

Cultural Crossroads: Dialogues in Cosmology and the Universe between China and Europe

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Abstract

Todos los Tonos y Ayres, Spain's pioneering early music ensemble, is devoted to reviving historical and musical connections between Europe and Asia. Collaboration with prestigious institutions, highlighted by a series of tours in China organized by the Cervantes Institute, exemplifies a steadfast commitment to cross-cultural exchange. Inspired by a talk-concert commissioned by the *Ciudad de las Artes y las Ciencias* on astronomy and music in ancient China, the latest production, *The Moon's Silence: Music and Word under the Chinese Sky*, embarks on a visionary exploration of China's scientific, poetic, and musical history over 2,500 years, engaging in a profound dialogue with Europe. Structured around a chronological selection of cosmological texts, authored by diverse voices from early natural philosophers to contemporary science fiction writers, the performance not only delves into the origin of the universe but also includes gender-related reflections by women in the fields of art, science, and society. This narrative unfolds through a captivating blend of music, poetry, and visuals, where Chinese and Western instruments harmonize with the voices of historical figures. This artistic fusion unveils concepts articulated in the East centuries before their formulation in the West, seamlessly intertwining the realms of science, music, literature, and art. This performative spectacle aims to unveil an unfamiliar history of science and philosophy, specifically that of Ancient China, showcasing the diversity of human exploration into the phenomena surrounding us.

1 Introduction

In Europe, the history of science from non-Western cultures, particularly that of China, remains relatively unknown to the general public and to many academic fields outside sinology. This gap is partly due to the wealth of primary sources available predominantly in Chinese and other non-Western languages, which limits accessibility. Despite a growing body of resources in European languages, the achievements of ancient Chinese science and philosophy are frequently overlooked, with emphasis remaining on Western narratives. Even accessible

works in European languages, such as Joseph Needham's seminal research [1], which highlights Chinese advances in astronomy, mathematics, and medicine, have not fully permeated broader academic or public awareness, leaving this vast intellectual heritage underappreciated beyond specialist circles.

This lack of awareness extends beyond academic omission; cultural perceptions also play a significant role. Modern views of migrant communities are often shaped by contemporary geopolitical and socio-economic factors. Within the context of this work, perceptions of China, in particular, are influenced by these dynamics. This frequently results in stereotypes and misinformed portrayals that obscure a deeper understanding of their rich historical and intellectual contributions. To address these biases, the arts—especially music, performance, and other forms of creative expression—offer a unique and powerful medium for engaging audiences on a deeper, more empathetic level. Unlike traditional lectures, artistic performances can bridge cultural divides, drawing audiences into a narrative that fosters emotional connections and a sense of shared human experience.

Research shows that artistic performances, particularly music, may play a vital role in dismantling stereotypes and reshaping public views on other cultures, fostering a more nuanced understanding of diverse cultural identities. Artistic expressions such as music, theater, poetry, and visual arts help audiences connect emotionally, thereby encouraging them to see beyond stereotypes and appreciate individual cultural contributions [2].

Further studies underscore how cultural and artistic practices disrupt preconceived notions about migrants, prompting societies to re-evaluate concepts of community and historical identity. This transformative capacity of the arts has proven essential in promoting social inclusion, cultivating empathy, and bridging divides between migrant and native communities, ultimately shifting societal attitudes toward a more cohesive and respectful multicultural perspective [3, 4].

Traditional music plays a significant role in breaking down stereotypes and reshaping perceptions of diverse cultures when integrated into cultural performances. Research underscores that musical activities can help transform cultural boundaries and challenge entrenched social divisions. Music inherently carries the heritage and identity of diverse cultural communities, fostering greater understanding and appreciation within host societies [5].

In particular, the appreciation of early music from the distant past evokes a sense of historical continuity, which reinforces the cultural heritage of a specific community. This historical connection not only deepens the audience's engagement but also underscores the value of preserving cultural traditions in a rapidly changing world. Studies suggest that musical exchanges can facilitate boundary-shifting and boundary-crossing interactions, making cultural barriers more permeable. In this context, music serves not only as a medium for cultural recognition but also as a tool for social integration, merging "us" and "them" identities while downplaying cultural distinctions in favor of shared experiences, increased empathy, and a more nuanced understanding of cultural identities and mutual appreciation [6, 7]. These findings indicate that multicultural music is a powerful medium for transforming host population perceptions of foreign cultures, using cultural appreciation to challenge stereotypes and strengthen social understanding.

Through carefully curated productions, such as those blending music, poetry, and historical texts, it becomes possible to introduce audiences to China’s rich scientific and philosophical traditions. These performances not only engage the senses but also challenge preconceptions, offering a nuanced view of China that spans millennia. By incorporating the voices of early natural philosophers alongside modern Chinese science fiction writers—whose works have gained international acclaim—these productions create a dialogue between the past and present, between East and West. This artistic approach thus has the potential to enrich public understanding, offering a more balanced and informed view of other culture that transcends contemporary stereotypes and political tensions.

2 Todos los Tonos y Ayres

*Todos los Tonos y Ayres*¹ is Spain’s pioneering early music ensemble, dedicated to exploring and reviving the historical and musical connections between Europe and Asia. Founded with a mission to bridge cultural divides through music and musicological research, the ensemble specializes in performing rare and historically informed repertoire, often uncovering forgotten works that illuminate centuries of intercultural exchange. With a focus on early musical traditions, the group merges academic research with artistic creativity, allowing audiences to experience music in its historical and cultural context. Each program reveals often-overlooked historical connections, supported by comprehensive research into both documentary sources and material culture. This integration of scholarly research [8, 9] and historical performance [10] is central to its mission.

Over the years, *Todos los Tonos y Ayres* has forged significant partnerships with prestigious cultural and academic institutions, both in Spain and internationally. One of the ensemble’s most notable collaborations took place during a 2018 tour in China, organized by the Cervantes Institute and the Spanish Embassy². This tour featured a program dedicated to the often-overlooked figure Diego de Pantoja (1571–1618), exemplifying the ensemble’s commitment to fostering cross-cultural dialogue. In 2024, the ensemble returned to China to perform at the Cervantes Institute in Beijing, presenting a new program that highlighted a 14th-century European woman who lived and died in Imperial China³. This program brought attention to a lesser-known historical figure, illustrating their role in connecting East and West. This exchange, rooted in a shared appreciation for the arts, showed how music can transcend geographical and temporal boundaries, fostering connections between seemingly distant cultures⁴.

Todos los Tonos y Ayres dedication to cross-disciplinary exploration has also drawn them into the contemporary music scene, where they have participated in *avant-garde* and interdisciplinary festivals, such as the International Festival of Sound Art and Electroacoustic Music, among others. In these settings, the ensemble has premiered works by contempo-

¹<https://tonosyayres.com>

²<https://hermes.cervantes.es/FichaWeb/118823/105>

³<https://cultura.cervantes.es/pekin/es/Hijadelaseda/171376>

⁴For a brief documentary on some of the ensemble’s activities and its trajectory, see: <https://youtu.be/XVFNxTQPveU>



Figure 1: A still from *Todos los Tonos y Ayres* ensemble's performance of *The Moon's Silence: Music and Word under the Chinese Sky* program at the Juan del Enzina Theatre, Salamanca, June 2023.

rary composers, cultivating a dynamic exchange between traditional forms and experimental soundscapes^{5,6}.

In this evolving spirit, through innovative projects like *The Moon's Silence: Music and Word under the Chinese Sky*, the ensemble continues to push the boundaries of traditional performance, integrating music with other artistic forms such as poetry, science, and visual art. This program creates a unique space where ancient Chinese cosmology and Western musical traditions harmoniously converge, offering audiences a thought-provoking and immersive experience that highlights the shared human quest for understanding the universe.

3 Music and Word under the Chinese Sky

The project's origins date to an invitation from the *Ciudad de las Artes y las Ciencias* in 2016 to present a lecture on ancient Chinese astronomy, enhanced with musical accompaniment⁷. This presentation delved into the intersections between these two fields in early Chinese culture, featuring select pieces on the *guzheng*, a traditional Chinese zither. While primarily

⁵<https://amcc.es/pedro-guajardo-estrena-dos-obras-en-el-festival-punto-de-encuentro-2019/>

⁶<https://casamuseoantoniogala.es/todos-los-tonos-y-ayres-en-concierto-en-la-baltasara/>

⁷<https://cac.es/entrevista-ruben-garcia-conferencia-astronomia-musica-antigua-china-museo-de-las-ciencias/>

lecture-focused, this fusion of science and music planted the initial seeds of a larger vision.

In 2017, at the inaugural Festival de Música y Ciencia hosted by the Instituto de Astrofísica de Andalucía (IAA), we were invited to further explore this blend, creating a 20-minute performance that sought a more balanced integration of music and science. This concept evolved further in 2019 during the II Festival de Música y Ciencia at the Estación Experimental del Zaidín, where we presented a refined, 25-minute version of the program. These early iterations led to the inspiration for *The Moon's Silence*.

Building on these initial performances, we decided to develop the idea into a complete, cohesive, *avant-garde* 60-minute production. This full-length show premiered at the Teatro Juan del Enzina in Salamanca on June 7, 2023, as part of the public activities organized during the III Congress of the Spanish Association of East Asian Studies, hosted by the University of Salamanca⁸.

The Moon's Silence: Music and Word under the Chinese Sky presents a groundbreaking exploration of China's poetic, musical, and scientific heritage. This performance bridges 2,500 years of intellectual and artistic history by intertwining European melodies with the sounds of China, ancient celestial poems, the Tao of the zither, and culminating with 20th-century works. It weaves a chronological tapestry of science, literature, philosophy, and music.

The performance centers around a carefully curated selection of scientific texts, spanning from early natural philosophers to contemporary science fiction, featuring both male and female perspectives. Notably, it includes voices from Chinese women astronomers, poets, and painters, whose reflections on gender, art, and science reveal the layered social roles of women within their cultural and historical contexts. European scientific texts appear throughout to create an imagined dialogue between East and West, where concepts articulated in China centuries before the West's acknowledgment emerge, highlighting a cross-cultural exchange across time and space.

These voices are harmonized with Chinese musical selections that span early to contemporary works, paralleling medieval, Renaissance, and Baroque periods with Chinese instruments. Western musical pieces, including works by female composers, enrich the performance, creating a vibrant interplay between Chinese and European traditions.

Visual projections enhance the soundscape, featuring Chinese paintings, calligraphy, and scientific manuscripts, including the world's oldest extant star map, grounding the performance in an evocative visual framework that brings this intercultural journey to life.

The Moon's Silence gives voice to authors through a blend of sound and imagery, intertwining the actual resonance of spoken word with musical and visual elements. This artistic interplay showcases works from a diverse array of voices, including notable figures such as Qu Yuan 屈原 (4th century BCE), Wang Bi 王弼 (3rd century), Zhang Zai 张载 (11th century), Hildegard von Bingen (12th century), Galileo Galilei (17th century), and Wang Zhenyi 王贞仪 (18th century), among others, while also encompassing a rich mosaic of ancient anonymous texts and contemporary Chinese science-fiction writers, spanning over 2,000 years.

Regarding the audience's response, one testimonial stands out: after the performance, a

⁸For a 7-minute promotional video summary of the program *The Moon's Silence*, refer to the following link: <https://youtu.be/pZYJKq8R4Xk>

spectator remarked, “I never imagined that a show addressing topics like astronomy or physics could move me in this way.” This reflection highlights the program’s success in exceeding expectations and eliciting emotional reactions through its innovative approach to cultural and scientific themes.

Through a threefold narrative of music, poetry, and visual art, this performance seeks to forge new pathways in understanding the study of nature by presenting a history of science independent of Western traditions. In doing so, it broadens our perspective on the forms and methods of human exploration of the world’s natural phenomena.

References

- [1] Needham, J., Wang L., Meétailie, G., Huang, H. T. 1954, *Science and Civilisation in China*, University Press
- [2] Meerzon, Y., Dean, D., McNeil, D. (Eds.). *Migration and Stereotypes in Performance and Culture*. Springer International Publishing, 2020
- [3] Sievers, W. 2021, *Comparative Migration Studies*, 9, 33
- [4] Croke, A. H. D., Thompson, W. F., Fraser, T., Davidson, J. 2024, *Musicae Scientiae*, 28(1), 18-38
- [5] Vuoskoski, J. K., Clarke, E. F., DeNora, T. 2017, *Psychology of Music*, 45(4), 584-599
- [6] Parzer, M., Mijić, A., 2024. Continuity or Change? How Migrants’ Musical Activities (Do not) Affect Ethnic Boundaries, in: Sievers, W. (Ed.), *Cultural Change in Post-Migrant Societies: Re-Imagining Communities Through Arts and Cultural Activities*. Springer International Publishing, pp. 39–58
- [7] Gustafson, R. I., 2020. Fictions of Origin: Music Appreciation, Multiculturalism, and World Music, in: Gustafson, R. I. (Ed.), *Exploring Diasporic Perspectives in Music Education*. Springer International Publishing, pp. 59–88
- [8] Ramos, I. & García Benito, R. 2024, *Araucaria*, 26, 56
- [9] García Benito, R., 2024. El clave del Emperador: tras el legado musical de Diego de Pantoja, in: Ramos Riera, I. & Bonet Planes, P. (Eds.), *Diego de Pantoja (1571-1618), agente de globalización en China*. Dykinson, pp. 473-519
- [10] *El clave del Emperador: Diego de Pantoja and his legacy*. Todos los Tonos y Ayres & Íliber Ensemble. Booklet notes by Rubén García-Benito. [CD]. IBS Classical (IBS142021), 2021