Introduction: Why Choose a Topic on Bassoon Vibrato?

- Good evening . . .
- I would like to begin my lecture by playing two recordings of the same music. **[play]**
- Because there is less liveliness and less expression in a straight tone, vibrato brings 'life' to the performance of a melody.
- Recognising the amount of vibrato used can classify a performance as 'modern,' or 'older.'
- Bassoonists from the older school of playing did not encourage the use of vibrato, or only encouraged a small amount of it, because it distorts the characteristic colour of the bassoon's tone, destroys its core and contour, bringing it too close to saxophone.[1]
- Vibrato is an essential part of modern bassoon playing. It is often used to add expression and achieve a beautiful singing tone.
- Before continuing, I would like to set **two limits** on my presentation today:
    - **First**, I am only focusing on solo melody playing, not orchestral or chamber performance; and
    - **Second**, I admit there are difficulties in 'transcribing' where vibrato is used into notation, but I have done my best.

A Brief History of Vibrato on Wind Instruments

- The use of wind vibrato became more popular in the 20th century, but it was not a wide trend until the 1940s.
- The practice started in France, and then spread to America, Britain, Germany, Austria, and other European countries.[2]
- It can be produced on every wind instrument, but there is a tradition against it in Classical music on the clarinet and horn. Flute is the wind instrument upon which vibrato is most often adopted.
- Wind 'vibrato' is mentioned in the two most famous Baroque treatises of the 18th century by Quantz and Hotteterre.[3] However, what they discuss is not the same thing as the modern definition of vibrato.
- The definition of vibrato by Quantz and Hotteterre is actually *Bebung* (in German), or *flattement* (in French): an ornament on a long note created by fingering.
- However in the modern definition, vibrato is no longer just an ornament, and it is created by breath, not fingering.
- Actually, Martin Agricola stated the concept of breath vibrato in a much earlier German treatise, *Musica instrumentalis* from 1529. He states the flute should be played with "quaking breath" in his treatise.[4]
- Although breath vibrato was acknowledged long ago, aside from this short reference, it is hardly discussed in historical treatises that follow.
- This does not mean, though, that it did not exist or was not known. It just means that we do not know if, how often, and where it might have been used.
- This is remarkable, and causes me to think critically about the emergence of vibrato as a wider trend in the 20th century.
- Vibrato in the 20th century is linked to a greater tendency for detailed phrasing and wider

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dynamics to create grander, expressive playing styles in larger orchestral works in larger concert halls.[5]

- It is also connected to the development of wind instruments, and the predominance of metal flute over traditional wooden flutes, and wide adoption of the German bassoon.
- These trends fertilised the use of vibrato in winds in the 20th century.

Three Types of Vibrato Production for Wind Instruments

- So what is Agricola's "quaking breath"? I would now like to discuss vibrato production.
- Modern vibrato is created by fluctuations in the supply of breath. It is created by changes in the breath pressure. Fluctuation means alternation of more and less forceful pressure in air support to the instrument.
- Imagine you have a ball inside your body . . . and you press it, release it, press it, release it . . . to create vibrations.
- But where exactly in a player's body creates this change in pressure to produce the vibrato? This is a controversy.
- Debates exist between different schools of playing, and even between performers of the same school.
- To keep it simple, it might be said that there are **three types** of vibrato production:
    - The **first type** is abdominal/diaphragm vibrato. It is limited in speed.
    - The **second type** is throat vibrato. It is seldom used alone to create vibrato, and is normally combined with abdominal vibrato.
    - The **third type** is lip/jaw vibrato. It is shallow, and results in only a slight raising and lowering of the pitch.
- There are disagreements on this topic because we cannot see which part of our body is vibrating, and we cannot feel exactly which muscles we are using to produce vibrato.
- Musicians are not objective doctors. And what we think we might be moving and using is not what doctors are now telling us we are moving and using.
- This topic is now being fully explored by musicians and scientists using modern technology. Many articles are now appearing on vibrato in music performance science.
- However, for me, I personally believe the pressure change is first made in the diaphragm. When my vibrato becomes faster, my diaphragm moves upwards.
- Regardless, musicians do not need to 'see' the vibrato anyway. Instead, we listen to it, so what we 'hear' emerging from our instrument is most important.
- One important point to remember is that vibrato, when measured, also involves:
    - A change in volume change (slightly louder and softer on the same pitch); and
    - An oscillation of pitch oscillation (slightly sharper or flatter against that pitch).

Applying and Varying Bassoon Vibrato

- In the words of Sir James Galway:
    - "If the vibrato never varies, neither does the life of the music, and the result is rather tiresome and tedious. Some people think vibrato should have regular speed. Others clearly demonstrate that it should not. The human body has a range of intensity of life, from sleeping peacefully to running the hundred yards's spirit. Music needs this too."[6]
- There are **three variables** when applying vibrato:

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[6] (London: Macdonald, 1982), 106.

- The **first** is frequency. This is the number of oscillations per second. I divide it into three levels as fast, normal, and slow. The numbers stated below are only an example. **[demonstrate]**

Speed	Fast	Normal	Slow
50	6 / one beat	4 / one beat	2 / one beat

- The **second** is intensity. This is how deep the vibrato is. Three levels can be shown in this diagram. **[demonstrate]**

High	
Normal	
Low	

- The **third** is continuity. This is when the vibrato starts during the played note.
  - It can start right when the note begins, or after the note begins.
  - It can stop before the note ends, or continue to the end. **[demonstrate]**

Factors Limiting Vibrato

- Vibrato affects dynamics. This must carefully be considered when applying or limiting its use.
  - Wide vibrato tends to be louder, and it is more difficult to produce a wide, but soft, vibrato.
- The depth of vibrato is restricted by speed.
  - If the speed of vibrato is too fast, there is not enough time to do wide vibrato. It is impossible to 'travel up-and-down' so fast.
- Register also affects vibrato.
  - In the high register, it tends to be faster and narrower. It is difficult to produce wide vibrato within the correct pitch at higher frequencies.
  - Because the range of the bassoon is not very high, there is still some freedom on its high notes.
  - In low register frequencies, there is more 'room' to do vibrato. However, it becomes unnoticeable if your vibrato is too narrow.
- Vibrato is only expressive when considered as a 'relative effect.' It must be varied to be effective.
  - There is nothing special if it is constantly used the same way.
  - If you are not using vibrato constantly, then using vibrato will highlight a note. [**1.** Use vibrato.]
  - If you are using vibrato constantly, then more intense vibrato is needed to highlight a note. [**2.** More intense vibrato.]

    - But if you are using vibrato constantly, then less vibrato also highlights the note. [**3.** Less intense vibrato.]
- Finally, the performer needs good air support in order to vary their vibrato. If you lack air, then you cannot create the needed pressure change.

Where Might Vibrato Be Applied or Varied?

- Generally, vibrato is usually applied to relatively long notes in a melody.
- It can be used with a crescendo to show direction within a note, or through a group of notes.
- Downbeats, or notes requiring strength or accent, should be considered.
- It might be used on the loudest climax or highest note in a phrase.
- Dissonant notes, such as the 7^{th} or 9^{th} of a chord can also be highlighted.
- Finally, it might also be used when tonalities change, or at an important formal point of change in a movement.

Application of Vibrato in Weber's Bassoon Concerto

- Now, I will present examples of from Weber's Bassoon Concerto. It is one of the classics of the bassoon repertoire. Its slow and lyrical second movement is suitable for today's topic.
- This example is in four-bar phrasing. I will play it one time without vibrato.
- What I wish to do in this passage is to show direction in the B flat . . . **[demonstrate]**

Recording Comparison

- I will now present examples of four versions in a recording comparison.[7] The recordings include:
    - Klaus Thunemann (1991)
    - Sergio Azzolini (*n.d.*)
    - Matthias Racz (2013)
    - Rodion Tolmachev (2016)

- As you can hear, the use of vibrato is different among these four players.
    - Thunemann uses vibrato the most frequently. He normally uses it on every long note.
    - Azzolini use the least amount of vibrato.
    - And Mathias also uses less vibrato. He tends to apply it after the note starts.
    - Rodion's vibrato is mellower, and his choice in using it is sometimes quite different from the others.
        - For example, he emphasises the B flat in bar 5 by using no vibrato. This is the 'relative' approach that I mentioned earlier: in such a context, this note becomes *more* prominent if *non*-vibrato is used.

- Next, I would like to discuss how these four performers (and I) use vibrato to highlight a particular note in this phrase.
- In this example, every player emphasises the E natural because it is part of a fully diminished 7^{th} chord. The color must be changed here.

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- Thunemann uses a more intense vibrato to highlight it.
- For Azzolini, he does not use vibrato on the F, and saves it for use on the E to highlight it.
- For Mathias, he uses a more intense vibrato on the high F, and then a less intense vibrato on the E to highlight it.
- And Rodion uses no vibrato on the E to emphasise it.

- Finally, here is an example using vibrato during a structural change in the movement. The long note F is the climax of the phrase, and then the music accompanying it returns to the beginning. **[Play one time without vibrato.]** We can use vibrato to mark this recapitulation.
  - For Mathias, he holds the F with vibrato, and then moves to non-vibrato. This allows him to return to his approach to the opening phrase and increase his intensity to the B flat.
  - Rodion uses no vibrato, and then moves into vibrato to indicate the music is recapitulating the opening phrase.

Conclusion

- When considering how to perform a solo, bassoonists must also consider unwritten practices beyond the tempo markings, dynamics, and articulations.
- The use of vibrato in a melody, as well as flexibly varying it, can highlight expressive notes, intensify dynamics and melodic directions, shape long notes, and mark important harmonic and structural moments.
- Even though composers do not write vibrato into scores, it is absolutely an essential and individual tool for performers to express themselves, and there is never a 'right' or 'wrong' way to use it.
- I would like to share this quote by Sir James Galway to end my lecture today:
  - "By experimenting with different intensity and speed of vibrato through practice, performers can develop their personal style of vibrato and vary their vibrato to add life to music in their own way. The sound of vibrato can be the unique character of you."[8]
- Thank-you. In a moment, I will return to the stage to perform my programme.

[8]

	Tunemann Normally Vibrato on every long note	Azzolini Use Less vibrato	Mathias	Rodion Mellow and slower vibrato
Bar 5 Bb Score: Category III Highest note in the phrase	More intense vibrato	Use vibrato	Increasing intensity on F to the Bb note	No vibrato
Bar 7 D Score: Category IV Clashing with Dissonant note C in piano	N/A		Use vibrato	Use vibrato (start late) Cancel la
Bar 9 Db Score: Category IV Passing notes Change of Harmony	More intense vibrato	N/A Did not emphasize it	Use vibrato	Use Vibrato
Bar 10 G Score: Category II Accent, Downbeat	More intense vibrato	Use vibrato	Use vibrato	More intense and faster vibrato
Bar 15 F Score: Category III Climax in the phrase Loudest	More intense vibrato	N/A Louder only	more intense vibrato	More intense and faster vibrato Faster?

point				
Bar 23 E Score Category IV: Harmonic Change: Dissonant	N/A Did not emphasize it	More intense vibrato	Less intense vibrato	No vibrato
Bar 25- 26 B—B— C Score: Category I Showing Direction through notes	More and more intense vibrato (little)	N/A Crescendo	More and more intense vibrato with crescendo	Bar 25 B—B—C more and more intense vibrato
Bar 34-36 Ab D – Db C – Cb Category IV Ab Db 7th note Cb passing note non-chord tone	More intense vibrato N/A Crescendo	Use vibrato Use vibrato N/A	Use vibrato Use vibrato Use vibrato	Less intense vibrato no vibrato
Bar 47 F – Bar 28 F Score: Category III, V Climax & Structural Change	Bar 47 F Climax – more intense vibrato --> mellower vibrato Bar 48 – usual vibrato	N/A Just use dynamics	Bar 47 F Climax : No vibrato - Vibrato – no vibrato Bar 48 Use vibrato	Bar 47 F Climax: intense vibrato - No vibrato Bar48 mellow vibrato