

# Three Plagiarists of ‘Ambisonance’ at Xenharmonic Wiki

I did not write *Musical Mathematics* for the masses.

I wrote *Musical Mathematics* for the ages.

-Cris Forster, 2024

Not a single word of acknowledgment or attribution.



<https://en.xen.wiki/index.php?search=ambisonance&title=Special%3ASearch&go=Go>

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Content pages Multimedia Everything Advanced

User:TallKite/Overshadowing

.../4. It's 5/4 off by 36/35 = 49¢ and 4/3 off by 28/27 = 63¢. IMO this is an **ambisonance**, right on the edge. 63¢ isn't so bad but 49¢ is pushing it. \* 11/4 = 3/1 12/11 and 8/3 + 33/32 = 53¢, **ambisonance**  
4 KB (603 words) - 07:37, 13 May 2023

User:KingHyperio/Thoughts on Harmony in 31edo

...d as follows: Perfect Consonance, Imperfect Consonance, Exotic Consonance, **Ambisonance**, Exotic Dissonance, Potent Dissonance, and Sharp Dissonance. The names here **Ambisonance**: This is a more subjective category, including intervals that, depending on  
11 KB (1,938 words) - 04:06, 14 March 2024

159edo interval names and harmonies

::\* This causes **ambisonance**, so chords that utilize it are prone to decomposition ::\* This causes **ambisonance**, so chords that utilize it are prone to decomposition  
144 KB (21,355 words) - 03:34, 25 March 2024

Three plagiarists of Cris Forster's term 'Ambisonance', an etymologically derived and musically defined concept first published by Chronicle Books.

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## Ambisonance

3

Instruments and Music by Cris Forster

From Cris Forster's book *Musical Mathematics: On the Art and Science of Acoustic Instruments* (2010) –

More than thirty years ago, I coined the term *ambisonance*. From the Greek *amphi* as in amphibian, and the Latin *ambi* as in ambidextrous, these two prefixes literally mean on both sides. For me, figuratively, they mean *partaking of two worlds*. Ambisonance describes hearing a musical interval for the first time with the sudden realization that such an interval produces neither a consonance nor a dissonance. Experiences of ambisonance inspire new ways to hear, and then new ways to tune and to compose.

Ambisonance is a term for an auditory realm that exists between the two opposite poles of consonance and dissonance, a space that can only be appreciated by suspending judgment and listening with an open mind. This intriguing word is characteristic of its originator, a man who has honed the ability to move fluidly between disciplines—in other words, to *partake of many worlds*.

I have made the effort to understand music as an art and as a science. The instruments I have built and the music I compose for them are a direct acknowledgment of this two-fold nature of music. It is the fertile space between art and science that gives music an endless richness and variety.

By incorporating multiple fields of knowledge into his vision, Cris Forster has discovered fertile spaces for acoustic innovation. When he realized that the tunings and timbres he heard in his imagination could never be found on store shelves, he resolved to build his own instruments. This required mastering advanced woodworking and metalworking skills, then implementing them with a workshop full of sophisticated tools and machinery. It also demanded a comprehensive understanding of the physics and acoustics of vibrating systems. And so, through time, with scientific artistry, Forster has created an ensemble of ten incomparable musical instruments.

## Credits

39

Producers: John Schneider and Heidi Forster  
Recording Engineer: Cris Forster  
Recording Editing and Mastering: Scott Fraser, *Architecture*  
Liner Notes: Heidi Forster  
Liner Notes Contributions: Cris Forster  
Album Design: Juliana Gallin

Photographs: Norman Seeff, Front Cover (1981)  
Will Gullette, pp. 6, 10, 12, 14–16, 20, 22, 24, 26–28  
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Heidi Forster, pp. 2, 5, 31, 32, 36, 38, Back Cover, Inside Cover  
Eli Noyes, Booklet Cover, p. 13

Recordings: Track 1, September 1980, San Diego, CA  
All other tracks, Chrysalis New Music Studio, San Francisco, CA  
Tracks 2–7, 10–11, March 2013  
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For open access to Cris Forster's derivation and definition of 'Ambisonance', see  
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Endnote 20.

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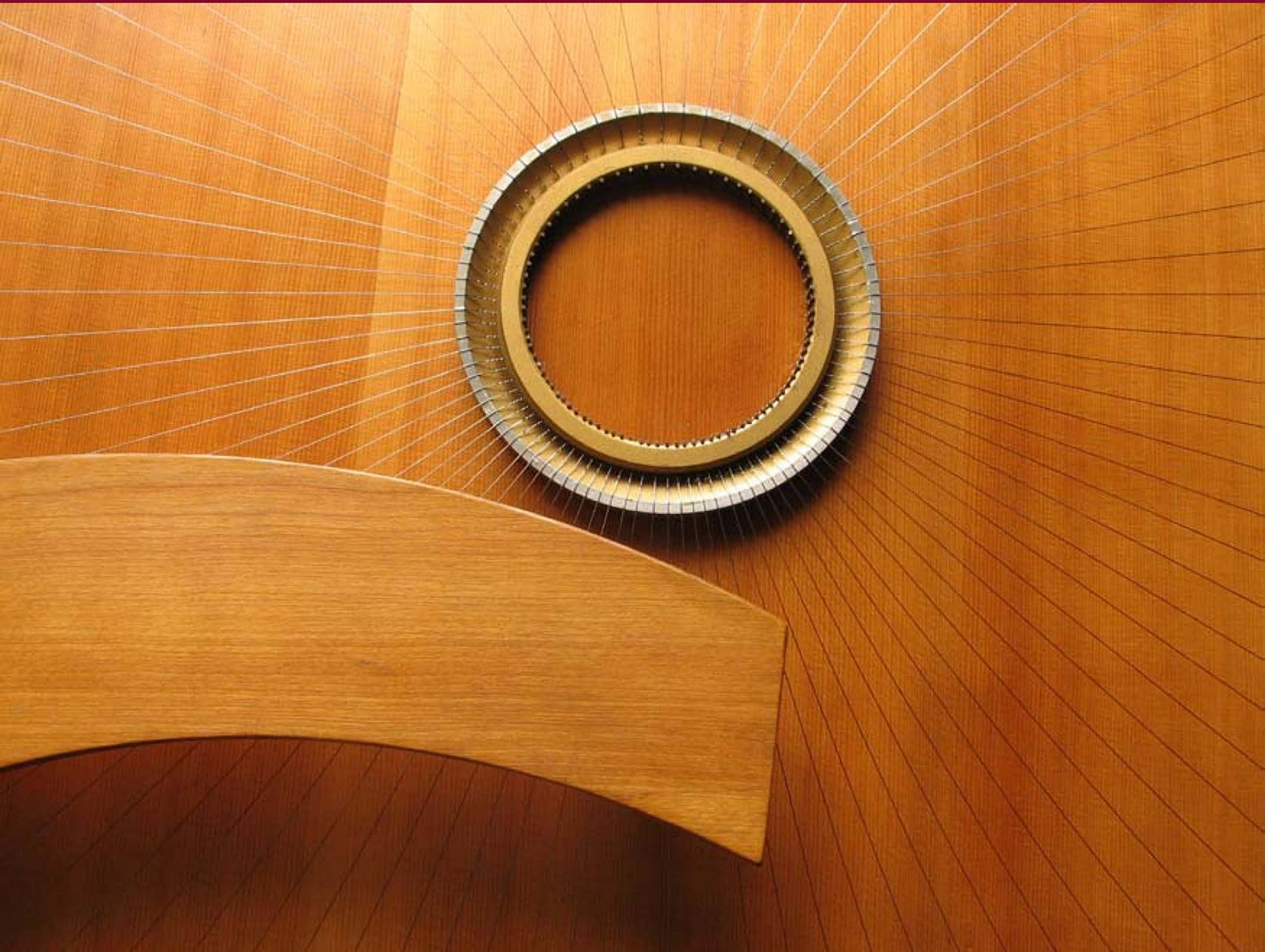
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About Cris Forster

# Musical Mathematics

ON THE ART AND SCIENCE OF ACOUSTIC INSTRUMENTS



Cris Forster

# MUSICAL MATHEMATICS

ON THE ART AND SCIENCE OF ACOUSTIC INSTRUMENTS

Text and Illustrations

by Cris Forster



**CHRONICLE BOOKS**

SAN FRANCISCO

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69. (A) Al-Faruqi, L.I. (1974). *The Nature of the Musical Art of Islamic Culture: A Theoretical and Empirical Study of Arabian Music*, pp. 406–407. Ph.D. dissertation printed and distributed by University Microfilms, Inc., Ann Arbor, Michigan.

In Appendix III, pp. 404–455 consist of translated excerpts from Al-Fārābī's *Kitāb al-mūsīqī al-kabīr*.

- (B) *La Musique Arabe, Volume 1*, pp. 44–45.
70. (A) *The Nature of the Musical Art of Islamic Culture*, pp. 407–411.
- (B) *La Musique Arabe, Volume 1*, pp. 45–48.
71. Note that Al-Fārābī's original 9-tone scale is similar to the 10-tone scale of the Old Arabian School in Figure 11.42(b).
72. (A) *The Nature of the Musical Art of Islamic Culture*, pp. 411–412.
- (B) *La Musique Arabe, Volume 1*, pp. 48–49.
73. (A) *The Nature of the Musical Art of Islamic Culture*, p. 412.
- (B) *La Musique Arabe, Volume 1*, p. 49.
74. Comparisons to Marin Mersenne (1588–1648) are truly striking. For example, Table 10.29 shows Mersenne's expansion of the trumpet marine tuning, which in principle resembles Al-Fārābī's expansion of the 'ūd tuning. Also, in the last quotation of Section 10.54, Mersenne acknowledges the importance of embracing new musical intervals, which resembles Al-Fārābī's desire, “. . . to count as somewhat natural those intervals which are sometimes or rarely regarded as natural.”
- More than thirty years ago, I coined the term *ambisonance*. From the Greek *amphi* as in amphibian, and the Latin *ambi* as in ambidextrous, these two prefixes literally mean *on both sides*. For me, figuratively, they mean *partaking of two worlds*. Ambisonance describes hearing a musical interval for the first time with the sudden realization that such an interval produces neither a consonance nor a dissonance. Experiences of ambisonance inspire new ways to hear, and then new ways to tune and to compose.
75. Forster Translation: in *La Musique Arabe, Volume 1*, pp. 49–51.
76. *Ibid.*, pp. 51–52.

In *La Musique Arabe, Volume 1*, p. 313, D'Erlanger explains why he translated the Arabic word *quwwah* — literally “power,” “force,” or “strength” — with the Greek word *dynamis*, also “power,” “force,” or “strength.” Furthermore, D'Erlanger arbitrarily interjects the French word *puissance* — also “power” or “force” — in places where the original Arabic is not given.

In *An Annotated Glossary of Arabic Music Terms*, p. 269, Al-Faruqi gives the following three definitions for *quwwah*: “1. The relationship or identity that occurs between two tones one octave apart, i.e., either the upper octave equivalent or the lower octave equivalent of a tone. 2. The term also referred to any tone produced on the 'ūd which had one or more octave equivalent tones within the range of that instrument. Other tones, which had no octave equivalents within the range of the 'ūd were termed *mufradah*. 3. Tension of a string, therefore pitch.”

Note, therefore, that in a musical context, the hierarchical meaning of the word *quwwah* is *octave*, then *octave equivalent*, and finally *pitch*. Although *quwwah* may connote the “power,” “force,” or “strength” of an octave, of an octave equivalent, or of a pitch, in the context of tuning descriptions, *quwwah* specifically refers to ancient length ratio or frequency ratio  $\frac{2}{1}$ , which is the octave of  $\frac{1}{1}$ ; similarly, it may refer to ancient length ratio or frequency ratio  $\frac{9}{4}$ , which is the octave equivalent of  $\frac{1}{8}$ ; etc. (See Section 9.4.)

D'Erlanger gives the following three reasons for using the Greek word *dynamis*: (1) *Dynamis* means *quwwah* because an octave or an octave equivalent acts to give “power,” “force,” or “strength,” to a

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