

QUESTIONS CONCERNING BRASSWIND EMOUCHURE A.

Description of Students Working Under Your Tutelage

Q1. What level student, beginner through advanced conservatory/college through professional comes to you for study?

A. Beginning through professional, mostly professional. Most do not come to learn to play the instrument, mechanically speaking. Ninety-nine per cent come to work solely on embouchure - how to apply it to their mechanics.

Q2. Are students under your tutelage more interested in "legit" or "popular" performance?

A. From both areas. They are already functioning in their chosen area.

Q3. What are the ultimate goals of your students, generally (Teaching in public schools, colleges, professional playing, what type of professional Playing?)

A. To become a lead player, or better lead player; professional playing.

Q4. How long do students normally study under your tutelage?

A. An average of three years. If they last the first eight weeks they last for at least three years. Those who have studied longer have established reputations for their embouchures.

Q5. When a student has completed study with you, is he more suited to the "legit" or the "popular" field?

A. 1. The student has never completed study. Even the most advanced come back for periodic check-ups.

2. The student is suited to either field.

3. Students include a principal player in the Metropolitan Opera Orchestra, and lead players in the popular field.

B. Work in the Altissimo Register

Q1. Do you stress development of the altissimo register?

A. We start with it.

Q2. What percentage of your students, approximately work to develop the altissimo register?

A. All - 100%

Q3. What percentage of your students actually develop a usable altissimo register?

A. All have it. as a usable upper register. it is relative to the individual player's mechanical development, which is dependent on his insight and ability to coordinate what he knows will play.

Q4. In your opinion, is there such a thing as being naturally suited to play the altissimo register?

A. Yes. If the natural formation suits the principles that are involved in physical law, the pupil doesn't necessarily have to know those principles. It would be better if he did know, for he would have more assurance in the sharp-shooting or placement of tones.

Q4a. If so, what are physiological characteristics of players so endowed?

A. 1. The ability to retain a parallel jaw position to the top teeth edges, establishing a firm back ground for the bottom lip facing and the top lip reed.

2. A minimum of teeth irregularities.

3. An easy alignment of the lips between the teeth aperture, equally spaced.

Q4b. What are Psychological characteristics of players naturally suited to playing the altissimo?

A. Whatever the Psychological barriers are prior to the development of the Upper register, they cease to exist after a mental connection, understanding, and sense experience have been established.

Q5. Were all your students who successfully developed the altissimo register naturally suited to this register?

A. No. Physical deficiencies had to be overcome to conform to the principles.

Q6. Do you stress fortissimo playing in the altissimo register?

A. Yes. It is part of the physical law.

Q7. Do you stress pianissimo playing in the altissimo register? A.

Yes. It is also a part of physical law.

Q8. Do you stress control of slurs and articulations through a wide range of dynamics in the altissimo register?

A. Yes, very much; almost exclusively for the early stages.

C. Embouchure

1. Corners of the mouth.

Qa. What is the action of the corners of the mouth during inhalation? Why?

A. Relaxation, separation of lips minus tu-ee (pulling corners back and up). Intake must be silent - no sipping. It is this position that permits the player to bring his lips together from the corners to the outer rim of the mouthpiece and establish playing formation with a minimum of tension. The release of air and its force will determine the playing tension. The tension may increase or decrease from the original playing formation based on the intent of the player. It is the fixed corners in their relaxed position that permits the player to correctly align his lips over and over.

Qb. What is the placement of the corners of the mouth vertically and horizontally while performing in the various registers low to altissimo? Why?

A. It is the same, taking into account the relative change of muscular tensions. The corners in normal resting position with the teeth 1/4th inch apart and aligned vertically (even bite) is the correct position unless there is a deformity.

Qc. Should the corners of the mouth hug the teeth? Why?

A. Yes, to avoid slack in the lips, top and bottom.

Qd. Should the corners of the mouth be relaxed or firm?

A. Relaxed during inhalation. The tension during playing should reflect the volume and area of range, which are based on the intent of the player. The speed of the air column, amplitude and frequency of the sound vibration, will determine the tension.

Qe. Have you any other ideas concerning the corners of the mouth?

A. No.

2. Tension of facial muscles.

Qa. Should the buccinator (cheek) muscles be firm or relaxed in playing the low register? Middle? High? Altissimo? Why?

A. The compression in the mouth chamber will determine the tension.

Qb. Should the muscles that elevate the upper lip (not including the corners of the mouth) be tensed or relaxed in the various registers? Why?

A. No attempt should be made to use these at all. They should be used to reinforce the original playing formation, and sympathy tension will be introduced when the two lips are exposed and resist the air column, equipping the two lips to resist mouthpiece playing weight (arm pressure).

Qc. Should the muscles that depress the lower lip (not including the corners) be tensed or relaxed in performing in the various registers? Why?

A. They should not be thinned and weakened. They act as a cushion to receive the mouthpiece weight on the bottom.

Qd. Should the mentalis (chin) muscles be relaxed or contracted in playing the various registers? Why?

A. Always in a state of contraction, only different degrees, with the degree being dependent on intent and area, exclusive of the concept of playing pedal tones, which require a complete collapse of the outer red.

Qe. Should there be a feeling of tension or relaxation in the face generally with reference to the various registers?

A. There must be both. Relaxation is a matter of degree from tension. The player must avoid neutralizing or collapsing the playing formation. "Neutral" is the fixed point somewhere between force behind the air and muscular resistance.

Qf. Should there be a feeling that the focus of tension is within the lips rather than spread to include muscles outside the lips?

A. The starting point is tension below the corners (depressor anguli oris m.). The rest of the embouchure muscles will and should work in sympathy, establishing various tensions if properly exposed to air. The radiating muscles from the corners across the cheeks (buccinator, and risorius including the masseteric and platysma strands) are dependent upon the orbicularis oris (top and bottom) being properly exposed to air between the teeth aperture, permitting the radiating muscles to exercise control over the two lips.

3. Alignment of lip aperture with the opening between the upper and lower teeth.

Qa. Is it important that the lip aperture be opposite the opening between the upper and lower teeth? Why?

A. From my point of view the law must be a two-aperture concept: teeth and lips. The lip aperture must comprise an equal amount of upper and lower lip between, the teeth wherever the mouthpiece placement is made. Example: If one upper tooth is longer than the other receiving the mouthpiece, the longer will be the barometer for lining up the lips equally spaced between the teeth aperture. This necessitates a lowering of the corners so that the lips in their playing formation form a straight line between the two fixed points, corners of lips.

Qb. Should the center of the two openings (lip and teeth) be perfectly aligned? Why?

A. Yes, so that the bottom teeth edges can exercise control over the lip aperture by articulating up and

down relative to increasing and decreasing air compression, lengthening and shortening the stroke of vibration. All jaw motion up and down must be relative, based on the starting point of the predetermined jaw position. I do not advocate receding the jaw to its underbite position, contributing to extreme lip separation resulting in excessive mouthpiece weight to overcome lip separation.

Qc. If alignment is to be maintained, how is this accomplished? What muscles are important in preserving alignment?

A. The fixed corners maintain the alignment. Do not use the upper half of the facial muscles. For example, no sneering, no sipping of the air raising the corners, no lip thinning and weakening by pulling the corners back and up.

Qd. Is alignment more important in one register than another? Why

A. Important in all registers. The higher you play the more perfect the alignment has to be since there is less room for error.

4. Alignment of lower teeth with upper teeth vertically.

Qa. Assuming a very slight overbite in normal conclusion, should the brass player align the teeth vertically in the various registers? Why?

A. Yes, in all registers, so that both lips can receive an equitable distribution of weight of the mouthpiece. Pain due to high spots or other irregularities in teeth formation may be partially overcome by bringing the teeth into vertical alignment.

Qb. Have you had a student with severe overbite (1/4th inch approximately) develop good, excellent, or outstanding tone quality?

A. I've had students with severe overbite. However, according to my understanding of the physical laws involved, I consider this condition a physical deficiency and a severe handicap. I would not take the trouble to find out if his tone quality could develop to good, excellent, or outstanding since this condition would not produce a relative five octave scale. The first step is to overcome the physical deficiency and find a playable starting point.

Qc. Have you had a student with severe overbite develop good high range? Good altissimo range?

Good low range?

A. No. He can't continue being my student since I will not tolerate that playing formation, physical deficiency must be overcome.

Qd. Have you had a student with a severe overbite develop power in playing? In what ranges?

A. Same as .

Qe. Can you establish a relationship in playing with an overbite as regards tone quality, range, flexibility, tonguing (single, double, triple?)

A. Yes. The tone quality, range, and flexibility will depend on the degree the player recedes from his original starting point. Regarding tonguing under these conditions, the player must, out of necessity, tongue to the top teeth or gum line or possibly higher to effectively block the air column. The law is that under any circumstances the player must tongue to the most: forward point, in this instance the top of the upper jaw. In double and triple tonguing the striking point of the K attack will adjust itself.

The distance between T and K may vary if the jaw motion is extreme.

Qf. Consider any of the above as applied to underbite.

A. A slight underbite is not a deficiency. I have never seen a person with a severe underbite. A person with a slight underbite is a "ready-made customer". However, the angle of the horn must conform to the jaw position.

5. Slant of the upper teeth.

Qa. Have you had a student whose upper teeth slant outward. If so, describe any advantages or disadvantages noted.

A. There is a disadvantage. To overcome this we introduce the bottom teeth edges to match the most forward point of the top teeth edges if possible.

Qb. Have you had a student whose upper teeth slant inward. If so, what advantages or disadvantages do you associate with this condition?

A. I still align the teeth edges to a parallel bite. The purpose is to keep the bottom lip facing as close as possible to the top lip reed (vibrating area).

Qc. What do you consider to be the ideal formation of the upper teeth as related to playing trumpet? A.

Teeth that match each other in structure and have no unusual high spots; even in length; vertical.

6. Movement of the jaw vertically and horizontally.

Qa. How much opening should there be between the upper registers and lower teeth for performance on trumpet in the various registers? Why?

A. Approximately 1/4th inch for all brass instruments irrespective of the mouthpiece. However, whatever the starting point in teeth aperture, total Jaw motion must be limited to half the distance of the original aperture. Example: 1/4th inch aperture, 1/8th inch motion. The law: Jaw motion should not exceed 25% of the original teeth aperture upward. Example: 1/4th inch aperture, 1/16th inch up, original starting point, 1/16th inch lowering, total movement 1/8th inch, equivalent to one-half the original teeth aperture. This enables a player to play any pitch at any dynamic level throughout a four to five octave range. The combination is increased-decreased air and increased-decreased teeth opening.

Qb. What is the horizontal position of the lower jaw in relation to the upper in playing trumpet in the various ranges?

A. There is no horizontal motion while playing except for a slight motion that might be necessary in lowering or raising pitch.

7. Movement of the red of the upper lip inward or outward.

Qa. Should the red portion of the upper lip be turned outward with the air stream in any register?

A. No.

Qb. Should the red portion of the upper lip be turned inward toward the air stream in any register?

A. Yes, for all registers. Sensitivity is achieved by muscularly matching the air column, be it fast or slow.

Qc. If neither of the above applies, what should be the action of the red of the upper lip?

8. Movement of the red of the lower lip inward or outward.

Qa. As a preface to the following, do you agree that the lower lip is not important as vibrator, but rather works to regulate the size of the lip aperture? If not, what is the function of the lower lip?

A. Yes.

Qb. Should the red of the lower lip turn outward in any of the various registers?

A. Only relative to the reduction of tension. In any event, the surface of the lower red will be firmer" than the upper red.

Qc. Should the red of the lower lip turn inward in any of the various registers?

A. It can turn inward if playing low softly and if playing high loudly. Because the lip is a circular muscle a player cannot isolate tension in one lip (two independent tensions). If the bottom lip turns inward, the top also will turn inward equally, relative to the effort and the force behind the air column. The lip inversion will be "relative to the register and force of the air column necessary to sustain the embouchure musculature. (Remember, an intent has been declared in the mind to resist the air column. Therefore, tension will be governed by the air column and its force.)

9. Amount of lip in the mouthpiece for various registers.

Qa. Is the amount of lip in the mouthpiece the same, less, or more proceeding from the low register upward? Why?

A. If we articulate the jaw motion as previously described, the higher one plays the less lip proportionately (two lips) will be exposed to air. The big factor is not how much lip is in the mouthpiece, but rather how much lip is exposed to air relative to the changing tensions and teeth aperture. As far as the outer grip is concerned, the same amount of lip stays in the mouthpiece.

Qb. If the amount changes, how is the change accomplished while slurring upward?

A. The amount exposed to air proportionately changes. as we increase the force of the air column and relatively articulate the jaw upward. At no time in any area does the player permit the bottom teeth edges to be parallel to the bottom lip. To be consistent there is a law of constancy: the bottom lip must at all times overlap the bottom teeth edges relative to the fixed corners (not enough to go into the mouth since both lips occupy equal space between the teeth edges).

Qc. Is the amount of lip in the mouthpiece in the pedal register more or less than other registers?

A. Pedal tones destroy the actual image of your playing formation. Practicing pedal tones, the player sacrifices his outer grip of the mouthpiece. In the case of larger mouthpieces such as trombone, pedal tones are a requirement of overall playing and therefore permissible. The inner red would be unrolled to introduce the softer mucosa which vibrates wider and slower.

10. What is the importance and relationship of lip surface tension to range and timbre? How is surface tension regulated

A. The lip must vibrate rim to rim. Timbre will be determined by the amount of top lip exposed to air and sealed by bottom lip facing. Varying tensions in the surface area of the top lip will change the timbre if the player increases the arm pressure (mouthpiece pressure) on the top lip as he proportionately reduces the compression in direct ratio to the increase in arm pressure while sustaining any given note or tone. In referring to change of timbre as a result of increased mouthpiece weight on the top lip, it has been my experience that the player automatically and subconsciously reduces the compression as the arm pressure increases. The issue specifically relates to the fact that in certain registers the subconscious mind, acting as the governing agent

for the overall playing, realizes that air displacement will not be possible in a closing lip aperture, since the former compression will not be able to displace itself, and will automatically compute and reduce the force in relationship to the resistance or back up of the air column at the lip aperture. To do otherwise would collapse the embouchure musculature since no one is capable of resisting his maximum ability to produce compression of the powerful breathing muscles governed by the contracting rib cage, upper and lower abdominal wall, into a sealed or blocked lip aperture. To properly allow for air displacement at a fixed compression, the playing weight of the mouthpiece should favor the bottom lip by a little more than half of the overall playing weight. This permits the player to have a fixed tension, steady, free-flowing air column, and a matching muscular resistance permitting an equal ratio of air displacement to the vibrations. Surface tension may then be regulated and changed by varying the force of the air column and proportionately varying muscular resistance.

THE END
is the beginning

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