

# **Brass Techniques Notebook**

*By Jesse Nolan*

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**General Brass Knowledge**

**I. Physics of Brass Instruments**

1. Buzz lips through flared tube.
  - a. instruments acts like megaphone
  - b. vibration of lips creates sound
2. Frequencies
  - a. lip vibration has to match length of tubing & vibrating frequencies
  - b. length of tubing determines vibrating frequencies
3. Buzzing on mouthpiece trains ear.

**II. Harmonic Series**



- \*\*5<sup>th</sup> partial is particularly flat.
- \*\*6<sup>th</sup> partial is sharp.
- \*\*7<sup>th</sup> partial is unuseable (too flat).

**III. Valve Combinations**

<u>Valves</u>	<u>Pitch Difference</u>	<u>Pitch (Concert Bb series)</u>
No Valves	No Pitch Change.	Bb
2 <sup>nd</sup> Valve	Drops pitch ½ step.	A
1 <sup>st</sup> Valve	Drops pitch 1 step.	Ab
1 <sup>st</sup> & 2 <sup>nd</sup> Valve	Drops pitch 1 ½ steps.	G
2 <sup>nd</sup> & 3 <sup>rd</sup> Valve	Drops pitch 2 steps.	Gb
1 <sup>st</sup> & 3 <sup>rd</sup> Valve	Drops pitch 2 ½ steps.	F
1 <sup>st</sup> , 2 <sup>nd</sup> , & 3 <sup>rd</sup> Valves	Drops pitch 3 steps.	E
4 <sup>th</sup> Valve = 1 <sup>st</sup> & 3 <sup>rd</sup>	Drops pitch 2 ½ steps.	F
2 <sup>nd</sup> & 4 <sup>th</sup> Valve=1,2,3	Drops pitch 3 steps.	E

- \*\*The more valves pressed, the sharper the pitch becomes: length of tubing inadequate.
- Compensating System (Euphonium):
  - a. 4<sup>th</sup> valve on side (2 ½ steps)
  - b. 4<sup>th</sup> valve runs air back through valve section (added tubing behind valves): compensates for lack of tubing.

### **First Day of Class Model**

*Goal: Make sound as quick as possible on instruments*

*Concepts:*

1. Non-verbal communication
2. Name tags on chairs
3. Condition students behavior
  - a. Come in room
  - b. Open Cases (on floor – label up)/Treatment of Instruments
  - c. Good sound/Warm-up
4. Have students mimick teacher
  - a. Open Case
  - b. Proper Assembly (Slide Lock – trombone)

*First Notes:*

1. Start w/ Mouthpiece & Embouchure
2. Embouchure:
  - a. Say “pooh” to get pucker
  - b. Stretch corners a bit – puckered smile
  - c. Teeth apart – not clenched
3. Buzz: blow through, cover hole, open hole
4. Blowing
  - a. Blow back paper – where is air landing?
  - b. Focus air – blow through paper
  - c. Blow through straw – hold paper on wall
  - d. Spitballs/Watermelon seeds?
5. Mouthpiece
  - a. Forming embouchure
  - b. Demonstrate 1<sup>st</sup> on mouthpiece
  - c. Angry bee – buzz quality
  - d. Siren Buzz/Long Buzz
6. Instrument
  - a. Just make a sound
  - b. Poor sound / Good sound demonstration
  - c. Imitate good sound
7. Show Proper Disassembly

### **V. Posture**

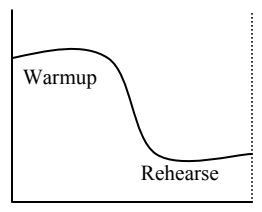
1. Standing while sitting.
2. Fire Drill Exercise
3. Don't let students use backs of chairs.

## VI. Holding/Hand Position

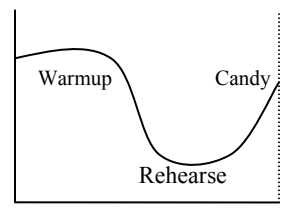
1. Rest/Ready/Playing positions
  - a. Coordinate w/ podium.
2. Angle of horn to face
  - a. Between 90 & 60 degrees
  - b. Hold instrument higher as student grows.
3. Hand position (Valve Instruments)
  - a. Pac-Man: Curved w/ natural wrist angle
  - b. Horn: Right hand cupped and laid in bell.
  - c. Bone
    - Mr. Spock on slide
    - Pointer: wrap around bars
    - 7<sup>th</sup> position: arms aren't long enough (all the way out) – fix when student grows.
  - d. Euphonium/Baritone: use towel to hold up.
  - e. Tuba: hockey puck to hold up.

**Pacing (Warmup & Rehearsal)**

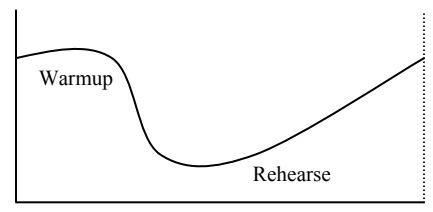
Beginner (gr. 5-7)



Intermediate (gr. 7-9)



Advanced (gr. 10 - )



**Breathing (Respiration)**

1. Process of inhalation & exhalation.
2. Inhalation
  - a. Breathe in through mouth.
  - b. “Oh” syllable on deepest pitch (Darth Vader) is fastest way to get air into lungs.
  - c. Grapefruit Size – suck in
  - d. Think about air in quantitative form in front of you.
  - e. Shape change of body
    - shoulders rise
    - stomach expands
    - chest puffs
  - f. Shape change in body is only good if the *air* is doing the expansion.
  - g. Psychology of breathing: take air in and allow it to change body shape.
  - h. Good breath
    - hold breath/exhale completely
    - then inhale – you *will* draw a good breath
  - i. Process
    - Diaphragm contracts: this opens lungs
    - Air rushes in.
    - Diaphragm relaxes – moves air out.
  - j. Inhale/Exhale process in circular motion – trace motion w/ hand
  - k. Allow body to shape change on exhale and become fully relaxed.

### Choosing Instruments

1. Factors influencing the choice of instruments.
  - a. Interest on instrument (what student wants to play)\*\*\*\*
  - b. Size of student
  - c. General intelligence
  - d. Attention span
  - e. Physical characteristics
  - f. Money/Cost
  - g. Personality
  - h. Family tradition

#### *Specific Instruments:*

1. Trumpet
  - a. Physical size doesn't matter
  - b. Mix 'n' match trumpets (personality/intelligence) b/c of large section
  - c. Leaders (every section)
  - d. Relatively cheap
  - e. Most effected by facial features (larger lips, braces, overbite are bad)
  - f. Brace guards to keep from bleeding (if student has braces)
2. Horn
  - a. Physical size doesn't matter
  - b. More intelligent students: hardest brass instrument & small section
  - c. Kids w/ previous musical training: ear is important
  - d. Moderate price
  - e. Highly effected by facial features
3. Trombone
  - a. Smaller students will have trouble – arm length!!
  - b. Good ear is important: fine tuning slide positions
  - c. Student w/ deformed hand
  - d. Mix 'n' match (personality/intelligence)
  - e. More expensive (more than trumpet / less than horn)
4. Euphonium
  - a. Strong personality: small section
  - b. Physically handicapped: easy to hold
  - c. Easiest brass instrument
  - d. Cheap if school owned, otherwise expensive.
5. Tuba
  - a. Better for physically larger student (tuba stands for smaller students)
  - b. Independent personality: small section
  - c. Larger lips are good.
  - d. Cheapest: usually school owned.

**Edmund Cord Lecture**

*Respiration:*

1. Muscles
  - a. Diaphragm is a muscle that separates thoracic cavity and abdominal cavity.
  - b. Muscles contract & relax
  - c. Muscles of inspiration: contract so lungs can expand
  - d. Intercostal muscles: Connect tissue around ribcage – lift and pull out from lungs so lungs can expand.
  - e. Muscles of exhalation are stronger than muscles of inspiration.
2. Inspiration: Breathing in – diaphragm pulls down: suction
3. Exhalation: Diaphragm relaxes
4. Sit up straight
  - a. Efficiency / Ease of motion
  - b. Good posture
5. Students should practice breathing.
6. Playing @ this level is controlled relaxation.
7. Quality of breath = Quality of sound.
8. Mental training allows us to use our brain to manipulate body parts: Breath
9. Model behavior and accept temporary frustration.
10. Position of head
  - a. Directly over spine
  - b. Head up/down: Bad
  - c. Better resonance w/ head straight: like voice.
11. Embouchure
  - a. Blowing candle out: TOO H sound
  - b. Wind sound: WOO H (in) & TOO H (out)
  - c. Wet lips

### Transposition

1. Bb trombone/Bb tuba/Bb euphonium: open note is Bb (Non-transposing)
  2. Bb trumpet: sounds down a major second – overtone series is based on Bb.
  3. Horn: sounds down a perfect 5<sup>th</sup>.
- \*\*Rule: “When it sees a C, it sounds its key.”

#### *Orchestra Parts:*

1. Trumpet
  - a. Trumpet in A: transpose down ½ step (play G#). Sounds down a minor 3<sup>rd</sup>.
  - b. Trumpet in Bb: Transpose down.
  - c. Trumpet in Eb, F, D: Transpose up.
  - d. Piccolo Trumpet in A, D, Bb.
  - e. Bb Trumpet key signature: from concert, always add two #s or naturals
2. Horn
  - a. Horn in G & A: Transpose up
  - b. Horn below F: Transpose down
  - c. Horn in Eb: Drop part a whole step
  - d. Horn key signature: From concert, add a # or drop a flat.

**Valves**

*Rotary Valve vs. Piston Valve*

1. Trumpet, Euphonium/Baritone, Tuba: Piston Valve
2. Horn: Rotary Valve
3. Some Tubas have rotary valves as well. (German Sound)

*Piston Valve:*

1. Spring inside casing
2. Trumpet: Spring inside valve.

### Horn Equipment Choice

1. Full Double Horn
  - a. 2 different sets of tubing: 1 side F, 1 side Bb.
  - b. Thumb trigger to switch to Bb side.
2. Compensating Double
  - a. F horn w/ compensating valve.
  - b. F & Bb share tubing
  - c. Compensating valve changes tubing combination,
3. Harmonic Advantages of Bb horn.
  - a. Switching sides to the Bb from F shifts the series of partials down in order to allow for easier playing.

#### **F HORN**



#### **Bb HORN**



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**Articulation**

1. Staccato: Tu
2. Du & Gu
3. Legato: Lu
4. Double Tonguing: ku/gu or du/gu
5. Triple Tonguing: tu-tu-ku or tu-ku-tu

## Maintenance

### *Stuck Mouthpiece*

1. Bobcat Mouthpiece Puller
2. Tell parents NOT to try and remove mouthpieces themselves.

### *Dent in Mouthpiece Shank*

1. Mouthpiece shank repair tool or trueing tool.

### *Stringing Rotary Valves (See sheet in appendixes)*

1. Mini screwdrivers
2. String

### *Piston Valve Problems*

1. Valve not in correctly: muffled sound
2. Valve in wrong slot: muffled sound
3. Valve guide problem: Yamaha guides flip & turns valve around
  - a. Buy extra valve guides

### *Valves*

4. Stuck Valves
  - a. Oil
  - b. Check inside piston for debris
  - c. 2<sup>nd</sup> valve: slide bent (repairman)
  - d. Don't let kids put book in place

### *Other*

5. Stuck slides
  - a. Repairman
  - b. Tuba/Euphonium: use a rag – pull quickly
6. Leaky Water Key: Replace cork/rubber
7. Spring action on water key: Repairman
8. Brass overhaul: Expensive

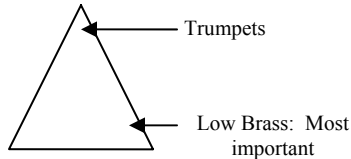
### *Dents*

8. Bell Dents
  - a. Cosmetic
  - b. Roll out with drumstick
  - c. Repairman if particularly bad
9. Crushed Tubing
  - a. More than ¼ crushed affects airflow, intonation, etc.

## Dave Woodley Lecture

### *Sound*

1. Don't talk about volume.
2. Stress things that create volume: tone/intonation, etc.
3. AIR
4. Fat, Dark, Round sound
5. Balance



6. Lack of Tension
  - a. Breath properly
  - b. Open Airway
  - c. No Upper Body Tension

### *Warm-ups*

1. Don't get carried away w/ chorales
  - a. Can be dangerous
  - b. Don't have to be slow & pretty
  - c. Used to achieve the big/dark sound.
2. Lipbenders
  - a. Work on breathing & articulation
3. Develop sense of band unity
  - a. Breath together
  - b. Articulations
  - c. Trumpets listen down
4. Match warm-up w/ daily goals

### *Scoring/Balance*

1. Block scoring: 40s & 50s – same rhythms
2. Multiple scoring: counterlines, etc (1960s)
3. To make brass sound more prominent and hide problems:
  - a. Reduce # of moving parts
  - b. Double instruments to create a sound that projects (ex. Horns & 3<sup>rd</sup> tpt)
4. Ranges
  - a. Trumpet
    - Average: C below staff to G above
    - Power: C in staff and above
  - b. Trombone/Baritone
    - Average: Bb in bass to F above

- Power: Bb above bass to F
- Midrange: F below to C in bass staff
- c. Mellophone:
  - C below to E in staff (treble)
- d. Tuba
  - Bb below to D in bass staff
- e. General Power Range: Upper 5<sup>th</sup> of ranges.

### *Field Placement*

1. Perfect instrumental setting doesn't happen because of:
    - a. Lack of tubas
    - b. Lack of trombones w/ good ears
    - c. Horn is becoming popular
    - d. Lots of trumpets
  2. Non-perfect instrumentation
    - a. Sousaphones:
      - Center of field near percussion
      - Keep in front or on sides of drums to project sound.
    - b. Trombones
      - Lack of coordination (marching and playing)
      - Keep in 35-35 range in front of hash
    - c. Trumpets
      - Charted based on what they are playing
      - Melody: center/front
      - Quiet: turn around, face endzone, outside 35s, back of field.
    - d. Mellophones
      - Difficult to place
      - Charted based on role
      - Keep in 35-35 zone
      - Move front to back
- \*\*RULE:** The lower the pitch the longer the time delay.

### *Segregation vs. Integration*

1. Sections separate or together?
2. Integrate
  - a. Many students on all instruments
  - b. Good players
3. Segregate
  - a. Smaller numbers
  - b. Inexperienced
  - c. Keep together for confidence and concentrated sound.

*Parade Considerations*

1. Trombones in front: traditional
2. Segregate: Pockets of sound
3. Integrate: Full symphonic sound.
4. Percussion in middle
5. Tubas around percussion
6. Experiment

*Recommended Brands of Instruments*

1. Trumpet
  - a. Yamaha, Bach, Schelke
  - b. Cornet: good for beginners, add trumpets on first part
2. Mellophone
  - a. IN F
  - b. F is more versatile
  - c. Yamaha, King, Blessing
3. Trombone
  - a. Size of bore is important
  - b. Want large bore horn: open/dark sound
  - c. Don't start beginners on large bore
  - d. Kohn, King, Bach, Yamaha
4. Baritone
  - a. Bell front is better for marching
  - b. Marching baritones: Don't sound as good, stuffy, heavy
  - c. Yamaha, King
5. Sousaphones
  - a. Souzy (Darker Sound) vs. Shoulder Mount (Edgy)
  - b. Expensive
  - c. Yamaha, Kohn, King
  - d. Don't buy fiberglass.

**Instruments to Purchase (Wishlist)**

1. Bass Trombone (F Trigger, Gb Trigger)
2. Flugelhorn
3. Piccolo Trumpet
4. C Trumpets (Orchestra)
5. Valve Trombone (Marching/Jazz)(Euphonium Players)
6. Regular Trombones
7. Tubas (4 Valve)
8. Marching Baritones
9. Sousaphones (No fiberglass) (Lead Pipe Bits)
10. Euphoniums (Compensating)
11. Double Horns (Compensating)

## Extended Techniques on Brass Instruments

### *Range*

1. Use scales (up and down)
2. Find literature that challenges range
3. Rotate parts
4. Don't tell students that high is hard.
5. Tell students to play easily/comfortably.

### *Ranges (Written)*

1. Trumpet
  - a. G below – G above (Middle School)
  - b. F# below – E above (High School)
2. Horn
  - a. A below treble – F/G at top (Middle School)
  - b. E below treble – C above (High School)
3. Bone/Euphonium
  - a. G – F above (Middle School)
  - b. E below – Bb in treble (High School)
  - c. Bb below bass (Bass Trombone)
4. Tuba
  - a. G below bass – F in staff (Middle School)
  - b. E below bass – D above (High School)

### *Upper Range*

1. Faster Airstream
2. Faster vibration in lips
3. Volume of air is less playing higher
4. Smaller, more focused air stream.

### *Low Range*

1. Slower/Thicker Air
2. Don't tell students that low is hard

### *Vibrato*

1. Save for high school
2. For solo – not as much for band
3. NO vibrato in tuning note
4. Teach vibrato using voice
5. Metered vibrato

*Flutter Tongue*

1. Roll Tongue
2. Keep air moving while rolling
3. Keep Buzz

*Multi-phonics*

1. Singing while playing

## Pat Harbison Lecture

### *Lecture Overview*

- Range/Power
- Don't base teaching on what your peers are doing.
- Real Jazz vs. School Jazz
- Style/Phrasing
- Improvisation
- A lot of bad teaching out there
- Target Oriented! – mechanics fall into place
  - Clear mental sound of what you want.
- Notation is no the note – Just a representation
- Don't make equipment choices based on pro players equipment.
  - Play Bach 7C, 5C, 3C mouthpieces
- Technique
  - Lips vs Air – Emphasize Air
  - Taught Buzz/Lips, etc – not breath

### *Teaching Breath (High Range/Power)*

1. Posture
2. Big Breath – Mental Image
3. Horn w/o mouthpiece
4. Lips on outside of lead pipe
  - Big breath – out as fast as you can
  - Use valves
5. w/ Mouthpiece
  - Repeat lips on outside
  - Get air through horn as fast as possible
  - w/ valve combinations
6. Lips inside mouthpiece w/ out touching
7. Blow same air and gradually close lips
  - focus on air first
  - when note sounds keep it steady
8. Teach notes by ear

### *Style/Phrasing*

1. Clear picture of what music should sound like
2. 1950s Basie Big Band – THE Big Band Sound
3. Don't pick literature that is too difficult – play easier pieces better

### *Websites*

1. IAJE.org

2. [jazzinamerica.org](http://jazzinamerica.org)
3. [trumpetherald.com](http://trumpetherald.com)
4. Bach Trumpet Discussion Board
5. [jazzbooks.com](http://jazzbooks.com)

### Slurring

1. Lip slur – changing notes w/o changing valves  
changing partials w/o rearticulating
2. Valve slur – changing valves w/o rearticulating  
move valves quickly  
smooth slur: move valves slower – must blow through
3. Trombone
  - a. Lip Slur: same as other brass
  - b. Slur: Legato tongue – soft tongue – lu syllable  
Move slide quickly
  - c. Natural Slur:
    - Occurs when note is going in opposite direction of the slide
    - No tongue
    - If your jumping a partial and moving the slide = natural slur

**Miscellaneous Information**

1. Glissando:
  - a. Trombone
    - Only a tritone (B – F)
  - b. Other instruments
    - Play first note
    - Half valve while slurring
    - Hit 2<sup>nd</sup> note
2. Advance Trombone music may be written in tenor clef
3. Baritone T.C.
  - a. Written in treble clef as a Bb transposing instrument
  - b. Sounds a M9 down
4. Baritone B.C.: Bass clef
5. Tuba in Jazz
  - a. Put tuba on 4<sup>th</sup>/5<sup>th</sup> trombone part
  - b. Teach them to double on bass trombone
6. Packing Instruments for travel
  - a. Hard case w/ blanket, clothes, or bubble wrap
  - b. Don't let instrument move inside case

## Professor Stewart Lecture

### *Maintenance*

1. Care of slide
  - a. Slide-o-Mix: Oils slide
  - b. Care of slide is crucial
2. Care of valves (Rotary)
  - a. 2 bearing points – oil them (cap on one side & slot on other)
  - b. Rotor should be free to move

### *Types of Trombones*

1. Alto
  - a. Eb
  - b. Smaller Dimensions
  - c. Alto Clef
2. Tenor (Regular)
  - a. Bb
  - b. Regular Dimensions
  - c. Tenor/Bass Clef
3. Bass
  - a. Bb
  - b. Same dimensions as tenor
  - c. Bore is a little larger
  - d. Attachment adds length
  - e. Bass Clef

### *Uniqueness of Trombones*

1. Glissandos
2. Slide Vibrato

### *Wrist Action*

1. Most important technique in slide hand
2. Must be smooth

### *Attitude towards Trombone*

1. Students have predispositions about skill involved in playing
2. Express the attitude that playing brass is not hard
3. Must be tension free – relax
4. High Efficiency – ease of playing
5. Psychology of playing.

## **Article Summary**

### ***Where It All Begins***

*By Gerald Gleason*

This article is an overview of starting a student on tuba or euphonium. It is meant to outline proper practices that are essential to the beginning tuba/euphonium student.

The topics covered in this article are:

1. When to start
2. Instrument Size
3. Mouthpiece selection / Embouchure
4. Tone/breathing/range
5. Keeping Students Interested

#### **1. When to Start**

Gleason believes that the best time to start a student on tuba or euphonium is when they are in the fifth grade. Besides the reason that students are physically ready to handle these instruments, Gleason cites the idea that students have more free time on their hands in the fifth grade and have less extracurricular distractions. This allows them to devote more time to the instrument.

#### **2. Instrument Size**

Gleason's personally philosophy is that a student should start on the instrument he/she intends on playing instead of starting on trumpet and switching to euphonium because of the size factor. He says it would be beneficial to have many different sizes of euphoniums or tubas, but unfortunately that is usually not the case.

#### **3. Mouthpiece selection/Embouchure**

Gleason believes that the choice of mouthpiece is just as important as the choice of instrument. That is that the mouthpiece must be suitable for the student's size. He

recommends a mouthpiece with a fairly shallow cup and comments that the ones “laying” around the band room are not likely the best choice. Regarding the embouchure, Gleason believes in one correct way of setting the embouchure and aims to teach it at a young age.

#### **4. Tone/Breathing/Range**

Gleason’s philosophy is that a considerable amount of time must be spent developing these three important qualities that are crucial to successful tuba/euphonium playing. A teacher must give constant reminders to students of the attributes of good tone and breathing and instruct them on ways to produce a good sound.

#### **5. Keeping Students Interested**

“If a student has been started carefully and correctly, they will have a good chance of measuring success and will probably continue to be interested in playing their chosen instruments.” Gleason believes the key to keeping students interested is success, which he feels lies in the teachers hands. There is no substitute for encouragement.

## Article Summary

### *Where To Breathe* By Jeffrey Funderburk

The focus of this article is not just the process of breathing, but more specifically it involves where in the music a tuba or euphonium player should breathe to properly convey the musical phrase. Funderburk seems to stress this concept heavily and makes 4 crucial points.

1. The placement of breaths should be motivated by musical considerations
2. Breathing points are a technique that is essential for successful musical interpretation
3. Breaths serve not only as a means for getting air, but also as a means for creating musical tension, or heighten the effectiveness of the music.
4. It is important to understand the sequences in a piece of music because they outline the phrase structure. This will dictate when and where to breathe.

The second section of the article outlines where to breath. Funderburk suggests 2 specific places.

1. Rests: Make the most of any breathing opportunities that are given to you by rests. Make sure a passage is begun with a full air supply. Short rests also allow for shorter breaths which will be more musically effective than a large, gapping breath.

2. Phrase Endings: A musical score will normally outline many of the phrases and sub-phrases. Between these are usually good places to breathe. However, playing a whole phrase on tuba or euphonium in one breath can be challenging, so Funderburk suggests the following:

a. Following ties of dotted notes / After longest note value: A dotted note often signals a point of pause in the music, and are generally good places to breathe. The longest note values, however are relative to the passage.

b. Leave out a note: Within longer, technical passages it may be necessary to leave out a note or two. These notes must not be randomly omitted, and instead selected in advance of a performance. This is sometimes preferred, especially in a larger ensemble, where stagger breathing can occur. It usually results in a more solid performance than trying to play one phrase with a single breath, as tone and pitch may suffer as air supply runs short.

The rest of the article goes on to discuss these concepts in further detail.

**Article Summary**

***Instrument to Player Coupling***

*By Walter Lawson*

The idea of this article is to present techniques and strategies to allow for proper production of a good sound on the horn. Therefore, the author intends for his suggestions to allow the player to move, breath, play, etc in a stress free manner. He calls this idea “instrument-to-player coupling.” In the article he discusses several ideas which will serve this goal.

Lawson specifically sites chair height as being crucial for correct posture. He also gives suggestions on how to fix problems with chairs that are too short or too tall. The angle of the mouthpiece also has a huge effect on the sound produced. Lawson suggests that the player be able to look at the music and look at the conductor without having to move his or her head. He believes that the mouthpiece should be placed on the lips in a way that maximizes the buzz with the least amount of effort. This will be different for every player. Next, Lawson mentions several suggestions for proper mouthpiece settings and angles that allow for fine tuning of the instrument to player coupling idea.

The next section of the article discusses positions of both the right and the left hand. Lawson describes, in detail, the correct position of the left hand, wrist, and fingers so that efficient movement on the valves can be maximized. He discusses many of the same concepts talked about in class. An idea we didn’t cover, however, is that of the “change valve lever.” This thumb valve should be placed so that the thumb can easily operate it. Lawson also suggests some fine tunings for this valve.

The valve section of the article discusses the settings for the valves and the placement of the valve section on the horn. Lawson discusses how to customize the

settings of the valves for a player whose fingers do not fall perfectly on the levers. He also suggests ways to eliminate strain and maximize efficiency by changing the settings of the levers.

To wrap up the article, the author discusses the issues of tuning slides. These can cause great irritation to a player, especially if they do not fit correctly. They should be completely parallel with the rest of the horn tubing in order to move easily, but they should not be too loose because they can fall out and dent.

To conclude, Lawson reiterates the idea that the human voice and horn sound are produced in much the same manner, and that good posture, support, and breathing habits are essential for success.

## Article Summary

### **The Rim**

*By Toshi Kameyama*

The discussion of this article is focused not on mouthpieces, but on the rims of mouthpieces. Although it might seem silly to devote an entire article to this, the author proves his point that the rim of a mouthpiece is the most influential (and intimate) part of sound production. Since it is the only part of the horn your lips touch, it is likewise the most influential over the sound.

Kameyama defines a good rim as having a “smooth shape with an agreeable feel, good response, helps endurance in the high range, and facilitates playing in the low register.” This, of course, is the dream mouthpiece, as if one of these existed, every brass player would play it. However, since this is impossible, Kameyama dissects the elements of a good rim and discusses them in detail. These elements are:

1. The interior angle: shape of the interior angle determines the response. The steeper the angle the clearer and easier the response.
2. Interior Surface: This surface is important for resting the lips on. The rounder it is the farther the lips go in and the rounder the mouthpiece feels.
3. The middle surface: the central area of the rim
4. Exterior angle: this is the least important of the elements of a mouthpiece, but is still influential as some players need steeper angles to anchor the mouthpiece securely.

Finally, the last sections of the article deal with different types of mouthpieces. Kameyama discusses a mouthpiece that has a removable rim that could fit various other cup shanks. Therefore, one rim could be used on many different mouthpieces to facilitate

the most comfortable and most efficient playing in many styles, on many horns, and on many mouthpieces.

### Article Summary

#### ***Difficult Trombone Passages in Standard Band Repertoire***

*By Larry B. Campbell*

This article, obviously trombone focused, discusses trombone passages in many pieces of band music that may prove difficult for the student. They will also serve as a learning experience for many techniques that are being taught in the classroom. The article dissects each passage as to why it is difficult and offers band directors suggestions on how to facilitate the learning of these passages for their students. Here is a list of the pieces sighted in the article.

#### **Grade 3 & 4**

*Second American Folk Rhapsody* (Claire Grundman): glissando passage – adjust starting position.

*Down a Country Lane* (Aaron Copland), *Creed* (William Hines), *An Irish Rhapsody* (Claire Grundman): legato tonguing passages –full relaxed breaths. Use tu.

#### **Grade 5 & 6**

*Lincolnshire Posy* (Grainger): second mvmt sustained ff - Deep relaxed breaths.

*Second Suite for Military Band* (Holst): “Song of the Blacksmith” – rhythmic challenge.

*Incantation and Dance* (John Barnes Chance): playing in pedal range – no tension.

*Four Scottish Dances* (Malcolm Arnold): multiple tonguing.

These are not the only passages in band literature that are difficult for trombone players, but they serve as a reference for many of the concepts that are difficult on the trombone. Any band program will at one time or another play one of these pieces, and it is nice to have a reference that discusses tips for playing these difficult trombone passages.