



Figures 9 and 10: "V cloud" informs where you are aiming left to right (X axis)

The flute stands apart from other woodwind instruments in that the fingerings for most of the first octave notes are identical to the fingerings for the second octave notes. Unlike other woodwinds that have an octave key to assist in transitioning between octaves, flutists rely on adjusting their air speed and embouchure. The ability to produce high or low notes on the flute is determined by the speed of the air. Lower notes require a slower air speed, while higher notes demand a faster air speed. By controlling the velocity of the air stream, flutists can navigate between different octaves and achieve the desired pitch.

When focusing on achieving a consistent tone color across different registers, it can be beneficial to *practice your wind* independently of other variables. One way to do this is by practicing air changes alone while maintaining a steady throat and embouchure position.

To practice this technique, start by playing a low A on the flute. Then, place your hand near your lips, and blow with the same amount of pressure (*see Figure 11*). Pay attention to the pitch of your wind as you practice.

Now, try blowing with faster air and notice the change in pitch. If you increase the amount of air you blow without increasing the speed, the pitch of the wind remains the same. Focus on maintaining a consistent blowing direction and throat position as you play an A on the staff followed by an A above the staff. Observe the change in air speed while keeping the other factors constant.

When executed correctly, you will notice that the volume of the A above the staff is louder, but the tone quality remains consistent. It is important to distinguish faster air from simply blowing more air, which results in the pitch of the wind staying the same while the sound of the wind becomes louder. By focusing on adjusting the air speed



Fig. 11: Practice your wind with hand up to lips

while maintaining consistent blowing direction and throat position, you can achieve a controlled and balanced tone across different registers.

By contrast, it is indeed necessary to adjust the embouchure and throat position in order to achieve different dynamics and tone colors on the flute. By changing the direction and amount of air on the Y axis, we can create variations in our sound while staying in tune. It is important to maintain flexibility without adding unnecessary tension. Engaging in flexibility exercises can help expand our range of dynamic and tone color options. The following are several exercises that assist in developing and maintaining embouchure flexibility.

4. Flexibility

To develop embouchure flexibility, begin by placing your palm approximately 4 inches in front of your face. Using a flute air stream (cold air), practice gradually adjusting the blowing angle from the top of your palm to the floor and back up again. It's important to maintain a consistent embouchure aperture without excessive widening or pulling back the corners of your embouchure. This exercise is similar to the concept of moving up and down the "Y-axis" on an algebra graph. As you reach the lowest blowing angle, you should observe that your jaw is in a low position, the top lip extends over the upper teeth, and there is some spacing between your molars. Be mindful to keep your head position steady throughout this exercise.

Diminuendos are the gradual diminishing of sound that, when played on the flute, engage this concept of flexibly moving from a lower to higher blowing position on the Y axis. To execute diminuendos effectively with proper tone and intonation on the flute, three elements must work together: the gradual shrinking of the embouchure aperture, the elevation of the air stream, and the controlled decrease of air volume.

To practice diminuendos, start by playing a note and gradually diminish the intensity of the air over a period of four beats. Think of it as imitating the natural process of air diminishing when releasing a long sigh. Without altering the blowing angle and the size of the aperture of the embouchure, the note will go flat.

Next, employ *just enough lip* energy and begin in the lowest position where the embouchure aperture is tallest from top to bottom. Gradually decrease the size of the embouchure aperture while simultaneously raising the air stream. As you diminish the air, bring the bottom lip closer to the top lip. Begin each whole note in tune with a dark, loud tone, and gradually transition to a soft and in-tune sound, or even slightly sharp. Be sure to practice the following flexibility exercises with a tuner and maintain the same pitch throughout.

Flexibility Exercise #1

Three staves of musical notation in 4/4 time, key signature of three flats (B-flat, E-flat, A-flat). Each staff contains a sequence of eight half notes ascending from G3 to G4. Below each staff are seven wedge-shaped symbols pointing to the right, indicating a diminuendo over the first seven notes of each staff.

Continue playing diminuendos over a span of four beats on various one-octave scales.

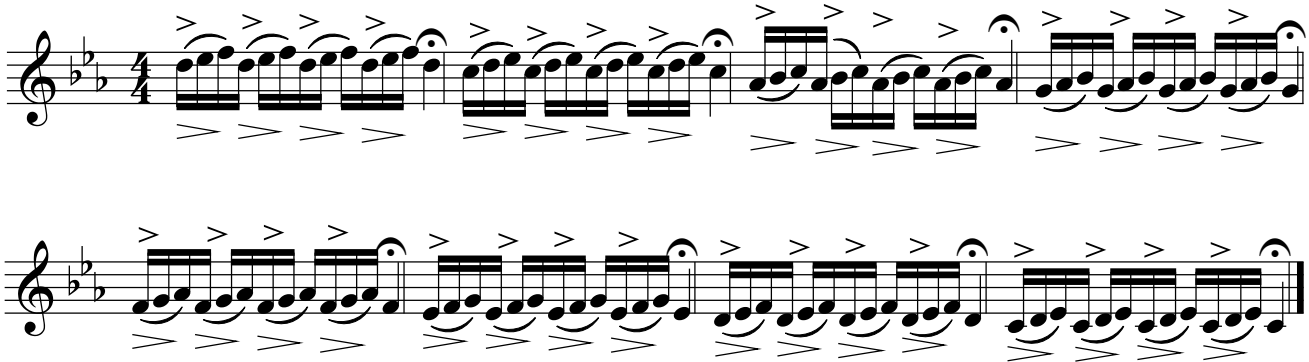
Flexibility Exercise #2

Now, incorporate diminuendos while transitioning between notes in the following exercises. Apply these patterns to multiple scales to further enhance your control and technique.

Three staves of musical notation in 4/4 time, key signature of three flats (B-flat, E-flat, A-flat).
The first staff contains a sequence of eighth notes with slurs over pairs of notes, and seven wedge-shaped symbols pointing to the right below the staff.
The second staff contains a sequence of quarter notes with slurs over groups of four notes, and four wedge-shaped symbols pointing to the right below the staff.
The third staff contains a sequence of quarter notes with slurs over groups of four notes, and three wedge-shaped symbols pointing to the right below the staff.

Flexibility Exercise #3

Practice diminuendos quickly. Move your embouchure right back to the lowest position after each diminuendo. It is useful to *practice your wind* with the swift embouchure changes first.



Developing embouchure flexibility is a crucial aspect of flute playing, and one effective approach is to engage in exercises that incorporate extreme dynamics. By challenging yourself to transition smoothly between soft and loud dynamics, you can enhance your overall control and adaptability on the instrument. It is important to practice both gradual and rapid dynamic changes to expand your range of expressive possibilities.

During louder dynamics, it is essential to concentrate on employing a greater amount of air while simultaneously maintaining a larger embouchure aperture (*see Figure 12*). Additionally, consider adjusting the blowing angle lower on the Y axis, similar to the starting point of diminuendos. Such adjustments facilitate the production of a robust and resonant sound within the higher dynamic range.



Figure 12: Embouchure aperture for loud dynamic.

When playing at softer dynamics, aim for a smaller embouchure aperture (*see Figure 13*). Utilize a reduced amount of air while maintaining a more straight across blowing angle on the Y axis to achieve a softer and more intimate sound quality.



Figure 13: Embouchure aperture for soft dynamic.

With this method of adjusting the air amount and embouchure aperture, the speed of the air, and therefore the intonation, stays the same regardless of the dynamic.

In flexibility exercises 4 and 5, it is important to focus on maintaining a consistent tone color while navigating the dynamic shifts. Take the opportunity to experiment with different blowing positions, gradually adjusting the blowing angle from a straight across position to a lower position on the Y axis as you increase the intensity of your airflow.

Start by dedicating time to *practice your wind*, paying careful attention to the gradual embouchure changes along the Y axis. Once you have established a strong foundation in wind control with embouchure changes, incorporate the flute into the exercises, applying the same principles to maintain a deep and resonant sound while executing extreme dynamics. Consistent practice will enable you to navigate dynamic changes effortlessly while delivering a resonant and expressive tone.

Part 2: Drone Studies

Drone studies are a valuable tool in improving a flutist's musicianship and performance skills and have been around as an important part of developing musicianship for some time. Drone studies are important for several reasons:

1. Develops tonal stability: Playing with a steady drone can help the flutist develop the ability to play in tune and maintain a consistent tone quality.
2. Improves intonation: Playing with a drone can help the flutist hear and adjust their intonation to match the pitch of the drone.
3. Aids in ear training: Drone studies can help the flutist develop a better ear for pitch and interval recognition.
4. Enhances musical expression: Playing with a drone can help the flutist focus on musical expression, phrasing, vibrato, tone color, and dynamics, all while being in check with their intonation.

Plugged In: Practice and Performance Method for Flutists includes drones of various timbres and directions on accessing and using rhythmic drones which introduces two new reasons:

5. Augments blending abilities: By working with acoustic drones of different timbres, flutists can work on blending with various instruments by varying their tone color, dynamic and vibrato.
6. Enhances note placement accuracy: By engaging with rhythmic drone tracks, musicians can seize a distinct opportunity to refine their precision in placing notes accurately within the rhythm.

1. Why work with a Drone?

Working with an acoustic drone is an essential practice for developing our ears and cultivating the ability to make precise pitch adjustments. It allows us to train our auditory sense to listen attentively and respond with bodily reactions. Just as Olympic athletes train their bodies to build muscle memory, we too must dedicate time and effort to refine our sense of pitch. The flute playing process engages multiple senses, including vision, touch/feel, and hearing. When we work with a tuner and drone, we are honing our visual sense by observing the pitch visually on the tuner. The touch/feel sense is responsible for physically playing the instrument, while the hearing and feeling sense are intimately connected through the use of a drone. When we perceive a note as flat through our auditory sense, we can train ourselves to instinctively react with our feel sense by adjusting our blowing speed or raising the airstream. This connection between hearing and feeling is precisely why we must work with drones.

By actively engaging with a drone and tuner, we foster a holistic approach to pitch awareness and a strong connection between our senses, ultimately enhancing our overall musicianship. To optimize this practice, it is recommended to listen to the drone through headphones or earbuds, allowing the sound

to be right in your ear. If you are slightly off pitch with the drone in your ear, you will hear subtle pulses or waves, which signify that you are playing the note either sharper or flatter than the drone note. As you listen, keep the tuner in view to reinforce when you achieve good intonation and to guide you in correcting any pitch discrepancies (see *Figure 16*).



Figure 16: Setup: tuner on stand, headphones with iOS device.



Figure 17: Tuner

In working to improve intonation, I recommend using a tuner that is separate from the device that is playing your drone. I prefer one that has green lights to indicate that the pitch is in a range that is close to center, and red lights that inform us that our pitch is becoming extremely flat or sharp. Something like this Korg tuner pictured in *Figure 17* works well.

2. Working with Acoustic Drones of Different Timbres

This method makes use of acoustic drones of the tonic and fifth (2 cents sharp) of all 12 chromatic notes in three different timbres to improve intonation and blending in major and minor keys (12 each). These include acoustic drones by oboe, flute, and clarinet in order of most harmonic timbre to most hollow timbre. You can access these audio files by visiting the Conway Publications “Resources” page. They are also available on streaming services.



When working with the acoustic drones in different timbres consider these questions:

Am I a soloist?

Am I part of the ensemble?

Do I want to stick out in the texture?

Do I want to blend with the texture?

3. Ten Delay Studies with Masterclass

Each delay study becomes a gateway to contemplate nature's power and transformative ability. Each piece captures a unique aspect of the natural world, drawing inspiration from its forces and cycles, to create vivid musical experiences. The pieces evoke emotions, capturing the delicate balance of life, the passage of time, and the captivating interplay between nature's formidable forces and its nurturing qualities. Collectively, they paint a vivid and intricate portrait of the natural world and its impact on human emotions and experiences.

To capture the artistic essence of Christian Glascock's vision, we engage in a dynamic interaction with the software, synchronizing our performance with our past iterations. This requires both electronic preparation and meticulous flute performance preparations, laid out before each study. The fusion of these elements enables us to traverse the dimensions of time and deliver a captivating artistic expression that transcends temporal boundaries.

To begin each study, go through each of these steps when practicing with the AR delay application:

1. Begin by verifying that the settings within the AR delay application align with the prescribed configuration detailed on page 76.
2. Each study includes settings to perform at the suggested tempos in the score. Should you desire to practice the delay study at a tempo slower or faster, consult the table or formula provided on page 75-76 to accurately recalibrate the time knob. This will enable you to precisely adjust the delay time according to the desired tempo, ensuring synchronization with your chosen practice tempo.

Go through each step with each delay study when performing with an application such as Reaper:

1. Configure an application such as Reaper as described on pages 81-84.
2. Designate the length of the delay.
3. Modify the tempo, and the delay will adjust accordingly.

As an example, we shall proceed through the first two delay studies together, adhering to the provided step-by-step guide.

Delay Study 1: “Cloudburst”

“Cloudburst” mirrors the intensity of a fast storm, propelling the listener through a whirlwind of emotions. With no respite to process, you are immersed in the tempestuous journey, compelling you to surrender and ride the surging currents of the storm’s relentless flow.

Cloudburst Electronic Preparation

AR Delay Application: Begin by verifying that the settings within the AR delay application align with the prescribed configuration detailed on page 76. To facilitate the execution of the delay study at a tempo of 120 BPM make the following adjustments to the knobs:

Time Knob: 250

Offset Knob: 0

Feedback Knob: 0

Mix Knob: Experiment with different places!

Should you desire to practice the delay study at a tempo slower or faster than the current setting, consult the table or formula provided on page 75-76 to accurately recalibrate the time knob. This will enable you to precisely adjust the delay time according to the desired tempo, ensuring synchronization with your chosen practice tempo.

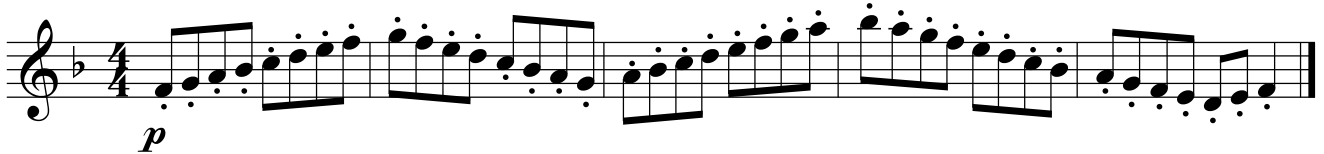
DAW Software: After configuring an application such as Reaper, it becomes necessary to designate the length of the delay. For this study, specify one 1/8 note, in addition to modifying the tempo to 120. To practice or perform at a different tempo using Reaper, input the desired tempo, and the delay will automatically adjust accordingly.

This delay study has a delay of 1 eighth note. When performing with the proper settings, this will be the result of what you hear for the opening measures, with the top line being what you play, and the bottom line sounding through the delay applications.

The image shows a musical score for a delay study in 4/4 time, featuring a treble clef and a key signature of one flat (B-flat). The score is divided into two staves. The top staff contains a melodic line with eighth-note patterns and rests, while the bottom staff shows the same pattern delayed by one eighth note, creating a phasing effect. The notation includes various note values, rests, and dynamic markings such as accents (>) and slurs.

Cloudburst Flute Preparation

In the opening passages, focus on playing softly at a piano dynamic level while employing *throat tuning*. Practice maintaining momentum throughout these passages without increasing the harmonic tone color or dynamic. *Increase the horizontal line* in the music, subtly changing the air flow to create a sense of forward movement rather than a static sound. To achieve the staccato effect under these circumstances, employ a subtle “hu” to each note to create the desired lift while maintaining the dynamic. Practice the F major scale in this manner:



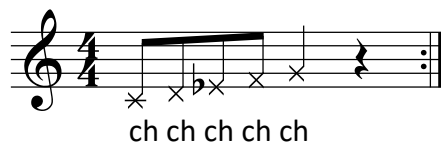
Accentuate the tenuto markings in measures 7 and 13 to emphasize the sustained quality of those notes.

In measures 12-15, avoid clipping tied notes or eighth notes unless specifically marked with a staccato.

Emphasize a strong downbeat by using a large, open vowel sound on the downbeats in measures 8, 16, and beat 2 of measures 17 and 18. *Increase the horizontal line* of the music by adding harmonic intensity to the tone color.

In measure 20, gradually fade to a hollow sound while *increasing the horizontal line*, even though the tone is diminishing.

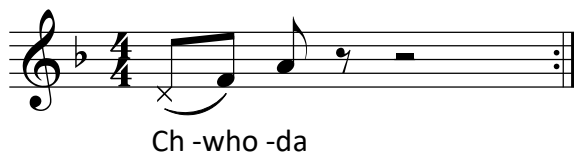
To achieve the correct quality in measure 22, say the "ch" sound with your mouth while adding air pressure. Now bring the flute to your face as you normally would and send the air across the flute in a higher manner than you would with a typical flute embouchure (blowing more straight out as opposed to down in the flute). The flute acts as an amplification of the sound you make with your mouth and will not create normal flute tone, but a wind sound. Now try this on several notes with the following passage:



You should find that the air sound still produces the different pitches but creates an airy effect that falls outside the typical spectrum of flute tone.

Next, begin by saying "Ch" with no flute embouchure, followed by producing wind with flute embouchure, saying "Ch-who-da." The "Ch" should continue to make sound. Now, maintain the throat shape and tongue changes you just practiced of the "who-da" section. Practice this section with the flute. Regular flute tone should only happen on the F and A.

Part 3: Delay Studies



Use "Ch-weea-da" articulation for measure 23:



Show the difference between no articulation and notes designated with a marcato accent, which refers to a strong accent with a sharp attack.

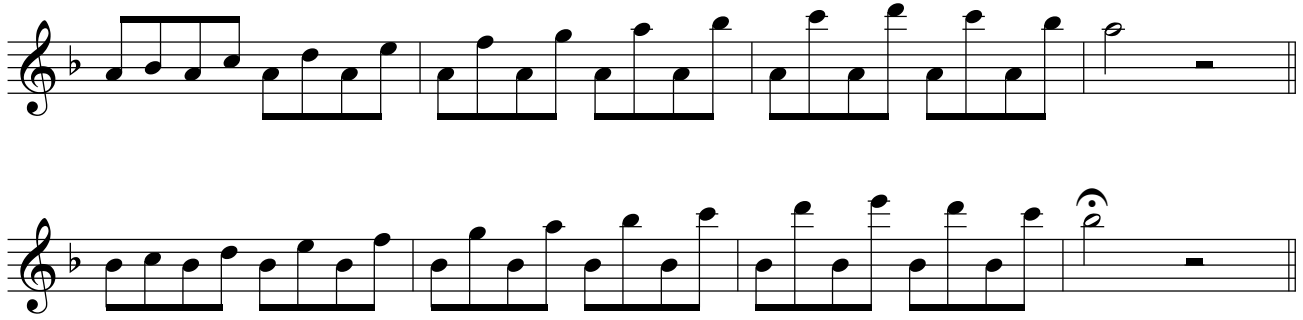
For strong low notes, be in *drone throat* position from measures 33 to 37. Focus on a low breath and maintain *drone throat* for a resonant sound.

There are challenges in the fast-changing key signatures in measures 38-41. Practice these sections separately, paying attention to the key changes and ensuring accuracy.

The wide intervals in this study can present a challenge to tonal fluency. Work to make minimal changes as the intervals widen as if eating a *note sandwich*. At first practice these exercises slowly. Practice both all tongued, all slurred, and slur two to match the tone quality in the following exercises and develop proficiency in the specified intervals:



Part 3: Delay Studies



Work diligently on these aspects, and gradually incorporate them into your overall performance. Remember to maintain a focus on both technical precision and musical expression.

Cloudburst

Delay Interval= 1 8th note

♩ = 120

Christian Glascock

p

mp

mf

f

Ch

sim.

n

x2

x4

x2

x3

x3

x3

x4

x3

x4

x4

x2

x3

x3

x4

x4

x4

Part 3: Delay Studies

25 *mp* *f* x2 x2 x2

28 *sub. p* *cresc.* x2 x4 x2

31 *mf* x2 x2 x4

34 x2 x2

36 x2 x2

38 *sub. p* *f* x4

40 x4 x2

42 *f* *mf* x2 x2

44 *mf* *p* x2 x4

Detailed description: This musical score consists of nine staves of music in treble clef, primarily in a 6/8 time signature. The key signature is B-flat major. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, often beamed together. Dynamic markings such as *mp*, *f*, *sub. p*, *cresc.*, *mf*, and *p* are used throughout. Rehearsal marks (double bar lines with dots) and repeat signs (double bar lines with dots) are present. Some measures include triplets (marked with a '3') and accents (marked with a '^'). Slurs and hairpins indicate phrasing and dynamics. The score is divided into measures 25 through 44.