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# ON IBN SINA'S TREATISE KITAB AL-SHIFA: A MUSICOLOGICAL PERSPECTIVE

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**Abstract**
This article presents a detailed analysis of the musical theories expounded by Abu Ali Ibn Sina (Avicenna) in his encyclopedic treatise *Kitab al-Shifa* ("The Book of Healing"). As one of the most comprehensive philosophical and scientific works of the Islamic Golden Age, *Kitab al-Shifa* includes an entire section dedicated to music, titled *Jamiʿ al-ʿilm al-musiqi* ("The Compendium of Music Science"). Ibn Sina approached music as a mathematical science rooted in physical principles, yet also intertwined with human psychology, poetics, ethics, and aesthetics. This article outlines the structure and contents of the music section of *Kitab al-Shifa*, analyzes its theoretical underpinnings, and discusses its long-standing influence on both Islamic and Western musicology.

**Keywords:** Ibn Sina, Avicenna, Kitab al-Shifa, Islamic music theory, maqam, rhythm, metaphysics of music, classical musicology

## Introduction

Abu Ali Ibn Sina (980–1037), widely known in the West as Avicenna, was a renowned philosopher, physician, and polymath of the Islamic world. While he is most celebrated for his medical text *The Canon of Medicine*, his influence extends to metaphysics, logic, ethics, psychology and notably, music theory. His contributions to music are largely preserved in *Kitab al-Shifa*, an 18-volume compendium of sciences. Unlike earlier thinkers who often associated music with metaphysical speculation, Ibn Sina treated it as both a rational science and an expressive art with practical applications in society and health.

Ibn Sina authored more than 450 works, of which about 242 have survived. Among these, Kitab al-Shifa ("The Book of Healing") is a cornerstone of classical

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Islamic philosophy and science. While its primary scope encompasses metaphysics, logic, and natural sciences, it also contains a highly structured and comprehensive chapter on music "Jami ul-ilm al-musiqi", considered the most detailed of his musical writings.

**Scientific Framework and Interdisciplinary Vision**

Ibn Sina's conceptualization of music in *Kitab al-Shifa* is firmly grounded in the tradition of ancient Greek philosophy particularly the mathematical emphasis of Pythagoras and the theoretical models of al-Farabi. However, Ibn Sina did not merely inherit these frameworks; he transformed them. He expanded music theory beyond numerical ratios to incorporate its **emotional, ethical, and psychological** implications, making his vision thoroughly **interdisciplinary**.

He explicitly states that music is a **mathematical science,** yet, he classifies it as part of the **quadrivium** alongside arithmetic, geometry, and astronomy because of its abstract, structured nature. At the same time, his discussion often crosses into **medicine**, **ethics**, and **pedagogy**, suggesting an early model of what today would be termed **cognitive musicology** or **neuroaesthetics**.

**Structure and Content of "Jami al-ilm al-musiqi"**

The music section is methodically organized, indicating that Ibn Sina intended it for **systematic academic instruction**. His six-part structure unfolds as follows:

1. **Acoustical Foundation**: Ibn Sina begins by analyzing the nature of soundhow it originates, propagates through the air, and is perceived by the ear. He defines **pitch**, **timbre**, **resonance**, and **vibration**, laying the groundwork for musical acoustics centuries before the formal advent of physics-based sound theory.
2. **Musical Intervals and Harmony**: He identifies consonant and dissonant intervals and classifies them as *primary* and *secondary*. These definitions build upon but go beyond those of Pythagoras and al-Farabi, offering a new taxonomy based on **physiological perception** and **emotional response**.
3. **Scalar Construction and Modal Systems**: His discussion of **tetrachords (jins)** and **modal combinations (jamʿ)** reveals the embryonic form of what would later be known as **maqam theory** in Islamic music. He outlines both strong and weak tetrachords and explains how their arrangement affects mood and expression.

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4. **Rhythm and Temporal Structure**: Ibn Sina approaches **rhythm (īqāʿ)** with mathematical precision, describing beat divisions, tempo categories, and cycles in combinations of 4, 5, 6, and 7 units. He links rhythmic structures to **poetic meter (ʿarūḍ)** and even claims that prosody is music's literary sibling. This comparative approach is strikingly modern in its recognition of **intermodal correspondence**.
5. **Composition and Emotional Intent**: He argues that music composition must be tailored to the **emotional and psychological state** of the listener. Here, we find clear signs of what today would be recognized as **affective music theory**. He cautions against dissonant or irregular rhythms in therapeutic contexts, asserting that such stimuli can "disrupt the soul's balance."
6. **Instrumental Knowledge and Performance**: Ibn Sina provides meticulous descriptions of traditional instruments, explaining their construction, tuning, and expressive capacities. His **preference for the ghijjak**, based on its acoustic similarity to the human voice, reflects his philosophical view that the human voice is the noblest medium for conveying music.

**The Role of Music in Health and Psychology**

Ibn Sina's **medical theories** are not isolated from his musical ones. In fact, he was among the first to argue that **music has a direct impact on physical and mental health**. This belief is developed in parallel in *The Canon of Medicine*, where he prescribes music for emotional ailments such as melancholy, anxiety, and grief. In *Kitab al-Shifa*, he expands upon these ideas philosophically.

He maintained that sound vibrations could influence the **four humors** blood, phlegm, yellow bile, and black bile which were thought to regulate human health. Melodies, chosen carefully according to **time of day, season, and temperament**, could restore balance in the body and soul. This is not only an early example of **music therapy**, but also of **personalized treatment** based on individual constitution (*mizaj*).

**Aesthetic and Ethical Dimensions**

For Ibn Sina, the study of music was not merely scientific it was also **ethical**. He believed that music played a vital role in shaping character, fostering virtue, and

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promoting harmony within the soul. Improper or dissonant music, in his view, could corrupt moral sensibilities and unsettle the mind. This perspective resonates with **Platonic ethics**, yet is uniquely grounded in **Islamic humanism**, which values inner balance and societal harmony.

Moreover, he viewed musical training as essential in **education**. He wrote that exposure to melodic structures improved not only emotional intelligence but also logic and reasoning skills. In this way, music became a part of **moral pedagogy** and spiritual development.

## Comparative Views and Global Influence

The influence of Ibn Sina's musical theories extended well beyond his own era. His works were translated and circulated throughout the **Islamic world**, from Persia and Andalusia to the Ottoman Empire. Scholars such as **Safi al-Din al-Urmavi** and **al-Kindi** cited his theories, while modern thinkers like **Zokirjon Oripov** and **Abdurauf Fitrat** based their historical reconstructions on his frameworks.

In the **Western tradition**, Ibn Sina was known as *Avicenna*, and his views reached European scholars during the Renaissance through Latin translations. Although his music theories were not as widely disseminated in the West as his medical ideas, they contributed to the development of **humanistic musicology**, particularly in how music relates to health, virtue, and mathematics.

Modern scholars recognize Ibn Sina as a forerunner of **systems theory in music**, **embodied cognition**, and **aesthetic psychology**. His belief in music's **multi-functionality** as science, art, therapy, and philosophyresonates with contemporary integrative disciplines.

## Conclusion

Ibn Sina's *Kitab al-Shifa* stands as a testament to the rich interplay between science, philosophy, and art in the Islamic Golden Age. The musical section, *Jami al-ilm al-musiqi*, remains one of the most systematic and interdisciplinary works in the history of musicology. His perspective on music as a science of sound, emotion, and mathematics remains relevant today.

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In highlighting the therapeutic, aesthetic, and pedagogical dimensions of music, Ibn Sina laid a foundation for subsequent centuries of inquiry into how music shapes the human experience. His influence continues to inspire scholars, musicians, and educators worldwide, bridging cultures through the xuniversal language of sound.

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