

Violin Intonation: The Connection between the Violin's Tuning System and Performance

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Johnson, Marion J., "Violin Intonation: The Connection between the Violin's Tuning System and Performance" (2023). *Scholars Symposium*. 9.

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VOLIN INTONATION:

THE CONNECTION BETWEEN THE VIOLIN'S
TUNING SYSTEM AND PERFORMANCE

Marion J. Johnson

THE VIOLIN: A VERSATILE INSTRUMENT

- The violin is an instrumental staple in music spanning from composers such as Haydn to popular and rock artists today.
- As an instrument of a wide dynamic range and expression, it is of effective use in many functions:
 - Accompaniment
 - Ensemble music
 - Chamber music
 - Solo music



WHY IS TUNING SO IMPORTANT?

How violin *strings are tuned*, the *placement of the fingers*, and what is considered the *standard tuning pitch* all has an impact on how a violin is performed in a solo and ensemble setting.

VIOLIN HISTORY

- The violin was first brought to fruition in the fifteenth century.
- Exact date is not known; in Martin Agricola's *Musica instrumentalis deudsch* (1529), a "fretless instrument tuned in fifths" is referenced.
- Paintings and engravings by Gaudenzio Ferrari and Pierre Woeriot display an instrument of similar characteristics (1530-1540).
- The instrument descends from the viol da gamba and viola da braccio (pictured on next slide).
- A violin has four strings pitched G, D, A, and E. These strings are tightened or loosened by pegs that allow the instrument to be in tune.



Viola da braccio



Viol da gamba

Modern Violin



HOW TO TUNE?

A FOCUS ON BAROQUE PERIOD

- In Leopold Mozart's *Essay on the Fundamental Principles of Violin Playing* (1756), Mozart notes that the violin is usually tuned with the "A-string first, others [tune] the D string."
- In Baroque music, A4 was known as 415 hertz; however, it was difficult in the Baroque period to distinguish the exact hertz value and make this number universal. This hertz value is different from today's A=440 hertz.
- Depending on the musical setting, the tuning note could also be different, French opera music (*ton d'Opéra*) was established to be 404 to 409 hertz, and chamber music (*ton de la Cambre du Roy*) was roughly 392 hertz during the Baroque period.
- Where do players receive their tuning note? An organ or pitch pipe (an instrument with little pitch variety).



Itzhak Perlman and Isaac Stern
A=440Hz



Rachel Podger and Bojan Cicic
A=415Hz

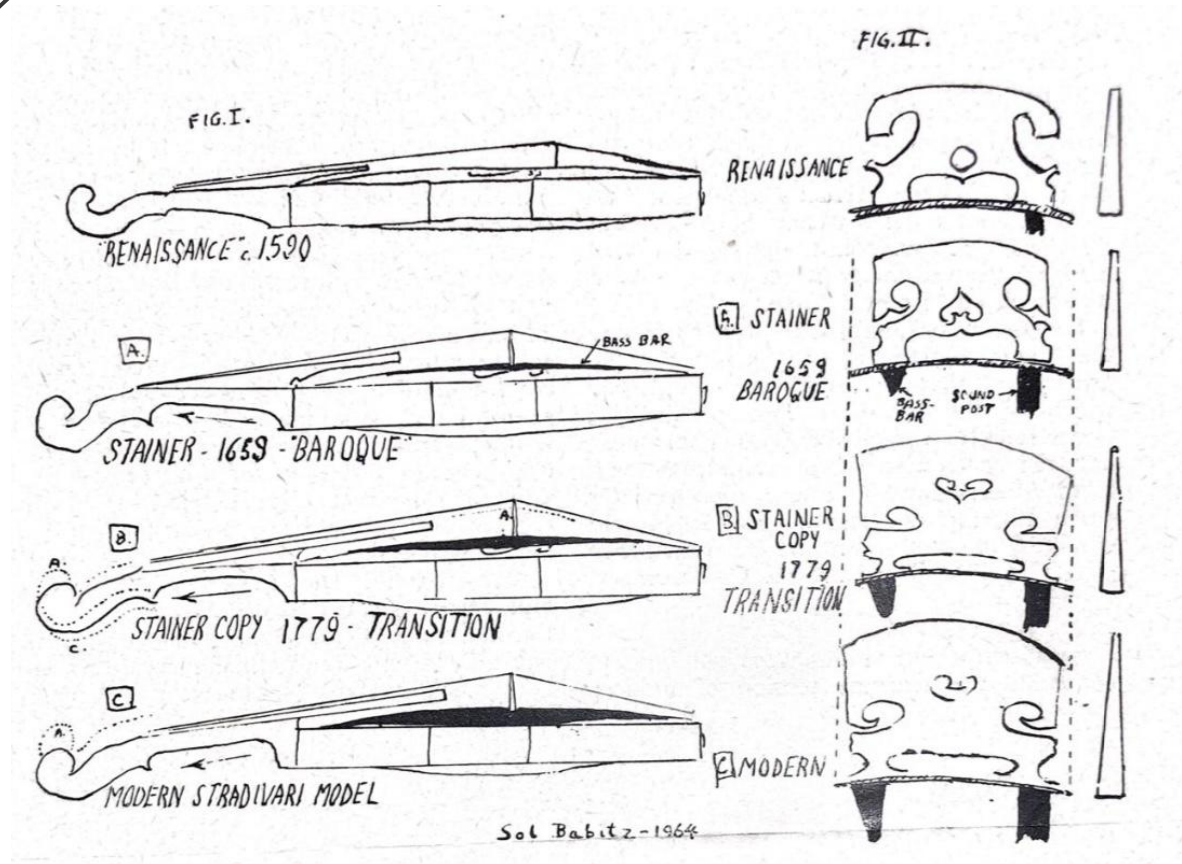
ENSEMBLE TUNING

Musicians “may know how to tune, but not as if they were one.” This is because “the sense of hearing in one person is quite different from that in another.”

Tuning and Temperament by Giovanni Artusi (1600)

NOT JUST THE STRINGS

- The violin's overall sound is not only impacted by the strings of the violin, but also:
 - Plate tuning
 - Neck angle
 - Bass bars
 - Sound posts
 - String materials/thickness
 - Temperature/outside environment



Renaissance through Stradivari violin configuration.

SCORDATURA TUNING

- The process of changing the standard pitches of violin strings.
- Scordatura can make some technical aspects of the instrument easier.
- Changes timbre and tension of strings both solo wise and over an entire ensemble if scordatura is used in an ensemble setting.
- Heinrich Franz Biber use scordatura tuning in his “Rosary” Violin Sonatas (No. 6 below).





INTONATION VERSATILITY

The violin's intonation can be affected by even a slight movement of the fingers, string tension adjustment, violin construction, and environment. A violinist must take this factor into consideration as intonation will continue to be a large part of a violin's performance practice.

THANK YOU!

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