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Digital Technology and Music Creation: The Impact of AI-Assisted Composition on the Aesthetics of Contemporary Classical Music

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Abstract

This article analyses how AI-enabled composition can affect the beauty of today's classical music. Underpinned by theoretical investigation and detailed case study analysis, this study looks into the ways that AI is shifting the processes of creation, the aesthetic values, and even the worth of art in classical music. This study is interdisciplinary, integrating musical analysis, critique of the creative work, and cultural contextualisation. It asserts that the aid of an AI in composition is contested at many levels including creative agency, traditional notions of music, and aesthetic value, and this synthesis permits the formulation of new forms of musical representation and modern aesthetic considerations. Emily Howell's "Opus 1" and Shih-Wei Lo's "From The Future World" exemplify the blending of novelty and traditional elements in emotionally sensitive pieces of music produced with the assistance of A.I. In the end, the author asserts that AI can enrich creative possibilities in classical music; however, it also poses considerable difficulties which require continuous critique, holistic studies, and the ideal fusion of advancement with the safeguarding of fundamental humanitarian factors of music.

Keywords: AI-assisted composition, contemporary classical music, aesthetics, creative agency, musical ontology, artistic value

1.Introduction

The biggest change in the paradigm of contemporary classical music creation came with integrating artificial intelligence into music composition. New AI technology

enables advanced music generation systems to collaborate with human composers, hence leading to many fundamental questions as to artistic creativity, authenticity, and aesthetic value [1]. While intelligent technologies have demonstrated impressive capabilities with musical pattern recognition and generation, the question of their impact on classical aesthetics presents a multi-layered issue in need of painstaking analysis.

The rise of AI-assisted composition has also led to considerable debate about the nature of creativity and artistic expression within the music community. According to Arielli [2], the contribution of AI technologies calls for the expansion of an idea of aesthetics where human and machine collaboration is added. This technologization intervenes not only in the creative process but also in rethinking established authorship and artistic intention in classical music composition.

Much recent research has focused intensively on the technical aspects of AI music generation and applications in modern music production [3]. But what is singularly lacking from this picture is an understanding of how these technologies impinge upon, reshape, and even redefine the aesthetic pillars on which classical music rests. Aesthetic principles guiding composition in classical music are now revisited in response to the new creative affordances that AI technologies make possible. This article responds to this omission, considering the aesthetic consequences of AI-assisted composition in contemporary classical music, with a focus on how this impacts creative agency and artistic value.

This might be of importance to add to the present understanding of the relationship between technology and artistic creation within classical music. As AI systems become more sophisticated in their ability to generate and manipulate musical elements, it will be important to consider how such developments change our understanding of musical aesthetics and creativity [4]. This paper tries to probe the aesthetic transformation brought about by AI-assisted composition and delve into the various challenges and opportunities that accompany this transformation in contemporary classical music.

2. Theoretical Basis and Research Framework

2.1 Theoretical Perspectives on Contemporary Music Aesthetics

The classical composition AI-assisted tools analysis has a certain theoretical framework which draws on both classical aesthetic concepts and newer theories such

as the computerisation of art making. In like manner, aesthetic evaluation of music is not limited to one aggregate artistic outcome, but equally, if not sometimes more so, to the very issue of how exactly the process of making art is being transformed[5]. The modernist music aesthetic paradigm has had to change in response to new modes of creation, as people and machines work together in baffling ways that challenge traditional ideas about the originality and authenticity of musical composition.

Mirada's multifaceted study fills a much-needed theoretical gap at the intersection of AI-powered tools and composition and implies that contemporary music aesthetics need to be redefined to incorporate processes that transcend the strict beliefs of authorship. This understanding accepts that in today's classical music the aesthetic value emerges from the interplay of the human intending the work of art and the managed computer activity where the borders between a person and a machine's input are becoming more and more vague.

Such a foundation supports the analysis of AI-aided composition in a variety of aesthetic aspects: changes in creative control, growth in the language of music, and shifts in artistic value. The framework enables us to understand that music aesthetics have to expand with the advancement of technologies but still have to adhere to the essential cultural and artistic attributes of classical music.

2.2 Theoretical framework for AI music composition

The theoretical framework of AI music composition fuses computational creativity with the traditional principles of musical composition, setting up a systematic way of understanding the interplay between artificial intelligence and musical creation. Carnovalini and Rodà [6] provide a wide-ranging framework that distinguishes among various levels of AI involvement in the creative process, going from assistive tools to autonomous composition systems. The framework indicates the need for an understanding of both the technical capabilities and limitations of AI systems in music creation and their potential impact on compositional practices.

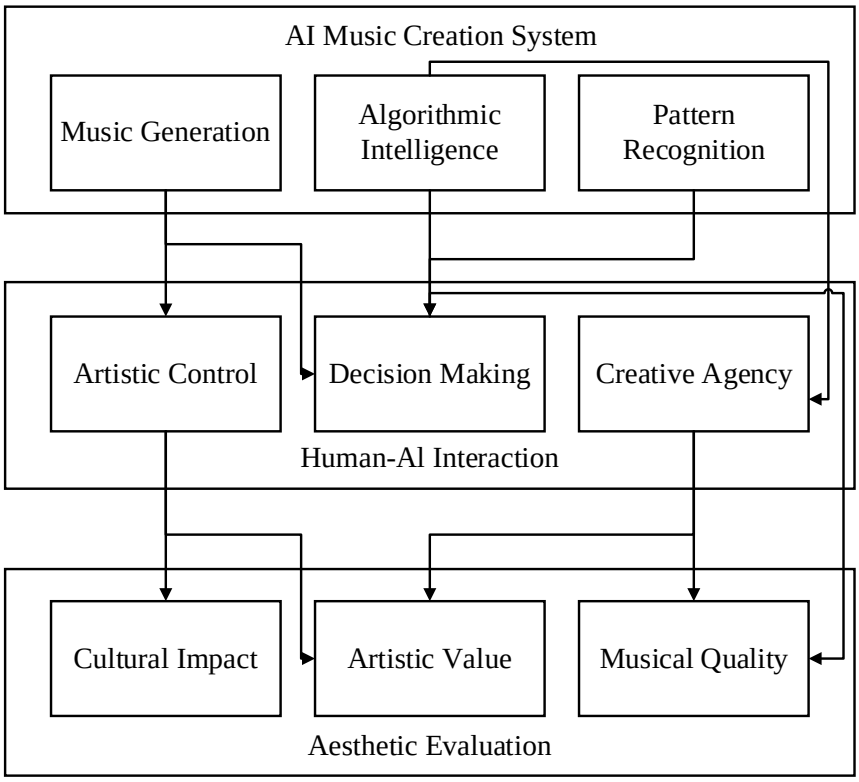

Figure 1. Theoretical Framework of AI-Assisted Classical Music Creation and Aesthetic Evaluation

Figure 1: The theoretical framework shows how AI music creation interacts with the aesthetics of contemporary classical music. Three big components are included within the framework: the AI Music Creation System, Human-AI Interaction, and Aesthetic Evaluation, with clear pathways indicating how they interconnect and influence each other within the creative process.

3. Aesthetic Shifts in Human-Robot Collaborative Creation

3.1 Reconstruction of creative subjectivity

The rise of AI-assisted composition has fundamentally reshaped the traditional view of creative subjectivity in classical music composition. This may problematize the standard view of the composer as the sole creative agent and promises new paradigms of distributed creativity between human and machine [7]. In the reconstruction of creative subjectivity, many dimensions materialize, uncovering profound changes in how we understand artistic authorship and creative agency.

Novelli and Proksch [7] further argue that it is a much deeper transformation than a mere technological aid but rather represents a new imagination of the creative process.

What this integration of AI systems brings, according to them, is what they term "collaborative intelligence," whereby creative decisions are the outcome of dynamic interaction between human artistic intuition and computational powers. This new form of creative subjectivity problematizes conventional assumptions about artistic authenticity and originality.

The reconstruction phase is especially prominent in the following three aspects:

1. Authorial Agency: The traditional concept of single authorship transforms into a far more complicated, dispersed form of creative agency. Bramantyo [8] indicates that composers for AI systems have to negotiate a new kind of creative relationship, in which artistic decisions are crystallized out of the ongoing dialectic between human intention and machine-generated possibility.

2. Creative Control: The boundaries between human and machine contributions grow ever more fluid, requiring a redefinition of creative control. This type of fluidity erodes the traditional idea of artistic ownership, and many new questions are raised as to the nature of creative responsibility in AI-assisted composition.

3. Artistic Identity: In the integration of AI tools in the creative process, composers must evolve their artistic identity to include new forms of technological mediation. That evolution reflects a broader change in how we understand the relationship between creativity and technological innovation.

As Figure 2 indicates, the process of collaborative creation is an ongoing cycle of interaction between human artistic intention and AI-generated possibilities, which fundamentally reconfigures the nature of creative subjectivity in classical music composition.

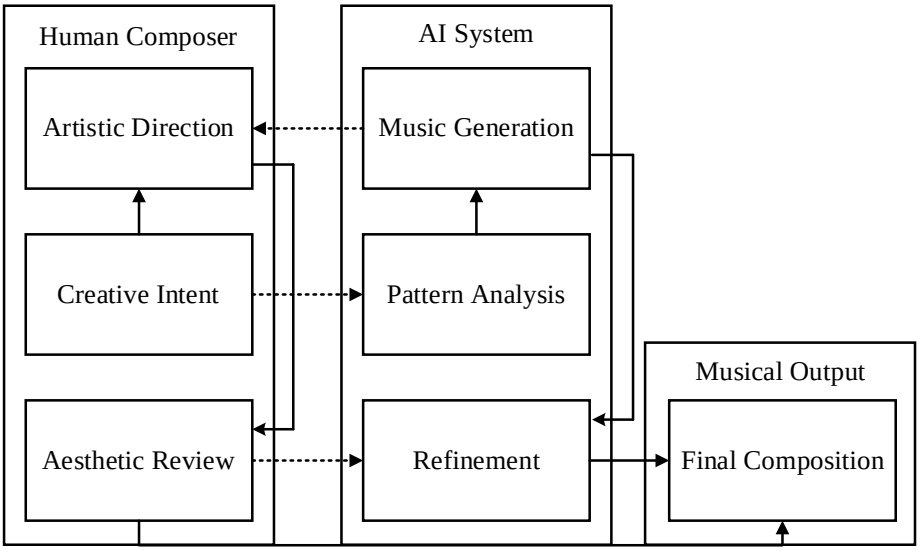

Figure 2. Systematic Framework of Human-AI Collaborative Music Creation Process

This diagram outlines the integrated workflow between a human composer and an AI system within contemporary classical music composition. It displays three key stages: initial creative input, developmental process, and final synthesis. The dashed lines represent the interactive feedback loops between the human and AI components, whereas the solid lines represent direct procedural progression.

Such a reconstruction of creative subjectivity amounts to not only a change in technologies but a deep recasting of the aesthetic roots of classical music composition. That suggests the dawning of a new creative paradigm—one embracing human-AI interaction as an intrinsic potentiality while posing deep and essential questions regarding the very nature of art and creativity themselves.

3.2 New Interpretations of Music Ontology

The integration of AI in classical music composition has changed the very way we understand the existence and creative process of music. This shift doesn't just change the way music is created; it touches the very core of how we think about and experience music in today's digital world.

Traditional Western music has long regarded musical works as fixed compositions brought forth by individual composers. This view is now under challenge. As Weiß et al. [10] put it, AI-assisted composition is bringing a new fluidity to the creation of music and blurring the boundaries between the composition, performance, and interpretation of music. This change shows up in several interesting ways:

The very nature of musical ideas has changed. While traditional musical ideas come from human experience and creativity, AI-assisted composition generates them through a continuous dialogue between human intuition and machine-generated possibilities. Rohrmeier [9] refers to this as a "hybrid creative space" for human and artificial intelligence to collaborate in the creation of music that neither can produce alone.

Time flows differently in this new creative process. Rather than moving in a straight line from start to finish, as in traditional composition, AI-assisted composition moves in cycles. Composers and AI systems are collaborating, always generating new ideas, evaluating them, and refining them. Each cycle adds new layers to the music, enriched by both human and machine capabilities.

This new way of creating music raises deep questions about what makes music

"authentic." No longer are we asking what makes a piece of music genuine or real; rather, we are delving into how to understand authenticity when the music comes from a human-AI collaboration. It's not just a matter of technical changes; it's a matter of rethinking what music really is and how it comes to be.

3.3 Technological intervention and artistic innovation

AI technology in classical composition has opened up new ways for artistic expression and has torn down traditional creative walls. According to Liu [11], the use of technology within the creative process of music goes beyond tool usage, since it essentially transforms how composers think and develop their artistic ideas.

Some important developments have emerged from these integrations. The use of AI systems is often for the purpose of composing in ways that could yield some surprising combinations that are challenging to imagine. This in turn brings forth the possibility of manipulating the elements of music—be it harmony or rhythm or form—in a new manner. Composers, for instance, exploring the way AI can implement complex rhythmic patterns can negotiate with timing relationships that would not have come to mind otherwise.

The development of AI-assisted composition has similarly yielded new strategies of musical development. Instead of following the orthodox development techniques, a composer can engage in a plethora of ways simultaneously. These hybrid forms of musical expression, combining traditional forms of classical music with AI-generated structures, have led to classical music being explored in a more experimental manner.

On the other side of the spectrum, such integration poses a certain unique set of creative problems. A composer’s musical voice and the possibilities that technology affords must be balanced while maintaining fidelity to artistic tradition. Such difficulties pose interesting conversations around the future of classical music composition in a world where artistic vision and technical capability are in constant interplay.

This implies that the interplay between technological advancement, which encompasses the integration of technology, and the creative advancement will evolve qualitatively further, thus opening new paths for classical music. With further development in AI tools for musicians and, as a result, with the emergence of a new combining set of cultural practices, the new synthesis is taking place which will respect the ancient and classical cultures.

4. A modern transformation of classical music aesthetics

4.1 A new paradigm of formal beauty

Classical music composition has, through the integration of AI, undergone a wonderful transformation in how we perceive and construct formal beauty in music. Traditional notions of musical form, by which classical composition has been guided for many centuries, are being reinterpreted via computational creativity. Weiß et al. [10] comment that AI-assisted composition opens up new possibilities for structure while maintaining connections to the classical formal principles.

In AI-assisted classical music composition, formal beauty emerges from the unique combination of algorithmic patterns with human artistic judgment. Those composers who use AI tools have learned that machine learning algorithms can make suggestions for new structural relationships while retaining the essential elements of musical coherence. Often, these new formal patterns are of mathematical elegance, complementing traditional musical forms.

Contemporary classical music is characterized by its transformation of formal beauty in the following ways:

Musical form now crystallizes out of the dynamic interaction between computational analysis and human creativity, where new ways in which musical development is treated have emerged from this interaction, where traditional forms such as sonata structure may be expanded and reimagined through AI-generated variations. According to Miranda [5], these new formal structures preserve the intellectual depth of classical music while offering fresh perspectives on musical organization.

The relationship between local detail and overall form has changed, as AI systems tend to be good at creating complex micro-structures in the service of keeping coherent large-scale forms. That allows the composers to delve into new levels of musical detail without sacrificing larger structural integrity. All of this together has created music that combines intellectual rigor from traditional classical forms with unparalleled textural complexity.

4.2 Diversification of emotional expression

AI-assisted composition has dramatically transformed the vastness of emotional expressions possible in classical music. Rather than restraining the emotional depth of

music, AI technologies have created new meiosis for the expression of emotion in classical music. According to Novelli and Proksch, “this interplay between human composers and AI systems led to the emergence of a new genre which incorporated unique emotional textures containing human sensitivity to art and computer-generated precision to evoke emotion".

AI systems recognise and suggest such subtle emotional nuances that are likely to be overlooked by even a human composer. Composers can utilise AI tools to interpret extensive libraries of classical music and broaden the means of expression for difficult emotional undertones by identifying novel patterns with regards to harmony, rhythm, and timbre.

AI has been integrated into modern classical music compositions which assisted in expanding the emotional range to far beyond the contemporary and simplified expressions. This genre has excelled in cultivating and deepening base emotions such as sorrow, joy and triumph, and with the help of AI it is possible to explore themes that are far more advanced. For example, nowadays, it is possible for composers to write movements which portray conflicting emotional states concurrently, creating an intriguing psychological depth in the music.

This new emotional territory brings its challenges. According to Rohrmeier, achieving meaningful emotional expression during AI-aided composition revolves around striking the right balance between computational proposals and human emotional instinct. As some composers reported, AI broke the creativity walls for them but still provided alternative ways to express emotions and stay personally engaged with art which is known to be the strongest form of classical music.

The merits of these collaborations have also triggered some interesting changes in how we perceive and think about emotions in music. In a way, the collaboration between human composers and AI broadens the horizons of the means of evoking emotions in listeners of the present while enriching the traditions of the past.

4.3 Repositioning of artistic value

The use of AI in classical music composition has triggered a deep recasting of how we define and measure artistic value. Traditionally, the artistic value of a classical composition was usually associated with the genius of the composer, his mastery of the technique, and his emotional depth. With the rise of AI as a creative collaborator, these traditional notions have been challenged, and we are forced to reconsider the very

foundations of artistic worth.

AI-assisted composition has blurred the lines between human creativity and computational generation, leading to questions concerning the very nature of artistry itself [5]. If a piece of music results from collaboration between a human composer and an AI system, then to what can artistic value be attributed? Is the artistic value purely a function of human creativity, or does artistic value inhere also in the contribution of the AI?

These questions have provoked a very lively debate within the classical music community. Some argue that artistic value in AI-assisted composition necessarily has to be assessed based on the vision and intention of the human composer, with the AI being just a sophisticated tool [11]. Others suggest that it is the AI that is creatively contributing, and that the artistic value is a result of this special synergy between human and machine [4].

Beyond the question of authorship, AI-assisted composition has also occasioned a reevaluation of the criteria by which we assess artistic value. Traditional factors such as originality, complexity, and emotional impact were taken into consideration as key indicators of a composition's worth. However, AI has challenged these standards in that it makes possible the creation of highly original and complex music through algorithmic means [6].

Thus, one has come to realize that in an increasingly AI-driven epoch, artistic value has to become a multidimensional construct [3]. More than the traditional criteria, the parameters in evaluating AI-assisted composition are likely to take into consideration those on the innovative applications of technology in the creation or performance of composition, the engaging human-machine interfaces, and importantly, the quality of cognitive or emotional experience conveyed to the human listener.

Furthermore, AI has pushed the boundaries of what we consider artistically meaningful in classical music. Experimental pieces that would have otherwise flown in the face of traditional forms and expressions are now possible, thanks to the aid of AI, ushering in new frontiers in musical creativity [9]. This has served to broaden the artistic field, as compositions that might have been rejected for being too avant-garde just a few decades ago are now winning recognition for their innovative value.

This means that the redefinition of artistic value in the age of AI has been an ongoing process, responding to the continually changing relationship of technology with human creativity. While composers keep expanding how AI-assisted composition

can explore new possibilities in classical music, its definition of what constitutes artistic value will continue growing and changing as well.

5. Case studies and discussions

5.1 Case Selection and Analysis Methods

To make more concrete the practical application of AI-assisted composition in today's classical music, this chapter will proceed to an in-depth analysis of two case studies. The cases are selected according to their relevance to the key themes explored in this research, including the transformation of creative processes, the emergence of new aesthetic paradigms, and the redefinition of artistic value.

Several key criteria were considered in the selection of the cases:

Criteria	Description
Significance	The compositions must have garnered widespread acclaim or recognition within the classical music community, indicating their artistic and cultural significance.
AI Integration	The compositions must have involved a substantial degree of AI assistance in the creative process, demonstrating the potential of human-machine collaboration.
Aesthetic Innovation	The compositions should exhibit innovative aesthetic features or challenge traditional classical music conventions, reflecting the transformative impact of AI.
Diversity	The selected cases should represent different approaches to AI-assisted composition, showcasing different technological pathways and aesthetic orientations.

Based on these criteria, we have selected two representative cases for in-depth analysis:

1."Opus 1" by Emily Howell, created using the EMI (Experiments in Musical Intelligence) software (Miranda, 2021).

2."From the Future World" by Shih-Wei Lo, composed using the MuseNet model (Deruty et al., 2022).

Figure 4: Visual Representation of AI Models

As shown in Figure 4, the left side shows the harmonious curves of classical music, and the right side highlights the futuristic dynamic elements. This work emphasizes the contrast and fusion between the two.

This chapter integrates the analysis of a composition with an inquiry into the reception or interpretation of the composition's creative process. It broadens the focus towards analysing a phenomenon to determine the degree of AI help received in terms of the components of melody, harmony, rhythm, and structure. The analysis is based on the hypotheses articulated in Chapter 2 regarding the nurtured creative agency, the musical ontology, and the overall aesthetic evaluation of the compositions. Besides, the context of the appreciation of the works and the dissemination of the compositions, including the intentions of the composers and the interactions of humans and machines and their reception within the classical music fraternity is also taken into account.

5.2 Embodiment of aesthetic features

The two selected cases, "Opus 1" by Emily Howell and "From The Future World" by Shih-Wei Lo, exemplify AI-assisted composition and how it creates new beauties in modern-day classical music. By analysing these pieces deeply, we may be able to single out a number of important features that arise from the creative synergy between a human and an AI.

One of the most obvious aesthetic features common to both is the surprising new and different musical styles; new composition patterns are now emerging. The artificial intelligences that drive these compositions, EMI and MuseNet, are capable of

generating concepts that no human, even one who is gifted with an ordinary sense of creativity, would be able to think of. These AIs analyse and learn from vast datasets of classical music, and as a result generate melodies that are far beyond the reach of a human composer's imagination. The most innovative musical ideas will emerge, surpassing the aesthetic limits of classical music, and efforts towards this goal make the process very interesting as well as surprising.

A major aesthetic feature of both is the combination of the old and modern within the musical framework. Emily Howell, for example, utilised the EMI system to produce musical elements that were later selected and arranged by the composer within "Opus 1". The final version of the composition features structures and harmonies from the classical tradition but with the addition of some standard unconventional rhythmic and melodic motifs. Similarly, in "From the Future World," Shih-Wei Lo produced a piece using the MuseNet model that featured booming breaks and rich polygons, which are surprises in the middle of familiar classical textures and timbres, indeed the whole classical evoking landscape.

The scope of the aesthetic value of the AI-assisted composition goes beyond the rational understanding of music to encompass emotions and expression. The ability of both "Opus 1" and "From the Future World" to evoke multi-layered and complex emotions is astonishing. The AI models, able to analyse and reproduce expressive patterns in music, help create compositions that are emotionally evocative in nature. For example, in "Opus 1," an observer can feel how the knowledge of musical emotion by EMI is shaped through nuanced changes in tempo, dynamics, and articulation to reveal the emotional arc of the piece.

The aesthetic dimensions of AI-assisted compositions represent a paradoxical blend of intention-driven artistry and machine-made creativity. The composers in both cases took an iterative view and collaborated with AI systems, placing the AI output in the context of their own artistic intention and moulding it towards their vision. The final products reflect the artistry of both a machine and a human, which disrupts the demarcation of human creativity and machine intelligence.

AI-assisted compositions do not possess aesthetic features that are monolithic or uniform, however. Each is a self-standing artistic endeavour as well as a creative product dependent on the use of a particular AI system and the ways in which the composer's intentions blend with machine intelligence. The aesthetic phenomena of AI-assisted composition, thus, are manifold and ever-changing due to the new phenomena

of these compositions.

These examples show how AI has affected the entire 'aesthetics' sphere of classical music: it has led to novel manifestations of sheer creativity and expression, subversion of traditional musical aesthetic values, and novel pathways for artistic exploration. The new experimentation by composers with AI technologies is enough to predict further transformations and innovations pertaining to classical music's aesthetic horizon.

5.3 Dialogue between theory and practice

The case studies of "Opus 1" and "From the Future World" will help to shed light on some of the theoretical and practical implications that AI-assisted composition poses for contemporary classical music. These range from philosophical, cultural, and creative implications, inviting us to reconsider some of the very basic questions about the nature of musical creativity, authorship, and the role that technology plays in artistic expression.

Such case studies, in a theoretical context, are problematic as they defy notions of musical authorship and originality. The collaborative aspect of AI-assisted music composition makes the integration of human and machine creativity nebulous, which in turn reframes questions of artistic agency and the ontological status of the created work. Given that AI systems assist in generating musical ideas and structures, the idea of the composer as the primary creative contributor is questionable. This alone compels us to change the way we understand and define musical authorship when there is a collaborative effort between humans and machines.

Furthermore, it calls for a new set of theories that can capture the aesthetic and creative scope potential in AI-assisted composition. There is reason to suggest that traditional theories of musical aesthetics and creativity will fall short when it comes to the novel dynamics and results of human-AI collaboration. Thus, it necessitates a more comprehensive approach to account for such human intention and algorithmic creation and its new forms, styles, and languages within music.

From a practical point of view, there are AI technologies which amplify the creative potential of composers in almost every way imaginable. In short, composers can utilise the vast computational resources and pattern recognition capabilities of AI systems to investigate novel musical territories and generate new ideas that may be elusive otherwise. In effect, this augments the creative palette available to classical music composition even further, and still increases the range of expression within the

art.

The integration of AI technologies within the composition process also presents some practical problems and questions. For example, composers may need to manage the technical difficulties associated with AI systems, which is a distinct field that requires tremendous effort to master. Moreover, they will need to strategise how to work productively with AI, including how to appropriately allocate responsibility between the human and the machine, thereby challenging standard compositional workflows and being willing to accept the new creative paradigms.

The selected case studies will highlight the ethical scrutiny and considerations regarding the application of AI to the composition of classical music. With the advancing AI systems, composers have to contend with creative autonomy and potential harms and responsibilities, which are critical issues for contemporary composers. The advent of AI in composing classical music should be synced with the discourse concerning ethics and how responsible innovation can be achieved.

The cultural reception and the public's perception of AI-assisted composition differs from that of traditional classical music, which can always lead to worrying speculation about the future of classical music. These examples offer a glimpse into how AI has the potential to evolve and expand the world of classical music. However, the more pressing concerns are the social and cultural aspects of AI-generated music, such as those relating to its nature, how people will respond to it, and most importantly, the contribution of real artists in a world that is becoming dominated by technology.

In summary, the case studies for "Opus 1" and "From the Future World" have set the stage for further explorations of practically and theoretically relevant concepts of AI-assisted composition in contemporary classical music. These works explicitly motivate us to scrutinise the ways emerging AI technologies affect the creative process, disrupt established norms, and facilitate novel avenues for music making. As we step into the possibilities of this new field, it is critical for us to maintain an open mind towards AI-aided composition but be reflectively critical of the potential opportunities and complications it poses.

6.Conclusions and prospects

Artificial intelligence as part of the fabric of classical music composition itself may be the next transformative event that challenges previous conceptions about creativity, aesthetics, and artistic value. The present article seeks to bring greater depth

in relation to the impacts that AI-assisted composition holds for the future of classical music, through theoretical frameworks, aesthetic principles, and real-life case studies.

The theoretical underpinnings, based in creative agency, musical ontology, and computational creativity, have shown the deep philosophical and conceptual challenges that AI raises for classical music composition. Aesthetic analysis has brought to the fore new possibilities and transformations of traditional musical forms and expressions.

Looking ahead, AI brings promise and uncertainty to classical music. It can extend creative possibilities and give rise to new forms of expression, but at the same time, it gives rise to complex questions regarding the role of the human artist and the nature of artistic creation. The cultural and social implications of AI-generated music call for continued critical reflection and debate.

To conclude, the phenomenon surrounding AI-assisted classical music composition is extremely intricate with great opportunities and challenges. As the world enters this new dimension of creativity, it will be imperative to operate from a position of curiosity, scepticism, and willingness to embrace AI composing. Through ethical inquiry, interdisciplinary research, and artistic attempts, the potential of technology which serves against the artistic vision can be contained. Ultimately, the challenge in regard to the future of classical music in the context of artificial intelligence will stem from our capability to synthesise advancing technology with indispensable human facets of music.

Reference

[1] Li, Y., & Sun, R. (2023). Innovations of music and aesthetic education courses using intelligent technologies. Education and Information Technologies, 28(10), 13665-13688.

[2] Arielli, E. (2021). Extended aesthetics: art and artificial intelligence. European society for aesthetics, 13.

[3] Deruty, E., Grachten, M., Lattner, S., Nistal, J., & Aouameur, C. (2022). On the development and practice of ai technology for contemporary popular music production. Transactions of the International Society for Music Information Retrieval, 5(1), 35-50.

[4] Clancy, M. (Ed.). (2022). Artificial intelligence and music ecosystem. Focal Press.

[5] Miranda, E. R. (Ed.). (2021). Handbook of artificial intelligence for music.

Cham: Springer.

[6] Carnovalini, F., & Rodà, A. (2020). Computational creativity and music generation systems: An introduction to the state of the art. Frontiers in Artificial Intelligence, 3, 14.

[7] Novelli, N., & Proksch, S. (2022). Am I (deep) blue? music-making ai and emotional awareness. Frontiers in Neurorobotics, 16, 897110.

[8] Bramantyo, T. (2021). Digital art and the future of traditional arts. Journal of Music Scholarship, 42(1), 96-110.

[9] Rohrmeier, M. (2022). On Creativity, Music's AI Completeness, and Four Challenges for Artificial Musical Creativity. Trans. Int. Soc. Music. Inf. Retr., 5(1), 50-66.

[10] Weiß, C., Mauch, M., Dixon, S., & Müller, M. (2019). Investigating style evolution of Western classical music: A computational approach. Musicae Scientiae, 23(4), 486-507.

[11] Liu, B. (2023). Arguments for the Rise of Artificial Intelligence Art: Does AI Art Have Creativity, Motivation, Self-awareness and Emotion?. Arte, Individuo y Sociedad, 35(3), 811.