency of the objective laws of their interaction. This research was carried out in the doctoral dissertation of Nadiia Goryukhina and her monograph "Evolution of sonata form". The scientist develops the aspects of theory of musical form and musical style on the basis of the research of the homophonic-harmonic composition forms. The following aspects became the methodological basis for the author’s specification of concepts of musical content, form, and musical style. She emphasized their correlation with the same philosophical categories; identified the degree of problematization of their levels; showed the differences of the theoretical classification of styles from historical periodization; researched the dependency of structure on the thematic invention in the systems and styles (Goryukhina, 1974, p. 4).

It has to be mentioned that Nadiia Goryukhina gave the most reasonable and effective definition of style. So, it has been defined as a system of stable features of the artistic phenomenon, which takes into account the functionalism and dynamic mobility of the phenomenon, considered to be a transitional one – from genetic range to the structural one. The development of a category of structure, which is an expressive one and contains the elements of logic and design, has become a significant, and at the same time prognostic theoretical invention of the scientist. Nadiia Goryukhina has identified the functional principles of interaction of thematisation and structure, which has allowed the author to overcome empiricism in theory, to explore the historical evolution of forms at the level of categories and their elements, to use the methodology of benchmarking study and prove the underlying patterns of functional interaction and the nature of this interaction of thematisation and structure (Goryukhina, 1973, p 305).

The issue of a creative method can be also referred to the content of the matrix of Nadiia Goryukhina’s theoretical study. This creative method is viewed in each individual act as a solution of twice reflected objective and subjective contradictions: subjective comprehension of the objective reality – the artwork, which also includes the first contradiction. The author defines the creative method as a complex process of the code translation of reality through the creative consciousness. Thus, the author emphasizes the necessity of the topical problem statement, and adds that it is important not only to solve this very problem, but it is also urgent to do it "from the perspective of integration of scopes of theoretical knowledge, which are differentiated on the basis of language and form" (Horyukhina, 1980, p 14). Significant aspects of the musical phenomena research are focused on the theoretical solution of the mentioned above problem. These aspects include intonation, content of musical language and form, national specificity and people’s commitment to art, style, and creative movements in the art.
The scientist gave actual definition of the concept of creative method, she emphasized its complexity, ignoring the mechanism of double contradiction. The functions of analysis and synthesis are noted as vectors of the creative method, their limiting and guiding effect on the creative process is also mentioned. The creative method is heuristically determined, as it is an expression of an idea, assessment of facts, orientation based on traditions, tendencies, and analogies. Being based on the causal relationship, this method provides the correlation between the angle of reflection, point of view, efficacy of the personality’s analytical and synthetic abilities, degree of his or her development, level of intelligence and emotional sphere (Horyukhina, 1980, p. 15). The definition of Nadiia Goryukhina’s creative method is dominated by functional duality: on the one hand it is the implementation of the cognitive function by means of real world analysis, and on the other hand, implementation of the new reality, based on the synthesis of facts of artist’s life experience, reflected in the piece of art.

The scientific thinking style is characterized by its own internal structure, formed by the features of sensory and rational perception in the forms of spiritual activity of the socio-cultural era, as well as by the leading tendencies of rational comprehension of the reality (Skyba, 2011, p. 4). In this respect the individual style of Nadiia Goryukhina’s scientific thinking is an etalon one: it is no coincidence that the most significant monographs, such as "Evolution of the period" (1975) and "Evolution of sonata form" (1970) were included into the "golden fund" of musicology (and not only Ukrainian) of the second half of the 20th century. They are of a great scientific and methodological importance even nowadays (Zharkov, 2016, p. 256).

Researching the "Doctrine of musical form" by Nadiia Goryukhina, we can identify the most significant conceptual aspects of this scientific paper, which reflect the highest level of culture of the scholar’s scientific thinking and the systematic presentation of theoretical generalizations. In the first part of the scientific paper, system of theoretical musicology categories (musical content, musical form, intonation, semantics, melody, harmony, generalization, musical development, thematisation, thematic material, theme, etc.) is presented as a philosophical and musical basis of the system of musicology analysis. The notions of musical movement, development, formation are also very important as they provide rational for other concepts. The key category of doctrine is "formation", which is mentioned in the definition of musical thinking. It is the level of concept of "development", synonymous with the term "symphonism", development of musical meaning, procedural aspect of the melody, definition of thematisation and themes (Zharkov, 2016, p. 258).

The scientist emphasizes that the dialectics of sensual and rational in the system of individual scientific thinking is reflected in the comprehension of the composition of a piece of music, since, in a particular way, a certain piece of music is always characterized by the individual compositional structure, offered by this very artist, and this piece of music ultimately reproduces the peculiarity of this artist's individual style. The main thing in the composition is the combination of elements and structures, general and individual features, commensuration or insufficiency, statics of the piece of music and dynamics of the process.

Consequently, Nadiia Goryukhina’s individual style of scientific thinking, in particular, its internal structure, reflected the leading tendencies of rational comprehension of the reality, transition to the type of post-nonclassical rationality. By means of her theoretical findings, which were close to the holistic analysis of the piece of music (or part of the cycle), N. Goryukhina provided the foundation for the next stage of structural analysis, which is characterized by the isolation of structural elements of the piece of music and their further research in a broad intertextual area. Her analytical technique, due to its consistency and sound integrity, is one of the ways of deep comprehension of music (Murzina, 2013, p. 126).

Each type of scientific rationality is characterized by a certain correlation between fundamental and practical knowledge. In post-nonclassical rationality the boundary between them is rather conditional (Skyba, 2011, p.7). The individual style of Nadiia Goryukhina’s scientific thinking is characterized by an organic balance between fundamental and practical aspects, which can be seen in her articles and research papers. This balance potentially develops the principles of theoretical musicology of the last third of the
20th century and at the same time provides anticipation of the prospects of science in the 21st century, as well as humanitarian knowledge in general. The categories of the theory of musical form become generally scientific and interdisciplinary. Thus, while reading the monograph "Evolution of sonata form", the reader has the opportunity not only to deep in a thorough analysis of the origin and development of the form but, first of all, to perceive this process as a concretization of the dialectics of musical thinking. In particular, the sonata form absorbs the principles of the laws of motion (contrast, development, musical reprise). Exposition reflects the main types of contrasting, while development is the area, where the opposites reach their highest phase of the contrast, until the new quality in the material appears; the reprise is the moment when the accumulated energy and contradictions find their way out, the previous forms of development are fading, and at the same time they return to the beginning and convert it into a new quality (Goryukhina, 1973, pp. 5-6).

On the basis of the historical panorama, the transformation of the sonata form from the old one to its innovative variant can be found in the pieces of music by the composers of the second half of the 20th century. The scientist proves that new phenomena of reality, reflected in the form of new principles and laws of logic, become really put into life through the use of the specific artistic means. It is this scientific approach that allows us to see the method of real world comprehension in the dialectics of Beethoven’s forms. It also gives us the chance to see a reflection of the combination of objective and subjective in the artistic credo of Myaskovskiy, Shostakovich, and Lyatoshynskiy, the correlation of the variability and mobility of phenomena of reality with irrational, random features – in the creative search of Debussy and Mahler, etc. Progressive shaping of art becomes a new discovery, an innovative achievement of the human thought in the field of logic of musical form (Goryukhina, 1973, p. 297).

The practical aspect of the research under analysis is enriched by a number of innovations which became very promising for the discipline "Analysis of musical forms". These innovations include thematisation as a category of musical form, an expressive essence of the principle of content source; structure of all stages of generalization, all stages of the disclosure of the static and dynamic logic of the form; duality of the categories of thematisation and structure; author’s technique of studying musical forms on the basis of functional interaction of categories of thematisation and structure; identification of its principles, aimed at overcoming the empiricism of science of that time; updating the theory of musical styles, based on these principles. The research of functional relationships between content and form, thematisation and structure on the basis of the historical process of evolution of phenomena is carried out at the level of categories and their elements. Applying this type of research to evolution of sonata form, while carrying out the comparative analysis, we’ve managed to find out the deep laws of functional interaction between the categories of thematisation and structure as well as nature of this interaction. Changes in the nature of the functional relationship between thematisation and structure must be taken as the objective indicators of style. In this case the definition of the musical style in the historical or theoretical aspect will be derived from the objective indicators and will be based on a whole system of stable features (Goryukhina, 1973, p. 305).

"Human phenomenon" by Pierre Teilhard de Chardin provided general scientific context for the research of the category of development. These issues created the out-of-the-musical context of the research, as it was aimed at the comprehension of the most complex phenomena of life, consciousness, thought. It is precisely this approach, which allowed us to see the complex of connections while researching the category of development. These connections, accumulated in musical development, are represented by direct and reverse, general and partial, external and internal, deep and superficial, predictable and unpredictable, natural and occasional, textual and contextual features. We could also see the integrity of this process due to the synthesis of elements, continuity of the synthesis process, openness of the system of a new integrity formation. We could identify the methods of knowledge and decoding of structures development using the fugue from Chromatic fantasy by Johann Sebastian Bach as a sample (Goryukhina, 1988, pp. 4-6). While
working at this article we've developed the classification of the operations of synthesis and, in general, we've proven the idea of analytical decomposition of not only elements of musical form, but also the levels of synthesis. We consider it to be the innovative potential of our research. Consequently, the organic unity of fundamental and practical aspects in Nadiia Goryukhina’s individual style of scientific thinking made the scientific work of the scholar a relevant and prognostic one both from the scientific and educational perspectives.

The basis of scientific thinking style includes the orientation for a certain standard of scientific theory: it shapes the meaning of the paradigm, which influences its content awareness and style name (I. Dobronravova, S. Krymsky, V. Steopin). Consequently, the change of styles implies changes in the theoretical or methodological paradigm (Skyba, 2011, p.7). It should be mentioned that B. Asafiev's theory was a kind of standard of scientific theory for Nadiia Goryukhina throughout all her scientific life. On the basis of his idea of symphony, she paid a particular attention to the original thematic form, separated the elements of inner intonation contrast, which in following sections of the form was turned into a conflict contradiction. Her idea that each new stage of the development is not only a new, but also a dying one, is deeply dialectical in its nature (Murzina, 2013, p. 125).

The traditions of the theoretical experience of E. Kurt and B. Asafiev, became a specific push for her own scientific reflection. These ideas are clearly represented in the scientific work “Generalization as an element of artistic thinking” (1985). In particular, the starting point for author’s discourse is the concept of development, which B. Asafiev has included into theory of intonation. He viewed it as: combination of technical skills, development of the highest form of musical movement – symphonic; the level of the composer, musician's talent, who percepts musical movement through the process of musical thinking and quality of the musical process. Based on these ideas, the author has developed the notion of "generalization" and reinforces its effectiveness by means of multi-level analysis of the artistic works of Mozart, Beethoven, Glinka, Tchaikovsky, and Webern. It should be noted that in the theory of Nadiia Goryukhina the interpretation of development, given by B. Asafiev, leads to three levels of generalizations: stable or updated technical skills, which form integral structures; the highest form of the generalization of musical thought in symphonism; aesthetic generalizations in the artistic image, style, genre, creative direction. Later, a new concept of development as an intonational progression, has been created. This concept is continuously objectified by means of generalization structures. On the basis of comparison, analysis and synthesis the system of generalization structures has been built up. Researching the context of musical thinking, the scientist emphasizes the duality of the categories of development and generalization, pays attention to the transformation of generalization structures from their quantity into quality, from development into crystallization, from formation into structure. The artistic thinking of a musician is based on the comprehension of intonational development through generalization: thought, artistic idea, conception, philosophical expression of reality (Goryukhina, 1985, p. 51).

Philosophical article "Alienation in music" was the result of comprehension of the concept of interdisciplinary notion (philosophical, literary, artistic). The development of this issue was an innovative one for musicology, as well as the concepts of development and generalization, which had been offered before. Researching the issue of consciousness in the interpretation by Jean-Paul Sartre, the concepts of the layered (discrete) knowledge by G. Gadamer, V. Nabokov, the features of alienation in the paintings by Salvador Dali, music by A. Webern, A. Berg, O. Messian, K. Penderetsky, T. Lyutoslavsky, S. Gubaidulina, A. Schnittke, G. Kancheli, a scientist has developed the theory of alienation in art, emphasized the new era of "unknown" in the very essence of an object or subject. The disconnections are consequences of the collapse of integrity, violation of causality of processes, invasion of extraneous forces, distortion of the previously planned path, metamorphosis of the material. Gradually they acquire an opposite meaning, mimicry with concealing the essence, and finally they are adapted to a new environment or context. The themes and forms of alienation are present in the spirituality as the sphere of human existence. They can
be found in the music of the 19-20th centuries at all stages of the process, in all sections of the musical form. Alienation modes transform the forms and genres at different levels of syntax and stylistics. In the way of thinking of humankind even the categories of time have entered the system of alienation: the past has actually passed, the present is unstable and absurd, and the future is unrealistic and problematic (Goryukhina, 1998, p. 142).

**Results**

Nadiia Goryukhina's individual style of scientific thinking and her research program determine the artistic cognitive activity through the scientifically validated means and methods. She considered the methods of musicology to be based on the sound philosophical preparation, historical reflection in the field of methodology and her own scientific discoveries. The implementation of the principle of historicism in the theory plays an important role in the research. It provides the depth of perception of the object and the discovery of essential elements in the phenomenon under research, but its high status is also characterized by the affirmation of non-classical rational type, and later it will be overcome, in particular, in the hermeneutic approach.

It should be noted that Nadiia Goryukhina considered abstraction, theorization, modeling of elements and integrity to be the most important methods of theoretical musicology. In her opinion, they provide the basis for the development of laws and principles of musical poetics and stylistics, and show the logic of the musical process.

**Conclusions**

The individual style of scientific thinking of Nadiia Goryukhina is a sociocultural phenomenon, which represents a unique philosophical and theoretical understanding of musical art, and is characterized by a tendency towards interdisciplinary discourse, individual adaptive thinking strategies in the philosophical and musical spheres, substantial creativity and predictability in the field of methodology of contemporary musicology. The regulatory means of musicology are reflected in the individual style of scientific thinking of the scientist. On the one hand, they guide the artistic cognition in the second third of the 20th century, promote the creation of integral perception of the world, and on the other hand, they capture the tendencies of discreteness, disintegration, which characterize contemporary life and the type of post-nonclassical rationality in general. Nadiia Goryukhina's individual style of scientific thinking has had a revolutionary impact on the development of Ukrainian theoretical musicology, contributed to the formation of a plurality of methods of research objectives formulation, and stimulated the use of updated methods and techniques for the analysis of musical composition and style. Thus, taking into account the degree of scientific generalization, we have to say that the scientist's theoretical doctrine is characterized by its valuable scientific and educational potential.
References


