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Research Article / *Araştırma Makalesi*

al-Fārābī's Philosophy of Music

Fârâbî'nin Müzik Felsefesi

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ABSTRACT

al-Fārābī investigates the physical origins of sound by criticizing the Pythagorean music of the spheres. In his work, *Kitāb al-Mūsīqā al-Kabīr (The Great Music Book)*, he discusses the precedence between practical and theoretical music and considers that, like any science, the principles of musicology must be addressed in terms of their origins. It is necessary to determine the method required to establish musicology. Nevertheless, the order of the celestial bodies' regular movements does not determine musical principles. In other words, the Pythagoreans' claim that sounds are formed by celestial body movements cannot be used as a musicological principle. At this point, al-Fārābī revealed his musical philosophy's most distinctive and unusual aspect. This indicates the presence of an artistic environment and a cultural structure. This approach helps us understand music culture because al-Fārābī emphasizes musicians' space and time experiences. Therefore, theoretical music requires a sensory foundation to achieve rational unity. This article discusses the possibility of al-Fārābī's music philosophy in terms of subject, issue, and method, drawing on his work *Kitāb al-Mūsīqā al-Kabīr*.

Keywords: al-Fārābī, philosophy of music, musicology, Kitāb al-Mūsīqā al-Kabīr, cultural environment

ÖZ

Fârâbî *Kitâbu'l-Mûsika'l-kebîr (Büyük Müzik Kitabı)* adlı eserinde Pisagorcu küreler müziği anlayışını eleştirerek sesin fiziksel kökenini araştırmış, pratik müzik ile teorik müzik arasındaki öncelik ve sonralık tartışmasını gündeme getirmiştir. Fârâbî'ye göre her bilimde olduğu gibi müzikbilimde de başlangıç anlamında ilkelerden ve bu ilkelerin kökensel karakterinden bahsetmemiz gerekir. Nitekim Fârâbî müzikbilimin tesisi için gerekli olan yöntemin apaçık bir tarzda belirlenmesi gerektiğini düşünür. Ancak Fârâbî'ye göre müzikte ilkeler, göksel cisimlerin düzenli hareketlerinden kaynaklanan küresel düzene göre belirlenmez. Başka bir deyişle, Pisagorcuların savunduğu gibi göksel cisimlerin hareketleriyle oluştuğu iddia edilen sesler, müzikbilimin başlangıç ilkesi olamaz. Bu noktada Fârâbî müzik felsefesinin en özgün ve sıradışı yanını ortaya koyar. Bu da müzikbilimin tesisi için zorunlu ön koşul niteliğindeki sanat çevresi ve kültürel yapının varlığıdır. Bu yaklaşım tarzı Fârâbî'nin müzik sanatıyla meşgul olanların zaman ve mekan tecrübesine yaptığı vurgu üzerinden bizi müzik kültürü anlayışına sevk eder. Bu bakımdan teorik müziğin, kendisi yoluyla akli bir birliğe ulaşmamızı temin edecek duyusal bir temele ihtiyacı bulunmaktadır. Bu makalede *Kitâbü'l-Mûsîka'l-Kebîr* adlı eserinden hareketle konu, mesele ve yöntem açısından Fârâbî düşüncesinde müzik felsefesinin imkanı tartışılacaktır.

Anahtar Sözcükler: Fârâbî, müzik felsefesi, müzikoloji, Kitâbu'l-Mûsika'l-kebîr, kültür çevresi

Introduction[1]

al-Fārābī (d. 950) begins his *Kitāb al-Mūsīqā al-Kabīr* with the following statement: "If there were a detailed and complete analysis of this science, it would be unnecessary to write a book on this subject. […] Only ignorant and malicious individuals accept and transmit other people's words without proper understanding" (1967: 36). The phrase "other people" in this passage by al-Fārābī is the focus of this study on the uniqueness of his music research. In light of al-Fārābī's philosophical background, this study also explores his theoretical and practical music perspectives.

Before delving into al-Fārābī's philosophy of music, I must clarify a technical distinction to avoid the current conceptual confusion. The distinction is between musicology and music philosophy. Music theorists are concerned with elements inherent in music, such as tone, intervals, melody, rhythm, modes, transitions, composition, and musical instruments and their application in musical theory and performance. However, the philosopher of music addresses questions about the nature and origins of sound. Some of the questions are as follows: What is sound? Is the origin of sound physical, cosmic, or metaphysical? What is the difference between sound and melody? Where does the distinction between music practice and music theory start? When discussing musical principles, does practice come before theory, or vice versa? Are the principles underlying melodic sounds natural or supernatural? How does composition relate to performance? Which has precedence over the other? How can we explain the transition from sound to melody? What is the legitimate basis for the relationship between music and other sciences? Can we talk about the music of celestial bodies? If so, how does the celestial principle of all worldly music make sense? Is the primary principle of music perceptual or phenomenological? Can music be considered both an art and a science? If possible, what is the subject, principle, and method of science.

These are not the questions that music theorists ask. In this respect, Urmevī (d. 1294) and Merāgī (d. 1435) are music theorists, not philosophers of music. However, al-Fārābī and Avicenna (d. 1037) were music theorists and philosophers. Despite this, music philosophers' theoretical views have not been as popular or relevant throughout music history as those of music theorists.

Today, musicology is primarily defined as a discipline concerned with the mathematical analysis of musical practices (composition or performance). However, it also focuses on the practical aspects of sounds, melodies, intervals, rhythms, and music. According to al-Fārābī, while these two fields are technically distinct, music philosophy is the only prerequisite for the theoretical processing of material derived from practical music experience. Consequently, al-

1 This study does not intend to introduce al-Fārābī's works on music one by one, but rather to explore the possibility of a philosophy of music in al-Fārābī's thought concerning subject, issue, and method based on his work titled *Kitāb al-Mūsīqā al-Kabīr*. Turabi (2005) comprehensively discusses the introduction to al-Fārābī's musical works.

Fārābī criticized the Pythagorean music of the spheres,[2] claiming that it emphasizes mathematical principles over physical sound. Therefore, he rejected the idea that theoretical explanations should be based solely on practical aspects. It should be noted that, despite the distinct nature of these two fields (theoretical and practical) at different levels, it is of the utmost importance to integrate them to establish a comprehensive understanding of musicology.

I. Principles of Musicology *('Ilm al-Mūsīqā)*

At the beginning of his book, al-Fārābī declares that his research has two dimensions: theoretical (*nazarī*) and practical (*amelī*). From this vantage point, al-Fārābī's understanding of music has a systematic structure in which one aspect is firmly rooted in theory and the other in practice, emphasizing their interconnectedness as integral components of a cohesive whole. Like all scientific disciplines, musicology requires a discussion of the principles (*mebādī*) and their origins. Therefore, we must understand the significance of theory and practice in al-Fārābī's thought and determine, which aspect comes first, whether the primary inception is temporal or ontological (logical).

According to al-Fārābī (1967: 37), three conditions are required to achieve competence in theoretical research. These conditions are as follows: i) knowledge of the field of interest's principles, ii) ability to draw the necessary conclusions of these principles from the data belonging to this science, and iii) ability to respond to false theories and discern and correct the ideas put forth by other authors. In musicology, as in all theoretical research, it is critical to establish fundamental principles and the implications that arise from them.

Theoretical music necessitates understanding the principles underpinning musicology and drawing conclusions from them. According to al-Fārābī, the spherical order that results from celestial bodies' regular movements does not, however, determine musical principles. In other words, the Pythagoreans' claim that the sounds created by celestial body movements cannot serve as the foundational principle of musicology. On the contrary, musical sound necessitates a human experience that is primarily defined by physical movement. In this light, claiming that celestial bodies produce music with sounds that we cannot hear and that the vocal order of these spheres with harmonic movements is also the source of our music is meaningless. Therefore, theoretical music requires a sensory basis in order to achieve rational unity. This perspective emphasizes the impossibility of theory without sensory experience. Based on al-Fārābī's approach, we can define his field of interest as "the aesthetics of music"[3] in the literal sense.[4]

2 The concept of the "Music of the Spheres" (*Musica Universalis*) represents the Pythagorean view, which holds that the universe operates harmonically and musically. According to this theory, all celestial bodies emit musical sounds as they move.

3 "Aesthetics" comes from the Greek word *aisthesis*, which means perception. By "the aesthetics of music," I mean that the foundational principle in musicology is primarily sensory.

4 At this point, al-Fārābī relies on Aristotle's methodological foundations and Aristoxenus' (d. 300) understanding of perception in music. Aristoxenus, an Aristotelian student, rejects the Pythagorean musical view of spheres and claims that sound is perceptual (sensory), with some theoretical inferences and determinations possible after sensation.

Upon establishing the principles and rules of theoretical research in music, al-Fārābī delves into the nature of practical music. In this context, al-Fārābī discusses the practical aspects of his research, beginning with examining the nature and origin of sound in music, i.e., composition and performance as subsets of practical music. He then began to explore both vocal and instrumental melodies.

II. The Distinction Between Practical and Theoretical Music

1. Practical Music

According to al-Fārābī, "music" in its broadest sense refers to "melody" (*alhân*). However, al-Fārābī does not exclude elements like tone, range, and rhythm because they are already implicit in the definition and analysis of melody. Furthermore, because the notes that constitute a melody are similar to those used in linguistic discourse, they cannot be arranged arbitrarily. A specific order in music is required, just as a specific syntax is required for language to be meaningful (Shehadi, 1995: 51). Following this general determination, al-Fārābī poses the following questions:

> Is our perception of melody the same as what we imagine or reason with it or is the thing perceived by melody different from the imaginable or intelligible? Alternatively, is the melody sensory under some conditions or imaginable and intelligible under some other states? (1967: 49).

At the outset of the practical study of music, everything associated with the melody is classified as sensory, imagined, or intelligible. Given that the three types of perception are related to human experience, the melody is naturally included in any research on the nature and origin of sound in music as the subject of these three classes, and nonhuman elements should be excluded. Because sensation, imagination, and reasoning are human cognitive abilities, any investigation into the nature and origin of the melody should exclude any elements outside of this classification. At this point, al-Fārābī discusses the relationship between practical and theoretical music, a theme throughout his research. This discussion focuses on composition and performance, subsets of applied (practical) music and instrumental and vocal music from the types of performance.

1.1. Practice Precedes Theory

According to al-Fārābī, "Music is an art that deals with melodies and makes them more perfect and excellent" (1967:50). Since melody is always associated with an activity, such as composition or performance, practical music takes precedence (*taqaddum*) over theory. However, like all arts, music is composed of arrangements (*hay'a*) regarding abilities and capacities. In terms of determining the rational principles in these arrangements, the fact that theories come after sensory experience in the temporal sense does not render reason completely useless or trivial in musical analysis, nor does it diminish its importance in comparison to practice. If the

scientific foundations of music are to be established, the material derived from practical music must be rationally organized. Otherwise, there can be no discussion of musicology or music's scientific legitimacy. In this regard, sound's auditory and phenomenological expressions do not imply that musical sound is only sensual. Musicology cannot be discussed unless the entire aural experience is integrated into a rational unity. Therefore, the theoretical and practical aspects of music constantly depend on one another, and the absence of one raises questions about the function of the other. In this regard, al-Fārābī's book emphasizes the prevalent belief that performance takes precedence over theory for those who practice music and seek to reinforce theory through performance.

al-Fārābī argues that practical music emerges primarily through sensory experience. In great detail, he examines the relationship between the two branches of practical music, composition and performance. The question is, which comes first: composition or performance? At first glance, one might wonder what the performer would play without a composition. However, as al-Fārābī suggests, performance should take precedence over composition from a functional standpoint because compositions are designed to be performed. Unfortunately, due to the limitations of my article, I cannot delve into this discussion here. However, it demonstrates that practical music prioritizes theory, and similar discussions are extremely beneficial in the context of practical music.

There is a similarity between instrumental and vocal music. Instrumental music takes precedence over vocal music due to its general character. However, considering temporal precedence, instrumental music is a later addition to vocal music. Ontological or logical precedence may also be involved in rational inferences that establish the principal unity of the aural material. On the other hand, one could argue that something that emerges later may be more valuable in terms of purpose and competence. For example, in terms of human biological and mental development, infancy comes before childhood, and childhood comes before adulthood. However, a person's level of perfection (*kamāl*) does not correspond to infancy or childhood. Although adulthood occurs later in life, it represents the potential for human progress and development as a goal.

Sensation (experience), imagination (image), and intellect (concept) are three types of perception. The melodic multiplicity formed by sensation and imagination must find a fundamental unity through the intellect's ability to form concepts. Only in such cases can one speak of musicology, in which the rules are competently determined. As a result, theoretical music can be defined as a stage of purposefulness and competence that, in principle, combines the perceptual multiplicity of sounds. In any case, al-Fārābī considers practical music is more about imagination than intellect. However, in al-Fārābī's music research, the term "intellect" does not refer to the faculty that forms a metaphysical union (*ittisāl*) with the divine existents. Instead, it refers to the theoretical ability to develop materials derived from practical musical composition. The only prerequisite for a comprehensive musicological treatment of the tone and melody that emerged at the sensory and imaginative levels is the establishment of these

multitudes of sounds with an intellectual arrangement in unity. Otherwise, we cannot discuss the scientific foundations of musicology.

al-Fārābī (1967: 58) expanded on his analysis, including distinctions between sensation, imagination, and reasoning in classical theories of the soul in the study of music. Thus, there are three distinct degrees of musical organization:

i) Musicians should always rely on sensation. The fact that sound is a physical phenomenon is appropriate for this level.

ii) Without sensory material, the musician creates melodies in his imagination but is unaware of their rational (theoretical) principles.

iii) The musician reaches the power of intellectual perception in everything he creates with his or her sensation and imagination.

According to al-Fārābī, when a musician cannot think about his or her composition, his or her talent is known as instinct (*gharîza*) or temperament (*tabîa'*). However, this cannot be considered true art. Since one can speak of true art to the extent that musicians can intellectually conceive what they imagine at the same time. In this category, al-Fārābī (1967: 54) mentions Ishāk al-Mevsılī (d. 850), an important figure in Arab music history. Although al-Fārābī does not mention his name in this category (iii), we can classify him as a composer, performer, and music theorist.

According to al-Fārābī, we must be in specific emotional states to produce melodic sounds. In other words, the source of musical sounds cannot be external objects such as celestial bodies, but rather the subject itself, specifically the human soul. al-Fārābī explains his idea as follows:

> If we consider sounds as signs of certain passions and emotions,[5] they [melodies] will replace these states. […] Therefore, melodies that emerge from a passion are its signs in terms of the expression and imitation of this state (1967: 66).

Therefore, music expresses the passions that arise in the soul, which naturally seeks perfection, and serves as a sign pointing to these passions through imitation. In this case, melodies take the place of emotions and states. al-Fārābī's phenomenological and perceptual sound theory, which he proposed on the nature and origin of musical sound, is unique for his time. In this regard, al-Fārābī's view of musical sounds and melodies as expressions of feelings is reminiscent of modern impressionism Impressionist artists in modern times also believed they were expressing their perceptions and impressions of nature, rather than nature as an objective fact. Later, Ibn Sina defended and developed this impressionistic approach (Shehadi, 1995: 77).

5 "Passion" comes from the Greek word "*pathos*" (pl. *pathemata*). The Arabic term as "*infiāl*" (pl. *infiālāt*") refers to a passive state of receptivity, also known as *pathos*. This term is most commonly translated into English as emotions.

1.2. The Separation Between Natural and Artificial Sound

The last subject that al-Fārābī discusses in his analysis of practical music is the distinction between natural (*tabīī*) and artificial (*sun'ī*) sound. In this context, al-Fārābī differentiates between musical instruments' natural and artificial sounds. Although oud or wind instruments are considered artificial instruments, the human voice is the most obvious natural instrument. The true meaning of the distinction between natural and artificial sound is to establish the fundamental principles of music. As is well known, the sciences must first identify the fundamental principles governing their subject and then organize the rationally derived results from these principles. In this regard, we can inquire whether there is a relationship between natural and artificial instruments, and which comes first. In other words, the question here is whether artificial sounds are produced by artificial instruments or natural sounds by natural instruments.

Before al-Fārābī, the classical (Pythagorean) understanding of music was based on spheres and their movements. Even if such music exists, the sounds described by al-Fārābī are not natural because no instrument, such as the human larynx, produces them. Therefore, al-Fārābī adheres to the Aristotelian theory of nature and movement concerning the natural origin of sound. Accordingly, motion is a physical phenomenon, whereas sound is a corporeal event that occurs when two bodies collide. Celestial bodies do not fall into any of the instrument categories in terms of sound production and perception. Even if they produce sound, they cannot be the source and origin of musical sounds for us. For all of these reasons, Pythagoreans' claim that celestial bodies are natural and musical instruments is unacceptable. Furthermore, this approach cannot prove the melody principle because it accepts the existence of musical sound in the absence of an instrument (Shehadi, 1995: 53-54).

According to al-Fārābī, natural or artificial sounds must be audible to human perception, because music that claims to be natural but lacks an auditory dimension lacks scientific legitimacy. Music not produced by natural instruments, such as celestial bodies, is excluded from the categories of al-Fārābī's musical sounds. Sounds that are not produced by natural instruments like the larynx, uvula, and nose cannot be considered musical. In this context, al-Fārābī explicitly presents his idea about the origin and nature of the melody in the following passage:

> As the Pythagoreans claim that celestial bodies and stars produce harmonious melodies in terms of their movements is unacceptable. For it has been outlined in natural science that they cannot produce sounds with their movements and that this claim is not possible (1967: 88).

According to al-Fārābī, celestial bodies are incapable of producing musical sounds. His objection to the idea of musical spheres is based on natural science. In other words, this objection is based on natural philosophy, as al-Fārābī's definitions of sound and musical sound are consistent with his philosophy of nature and movement. On the other hand, even if we accept

the possibility of universal music[6] in terms of tones and scales, the question of whether it can be called "music" in the same way that we refer to any other human art form will arise. Thus, al-Fārābī follows the Aristotelian tradition of music philosophy rather than the Pythagorean.

2. Theoretical Music

al-Fārābī does not use the term "musicology" (*'ılm al-mūsīqā*) in passages that describe the practical aspects of music. Despite the precedence of practical music, it is evident that music is not completely practical because it is a science. al-Fārābī defines theoretical music as an actual (*bi'l-fi'l*) scientific explanation of melodies and their variations that arise in the soul (*nafs*) (1967: 83). Music, like any other science, requires a solid understanding of its fundamentals. Furthermore, al-Fārābī used the term "scientific explanation" to refer to theoretical explanation in music. Thus, theoretical music scientifically explains the melodious multitude that arose imaginarily in souls. In other words, the scientific explanation of musical sounds requires the presence of audible sounds.

In classical terms, practical music is analogous to matter, while theoretical music corresponds to form. al-Fārābī contends that the sensory material derived from practical music should be described in a scientific framework using a theoretical language. Furthermore, the knowledge required for practice is not scientific knowledge but skill (*ma'rife*), which is not theoretical. Therefore, knowledge of the practical art refers to the proficiency required for that practice. In this context, al-Fārābī considers applied music to be an accidental (*bi'l-araz*) science, rather than an essential (*bizzāt*) (1967: 89).

When al-Fārābī says "musicology is an actual (bi'l-fi'l) scientific explanation," he means the potential (*bi'l-kuvve*) participation of practical/auditory content (material) through the theoretical intellect, thereby configuring the sensory multitude. In this regard, al-Fārābī cites Aristotle's Posterior Analytics for the theoretical (scientific) foundations of music (1967: 90). On the other hand, the music theorist does not have to be the creator of tones and melodies; all that is required is for the theoretician to contextualize the sounds produced by the musician within a theoretical framework.

When researching theoretical principles of musicology, al-Fārābī believes that the art of music, like all other arts, should be rationally and scientifically organized (*nutk*).[7] al-Fārābī also uses the term "*ılm*" to refer to scientific knowledge. According to him, scientific knowledge (science) is the discovery of the reasons for the existence of something in us. This determination is critical for developing a causal understanding of melodies based on our human/psychic (*nefsānī*) experience. In other words, the ontic status of sound and its causes

6 By "universal music," I refer to the Pythagorean understanding of music, which holds that the universe is harmonically musical. As a result, al-Fārābī opposes this type of universal music.

7 "*Nutk*" is a possible translation of the Greek term "*logos*." It encompasses the concepts of knowing and speaking with reason. al-Fārābī believes that the principles of musicology should be established rationally, justifiably, and scientifically.

in the soul cannot be considered independently. Therefore, since knowledge in principle is the knowledge of something that always exists (*mevcûd*), the scientific determination of musical sounds necessitates the presence of aural sounds. However, because sensation lacks the ability or authority to judge, the sensory multiplicity of sounds must be brought together by the power of reason. In this regard, although the vast amount of data gathered from practical music cannot provide scientific knowledge, the intellect also lacks the legitimacy to impose principles and theories independent of sensory experience.

As al-Fārābī elaborated in his work *Kitāb al-Burhān* (*The Book of Demonstration*), scientific knowledge aims to deduce the primary causes from the consequences. According to al-Fārābī,

> The experiences of practical musicians are valuable in theoretical music. However, when considering the chronological order of these two arts, it becomes evident that the experiential precedes the theoretical in most cases (2008: 51).

Therefore, the principal objective of musicology is to establish scientific and demonstrative knowledge based on practical music experiences (1967: 82–83). Although it is possible to argue that music has a sensory component in al-Fārābī's research, it would be incorrect to claim that his philosophy of music is purely empiricist, because the auditory multiplicity of sounds must be unified using principles.

al-Fārābī (1967: 85) defines theoretical music as the rational form of practical music. According to the Islamic peripatetic (*Messhāī*) tradition's matter-form ontology, practice and theory cannot be considered distinct fields in music philosophy. To establish a musical theory, it is always necessary to consider existing musical art practically, that is, a cultural environment in which musical patterns emerge. When melodies reach a principled level, they become the focus of theoretical music. Tone is the primary element of melody, just as letters are in language. This tone and melody are the focus of theoretical research because melodic sounds are a practical experience that emerges within a specific community and cultural context. The idea of practical precedence over theory in his philosophy of music is outstanding at this point. al-Fārābī applies this conception to his society's music culture, developing a theory of these melodies with Aristotelian content.

In this context, al-Fārābī likens music to language. Languages spoken by communities have a structured framework of letters, words, and sentences (grammar), and perceptions of melodic and rhythmic arrangements vary accordingly. al-Fārābī associates differences in musical structures with temperaments and innate qualities, just as languages vary between nations. Physiological, biological, anthropological, geographic, and climatic conditions all play a role. This characteristic is shared by melodic structures composed and performed at specific times and locations. In his work *Kitāb al-Hurūf* (2018: 154-168), al-Fārābī developed a theory about the emergence of language, but he described the theory of the modal structure that emerged in his land rather than Greek music. According to this viewpoint, al-Fārābī's *Kitāb al-Mūsīqā al-Kabīr* combines music theory with extensive experience and observation.

al-Fārābī examines melodies' scientific structure, saying, "Let us now delve into the melodies composed (te'līf) by these societies" (1967: 110). At the start of the section on theoretical music, al-Fārābī posits that the first principles of demonstration (*burhān*) in any art are established by sensing the specific elements of that art within the soul. This emphasizes how important the cultural environment is in music. After these details are perceived, reason organizes the aural materials. It is clear that rational principles extend beyond the senses. If such limitations existed, it would be impossible to demonstrate theoretical knowledge of this art.

According to al-Fārābī, exact knowledge is the process by which reason primarily combines (*terkīb*) data derived from sensual and imaginary sources. While some of these are validated by precise reasoning, others require repeated sensory experience. However, reason lacks the legitimacy to assert principles apart from the senses. According to al-Fārābī, strong sensation data lead to stronger principles, whereas weaker data lead to weaker principles (al-Fārābī 1967: 92).

al-Fārābī applies this general rule to the philosophy of music. al-Fārābī refers to the repetition of sensations in music as "experience." In many ways, experience and induction (*istiqrā*) are similar, but not the same. Although there is no special act of induction that leads from the sense to reason, there is such a feature in experience. As a result, the first principles of reason are derived from the permanent experience created by sensations. More precisely, although the entire collection of melodies represents a dispersed multitude, the theoretical reason in music brings this multiplicity together and gives it a principle. However, it is incorrect to assume that sensory materials provide the principle for a reason. The reason is that the only authority provides the auditory multitude with its primary unity. In this regard, the multitude can only provide the foundation for rational unity, not the principle of unity. Thus, neither practical nor theoretical knowledge in music nor any other art form can be considered independent of the experiential. Theoretical musical knowledge is not entirely free of the sensual, and it derives its principles from experience, which is a combination of the senses. In a way, al-Fārābī adapts the first sentence of Aristotle's Metaphysics, "desire to know"[8] (*ma'rife bi't-tab*) to musicology, claiming that mental principles are derived from experience combined with sensation, memory, experience, art, and scientific knowledge.

According to al-Fārābī, some people lack such theoretical knowledge and perceive themselves as independent of practical experience. As a result, association with a wise person (*hakīm*) elevates unproven knowledge to certainty and clarity. al-Fārābī says, "For them, the wise is the person who first brought art to light. However, this assumption is never true" (1967: 99).

8 Aristotle's *Metaphysics* begins with the statement, "Man by nature desires to know." The verb (*oregó*) used to express a desire to know something represents intent and orientation toward achieving a goal. As a result, Aristotle defines scientific knowledge (*episteme*) as the gradual elevation of human nature's potential abilities to the rational level. al-Fārābī translates this verb as "eagerness" (*shevk*). Consequently, when the fundamental abilities (senses, imagination, experience, and art) are used correctly, this process leads an individual to precise and certain knowledge. As a result, it is emphasized that knowledge, in terms of manner and method, cannot be obtained without sensible experience. See also al-Fārābī (1967: 66, 95–96).

Thus, he criticizes the Pythagorean tradition's understanding of wisdom and divine music. Consequently, any activity centered on a person believed to have wise intelligence is unscientific.

2.1. Development of Music from a Natural Disposition to an Artistic Competence

After stating that the principles of theoretical music should be proven by reason, al-Fārābī states that "most (*cull*) of the entities come into existence not through nature but through art in this science [music]" (1967: 89). The key word here is "most." Even if we interpret this word as "for all practical purposes," there may be at least one example. However, according to al-Fārābī, this cannot be an instance of heavenly music. What does it mean that not all musical subjects, but the majority of them, lead to artistic expression? What are those that, except for the word "most," could still be included in the field of music?

Although the phrase "most" refers to all practical (artistic) uses, al-Fārābī allows for one exception (Shehadi, 1995: 55). Whatever way we look at it, this exception will undoubtedly not be heavenly music for al-Fārābī. Celestial body movements cannot be the subject of musicology because they are not within the scope of the discipline. So, why could al-Fārābī use such a unique expression? Are there any exceptional situations, even in a narrow sense? That is, what constitutes natural music that is not artistic?

Suppose that the natural in this context refers to human (vocal) sound, and the artistic is instrumental as an artifact (*sun'ī*). From this perspective, vocal music belongs in the natural category and instrumental music in the artistic category. Although instrumental music is the next step after vocal melodic structures, it allows the natural style of producing vocal music to be used artificially (*sınāī*), that is, through musical instruments. Furthermore, people have likely noticed that playing the instruments with a verbal melody has increased enjoyment over time. Practical music may have achieved artistic competence through the invention of the oud and other instruments.

When we consider the possible purpose of al-Fārābī's use of the word "most" in the context of precedence in instrumental and vocal music, we reach the following conclusion: In addition to the natural sound of the human voice (vocal music), the practical art of music as culture has evolved through the invention and development of instruments by people living in a specific community, time period, and geographical conditions. Therefore, it is more reasonable to characterize the discussion here as the natural and artistic aspects of practical music in terms of the development of musical abilities and tendencies. Furthermore, this issue is not independent of the precedence problem in musical sound.

However, this interpretation is not without criticism. According to this interpretation, the natural (human) voice achieves artistic competence through the use of artificial instruments. As a result, it is believed that al-Fārābī's intention in this sentence ("most of the entities come into existence not through nature but through art in this science") is instrumental music rather than vocal music containing the human voice. However, even if we separate musical

competence for instrumental music from vocal music, it does not seem reasonable to say that "most"of the music is performed with instruments and vocal music is an exception.The subject addressed by al-Fārābī here may be related to a discussion about the origins of music as a cultural phenomenon. In other words, the term "natural music," which does not fall under the category of "most", can refer to a style of music-making that has not yet reached a sophisticated level and may be perceived as spontaneous, primitive, arbitrary, and amateurish. Thus, an exception would be a "natural" feeling, i.e., basic, instinctive, or spontaneous, rather than consciously and deliberately composed music. However, because al-Fārābī claims that celestial music is impossible, the exception mentioned in this passage cannot be applied to any sound that is not produced by human effort. In this sense, musical sound with its natural content, which has not yet advanced to the level of art, will provide the subject matter for this science. Still, it will be primarily the subject of this science once it has advanced to an artistic level in terms of composition and performance. In this sense, the phenomenon of music occurs naturally in all human environments. However, when talented people engage in composition and performance that go beyond arbitrary, elemental, instinctive, or spontaneous use, the music and cultural environment begin to develop as practical art. This exception, which al-Fārābī excludes with the word "most", may be associated with natural music in the sense of instinctive and spontaneous (1967:97). As a result, this expression does not refer to the musicality of a natural sound, such as birds chirping, or Pythagorean *musica universalia*, which cannot be produced by human intervention or ability. In this case, practical music should be formed through a musical experience primarily influenced by the cultural environment.

2.2. Bringing the Perceptual Manifold to Rational Unity: Inductive and Deductive Methods

In the previous subsection, I discussed the argument that reasoning in theoretical music should be based on sensory and imaginary experiences. The next stage must address the issue of how auditory data obtained through experience is theoretically combined.

According to al-Fārābī, a music theorist is someone who brings together a variety of aural experiences. Tones, melodies, and intervals are indeed dependent on sensation and imagination. In this regard, the theorist must understand both the inductive method, which takes the melodic multiple to the rational principles, and the deductive method, which takes the first principles to the individual melodies. While both methods function as causes, induction is the primary method used in music to progress from aural multiplicity to principles.

When the principles are unclear, we use the inductive method to determine the practitioner, followed by the deductive approach. To understand the principles, one must first know (i) what these principles are, (ii) how many there are, and (iii) the conditions under which they occur (al-Fārābī 1967: 186–187).

According to al-Fārābī, music, like most other arts, has innate principles. However, scientific knowledge is not appropriate at this time. In this regard, the principles of any art should be

established inductively. In this regard, al-Fārābī maintains that the theorist can receive practical assistance from the musician. In other words, if we do not have the necessary principles in musicology, we must learn them from a qualified (*ahl*) individual. This method is inductive. However, just because induction is the primary approach in musicology does not mean that theorists exclude deduction. Like all other artistic disciplines, music is inherently sensory, experiential, and phenomenological. As a consequence, the principles obtained through deductive reasoning are subsequently applied to auditory data (al-Fārābī 1967: 188).

Throughout his career, al-Fārābī has linked scientific structure to applied music. He strongly opposes the Pythagorean deductive method, which is based solely on mathematical (theoretical) principles rather than perceptual basis. As a result, nonphenomenological and nonexperimental sound models are not relevant to musicology. In conclusion, music theorists must understand both methods based on the nature of musical phenomena.

III. The Cultural Environment as the Unity of Theory and Practice in Music

Given the unity of theory and practice in al-Fārābī's philosophy of music, we can ask the following questions: Can a theory be derived from an art whose practice has yet to be defined in terms of music culture? What are the acceptable conditions for theorizing about the material sufficiency of artistic activity? Is the musical data provided by an ordinary and spontaneous activity, or by a cultural environment that qualifies it as true art? Could this be the theoretical basis for music performed by societies that do not define their cultural environment? If so, how legit is this? To find answers to these questions, we should consider al-Fārābī's views on the temporality and spatiality of practical experience.

In his book's second article (*makāle*), al-Fārābī states that the power of perception must be precise to determine rational principles. Any cognitive faculty in sensory or imaginary abilities is pleasant when it reaches the end of its competence (*istikmâl*) and disturbing when it contradicts its nature. Sensation, according to al-Fārābī, should naturally function for perceptual competence. Just as a patient is unable to taste their food, a person whose sensory faculty has deviated from its natural state will perceive a pleasant tune as a disturbing sound. In this context, al-Fārābī contends that people naturally perceive pleasant and unpleasant things based on their lands (*mesākīn*). Therefore, when people leave their home territory and travel to another location, they must assess the diversity of that land in its natural state (al-Fārābī 1967: 109). These differences include the climate, eating and drinking habits, and customs of these regions. Following these determinations, al-Fārābī (1967: 110) states, "Now let's examine the melodies created by these communities (*umem*)" and moves on to a theoretical analysis of the practical music performed by the communities in the geographical region where al-Fārābī lived. For, theoretical principles must be based on practical experience.

According to al-Fārābī, musical theories cannot be established independently of time and space experience. Let us consider al-Fārābī's statements, which I quoted at the start of this study:

> If there were a detailed and complete analysis of this science in all aspects, it would be unnecessary to write a book on this subject. […] Only ignorant and malicious people accept and transmit other peoples' sayings as it is (1967: 36).

Farmer (1997: 475) attributes al-Fārābī's ability to write a masterpiece such *Kitāb al-Mūsīqā al-Kabīr* to his familiarity with previously written Greek works in this field. While the works of Greek music theorists were largely unknown in medieval Latin, the musical writings of renowned thinkers such as Aristotle, Aristoxenus, Euclid, Nicomachus, Ptolemy, and Themistius were well known among Islamic intellectual circles. Farmer does not claim that al-Fārābī's ideas in this field are solely derived from ancient Greek philosophy, or that his musical views lack originality. Farmer (1930: 288-89) takes a stand against those who claim that al-Fārābī's musical ideas are entirely derived from Aristoxenus. However, it is not logical to attribute al-Fārābī's *Kitāb al-Mūsīqā al-Kabīr* solely to his knowledge of Greek works in this field. The issue is only the knowledge of these works. In this case, how should we interpret the originality in al-Fārābī's approach to the philosophy of music?

As previously stated, al-Fārābī's philosophy of music strongly emphasizes practice before theory. This assertion is anything but ordinary and trivial. al-Fārābī applies this viewpoint to the musical culture of the society in which he lives. He recognizes the practical aspect of music and develops a theoretical framework for these melodies, drawing on Aristotle's philosophical foundations, as the ontic reality of this thing or thisness is extremely important in Aristotelian philosophy.

Moreover, according to Farmer, the people al-Fārābī refers to as "ancients" (*kudemā*) in the introduction of his book and who have "incomplete studies" in this science are ancient Greek theorists. However, when al-Fārābī's claim of a theory based on practice is examined more closely, it becomes clear that he focuses on musicology that has yet to be written in the geography where he lives. To be more specific, the musical studies that al-Fārābī considers incomplete and faulty have nothing to do with Greek music. In contrast, al-Fārābī emphasizes the scarcity of philosophical and theoretical research on the practical experience of music that arose in his cultural milieu. As a result, I argue that the expression refers to a lack of musicology of practical music in the communities with which al-Fārābī was familiar. When we interpret the text in this way, we can better understand why it is ignorant and malicious to convey what others say as it is.

The unity of theory and practice, according to al-Fārābī, should not be interpreted as a formal, abstract, and universally applicable theory, as the Pythagorean approach is, but rather through the music composed and performed by a specific nation at a specific time and place, as well as the theoretical presentation of this music. Furthermore, al-Fārābī recognizes the contributions of ancient Greek thinkers and discusses the progressive aspect of musicology as follows:

> I observed that some of the works I read had theoretical flaws and some were consistent. These faults cannot be attributed to the incompetence of the ancient authors, nor can it be assumed that they were unable to perfect this science. These

> thinkers were highly competent and had no goal other than advancing this field of study. These mentally talented people followed each other and studied carefully the words and thoughts of their predecessors in order to increase the knowledge they acquired. Furthermore, some of their writings on music have either been lost or incorrectly translated into Arabic. This could be the only plausible explanation for the existence of these flaws (1967: 36-37).

Another point that will strengthen my idea is that the reference instrument used by al-Fārābī is not *aulos*[9] but *shahrûd*[10] when basing his theoretical research on music (1967: 120). According to al-Fārābī, melodies exist within the communities that compose and perform them. In this regard, musical theories cannot be developed unless they are grounded in the local and specific context, and the natural melodies or instruments from which theoretical principles can be deduced are those accepted within the community. In musical analysis, al-Fārābī draws inspiration from Aristoxenus and empiricist philosophers embracing the idea that '"practice precedes theory." Nonetheless, he offers a theoretical framework for applying this conception to practical music in his region. Those who claim al-Fārābī merely repeated Aristotle's words do not understand his philosophy. Therefore, unlike the Pythagorean philosophy of music, al-Fārābī's philosophy of music should not be interpreted as a pure, absolute, and universal theory free of sensation. In other words, al-Fārābī's understanding of music should be interpreted as a theoretical presentation of a tonal system based on a given society's musical experience. al-Fārābī also defends the validity of his idea with the following argument:

> This emerges from the discourse of some master musicians who have long practiced this art and studied natural notes, unlike those who could not provide clear evidence of their claims in their writings due to their lack of musical ear training (1967: 136).

al-Fārābī also claims that during his time, a group followed in the footsteps of the Pythagoreans, relying on abstract mathematical proportions rather than the ear and perceptual experience in musical sound. According to al-Fārābī (1967: 138), this group imitated ancient Greek mathematicians without considering practical musical experience. They accurately conveyed what the ancients said, but could not explain and prove their claims.[11] al-Fārābī thought that it would be appropriate to examine sounds, melodies, and notes physically first, then mathematically formulate the information gained from sensory experience. As a result, al-Fārābī sees no value in the purely quantitative synthesis and arrangement of musical sounds without regard for experience. He explains in the following sentences why practice and theory in music are inextricably linked:

> Our senses alone do not enable us to determine all the states of a tune. Likewise, theory cannot tell us whether a tune is natural. That is why we need to appeal to

9 *Aulos* is a woodwind instrument used in Ancient Greece.

10 In his book, al-Fārābī (1967: 116) gives a detailed description of the instrument known as *Shahrûd*, which means "great oud.".

11 Although al-Fārābī does not name the members of the Muslim intellectual circles, it is known that the Pythagorean theory of music influenced al-Kindī before al-Fārābī and the Ihkwān al-Sāfā after him.

> both musical theory and practice. Accordingly, this art does not investigate the tune in an absolute way but in terms of whether it is natural. […] In a word, musical theory and musical practice complement each other and their unity constitutes musicology (1967: 174).

In this case, the coexistence of the practical and theoretical in music implies the fundamental unity of perceptual melodies. al-Fārābī's philosophy of music is based on Aristoxenus rather than the Pythagorean tradition. Therefore, al-Fārābī's understanding of sound necessitates both perceptual and theoretical knowledge to rationally unite the diverse range of melodic sounds. It also implies that musicology and its principles, like all sciences, can change, develop, and progress over time. Integrating theory and practice in music is inextricably linked to the cultural context. Without a historical context corresponding to practical music's temporal and spatial dimensions, any theory presented as an original construct will essentially transmit other people's perspectives.

At this point, the importance of *Kitāb al-Mūsīqā al-Kabīr* becomes clear. For instance, it significantly affected music research in Medieval Europe, as did some empiricist philosophers like Roger Bacon (d. 1292). However, considering al-Fārābī's idea of perceptually in his philosophy of music but ignoring his conception of theory and practice unity about the cultural environment indicates a misunderstanding of the philosopher's perspective. In this context, the Latin world turned to *Kitâb al-Mūsīqā al-Kabīr* to investigate the fundamental principles of musicology. However, they were unable to fully comprehend the inner structure of this book due to their failure to cultivate independent musical experience during that time (Randel 1976: 188).

Conclusion

The theoretical determination of sounds independent of practical experience is not possible in al-Fārābī's philosophy of music. This approach to his music research necessitates rejecting the traditional understanding of heavenly music. In this respect, al-Fārābī rejects the idea of cosmic harmony/music. It also suggests that perception of melody's original nature should come before theoretical quantification. While content cannot exist without form, form does not come before content. When applied to music, this general rule of matter-form ontology leads us to the conclusion that practical music provides auditory data to theoretical music. On the other hand, theoretical reason lacks the legitimacy to assert rational principles independent of practical music.

Remarkably, al-Fārābī' excluded metaphysical and cosmic elements from his philosophy of music, despite systematizing the view of emanation in Islamic philosophy. However, because metaphysics examines existence in terms of being as well as the principles of other particular and theoretical sciences, the relationship between music and metaphysics is established in terms of proof principles rather than ontic level. In essence, al-Fārābī's comprehension of music differs from the concepts of cosmic harmony and metaphysics. Nonetheless, metaphysics is

the science that examines the principles of musicology, defines its main principles, and detects its flaws, just like other mathematical sciences.

In al-Fārābī's philosophy of music, the doctrine of the soul is active rather than cosmic harmony. Music has three aspects of composition, performance, and audience effects: sensation, imagination, and intellect. Like any other art form, music is the result of human imagination. In this sense, al-Fārābī emphasizes the quality of musical works created by the musician's imagination. However, al-Fārābī distinguishes between music that is dependent on an instrument and music in which the imagination operates independently of sensation. This distinction corresponds to the distinction between musicians who compose musical works without using an instrument and those who compose solely from their imagination. al-Fārābī also emphasizes the fact that a composer rarely reaches the point of reflecting on the tunes he has created in practical music. However, this level corresponds to the theoretical arrangement of practical music material. As a result, the power of reason is not metaphysical, but rather active in the music theorist's proof of the principles.

Music's unity of practice and theory can only be understood in a cultural context. al-Fārābī's emphasis on temporal and spatial experience in this art prompts us to consider the concept of musical culture. In this regard, al-Fārābī constructs an anthropological map of music practice and provides a theoretical framework. This framework can also consider musical factors such as geographical region, historical period, politics, religion, and patronage. Consequently, al-Fārābī defends a distinct understanding of musicology, emphasizing scientific progress, development, and evolution over time.

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