

Oboe Reed Class II

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I. Introduction

II. The Use of a System of Objective Tests

A. The tests:

1. Appearance tests (“Looks”)
2. Reed tests without the oboe (four types of “Crows”)
3. Oboe playing tests
4. Playing and scraping for specific needs

B. The process:

1. Evaluate the reed by its looks and correct the problems (ex.)
2. Test the reed with the reed tests; confirm these with appearance tests; scrape to correct the problems. Use these objective tests before the oboe tests.
3. Test the reed with the oboe tests; confirm these with appearance and reed tests; scrape to correct the problems.
4. When finally proceeding to the oboe tests, the results should not be surprising.

C. The Approach:

1. Primarily evaluate and work from the tip down, covering each part of the reed in the process. Try to keep the reed reasonably balanced so as not to over-scrape any part.
2. The looks, reed tests, and playing tests should reveal the same information, confirming one another.
3. The tests can be done quickly and efficiently.

III. The Tests in Detail, With Adjustment Suggestions

A. APPEARANCE TESTS (“Looks”)

Ways to look at a reed (*DEMO with a reed and lamp*)

- From the front view, both in the light and through the light
- From the profile view, which is extremely helpful in viewing the preservation of the skeletal parts (especially the spine and concavity at the base of the tip)
- Down the opening of the reed for amount of opening
- Both dry (for greater clarity in evaluation) and wet for scraping.
- Always use a bright light source (non-halogen is preferred)

Assess the structural prerequisites for successful finishing of a reed.

- Sufficient opening. An insufficient opening will make the reed tight, sharp and limited in depth and dynamic range, as well as metallic and pointed in tone quality.
- Corners intact. Missing corners, especially inside the overlap, means automatic loose sides and all that comes with that. (Specifically, flatness of the high register)
- Tight sides and a correct overlap – all the way to the top of the reed. There is no point in wasting time on a reed with loose sides. A correct overlap can insure that the sides press tightly against each other, since a line can more easily connect with a plane, than with another line.
- Spine and rails intact, with sufficient cane in the plateau and back for further finishing needs. These are skeletal parts of the reed needed for pitch stability and efficiency (good amount of tone for the effort). If the spine in the back is interrupted, the reed will feel rubbery and choked and the pitch of certain notes will be flat. A spine is not necessarily needed in the plateau, since the scraping of the plateau is theoretically an even reduction of the gouge (hence the title “plateau”). The amount of strength needed in the center of the plateau is determined by how much power you need, how much resistance you like, and how much opening is inherent in the reed. A larger opening allows for more color and dynamic range, but it is inherently flatter in pitch than a closed opening. If you take too much cane from the middle of the plateau it will lower the pitch and make the tone metallic and pointed. (This can happen as well if the plateau is too short.) If you take too little from the plateau, the reed cannot vibrate, crow, or reach the lows in the reed. It is possible to over-scrape every other part of the reed before discovering this blockage. Consider the dimensions of the gouge as well, especially when working on students’ reeds. More cane in the spine of the plateau can compensate for a gouge that is weak in the center.

Observe Proportions

- 1) Measurements and proportions are not fixed but can serve as a point of departure for individual reed preferences. Consider the basic measurements of a finished reed, presented in Class I, as a possible point of departure. (*See reed diagram*)
- 2) Factors that influence individual preference in reed and tip length:
 - There is a tip length that works best for the size of your lips. When you find this length, make it fairly consistent by eye to save time. The tip must be long enough to get past the lip that is closest to the end of the reed. (For most, the upper lip is closest to the end of the reed, which means the tip must be clipped longer so the upper lip will not go into the opening.) If the tip is too long, you have to shift in drastically to get the high notes up. Too short and you cannot move in and out without falling off the end of the reed. (For example, when you need to lip octave **D** down.) If you want good high note pitch, have the shortest tip that gives you in and out flexibility.
 - The amount of lips on the reed. Slogan: The more flesh in contact with the reed, the flatter the pitch and vice versa. Example: Your octave **G**s are flatter, not sharper, from biting. Try opening your jaws. People with thicker lips can often play ANY reed flat. They will need to clear lips away and make a much higher-pitched reed. People with thinner lips need to build a more grounded placement. (“down-ness”) into the reed.

- The size of the space in your mouth, including the throat space that is added with open jaws. If you have a small mouth/throat interior volume and you hand your reed and oboe to someone with a larger volume on the mouth side of the focus an funneling point, they will play it flatter and vice versa.
- How much reed you put in your mouth. It is not ideal for all people to play with both lips extremely near the tip. How to determine the right amount:
 - Too near the tip with both lips dulls the tone, volume, and articulation. Notes will crack a lot if you blow too hard.
 - Too near the string is harsh, metallic, and sharp.
 - The right amount has sufficient ring in the tone, immediacy and clarity of articulation and is less likely to cause cracked notes. One lip (at a time) should be near the end of the reed to shelter and blend the Cs. The other lip should permit ring and vibrancy from the other blade: unequal amounts of upper and lower lip.
 - Move the embouchure leverage enough toward the string so it doesn't close the reed too much. Jaws should be askew, not on top of each other.
 - (Consider these factors when you are fixing reeds for other people – your students.)
- The oboe and the gouge.

Check for symmetry:

- Symmetry contributes to the feel of balance in the reed (i.e. response yet resistance, high enough pitch yet deep enough tone, ring yet cushion)
- Observe each part of the reed progressively from the tip down, in front and profile views.
- Observe from side to side, one blade to another, and the thickness/evenness of scraping.

Use the “close-on-the-plaque” test:

- Insert plaque slightly. Close gently while looking into the opening. This will show any quadrant where the rails are too thick and whether the middle of the plateau is in danger of becoming over-scraped or “rubbery”. The reed should close from the sides first, symmetrically; the middle should feel firm but flexible (strong enough to hold up the pitch). (*DEMO – Reed and plaque*)

B. REED TESTS (See “The Use of Objective Tests” Grid)

ASPIRATED ATTACKS (*DEMO*) → Response [Cushion vs. Fight] → Tip

- Blow lightly into the reed using your regular playing embouchure. There should be ease of response with a slight delay due to resistance (cushion vs. fight). You must have something to blow against. (Avoid a “hair-trigger” response.)
- If the reed requires an inordinate amount of air support or chops to respond:
 - Check for asymmetry in the tip and that the corners are not too thick.
 - Make sure to scrape enough from the rest of the reed to connect it with the tip and to balance the rest of the reed with the amount taken off the tip. To check the balance of the reed behind the tip, use the “close on the plaque” test (*SEE APPEARANCE TESTS*).
 - Be sure the reed is not over-soaked.

- It is common to equate the response factor with the amount of cane or thickness at the end of the tip. This section of the tip primarily affects the high note response. Scraping all across the end of the tip onto the plaque makes the high notes flat and the tone scattered. Scraping at the base of the tip can, on the other hand, provide lows and grounded pitch placement.

PEEP IN PLAYING POSITION (DEMO) → Resistance, Quality of Tone, and Pitch of the High Notes → Contrast Between Tip and Plateau [Transition]

- In your normal position, playing at the reed's pitch floor, articulate the reed on one wind both at a *forte* dynamic and a *piano* dynamic. Listen for both pitch and tone.
 - The tone should have roundness and breadth, yet clarity and ring. If the tone of this reed test is thin or pointed, then one can expect that the tone of the left hand notes (both octaves) will also be pointed or thin.
 - The pitch should consistently be a **C** when playing to the pitch floor. Try to play **B** to insure that you are being objective. If it feels better at **B**, the high notes will be flat. Playing **B** should feel foreign and awkward to the embouchure. The peep in playing position should be no more than a half step from the thread crow.
 - If the peep in playing position is flat: Check that the tip has enough separation from the plateau before you clip. If the transition is too smooth (a pencil-type profile) the tip will lose its independence from the rest of the reed and could actually be flatter after clipping.

GLISSANDO TEST (DEMO) → Stability vs. Flexibility [Pitch of High Notes] → Length of the Tip at the Center and the Sides and Concavity at the Base of the Tip

- Begin with the peep in playing position using a normal playing embouchure and focus. Move the reed out of the mouth to produce a glissando down. The pitch should glissando a minor third. More is too flexible, and less than a minor third is not flexible enough.
- Too large a glissando can be a sign of instability from the following:
 - Loose sides (make a tube)
 - Residual ears left on the tip or an overlap that has not been clicked into place (take off the ears, click the overlap into place)
 - * Too long of a tip (clip and rebalance)
 - * A tip that is too thin (clip and rebalance)
 - * NOTE: The peep in playing position test will already have revealed that there is a problem there.
- If the reed has loose sides, it is hopeless. It will fail all other playing tests. (Note Class I "The causes and effects of playing on a flat or loose-sided reed.")
- Again, keep in mind that the amount of flesh on the reed can affect the pitch. Too much flesh on the reed could give false readings and make the reed seem flat.

THREAD CROW (DEMO) → Pitch and Depth → Back [Concavity at the Base of the Tip, Junction of the Tip and Plateau]

- Crow the reed without forming an embouchure, putting it in the mouth up to the string. Begin crowing softly and bring the lower octave in as you concentrate the air, increasing the air speed. The reed should have a two-octave **C** or **C#** crow, depending upon the pitch of the oboe. Do not fear a **C#** crow. A crow of a **C** on a lower-pitched oboe may mean you have to bite or jam the wind.
- The high octave should speak easily, the second octave entering later with more air. This is a measure of resistance.
- If the crow rattles excessively, or you get a 3-octave crow, check for loose sides, an over-scraped plateau, residual ears, or an overlap that has not been “clicked” into place.

C. OBOE TESTS

ASPIRATED ATTACK (High C and Low D) (DEMO) → Response [Cushion vs. Fight] → Tip

- Play a high **C** without the tongue using the least amount of wind to make the note speak. Focus the air to a laser beam, and do not permit a “scattered” or “air” attack. Repeat this process on a low **D**. Also, play a high **C** using the least amount of wind to make the note speak and articulate lightly.
- The high **C** should have clarity and cushion in the tone. There should not be possible flatness. The low **D** should respond with a slight cushion of resistance and have depth and clarity.
 - If the high **C** response is hesitant, check for asymmetry in the tip and that the corners are not too thick. If the low **D** is hesitant, check the base of the tip, which can provide both ease of response and healthy resistance.
- Aspirated attacks demonstrate response, resistance, and the balance of highs and lows in the reed. It should have cushion but not fight.
- CORRESPONDING TEST ON THE REED ALONE: Aspirated attacks

HIGH A, Bb, B, and C (DEMO) → Resistance, Quality of Tone, Pitch of the High Notes → Contrast between Tip and Plateau [Transition]

- Articulate high **A**, **Bb**, **B** and **C** repeatedly on one wind at a loud dynamic. Then do the same with weak wind. These notes should be voiced down for depth and breadth. Listen for tone outline and pitch floor. Compare them to their harmonic fingerings as well.
- Qualities these notes should possess:
 - Depth, roundness, breadth and clarity of the tone.
 - Stability – they should be up to pitch enough to voice down in the throat.
 - Not scattered, spitty, weak, jammed, or bitten up.
- Resistance does not equal hardness. Resistance (some is desirable) is something to blow against that outlines the tone and provides a pitch floor. Resistance should be built into the reed so as not to tax the embouchure. Hardness is massive, woody cane and is undesirable.

- Too much resistance produces a woody, tubby and unclear tone. It lacks ring and ease. Too little resistance results in an empty, flabby tone with no pitch floor.
- Scraping at the base of the tip and creating more definition between the tip and plateau can provide more clarity of tone. If these notes are flat or lack stability or fullness of tone, check to see if the reed is loose or flat (see reed tests).
- Reminder: take a little more reed and lips into the mouth to get the pitch up by position, then voice down by opening jaws and lowering throat focus.
- CORRESPONDING TEST ON THE REED ALONE: Peep in playing position

OCTAVE SLURS (DEMO) → Stability vs. Flexibility → Length of the Tip at the Center and the Sides and Concavity at the Base of the Tip

- Play a low **A** with a deep tone. With your normal playing embouchure, simply touch the second octave key without changing your embouchure. The octave should be reasonably in tune; the reed should have a pitch floor. A slight imperfection is acceptable, since in the course of normal playing slightly more of the reed and lips are in the mouth when playing in the high register. Do the same thing on high **Bb**, **B**, and **C**.
- Generally, flat or loose reeds will not pass this test. *LOOSE SIDES ARE HOPELESS*. Make a tube. But do make sure that the overlap is in a definite, clicked-over place and has not become unsettled by inserting the plaque.
- CORRESPONDING TEST ON THE REED ALONE: A glissando down beginning with the peep in playing position

OCTAVE E, F, F#, and G (DEMO) → Pitch and Depth → Back [Corners of the Tip, Junction of the Tip and Plateau]

- Repeatedly articulate **E**, **F**, **F#**, and **G** at a *forte* dynamic on one wind. Then do the same with weak wind, to be sure you're not jamming them up with air. Test these notes for pitch and stability. Check that these notes are sufficiently down to pitch without becoming flat and tubby.
- Scrape the reed for depth of tone, but stop scraping before the reed goes flat.
- If these notes are sharp:
 - Thin the corners of the tip (This can help middle **C** as well)
 - Scrape the base of the tip and the corners of the plateau/transition
 - Scrape the channels in the back – these two areas can provide depth and focus to these notes.
- If these notes are flat it is an indication that either:
 - The sides are loose and therefore the reed is not fixable
 - The plateau is over-scraped or the reed is flat and therefore needs to be clipped and re-balanced.
 - The plateau comes into the tip too much, defeating the pitch-stability that comes from indenting at the base of the tip.
 - The back of the reed is over-scraped or the spine has been taken away. It may be difficult or impossible to rebalance this.
- CORRESPONDING TEST ON THE REED ALONE: Crow at the thread

LOW A TO LOW G (DEMO) → Depth [Low-Note Extension] → Amount of Opening, Corners of the Tip, Junction of Tip and Plateau, Channels of the Back

- The **G** should sound deeper than the **A** (see Class I)
- If Low **G** sounds shallow, work in three places: 1) at the corners of the tip, 2) on the junction of the tip and the plateau, especially at the sides just below the tip (to connect) and 3) in the middle of the channels in the back. You must have enough differentiation of the tip and plateau to create resistance, and enough of an introduction (blend) for the tip vibrations to reach the back.
- Consider that a limited opening can limit the depth of the low notes.
- For action and efficiency (more tone for less effort), the profile of the entrance into the tip should have concavity, an “S” shape (like the slope into the neck of a bottle) rather than a “pencil tip” (straight)
- The magic spot (the ribs of the transition) does four good things:
 - Increases action and efficiency
 - Adds lows to the sound, increases depth
 - Improves response, especially in the low notes
 - Provides something to blow against to hold up the high notes.
- Try scraping a brief (.5-1 mm) introduction to the plateau at the bottom of the tip.
- CORRESPONDING TEST ON THE REED ALONE: Crow at the thread (same as above)

OTHER TESTS: Articulate middle **C** and low **G** at a forte dynamic. Listen for pitch placement, roundness, and depth of tone. (**DEMO**)

D. PLAYING AND SCRAPING FOR SPECIFIC NEEDS

1. For a given space: The ideal studio or audition reed is often not powerful enough to project in the orchestra. In the orchestra, each hall presents its own acoustic challenges. Some halls are very dull and might require a reed with more vibrancy and highs. If a hall is very live and possibly bright, a reed with more lows and as little tip noise as possible is required. Consider air conditioning effects also.
2. For musical reasons: The ideal reed for Le Tombeau de Couperin (a soloistic, responsive, vibrant, more effervescent sound) might not sound so ideal for Wagner (a deeper tone with an ability to blend in a woodwind-choir.) Another example: Dvorak 2nd oboe parts require enough flexibility to play “3rd Flute” or “3rd clarinet” (especially when those clarinet players like to play ever so softly!)
3. For certain performances: A reed used in the orchestra would not be the best reed for an audition. Response, flexibility and a clear tone (no spitty noise), which are always good qualities to have in a reed, are especially important at an audition. Most committees and conductors are primarily interested to hear that a candidate has control over the instrument and not so interested in a gargantuan tone when playing alone. However, if you are asked to play in the orchestra at any time, you need to demonstrate a tone with enough size and scope to project in the hall.

IV. Suggestions Regarding Hand and Knife Technique (*DEMO Reed, plaque, knife*)

1. To avoid getting “nicks” or thin spots in the tip, which can produce spitty-sounding tip noise, hold the knife at an angle commensurate to the angle it is sharpened. Use a swivel scrape in tip scraping for evenness.
2. The placement of the plaque in the reed can serve as a valuable guide to one’s hand and knife technique when scraping the tip and transition.
3. Avoid swinging the wrist (“scooping”) too much when scraping the plateau. This can make concave digs. The only concavity desired is at the base of the tip. SLOGAN: “You can take **out** of the tip and **out** of the back, but you should only take **off** the plateau.”
4. Avoid making a ridge of cane at the top of the back, which can produce a metallic tone quality (due to extra resistance). Lift the knife before reaching the plateau to prevent this ridge. Keep the knife primarily perpendicular to the reed when scraping the back of the reed.
5. Work on all areas of the reed in rotation, as opposed to finishing the tip before going to the rest of the reed.
6. Use all parts of the knife for scraping. Realize that it is necessary to frequently sharpen the knife throughout the finishing process to ensure a fine edge for maximum control.

V. Knife Sharpening Principles (*DEMO EZ Lap and India stones, knife*)

1. A sharp knife is essential to making fine reeds. However, an unevenly sharp knife can be more detrimental than a dull knife.
2. You should have two sharpening tools: one rough honer for grinding away metal behind the edge (e.g. EZ Lap fine or super-fine diamond honer, Norton Crystalon, or DMT diamond stone for Landwells) and one fine honer for polishing the edge (e.g. ceramic crock sticks; fine India stone – FB35 or FB6 Norton stones only, used without oil so that the stone is gritted up; or Norton Hard Arkansas stone – but these wear out fast and are expensive).
3. For double-hollow ground knives, such as Landwell (medium or hard) or the German knife from “Reeds-n-Stuff” sold by most US dealers):
 - On your rough hone, place the blade FLAT on its non-cutting side and move it in a circular motion until the entire edge has been touched. A burr should be created on the side away from the stone. If the blade has a raised area toward the handle, do not allow this part to make contact with the stone. It will lift the bottom of the knife and prevent all 4 corners from touching, creating an uneven edge. You may grind it off before using.
 - Repeat on the cutting side.
 - Polish both sides of the edge on your fine honer or crock sticks at a slight angle, finishing with a couple of extra strokes on the cutting side.
4. For beveled knives
 - With 4-0 Emery paper laid on the honer, remove the burr on the flat side in a circular motion.
 - Directly on the honer, sharpen the beveled edge, using a jig to maintain a constant angle.

The Use of Objective Tests

	REED TEST	OBOE TEST	WHAT THE TEST SHOWS	WHERE TO SCRAPE
1	ASPIRATED ATTACKS	HIGH C, LOW D	RESPONSE (CUSHION VS. FIGHT)	TIP
2	PEEP IN PLAYING POSITION	HIGH A, Bb, B, C	RESISTANCE, QUALITY OF TONE, AND PITCH OF THE HIGH NOTES	CONTRAST BETWEEN TIP AND PLATEAU (TRANSITION)
3	GLISSANDO TEST	OCTAVE SLURS	STABILITY VS. FLEXIBILITY (PITCH OF THE HIGH NOTES)	LENGTH OF TIP AND CONCAVITY AT THE BASE OF TIP
4	THREAD CROW	OCTAVE E, F, F#, G	PITCH AND DEPTH	BACK (CORNERS OF THE TIP, JUNCTION OF TIP AND PLATEAU)
5	THREAD CROW	LOW A TO LOW G	DEPTH (LOW-NOTE EXTENSION)	AMOUNT OF OPENING; CORNERS OF TIP, JUNCTION OF TIP AND PLATEAU, CHANNELS OF THE BACK