Role of the Embouchure in the Production of Clarinet Tone Quality

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Music

May 2015

Introduction

The clarinet typically isn't the first object one thinks of when analyzing something that has made a difference in society. What most people don't know or understand is how the clarinet has made substantial changes to the way we define music. Other than viewing the clarinet as one solid entity, seeing the clarinet in its separate parts opens a person's eyes. The clarinet would be nothing without its mouthpiece, which is the part of the clarinet that enters the musician's mouth, but it would also be nothing without a reed, which is the thin piece of wood that vibrates to create sound. Aside from the mechanics of the clarinet, the player in itself is the most important part. There are numerous ways that a musician may sound and that is solely dependent upon the strength of their embouchure, which is the way that a musician applies their mouth to the mouthpiece, but what is the importance of the embouchure in the production of clarinet tone quality? In order to understand the importance of the embouchure, one must first recognize the function of the mouthpiece along with the reed, then must be able to identify differences between a spectacular tone quality and a mediocre one.

Background

The clarinet was invented by Johann Cristoph Denner around 1700, and was an improvement to the ancient instrument called the chalumeau, which was any small reed blown instrument. The clarinet is a woodwind instrument, meaning that it has a cylindrical or conical tube of wood ending in a slightly flared bell which produces tones by the vibration of one reed in the mouthpiece, and usually has finger holes or keys by which the player may produce all the tones within an instrument's range. The clarinet became such a popular instrument to listen to

because in 1720, the style of playing involved repeating notes, incomplete arpeggios, fanfare motifs, and a restricted use of the low register. This allowed for the composition of clarinet solos in the late 1740s. Many enjoyed the sound of the clarinet because it was the instrument that could imitate the human voice in the best way, and could convey sadness or grief. (Barrett np)

The clarinet is composed of 5 different parts: the mouthpiece, the barrel, the upper joint, lower joint, and the bell. (Rice 40-41) In dealing with the embouchure of a musician, the mouthpiece is the component that directly make contact with the mouth. The only way that the mouthpiece forms noises or sounds is by applying a reed. A reed is a thin piece of wood or plastic that vibrates when the player holds it in the mouth and blows over it. (Rice 41) The embouchure is the sole agent that directly acts upon the reed, thus concluding that "the embouchure's job is to apply stress to the reed in such a way that the paradoxical qualities of control and freedom are fully optimized in the reed's vibrations, and these qualities are in turn made present in the sound itself." (Ridenour)

What is the *Embouchure*?

Campione, in his article about the clarinet embouchure, states how he believes that the embouchure is the most vital link in the production of a clarinet tone. In the formation of the embouchure, the most important part is the contribution from the bottom lip/bottom teeth combination. When starting to form an embouchure, the chin must be pointed and the corners of the mouth must be pulled back. The amount of tension from the bottom lip controls whether or not the sound will be cut off. If there is too much pressure, the maximum vibration of the reed would be limited and eventually halted. Similarly, being told to "smile while playing" is possibly

the most incorrect statement. If one smiles while playing the clarinet, there is a tremendous amount of muscle tension, which results in pinching of the reed and the creation of a puny sound. Another component of the clarinet embouchure is the jaw position. The jaw is simply structural support. The jaw makes sure the amount of pressure given to the bottom lip and teeth are appropriate for the reed. The role of the jaw is not to directly clamp down on the reed, but to be support for the elements that do have contact with the reed. If there is too little pressure, a spread sound is given, but if their is too much pressure, a small, tight sound is produced. (Campione 8-9) The embouchure is something that can always be improved, even when believing it has been "perfected", work can always been done to it, whether it be strengthening or testing out different ways to make sounds on the mouthpiece. However, with the embouchure, one must constantly practice retaining the flexibility in their mouth because it is very easy to lose the strength of the embouchure if one doesn't practice as sufficiently as they should.

An important factor in the strength of the embouchure is the strength of the reed. The differences in the reed strength are noticed in the amount of resistance the reed gives. The more easily one can create a clear tone, the lower the strength, but the more resistance given off shows a reed with a higher strength. The average amount of reed inside the player's mouth is approximately 3/4 inch. This amount varies for each individual musician due to the shape of their mouth and the strength of their embouchure. When looking at a musician playing, the correct way to view the embouchure is as if there is very little reed in the mouth, but the player must be able to free the reed to vibrate. Dealing with a reed and mouthpiece is complicated because it is not only the mouth that has to go onto the mouthpiece and blow to create glorious music, many

other factors including the angle of the clarinet from the player's body. For example, if the angle is increased by bowing of the head or lifting of the clarinet, the vibrating of the reed will be decreased in the musician's mouth. Also, if the player's bottom lip isn't covering the bottom teeth, then similarly, there is less reed vibration in the mouth. (Campione 10)

After the correct embouchure is achieved, ridding oneself of bad habits is the next step. When perfecting an embouchure, breathing techniques usually suffer due to the players neglect. A way to fix this problem is by taking off the top lip when proceeding to breathe. This alters the way the head is positioned, but after practicing, breathing techniques and head placement will return to normal. Although the breathing may be difficult, the most challenging problem that most clarinetists face is keeping the proper relationship between the bottom teeth and bottom lip with the contact point and necessary jaw pressure. The way to initiate solving this habit is using one finger to determine the proper position of the bottom lip and teeth and apply pressure. This procedure shows significant changes in what one can do to strengthen their embouchure, but using this process shows that if the musician can handle the finger pressure, then it is certain that the embouchure will not fail when the clarinet replaces the finger. (Campione 9-11)

What is *Tone Quality*?

The embouchure is the first technique a beginner clarinetist is taught when entering beginner band, and it will be a technique the musician will forever be perfecting. If one fails to form the embouchure correctly, it leads to many problems including poor range, intonation, technique, and tone quality. (Wall np) Tone quality is especially important because it is what distinguishes one player from the next. Tone quality, or timbre, is the character of a sound,

meaning the clearness or haziness to the musician's sound. Each little step in between the adjectives describing the tone quality are microscopic and all have to deal with the degree of strength of the person's embouchure. Before creating a "fantastic" tone quality, one must be able to recognize one. This can be done by listening to different recordings of professionals and compare it to their own playing. A fantastic tone quality does not just happen. It involves much practice and perfection. There's always room for improvement. Characteristics of a good tone are the fullness produced and the pleasant ring one may hear in their ear from their successful production of a good tone. However, the degree of greatness of one's tone quality depends solely on their embouchure. (Diamond-Manlusoc np) This is because the embouchure has direct control of how the musician sounds. If the embouchure is weak, the sound will be feeble and unsupported, but with a strong and firm embouchure, the sound will be full. Similarly to that of the embouchure, the tone quality of the clarinetist is something that always has room for improvement. It is very possible to lose the clearness of tone quality. So tone quality can always be worked on because it is the way the one is characterized in the music world.

Embouchure's Relationship to Tone Quality

Now that it has been said "what" an embouchure is, there are many components that make an embouchure good, which affect the tone quality. If an embouchure is bad, it is shown in the tone quality. It would sound raspy and unclear, but if one has a good embouchure, then the tone quality, or timbre, would sound clear and precise. For instance, a good embouchure requires no major adjustments for wide intervals, register changes, different articulations or dynamic extremes because each part of the musician's mouth is placed perfectly to produce the best

possible sound. (Stier np) It must have the perfect amount of strength surrounding the reed, and the tongue must be positioned correctly to perform the greatest agility. Unlike most other instruments, the clarinet forces one to keep their tongue positioned high on the roof of the mouth. This tongue position allows for a focused and tonal concentration, which allows for the clarinet's sound to resonate. (Ridenour np) In a tutorial about embouchure and air, Dr. Charles Stier states that, "A good embouchure combines the forces of the top lip down with the corners of the mouth pressing inward towards the teeth opposing the jaw moving forward and downward into the reed. With no air existing between the cheeks and the teeth when blowing, the facial muscles of the cheeks will be directed firmly forward and down creating the correct musculature as well as a singing "O" concept of sound." (Stier np) Stier is mainly stressing the importance of the shape created by the lips, teeth, and jaw, and making sure no air is between the cheeks and teeth so that the most mature sound is created. Although the embouchure focuses much on the mouth, several other factors contribute in the formation of the embouchure.

The embouchure is mainly about the strength of the muscles surrounding the mouth, but it also involves every part of the musician's body. For example, a good embouchure relaxes the body and helps keep performance nerves under control. (Stier np) The right thumb of a clarinetist does not directly go with the embouchure, but it is definitely an important component of creating a quality sound. It is the "snugging action of the mouthpiece and reed". (Ridenour np) Posture plays a key role in the production of sound. When playing, one must sit up straight, with relaxed shoulders, legs or feet not crossed, and elbows out. When assuming this position, it allows for a clear pathway to pass through the clarinet. If the player slouches and exhibits horrendous

posture, the sound will be ceased. All of these components play a key role in improving the embouchure and tone quality of a player. Having a good embouchure directly correlates to having a good tone quality. Playing the clarinet is all about precision and technique, and once the musician has mastered the ways of perfecting their embouchure, the fantastic tone quality has been reached, as well.

Differences Between Embouchures of Different Clarinets

The embouchure is different for every instrument, though. There are several different types of clarinets in the clarinet family. For instance, there are soprano clarinets, alto clarinets, and bass clarinets. Soprano clarinets consist of the A clarinet, C clarinet, and the B-flat clarinet. The B-flat clarinet is the most common clarinet. A soprano clarinet uses the tightest and strongest embouchure, as opposed to the embouchure of the bass clarinet. There are three different types of bass clarinets, all of which have varying pressures needed. For example, the bass clarinet has a tighter embouchure than that of the contra alto bass clarinet and the contra bass clarinet. There is a general way to describe what an embouchure is, but that doesn't do justice to all of the other forms of the clarinet. The sizes of all the instruments in the clarinet family are all very different. The range is from about 46 cm to 270 cm. (Eberhard np) With the various lengths of the instrument, the size of the mouthpiece is also affected which has a direct relationship with the embouchure of the musician. As the instrument gets larger, as does the mouthpiece. When the mouthpiece gets larger, a more open and loose embouchure is needed to create the correct tone from the instrument. (Wall np)

Clarinet Importance in Society

Most people don't realize how important the clarinet is to the definition of music. This beautiful instrument has been a crucial role in areas such as symphonies, orchestras, military bands, and even jazz music. Many pieces of historical music have been written specifically for the clarinet. For instance, Mozart's Clarinet Concerto. This is a piece containing three movements: Allegro, Andante, and Rondo: Allegro. This clarinet concerto was written in 1791 by Wolfgang Amadeus Mozart. This piece is a prominent part of history because it is the first significant piece of its kind. (Mozart 1) This clarinet solo shows all of the good parts of the clarinet. It showcases beautiful technique, gorgeous tone quality, and passion in playing the clarinet. All of which start in the same exact place. This piece would not have been written if it hadn't been for Anton Stadler and his tone quality and perfect embouchure. Anton Stadler was the leading player of his day, and this concerto was not the first time that Mozart had ever written for him. (Tishkoff np) Mozart was inspired by the musical style of Stadler and composed music that would best showcase his tone and technique. Stadler would be nowhere if he had not perfected his embouchure, though. He is a prime example of why the most important part of playing the clarinet is forming the correct embouchure.

There are numerous examples of famous clarinet players that would be nowhere without the training they had growing up. Much like the relationship between Mozart and Stadler, many others had relationships with famous composers and ended up having a popular composition written for themselves including Heinrich Baermann and Weber then Richard Mühlfeld and Brahms. Each of these partners recognized the best in each other. The composer showcased the

talents of the musician by using notes that portrayed the best of the player, and the musician made the famous composer even worthier of holding their fame. (Eberhard np)

The clarinet has also played a key role in what we define as jazz music. In jazz music, the clarinet is always featured as a solo instrument. The embouchure is still very important, but it is altered to play different types of sounds. For example, the lip may be loosed or tightened as please to create dissonant sounds. Jazz music is very different than what one would normally think a clarinet might be playing. Many are used to seeing a clarinet being played in a classical setting such as an orchestra, but when a clarinet is played with an improvising musician, the free spirit of the clarinet is really shown. The clarinet, as just the instrument, can do so many things, but it is mainly with the musician's mouth that it results in such finesse. Yes, it is true that an embouchure must be controlled to produce the good tone quality, but in jazz music the embouchure is chaotically organized, meaning that the musician is so careful with every move he makes to be certain that whatever comes out of his horn is pure beauty.

The main genre of jazz that the clarinet participated in was called Dixieland Jazz. Many would recognize this from Dixieland jazz funerals which were ones where it is a celebration of life rather than a solemn service. Dixieland was developed in the early 20th century. It's four main influences were ragtime, military brass bands, the blues, and gospel music. Dixieland included the trumpet, the clarinet, the trombone, the piano, the string bass, the drums, and the banjo. The clarinet's role in the band was to embellish the melody. (Dixieland np) One of the main clarinetists of the jazz era was Benny Goodman. Goodman was known as the "king of swing". He was an extremely talented musician because he not only succeeded in jazz music, he

also toured with classical songs. Other than being known as the “king of swing”, he was also called “Mozart with vibrato”. Mozart was an absolute genius, so the comparison shows the skill level of Goodman, however “with vibrato” is added. Vibrato is a way of making a note sound shaky or adding in small, rapid changes. Mastering vibrato is something that takes a tremendous amount of practice. Benny Goodman and many others graced the world with their amazing talents, and without the clarinet, many aspects of history would not be how we know it today. (Eberhard np) Most don’t realize the historical significance of the clarinet but this instrument made big leaps in the definition of music.

Conclusion

The clarinet is a valuable piece of history that has shaped how we define music. Without the clarinet, several things from marching bands to orchestras would be altered substantially. This instrument would not be as popular if it weren’t for its gorgeous tone quality. However, obtaining a superb tone quality is not easy. It requires patience and a series of steps to perfect the sound. The only way that a musician will be able to improve their tone quality is by first examining their embouchure. The embouchure is the sole agent that will affect the ending result. The relationship between the embouchure and the tone quality is direct. If a clarinetist has a good embouchure, chances are they have good tone quality. Tone quality is the single most distinguishable aspect of a musician’s playing that will separate marvelous players from the mediocre ones. Without a good embouchure to begin the career of many of the famous clarinetists, we wouldn’t have the music that has shaped history over the past three centuries.

Word Count: 3,126

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