

Thoughts and Strategies for Bassoon Vibrato

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This article had its beginnings as a handout for a session on vibrato for my bassoon repertoire class at UNCG. As I began research and gathering my own thoughts on the topic I discovered that it has not been dealt with very extensively or recently in *The Double Reed*. Perhaps this is due to the fact that vibrato on the bassoon (or oboe, or any wind instrument) is a somewhat contentious issue. I would therefore like to share some of my own personal thoughts on this topic along with some strategies and exercises aimed at helping to learn and control this technique.

Vibrato is defined in the *New Grove Dictionary* as:

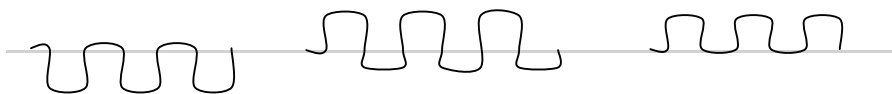
“A regular fluctuation of pitch or intensity (or both), either more or less pronounced and more or less rapid¹.”

WHAT IS IT ON THE BASSOON?

Pitch Oscillation, Volume Oscillation, or Both (a combination)?

Pitch oscillation is when a note is made sharper or flatter alternating with the ‘in-tune’ pitch. If this approach is taken then there are additional questions relating to the relationship to the starting pitch. See the diagram below:

1. at pitch and oscillating below
2. at pitch oscillating the same amount above and below
3. at pitch oscillating above



In terms of pitch oscillation I advocate type 1. above as I believe that the ear hears the highest pitch as the primary note. This is also how many excellent string players do vibrato (although some also oscillate equally above and below).

Volume or intensity vibrato is when a note is supposed to stay at the same pitch but alternate **LOUD-soft-LOUD-soft-LOUD-soft**, etc. I believe that this is done in combination with some pitch change. Another argument for going to the pitch below the note is that this can coincide with the softer volume oscillations as a slight relaxation of the sound.

WHAT PART(S) OF THE BODY CREATE IT?

Abdomen, Diaphragm, Throat, Lips, Jaw, Larynx, or a combination?

There are proponents of each of the above locations. Most American bassoonists say that they use diaphragm (medically impossible), abdomen, or larynx or a combination of the last

two. English and French players (and some German) often advocate lip and jaw vibrato. **Chris Weait's** Fluorographic study² shows NO motion of the diaphragm and suggested that the larynx or vocal cords may be responsible for the oscillation. The diaphragm in fact cannot produce vibrato as it is an inhale only muscle—all muscles work in only one direction and are usually opposed by a muscle that works in the opposite direction (e.g. there is one set of muscles (the biceps) to raise your arm and another set (the triceps) to lower it.) Therefore, I feel that in most instances that people cite a diaphragm vibrato they probably

mean an abdominal vibrato. Furthermore, I believe that a slow vibrato is often abdominal but that it travels up to the larynx as the speed increases. This results in a very ‘vocal’ quality to the vibrato. Video evidence from inside the throat while playing definitely shows the larynx in motion when producing vibrato. Some argue that the vocal cords are just vibrating in sympathy with an oscillation generated from lower down (perhaps the abdomen) and this may be correct. Nonetheless there is very definite oscillation of the larynx and vocal cords during my own vibrato at least. I know this as I have video of the inside of my throat while playing courtesy of a visit to the surgery office of an adult bassoon student of mine, **Karol Wolicki**, an ear, nose and throat surgeon and IDRS member. Karol made a presentation on these and some other findings at the IDRS 2003 Conference in Greensboro showing some of the video we had recorded. **Charles Veazey**, the oboe professor at the University of North Texas College of Music, has also done extensive research involving fiber-optic video of the inside of the throat while playing.

A further quick word about “throat vibrato.” The type of vibrato that I refer to as perhaps originating in the larynx is not the same as what some people refer to as throat vibrato. The image many have of throat vibrato is of the “nanny goat” or “Elmer Fudd” vibrato that sounds like a rapid series of eh-eh-eh-eh-eh, etc. This seems to be caused by a series of glottal stops of the airstream and I agree that it is generally not a desirable form of vibrato for the bassoon. It IS also produced in the throat but that is, in my opinion, the only similarity with laryngeal vibrato.

There is discussion of the issue of “From Whence Springs This Vibrato?” from an oboist’s perspective as the last section of the excellent article “Vibrato Awareness” in the *Double Reed* by **Geoffrey Burgess**.³

WHEN SHOULD IT BE USED?

All of the time, none of the time, or some of the time? If some, then how do we decide when?

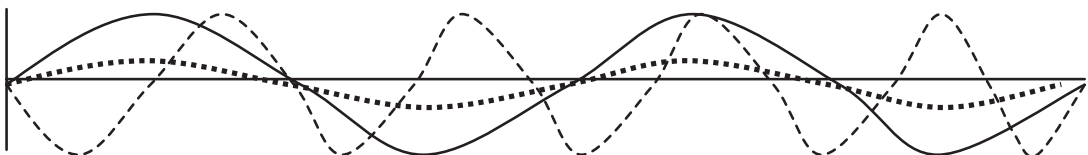
This is a topic unto itself. I was taught at one point that EVERY note should have vibrato and further, that vibrato was inexorably tied to air support to the point that no vibrato equaled no support. Now I don’t agree with this or use it in my playing. There are also those who advocate the use of no vibrato at all sometimes stating that they don’t want to use vibrato as it distorts the sound. I must agree that some vibratos do disturb me and that one definition of an oscillation could be thought of as a distortion of a “pure” tone. However, I feel that a well-modulated and well chosen vibrato can add a lot to a sound. In my opinion, it is a coloristic tool that can be added or not, manipulated at will and used to enhance the music. I do NOT advocate or agree with those who suggest it as a means of disguising poor intonation.

As for usage, vibrato is more often used on longer note values than shorter and often a decision should be made about how short a note can be and still sustain a vibrato. To use the *Mozart Bassoon Concerto K191* first movement opening as an example most players who use a vibrato would not use it on the dotted eighth and sixteenth notes at the ends of the first two measures, some would have it and others not on the quarter notes at the beginning of the first three measures, but almost all that use vibrato would have it present on the half notes in the first two measures. These are matters of personal taste mostly but also involve what vibrato speed a player likes and can produce. At the tempo that most would play the Mozart concerto then in order to have any oscillation on a note as short as an eighth or especially sixteenth note one would have to have a very rapid vibrato. Even if one could produce a vibrato that fast the decision would need to be made on if they actually wanted to.

There are those who feel that notes below a low E on the bassoon should use little to no vibrato because of the already low frequency of the pitches (see the discussion of frequency below.)

AMPLITUDE AND FREQUENCY OF THE OSCILLATION

Amplitude can also be called ‘depth’ or ‘width’ of the vibrato. **Frequency** is the number of oscillations per second or speed. It is possible to have a slow and wide vibrato, slow and shallow, fast and wide, fast and shallow, etc. I aim to change either or both of these variables to suit the specific character and context of the music. There also seem to be regional or national tendencies in favored vibrato speed and depth. Another factor that I consider is what register am I playing in? If you listen to



A graph of vibrato amplitudes

good singers then you may notice that a bass's vibrato tends to be different from a soprano's. Usually a bass sings with a slower and wider vibrato and a soprano sings with a faster and narrower one. This seems to go along with natural acoustic theory as lower pitches are from slower frequencies so a slower vibrato matches it better. Likewise higher pitches are a faster frequency so faster vibrato oscillation matches. This effect is such that when I hear a bass with a fast shallow vibrato or a soprano with a wide slow vibrato I feel less comfortable with their overall sound. Therefore, I actually aim to change my speed and depth at least somewhat according to the register in which I play on the bassoon. I also use vibrato as a tool, in addition to dynamics, to increase or decrease intensity by altering speed and/or amplitude appropriately.

The graph on page 2 shows some different types of vibratos with speed measured horizontally and amplitude measured vertically. The types shown are: slow with a large amplitude, fast with a large amplitude, and slow with a small amplitude.

TURNING VIBRATO ON AND OFF

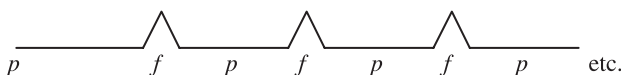
There are many times when I feel it is appropriate to play with no vibrato. Playing in an ensemble with clarinets and horns who typically use none I often opt to play with no vibrato also in order to blend better. However, when I join flutes and oboes, or string players who are using it I may well join them. If possible making the speed and depth of my vibrato match and blend as well as possible with theirs. It is also something that I will choose to take away or add on a single note at the ends or beginnings of phrases occasionally. In a solo, I may use a type of vibrato designed to make me stand out more from the accompanying texture. It is very important that a player be able to play with no vibrato. Some players cannot turn their vibrato off! To me, this is a problem in that they therefore do not have total control of it. I try to advocate being able to play the same passage with multiple different types of vibrato (e.g. none, slow and wide, fast and narrow, starting with none and adding it, starting with and taking it away, speeding it up or slowing it down along with the phrasing or making individual notes stand out by having none in a context of overall vibrato, etc.)

In order to fix a poor vibrato a student may already have I often find that I have to get them to eliminate it totally and play with no vibrato for a period and then rebuild again slowly, consciously and correctly.

VIBRATO EXERCISES

There are a number of exercises that can be useful in learning to produce or control one's vibrato. My favorites are as follows:

1. Put a metronome on at $\text{♩} = 60$. Have the player play a sustained tone at an *mp* dynamic (I usually have them start on the C in the bass clef staff (C3) as it is such a good, stable note.) Then have them pulse to an *f* dynamic on each quarter note beat as a sudden spike similar to the heart monitor in a hospital e.g.



Then have them pulse each eighth-note, each triplet, and finally each sixteenth-note.

Move the metronome up to a higher speed and repeat. Also repeat the exercise on different pitches on the bassoon until the entire range can work. If you wish you can also do quintuplets, sextuplets, etc.

Obviously this exercise is actually teaching and training primarily intensity vibrato but I also usually notice an associated pitch change. I also try to have the player notice if the generation is always from the same 'body part' usually it at least begins in the abdominal muscles at the slower speeds but for some (including myself) they feel the movement move upwards in the body with increased speed. Others sometimes cannot easily make the pulsing 'migrate' upwards and can therefore have difficulty reaching or sustaining a faster oscillation speed. To me it makes sense that the large muscles of the abdominal group would have difficulty in moving very rapidly.

2. The "Train." In this exercise the player begins a note with a slow oscillation, increases the speed as much as possible and then slows it down again. This is supposed to be similar to a train leaving a station, building up speed and then pulling into the next station, hence the name. It should be within one breath and one sustained note of course and, as with exercise 1. above, the player should then try it on different notes throughout the range of the instrument.

3. Vocally try to produce a vibrato away from the instrument. This is most likely to have a pitch element along with a slight intensity element. Have the player sing a note that they can comfortably sustain a steady pitch on a syllable such as Ahhhh. Again with a metronome have them shift to a syllable like

an OOOh at each quarter note pulse with a simultaneous slight drop in volume. When successful have them try at different speeds and perhaps different pitches. Then try to achieve the same effect on the bassoon. This should, one imagines, produce a ‘vocal’ quality in the bassoon vibrato.

4. This exercise was suggested on the idrs-listserve by **Martin Bebb** of Muskogee, OK and I have adapted it slightly for my own use. Have the player play a sustained tone (again starting on C3 by preference) and then drop the air pressure while maintaining a steady embouchure. As the air pressure decreases, the note should be allowed to drop in volume and pitch until it stops altogether. Once this is achieved, the player is asked to repeat the exercise but before the sound stops they should catch it and bring the air pressure back up to normal regaining the original pitch and volume. Next have them work to control the rate of descent and recovery in pressure so that they are as equal as possible. This should all be at a very slow rate of speed.

METRONOMIC VIBRATO

The reason that so many of these exercises use a metronome is to help establish control of the vibrato. However, in use a vibrato should NOT be metronomic if possible. After the player has begun to successfully create a vibrato (or perhaps several vibratos) they may start to gravitate towards a personal favorite default speed and amplitude. I try to ensure that I never have an exact measurable number of oscillations per beat of the music—rather my vibrato speed will be totally independent of the music tempo. Remember that I also try to change my vibrato to suit the music as stated above so one of these decisions is to ensure that the tempo and vibrato oscillation speed do not interfere with each other. Beginner vibratos often are set at exactly triplets, sixteenths, etc. and the player needs to be gradually weaned away from this tendency otherwise the vibrato often sounds artificial and sometimes labored. The player also needs to learn and practice being able to produce vibrato in all dynamics.

These are my own personal views on bassoon vibrato and I hope that they are helpful to some and are not too ‘out there’ or contentious. ♦

ABOUT THE AUTHOR

Michael Burns is associate professor of bassoon at the University of North Carolina at Greensboro, and is a Yamaha Performing Artist. Burns has performed in numerous professional orchestras including the Cincinnati and the New Zealand Symphony Orchestras and played principal in the Midland/Odesa, Richmond and Abilene Symphonies, and the Cincinnati Chamber Orchestra. Currently he performs regularly with the North Carolina, Greensboro, and Charlotte Symphony Orchestras. He is also bassoonist in the *Eastwind Ensemble* and the *Cascade Quintet*. Burns remains active as a solo and chamber performer with numerous performances at IDRS conventions, recitals and masterclasses throughout North America and the South Pacific. He has recorded for the Centaur, CAP, Telarc, EMI, Klavier, and Mark labels. In summers, Burns

is associated with the Eastern Music Festival and the Bands of America Summer Symposium. He is also an active composer with many of his pieces being published by BOCAL Music and frequently performed throughout the country. Burns has published articles and reviews in the *Double Reed*, the *TBA Journal* (Texas Bandmasters’ Association), the *NC Music Educator* for which he serves as Woodwind Notes Editor, *Notes* (the journal of the Music Library Association) and on the Yamaha Educator Series online. His mentors include William Winstead, Sherman Walt, Leonard Sharrow, and Colin Hemmingsen. He is archivist for the International Double Reed Society and was co-host for the IDRS 2003 Conference in Greensboro, NC. His website is: <www.uncg.edu/~mjburns>.

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Burgess, Geoffrey. “Vibrato Awareness”, *Double Reed* Vol. 24, No. 4, 2001. 127-135.

ENDNOTES

- 1 G. Moens-Haenen: ‘vibrato’, *Grove Music Online* ed. L. Macy (Accessed 2 October 2004), <<http://www.grovemusic.com>>
- 2 Weait, Christopher and John B. Shea: “Vibrato: an audio-video-fluorographic investigation of a bassoonist” *Applied Radiology*, January/February 1977.
- 3 Burgess, Geoffrey: “Vibrato Awareness”, *Double Reed* Vol. 24, No. 4, 2001. pp127-135.