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The Wolf Tone on a Cello

The wolf tone on a cello can be heard when a cello player bows a series of unsteady, almost vibrating tones. In string instruments, this series of tones occurs when a string is tuned to the exact same frequency as the resonant frequency of wood that the instrument is made of. When a cello player bows that particular string, that string is set into vibration at its resonance frequency. The vibration of the string then exerts its vibrating forces on the bridge and, subsequently, the rest of the cello; these two resonant systems are said to be coupled tightly because they influence each other in a very obvious manner. The tight coupling of the given string and the resonant frequency of the wooden body now have two resonance frequencies – one above and one below the original resonant frequency. The result is that when the cello is bowed, it is vibrating at both of these frequencies; the difference between the frequencies is what causes the unsteady tone and beat frequency that is known as a wolf tone.