

## British Flute Society Convention, Manchester, UK, August 2012

### Visualizing Vibrato

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#### Carl Seashore's Definition of Vibrato

“A good vibrato is a pulsation of pitch, usually accompanied with synchronous pulsations of loudness and timbre, of such extent and rate as to give a pleasing flexibility, tenderness, and richness to the tone.”

#### Tools Used in This Study

Audio Recording/Editing Software: HairerSoft Amadeus Pro 2.0.8 (Mac,  
<http://www.hairersoft.com/pro.html>)

Voice Analysis Software: Praat 5.3.22 (available for Mac, Windows, Linux, etc.,  
<http://www.fon.hum.uva.nl/praat/>)

#### Vibrato Speeds

Herz	Metronome speed	Triplets	Sixteenths
4	240	80	60
5	300	100	75
5.5	330	110	82.5
6	360	120	90
6.5	390	130	97.5
7	420	140	105
8	480	160	120

#### An Abbreviated Comparison of Vibrato Speeds

Flutist	Selection	Average Vibrato Speed
Adorján, András	Boehm, <i>Variations on a German Air</i>	5-6 Hz
Aitken, Robert	Debussy, <i>Syrinx</i>	5-6 Hz
Amadio, John	Doppler, <i>Hungarian Pastoral Fantasia</i>	8 Hz
Baker, Julius	Debussy, <i>Afternoon of a Faun</i>	5.5-7 Hz
Baron, Samuel	Debussy, <i>Syrinx</i>	6 Hz
Barrère, Georges	Bizet, <i>Minuet</i>	8 Hz
Baxtresser, Jeanne	Ravel, <i>Daphnis and Chloë</i>	6 Hz
Bennett, William	Debussy, <i>Syrinx</i>	6-8 Hz
Bezaly, Sharon	Bozza, <i>Image</i>	6 Hz
Debost, Michel	Debussy, <i>Syrinx</i>	6-7 Hz
Dick, Robert	Fukushima, <i>Mei</i>	5.5-7 Hz
Dufour, Mathieu	Martinu, <i>Sonata</i>	5 Hz
Dwyer, Doriot Anthony	Debussy, <i>Syrinx</i>	6-7 Hz
Galway, James	Debussy, <i>Syrinx</i>	6-7 Hz
Gaubert, Phillipe	Debussy, <i>Le petit berger</i>	7 Hz
Graf, Peter-Lukas	Varèse, <i>Density 21.5</i>	5-6 Hz
Hennebains, Adolphe	Chopin, <i>Nocturne in F-sharp</i>	6 Hz
Khaner, Jeffrey	Debussy, <i>Syrinx</i>	6 Hz
Kincaid, William	Kennan, <i>Night Soliloquy</i>	7-8 Hz
LeRoy, René	Honegger, <i>Danse de la chèvre</i>	7 Hz

Mariano, Joseph	Rogers, <i>Soliloquy</i>	7 Hz
Marion, Alain	Debussy, <i>Syrinx</i>	5-6 Hz
Moyse, Marcel	Debussy, <i>Syrinx</i>	6-7 Hz
Nicolet, Aurèle	Denisov, <i>Duo for Flute and Viola</i>	5 Hz
Nyfenger, Thomas	Debussy, <i>Syrinx</i>	7-8 Hz
Pahut, Emmanuel	Dutilleux, <i>Sonatine</i>	6-7 Hz
Rampal, Jean Pierre	J.S. Bach, <i>Partita</i>	6 Hz
Still, Alexa	Liebermann, <i>Soliloquy</i>	6 Hz
Wiesler, Manuela	Debussy, <i>Syrinx</i>	6-8 Hz
Willoughby, Robert	Debussy, <i>Syrinx</i>	6-8 Hz
Wilson, Ransom	Honegger, <i>Danse de la chèvre</i>	5.5-6 Hz
Wincenc, Carol	Debussy, <i>Syrinx</i>	7-8 Hz

### Pitch Change in a Vibrato

Unlike the realm of vibrato speed, flutists don't display a "personal" vibrato width. They commonly deviate from a central pitch by up to 50 cents or quarter step; in other words, the total pitch fluctuation is up to a half step.

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