

Arnold Jacobs' Clinic Notes

How
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Arnold Jacobs, retired Tuba Chicago Symphony

Concepts Part 1

Air vs. Wind

- Pressure-Bad
- Wind-Good
- Quantity not Pressure
 - If air quantity is low, embouchure will shut down to save it.
- "Hah" vs. "SSSSSSS"
- Slow speed is soft
- Fast speed is loud.
- Think beauty of tone not amount of air.

Three ways to breathe

- ¹ Isometric(no air--motion only)
- ² Pelvic motion
- ³ Bellows (BEST)

Air is specialized in exhalation , not inhalation.

- Keep latter simple. Former is controlling wind and air.

Wind-Song

- Fast
- Thick
- Love song

"Two shades of Gray" not black and white.

Warming up

- Make the first sound wonderful.
- Never lower musical standards.
- Slow warm-ups test quality of of sound.
- Professional players never cool off.
- Do not prepare to play. Play.

90% Music-10% Fuel

- **AIR** is fuel.
- Normal has great quantity and speed.
- Forced begins to fade quickly.

- Asthmatic requires much force with little volume.
- Downward pressure on bow is analogous to air pressure; speed of bow is analogous to fast-moving bow.

Playing is like Rolls Royce

- Do not fix it, drive it!

ISSUE Statements not Questions

- It is not important to play perfectly, tell a story
- Keep thoughts childlike--80% song
- Thoughts of body--childlike.
- Thoughts of music--adult.

Memorize SOUND, not FEELING.

- Control the note, not the body.

Great music, NOT range and velocity.

Tone as a ball on a stream of water.

Think of air in terms of length.

- Work with air quantity
- An unsupported, thin sound is caused by thin air stream.
- Think a thicker column of air.
- Breathe to expand, not vice versa.
- Do not substitute pressure for air volume.
- Get a sense of friction at the lips.
- Keeps friction from throat. Become strong by blowing more--not squeezing body.

INTUITION-IMAGINATION-IMITATION

- Tissue responds to the authority of the 3-I's.

Do not be afraid to be wrong.

Allow yourself to make mistakes; there is no improvement without them.

Teaching Concepts

Add to skills

Paralysis by Analysis

Practice with Motivation

Practice materials

- Bel canto studies
- Medium dynamics, the expand outward

Do not correct

- Do it wrong, learn it right
- Do not learn to play instrument; learn to play music on the instrument.
- Do not stop if you do not like it
- Lie a little.
- Be a used car salesman, do it even if it doesn't feel good

Develop skill away from instrument

Strangeness can make learning easier

- Work from positive aspect

"Sound" like a loaf of bread

- Each slice has all of the ingredients
- Practice articulation in musical exercises.(Arban)
- Increase air for tonguing so decibels do not go down. (This will also prevent from tonguing too hard.)

Use minimal motors

- Allow crudities in beginners
- Encourage to "play for someone else."

Work up pieces by playing short sections

- Play a little bit very well.
- Imitate and create.
- Always pretend there is an audience.

Go beyond the requirements; Take a chance.

Do not be afraid to be wrong.

- Work with what is right not correcting what is wrong
- Precise images require mental image, not physiology

Special flute problems

- Move air beyond the mouthpiece.
- "Buzz before blowing," applicable to flute?

Beginners are elementary artists.

Let the student teach.

Be a better player in your head.

- Imitate those who are better than you
- Put excellence in the brain before the horn
- Play for others; tape yourself.

Work with player not instrument.

Physical Considerations

Three functions of abdominal and thoracic muscles

- Breathing
- Evacuation and childbirth
- Stiffening torso

Diaphragm breath means using more than thoracic cavity.

- Large quantities cannot be taken without diaphragm.

For inhalation, use minimal motors (as in a flabby bicep display)

- 1 Relax abdominal muscles
- 2 Use a breathing tube (Dolly Parton)
- 3 Do not move body, take in frictionless air.
- 4 Show resistance (for teaching) - various ways to tighten
- 5 Literal expansion is pseudo-respiration. Works only somewhat.
- 6 Bending R, L, Front or Back shows respiratory cutoff.
- 7 Lying down can reduce back expansion.

At end of breath, do not worry about getting ready to inhale; body will take over naturally and automatically switch gears. The thorax and abdomen can support excess of 125 lbs.

- Need to blow 3 lbs. of interoral pressure at highest trumpet range.
- Lips can resist air much greater than systems behind can provide. (i.e., use just the lips to play, do not tighten elsewhere.)
- Air pressure and quantity are function of absolute range.
- Pressure is the result not the cause. (none on flute) i.e., the same note in Herz will require the same effort on any brass instrument.
- QED, tuba upper register requires less than one pound of interoral pressure.
- Even in high register, think wind, not pressure.
- There is no causative artificial stiffness, only a result
- Go by the air, not the appearance of the body
- Do not be afraid of exaggerated motion.
- Fear restrictions.



Go to Concepts Part 2

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Concepts Part 2

Subconscious

- More powerful than conscious.
- Can only be changed by positive influence.
- Do not fight old habits, learn new ones.

Medicine

- Inhalant to counter bronchial congestion
 - Albuterol(generic name)
 - Single inhalations up to 16-18 per day
 - Only attacks lungs' beta
 - Requires physician's prescription
 - Beta 1--Heart
 - Beta 2--Lungs

Avoid extremes

- 2/3 - 3/4 - full works best
- Most utilize less than 1/2 capacity

Muscles work in groups, not individually

- Achieve softness in muscles.

High register

- Air compression reduces capacity slightly(15%)
- Create compression by movement not pressure.
- Avoid conscious control of lungs.
- Lungs will rise with low air capacity.

Full breath

- Requires no diaphragm to evacuate air.
- Diaphragm cannot contract up, only down.
- Diaphragm cannot be felt; there are no sensory nerves.
- *Think* : Breathe and blow from mouth - not the body.
- Move quickly to shorten length of lungs.
- Let body decrease in size.
- Think length of torso, not breadth.

Vowels

- OH
- AH
- Tongue
 - oo-thoo (back and forth)
 - a-la (up and down)
- Mouth should not be more open than throat. Resistance will transfer to throat.

Air capacity

Function of

- Age
 - Diminishes with age
- Height
 - Long torso means large capacity
- Weight
 - Overweight is detrimental.

Hyperventilation

- Helps prepare for long phrase

Exercises

Breathing

- Should be practiced
 - Away from instrument
 - In front of mirror
 - stripped to see motion
 - Will take six months or more
 - If done consciously, will not be natural
 - Must replace former practices
- For continuous action
 - Extend arm(for visual reinforcement)
 - Inhale-Raise arm
 - Exhale-Extend arm
 - Move smoothly, continuously
 - Motion, not pressure
 - Practice partial contents
 - Move in thirds
 - Move in halves
 - Have younger students blow into a bag.
- For maximum fill
 - Lower arms at side
 - Inhale-Raise arms out and up over head
 - Exhale-Lower arms
- To counter CO2 buildup

- Hyperventilate before passage
- Ease in inhalation
 - Open mouth as wide as possible
 - Feel bottom of mouth with tongue
 - Change air direction instantly
 - Will relax system
- Speed and Quantity
 - Five Count
 - Slow inhalation to begin
 - Exhale-2-3-4-Inhale(5)
 - Four Count
 - Slow inhalation to begin
 - Exhale-2-3-4-Inhale("and" of 4)
 - Exhale 5-6-7 in hale on 8 (for even quicker breath).

Buzzing

- Better on rim or mouthpiece
 - Requires less force
 - Removes powerful influence of instrument

Inhalation

- Think "SUCTION"
 - Begin with resistance
 - Use soda straw
 - Cut in half-Inhale
 - Continue to halve straw, increasing volume of air
 - Decrease resistance as progress is made

Posture

- "Puppet on a string"
- Convert standing into sitting position
- Avoid rigidity--think length.
- Do not fold to exhale--straighten to inhale.
- Keep the spine long.
- Jacobs prefers *Rolf* to *Alexander* .
- Playing "H" articulation
 - To avoid "stickies"
- Play octaves with vibrato on upper note.

Locking

- Substitute word for note.
- Support available before note starts.
- Descend from high note
 - DO-TA
 - DO-LA
 - DO-SO

Problems

Grunting

- If at start of sound
 - No great problem
 - Caused by muscular contraction in abdominal wall
 - Correct by holding air with expansion only
 - Count loudly while holding air
 - Feel little air on back of hand
 - Practice away from music
- If at end of sound
 - More serious
 - Caused by increase of muscular activity
 - Not blowing-Inactive

Stage fright

- Slow breathing
- Use solfege(singing)
 - Good psychological tool--no anatomical validity.
- Flood brains with sound

Embouchure

- Length
- Thickness
- Tension
- Use solfege as a stimulus
- Use as replacement for vocal chords.
- Do not fix in any particular position.
- Begin with buzz , not mouthpiece.
- Swelling lips
 - Lymph system
 - Histidine is the substance.
 - Buzz on ring
 - Lip massage to move out of lip

Phrasing

- Find middle note
- Sustain
- Time
- Compare to phrase in piece
- Work out breathing

Tongued passages

- Slur to prepare

Tools

7/8 inch diameter tube

- Put mouthpiece in tube and blow.
 - Inhale and exhale.
- Then forefinger in one end
 - Inhale and exhale.
- Open tube
 - Inhale and exhale.

Six-litre anesthesia bag (One and a half lung capacity is a good size)

- Fill bag with exhalation
- Inhale from bag
- Play passage

Ping-pong ball in tube

- Begin with more resistance
- Inhale and exhale
- Keep ball in raised position
- Ball should remain during in tongued passage.



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Song

Arnold Jacobs, retired Tuba Chicago Symphony

March 28-30, 1991

- Simplicity is usually the best solution/answer
- Communication
 - Thought brings about motor activity
 - Tell the body the truth
 - Stimulus-Response
 - Biocomputer=Brain
 - Thought become stimuli
 - You cannot communicate directly with the muscles. You must use the "Control Panel" (Brain).
- To alter the response you must alter the stimuli.
- Result is important.
- Don't try to stabilize the embouchure, stabilize the music (product).
- The moment does not create new habit, it must be constantly reinforced.
- Do not fight bad habits-this does not solve problems, it reinforces old habits, you must establish new habits.
- Trying to "Play Right" is not best approach.
- Think about a player or sound you like.
- When you play you must get brain activated.
 - 5 senses.
 - When you play you use motor functions not senses.
 - You must allow mistakes.
- Prepare sound in the head. *THINK GREAT SOUND!*
- Think about words (actual or improvised) when you play the SONG on your instrument. Flow is greater playing than singing.
- Exaggerate to separate shades of gray into black and white.
- When you let go of a habit you must replace it with a new one. (hard to Replace old).
- When you get nervous (stage fright) internalize music. Responses to distress: Fight or Flight - if you miss a note ignore what is wrong and concentrate on what you want to hear.
- We don't play by phrases-we create phrases. Building phrase by individual notes. We know what individual notes sound like. and we build phrases from this knowledge. For example individual words make up the complete story we hear.
- Stimuli- Suction is important. Don't expand to breath (mechanical sense) breath to expand (psychological sense).
- Search for high range is a search for art not strength (though strength will result).
- The psychology is important.
- Muscles should not be used to produce product. Instead use product to move muscles.
- Your body can lie. For example you can move chest and abdominal region and not inhale. If you want to move tissue you can order body to do this-or you can order breath.
- Change order and get new results. You cannot use parts tied to subconscious to do functions.
- **PARALYSIS BY ANALYSIS!!!!**

- You are built to survive and use muscles as systems not individually.
- To change pattern of response change stimuli.
- Psychology of playing is based on wind.
- Go outside the body (breath builder, rebreathing bag, piece of paper, volumetric exerciser, incentive spirometer, etc.) to demonstrate "WIND" concepts.
- Develop song to develop tissue, not other way around.
- Bad sounds can be made into beautiful sounds-silence cannot!
- When you concentrate on the psychology of breath anatomical structures will take care of the physical activity needed to do the job. Most actions we perform are too complicated to think about.
- Focus on product!
- Biocomputer=Brain
- Always look for the simple answer!
- Allow yourself to be wrong!!!
- When most people breath they order a breath (not quantity, just a breath). You should always try to order a comfortably large quantity of breath (wind).
- After working on these exercises forget about it all and **MAKE MUSIC!!!!**
- Sound/Tuning/Matching:
 - Chicago Symphony - plays as loud as the Y do because the acoustics at podium. Brass does not sound as loud at podium. Acoustics can effect sound, tuning and matching of sound.
 - "Thick Air" and embouchure that can vary in thick or thin texture.
 - Finest quality of tone in the midrange leads to better quality at loud and soft dynamics.
 - Motivation of player influences sound, tuning matching most.
- Continue long tone.
- Positive approach to playing music. Work on music not meat!!
- Imitation and Creative Thinking are two most important tools.
- To produce a good sound, you must first have a good sound in your head.
- When you control sound you control meat.
- You cannot control the breath when activity is centered behind lips.
- Be willing to be wrong!!
- When you play great it feels good and when you play bad it feels lousy. However you want to fix sound not feel. It is possible to play great but feel bad. (Ref. also Wind)
- Reflex Response: developed from playing. After about a year of play you have tools to make music. Goal is to forget about work that goes into playing and make music!!!
- Tape record your playing and analyze tape not live performance. Get distance from yourself.
- The intelligence of the human being is coping with life around you NOT IN YOU!!!
- Imagination is great tool:
 - Always play like your performing for an audience.
 - Imitate a performer/s you like.
 - Creative thinking, develop new sound in your head.
- An artist must have many tools-like an actor with many moods.
- Ballad approach makes for a fine tuned engine.
- Get MUSICIAN started in warm-up, not technician.
- Remember what it looks like not feels like. Feeling can lie.
- Nerves can get best of us. This combined with shallow breathing can be real problem.
- Breath control discussed too much. Learn to control sound and breath will follow. SONG and WIND!!! Song is more important than wind!!
- For every complex thought there is a simple one that can replace the complex thought.

- Use minimal motors.
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Wind Part 1

Arnold Jacobs, retired Tuba Chicago Symphony

March 28-30, 1991

- "Thin air" (hiss) vs "Thick Air" (hooe).
- Wind as wind, not pressure.
- Waste your breath (air is free, use it).
- Establish normalcy, in midrange, then move it to extremes (high/low, loud/soft, legato/staccato, etc.).
- Think about lips vibrating not resisting air. Lips as vocal chords.
- Vowel sounds "ah" and "oh" lessens resistance in tongue.
- Breath flow important when playing an instrument as opposed to singing. Flow is greater playing than singing.
- Playing good does not feel special.
- AIR:
 - Pressure-guard against breath pressure, the upper tube (Throat) closes and pressure is directed downward. This used only in defecation and childbirth.
 - Blowing as wind does not involve breath pressure. Stomach and chest strength not involved in playing instrument.
- Play first note-not as function or meat-but as tone (sound).
- Establish the range of motion of diaphragm by moving stomach out (diaphragm extended) and in (diaphragm contracted). The actual movement will be small (2 1/2" at most). You cannot feel the diaphragm directly (there are no sensors attached), but by motion.
- Stimuli- Suction is important. Don't expand to breath (mechanical sense) breath to expand (psychological sense). (Ref. also Song)
- We need respiration, but it should not be overdone. We need air for fuel, but fuel is not music.
- Quantity of air then speed of intake.
- Thicker air not more is key factor.
- Consonant T is unvoiced, vowel sound is what you control sound with.
- You don't want pressure to keep diaphragm down. The diaphragm should be allowed to return to its contracted position. Pelvic pressure keeps pushing diaphragm down.
- Wind as wind not pressure. There cannot be wind without pressure so you don't have to add any additional pressure to the equation.
- Relaxation Pressure:
 - Like a rubber band stretched and released will return to its original shape with force.
 - Your body works in similar fashion. There is a moment when you have finished breathing when the inner and outer air pressure is equalized. Prolong this moment.
 - Exercise: Inhale deeply and count loudly onto your hand (1-2-3-4) without letting breath out in between counts. Keep equalized without tension in throat.
- Good respiration spreads work around all muscles.
- Exercise: On an Incentive Spirometer or Breath Builder, Bring ball to top smoothly and gently. Start with maximum resistance and as you reduce it prolong time you keep ball at top.
- Inhale fully to a comfortably full level. Maximal inhalation is used for emergency situations.
- Your body can lie. For example you can move chest and abdominal region and not inhale. If you

- want to move tissue you can order body to do this-or you can order breath. (Ref. Also Song)
- Brass instrument is for resonance only. Player supplies vibration and air.
- You are built to survive and use muscles as systems not individually. (Ref. Also Song)
- Timing is secondary to quantity of air. How much counts for more than how long it takes to get breath.
- Exercise: Use arm to tie in a physical feature with respiration. Push a column of air into your mouth with your hand. Start slowly then faster. Then vary take in 1/2, 1/3, 1/4 etc. Always take in a comfortably large quantity of air. This ties in something you can see and feel (arm) to function you cannot feel (respiration).
- Adjust air at lips not throat or body. (Body can lie, but air passing thru lips is truth).
- BREATH: Basis of breathing is slow and in large quantities, then progress to faster breaths (with same large quantities of air.)
- Tongue is a very large muscle (sometimes too large). Object is to get tongue out of the way, make smaller, and certain vowels sounds are useful for this purpose.
- Vowel sounds:
 - Patterns established at very early age for speech.
 - Syllables ah-oh-ou tongue is at bottom of mouth, out of way.
 - Syllables ee-kee tongue is at top of mouth, in the way of a large wind passage.
 - Syllables oh -ou produce smaller pointed tongue out of way.
 - Syllable a-kee produces wide tongue in the way.
 - Syllable thou (starting with tongue out of mouth and moving it in) will set tongue in smallest position.
- Air must be at lips not throat. Pressure at throat results in a bearing down on diaphragm at the same time the abdominal wall is pushing up. This causes a lock in the respiratory functions effecting the exhalation.
- Psychology of playing is based on wind. (Ref. also Song)
- All types of pressure and psuedopressure.
- Go outside the body (breath builder, rebreathing bag, piece of paper, volumetric exerciser, incentive spirometer, etc.) to demonstrate "WIND" concepts. (Ref. also Song)
- All "extremes" are more difficult than "norms". To aid in breaking these barriers try to return to "norm" conditions (found in mf playing in medium to lower register) and take these to extremes. Always play musically! (Ref. #4)
- Bad sounds can be made into beautiful sounds-silence cannot! (Ref. also Song)
- It doesn't have to feel good to sound good! (Ref. #8)
- Greatest volume of air (quantity and speed) moves at the start of respiratory activities. Same way breathing in or out. Then it slows in volume and speed.
- Relaxation pressure: when playing notes little muscle activity is needed because little muscle strength is needed to send air out. It helps if you have large comfortable quantity of air. Harms if you are low on air.
- Take breaths to replaced used air. You don't start a trip on empty and put just enough fuel in car to make trip. Fill up.
- You can also play softly with full lungs. For example just because the tank on a car is full, you don't have to drive fast.
- Stay tall when you play. The optimal position for respiration is standing to worst laying supine. When you sit keep back straight and stay tall.
- Don't get short when you blow air out and tall when you breath in -- Always keep a "Long Spine".
- When you concentrate on the psychology of breath anatomical structures will take care of the

physical activity needed to do the job. Most actions we perform are too complicated to think about. (Ref. also Song)

- Exercise: Take In/Exhalation based on a count (steady and slow 5,6,7 or 8). Go from full to empty to full. Feel the air pass the lips. Think about a violin bow moving from frog to tip. Do everyday for at least 6 months. This should no be associated with playing an instrument, it is just the action of a physical being. Wind as wind!
- Use arm to bring outside physical association to respiration.
- When most people breath they order a breath (not quantity, just a breath). You should always try to order a comfortably large quantity of breath (wind). (Ref. also Song)
- You cannot play by pressure. Play with air thought of as a motion phenomenon.
- Diaphragm must move up without internal resistance.
- Never blow from the diaphragm - it lowers pressure to allow lungs to take in air.
- Use both senses of feel and sight.
- Ratio of air pressure to air movement: 4 to 1
- Bring "stomach in" - let diaphragm contract up to let air be released for use- wind, not pressure.



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Wind Part 2

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- Sound/Tuning/Matching: (Ref. also Song)
 - Chicago Symphony - plays as loud as the do because the acoustics at podium. Brass does not sound as loud at podium. Acoustics can effect sound, tuning and matching of sound.
 - "Thick Air" and embouchure that can vary in thick or thin texture.
 - Finest quality of tone in the midrange leads to better quality at loud and soft dynamics.
 - Motivation of player influences sound, tuning matching most.
- Air does not become stale it becomes blocked by pressure at throat.
- Bigger people with large lung capacities can "get by" with less air, but they never live up to potential.
- Continue long tone. (Ref. also Song)
- Lip as a buzzing unit rather than a resistance unit.
- Embouchure at lips, tongue should be out of the way.
- Buzz low notes- better for feeling, buzzed high not give feeling of resistance.
- Comfortably large quantities of air. You must always have plenty of air to do what you want to do.
- Yawning is one of the best examples of a good breath. Suction, friction and resistance at lips.
- You cannot control the breath when activity is centered behind lips.
- When you play great it feels good and when you play bad it feels lousy. However you want to fix sound not feel. It is possible to play great but feel bad. (Ref. Also Song)
- Air as motion not pressure.
- Maximum resonance with minimum effort. (Ref. #89)
- Use Breath Builder to establish "weakness" not "strength". Weakness is your friend when it comes to respiration. Keep ball at top for maximum time with minimum effort.
- Exercise: Raise arms and breath in at the same time. When arms stretched to max you are full of air. Lower arms while holding in breath, then release air when arms are down.
- Learn art of respiration at home. It will be related to the music by brain and body.
- Remember what it looks like not feels like. Feeling can lie. (Ref. Also Song)
- Breath to expand not expand to breath.
- Suction.
- Exercise: Push abdomen out and in 3 times without breathing (establish range of motion), then breath in same way. Diaphragm high/low.
- Air to Spare!!!!
- Nerves can get best of us. This combined with shallow breathing can be real problem. (Ref. Also Song)
- Standing posture is best to move air. It diminishes till supine position
- Posture effect inhalation not exhalation.
- Exercise: when using breathing tools (Breath Builder or Incentive Spirometer, start with most resistance possible. Gradually lessen and keep ball suspended for longer time. Control ball this will control breath. Greatest results, least effort. Don't overdo. If you start to hyper/hypoventilate rest, then resume.

- Suction is stimuli to extend diaphragm.
- Pressure low, Flow high.
- Forcing causes loss of fundamental and exaggeration of overtones.
- Large quantity of air at low pressure.
- Connect air and embouchure (lips) as well as air and tongue.
- main blockage in brass players is tongue. Do to it's large size it reduces air flow we need to make most music.
- "Thick Air"
- Can't feel air coming thru embouchure.
- Use minimal motors. (Ref. Also Song)



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