Notes on internally scraped reeds

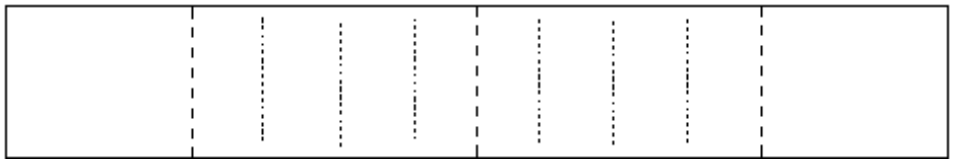
Although these reeds take a little getting used to, I find that internally scraped reeds not only stabilize and open cross fingerings but help fill out and stabilize some of the weaker note (low D in particular) as well as offer an immediacy of attack unparalleled with conventional outside-surface-only profile. As in all reed types, there are many variations in models of internally scraped reeds that work well; these notes reflect what I am doing right now as I am constantly experimenting with them.

One import note in playing these reeds: they are best played when placed in the mouth at a slight side-to-side angle by twisting on the bocal. This means that the upper left side edge of the top of the reed presses against the top lip, and the bottom right side edge lays on the bottom lip (or vice-versa) resulting in very little, or no pressure what so ever being placed on the top or bottom of the reed blade.

This uncommon embouchure was first taught to me by Gerald Corey (I am not sure how generally he used it, or continued to teach it) when studying modern bassoon with him and was a method that worked well for me in general, but with internally scraped reeds I find that it is essential. Jim Kopp in his recent publication of *The Bassoon* (Yale University Press, pp 90) quotes at least one reference from Cugnier's 1780 article in de Laborde's *Essay sur la Musique* instructing the player to " rotate the reed on the crook slightly to the right or left, so that the reed was held obliquely between the lips...". So this method has does have a history. When trying this for a first time, be sure not to turn and adjust your head sideways and counter the oblique position of the reed!

One more important distinction to make about the embouchure, is that with internally scraped reeds, the lips are much more relaxed *in all registers*. Adjustments, tonal or for tuning or for register jumps, are mostly made by altering embouchure with everything behind the lips: mouth and throat cavity, shifts in air support, resonance 'pockets' etc,...

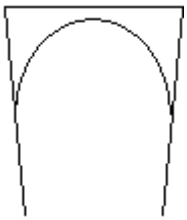
All my reeds have ended up considerably smaller than those that were made with only an outside profile.I have recently set my gouging machine to gouge a profile in my gouged cane, but when scraped by hand I divide up the cane in the following manner for all instrument.



A 1.1-1.2 mm piece of cane is marked with a line at 25 mm from each end of the cane (roughly coinciding with just under the placement of the third wire) and at the center line.

Starting from the 25 mm line I scrape towards the center 10 strokes, turn the cane around and do the same from the other side. Then, advancing incrementally (where a 35, 45, 55 mm line would be) do the same always towards the center, with occasional full passes to smooth out the steps until the taper reads 1mm at the 25 mm mark and .5-.6 mm (but continue to experiment with different thicknesses at this point) in the center and .1 to .2 mm thinner at the sides. Do not be frightened to bare down with some pressure in the first round of scraping as there is a considerable amount of material to remove. The cane is then sanded with 220 paper, wet, and when dry sanded again.

Before being shaped, the cane is lightly profiled with a slight taper from about 20 mm to the center (tip). This profiling allows for greater ease in forming and cuts down on time scraping the reed when it is formed, but reeds can be formed without this being done.



Once the tip is cut I scrape in the same half moon on the tip of the reed as we are used to. The reed can be tested straight away. Some attention is given to thinning th e sides down a bit more, and while maintaining a slight spine I then simply - *evenly* - start to scrape until it feels free enough while gradually lengthening the scraped part of the blade if/as needed.

Of considerable note is that in just about all the tries of the past years these reeds function quite well with large variations in scrapes. I have scraped with different thinness' at the center (.3 to .8mm), different lengths of scrapes (from 15 to 35 mm), with sudden drops and steps in thinness or with smoother tappers and all seem not only a good base from which a reed can be made but with regards to outside profiling all respond to the same relative *even* thinning out. I find that a thinner center (.3-.4mm) generally results in a brighter reed (if less desirable some of this can be mitigated by shortening the blade length by the placement of the third wire). This method of reed making better accommodates a range of hard and soft cane. The harder the cane (or the shorter and thicker the internal scrape) simply means that the longer the scrape needs to be on the blade of the reed when it was finished.

Here are some examples and ranges of reeds that have worked well.

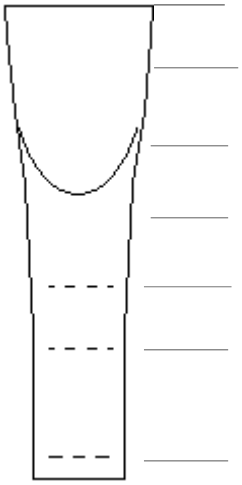
Center thickness is .5 - .6 mm, the scraped portion of the reed varies from 20 to 30 mm and is sometimes squared off instead of rounded.

The finished tube is usually flatter than on conventional reed at the second and third wire.

The measurements are of the formed finished reed at the: tip, 10mm, 20 mm, and 30 mm from tip, 3rd wire [position] and dia., 2nd wire [position] and diameter from the bottom of the reed.

Do not be frightened by the shape of the tip when the reed is dry it will reestablish itself in the first moments of playing. If a reed has not been played in a while and the blades are flayed, spread wide apart with the sides not meeting at all, soaking in hot water for a moment will help.

Available shapers and their measurements can be found here:
http://www.leslieross.net/notesT.htm



Curtal oal: 58.5 - 59.5	Baroque oal: 64 - 65	Classical oal: 61.5- 63
15.75 - 17	17 - 17.6	16.4
14.5 - 14.75	15.4 - 16	14.75 - 15
12.2 - 12.5	12.8 -13.2	12.7
9.5 - 10	10.5 - 11	9.8 - 10
[25] 9- 9.5 / 5- 5.8	[31-32] 9-9.6 / 5- 5.5	[31] 8.9-9.5 / 5
[18-19]6.7- 7.4 / 6- 6.3	[22] 7.5-7.9 / 5.5-.7	[22-23] 8 / 5.5
[7]	[8]	[7.5]

Baroque2 oal: 62 - 62.5	Classical oal: 58-69
17 - 17.6	16.4
16.-.5	14.75 - 15
13.5 -14	12.7
11.4 -.8	9.8 - 10
[29.5] 10.2-.4 / 5.7- 6	[28] 9.2-9.8 / 5
[21.5] 8.4- 9.2 / 6.3-.7	[19] 7.8 / 5.7
[8]	[7.5]

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