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And now a word from pur sponsor...

Here be Dragons

Pedagogical Ethics

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PART ONE : HOW WE LEARN

Any Star Wars aficionado knows the Jedi Master Yoda's famous line: "Do or do not. There is no try." This is surprisingly close to how our brain actually works. To become a master teacher, we need to understand how we learn and how we can apply that in our teaching. This requires a lifelong approach to learning and a continual quest for new and better strategies. Because each student is unique in so many ways and the student zeitgeist is constantly changing with each generation, we must continually renew and enhance our arsenal of teaching tools. That means reading, listening, attending concerts, conferences and masterclasses and making the advancement of pedagogy a priority. We should not be "experts that stand still."

As a practical matter, we will present a brief overview of the Natural Learning Process, but we strongly suggest reading the following books:

The Inner Game of Music by Barry Green with W. Timothy Gallwey, Pan Books, 2015.

Musical Performance: Learning Theory and Pedagogy by Daniel L. Kohut, Stipes, 1992.

Both are available in paperback, so you have no excuse!

The Natural Learning Process and the Development of Habits

This is the short and simple version of how we learn perceptual motor functions and is not intended to be a scholar's dissertation on the subject, rather just the basic points we need as trombonists and trombone teachers.

The Inner Game separates the mind into two selves. Self One – the conscious part of the brain that makes plans, observations, etc. Self One is good at deciding what to have for lunch, but not very effective with your body. You can think of it as the smart and clumsy one. Self Two – does not make conscious decisions, is very good at coordinating perceptual motor activities. There is a natural learning process with perceptual motor activities based on trial and error or imitation. At first, the progress is a struggle trying to coordinate the senses and muscles to perform the task at hand. During these early stages, there are many repetitions. Once these activities are repeated enough times, a habit is created for the task. You can think of this as programming. Once the program is created, Self One can take over the programming.

If you have experienced how quickly young children progress from toddler to adult, you can see how effective this process can be. Remember when you first started the trumpet? You had to think about every aspect of playing a fourth line B. After enough repetitions, that became a skill or a habit. We prefer to use the term habit.

One big catch: once established, habits cannot be changed. This is a problem in a teaching situation when you or the student stops in the same place. You are witnessing this principle. Habits are created with repetition. If you consistently get an incorrect result. Since it takes more repetitions to change a habit, one of our chief goals is to create skills that are correct from the start.



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It takes more focus

This takes more

Physics, or You Can't Outrun the Motorola

In many of the old time car chase movies, the typical escape strategy was to cross the county line before the sheriff caught up. With the advent of the police radio, typically manufactured by Motorola, the sheriff could radio ahead to arrange for a warm reception at the county line. The moral of the story became, "You can't outrun the Motorola."

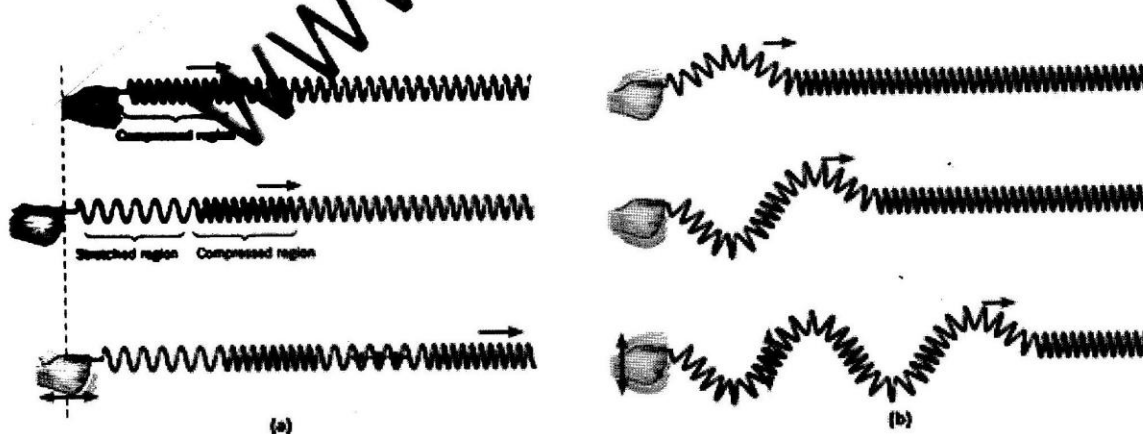
Just like the radio, there are many aspects of the production of sound and the interaction of our brain and body that we cannot ignore or outrun. The physics of sound and the ways our body moves, learns and adapts have many constant principles that we must incorporate into our practice, performance and teaching. The premise of this book is to provide a clear path towards understanding the nature of our instrument and ourselves so that we can achieve the most simple and efficient means of producing beautiful sound. Our ultimate goal is to free our mental energies of the physical demands so that we can focus on the artistic concerns.

Resistance is Futile

The trombone is really just a fancy tube approximately nine feet long. If you blow through the tube without buzzing, you will notice that the tube has certain amount of resistance to your efforts. One way to think of resistance is to equate it with electrical resistance. In a simple circuit, current flows from one end of a battery through a device like an electric motor to return to the other end of the battery. Different motors have different amounts of resistance and will perform differently. While resistance varies with the bore size, valves, lead pipes, etc., and affects the way the horn feels, particularly during initial attacks, it should not be the main consideration.

Focusing on resistance can be misleading, since it suggests that we create sound by blowing air molecules through the horn all the way to the listener's ears. If that were the case, concerts would be very windy affairs indeed! Fortunately, sound travels as a longitudinal wave of energy instead of a blast of air. Our job is to produce and sustain those waves.

OK, so what is a longitudinal wave? An easy way to demonstrate the longitudinal wave is to use a spring toy. Secure one end and stretch the spring out on flat surface. You can send energy through the spring as a pulse by giving the free end a quick and short push, and you will see the wave travel longitudinally through the spring. The wave is created by displacing the first piece of spring (or the first air molecule), which then displaces the next, and so on. This is different from a transverse wave where the spring is displaced "perpendicularly"¹



If you continue to pulse the spring, you should also notice that the wave is reflected back towards you from the secured end. Now try a series of pulses adjusting the rate until you see a frozen pattern in the spring. This is a standing wave.

¹ http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-30332015000200011

Horse Before Cart - Brain Before Trombone

A Different Approach: Target Practice

In order to teach students to play with a good tone and to play in tune, we need to equip them with several tools for the practice room:

1. An easy and repeatable approach to playing in the pitch center.
2. A method for determining if they are in the center and if not, where are they?
3. A way to tell if they are "in tone," then assess whether or not they are "in tune."
4. A foolproof system to extend the approach through the entire register.

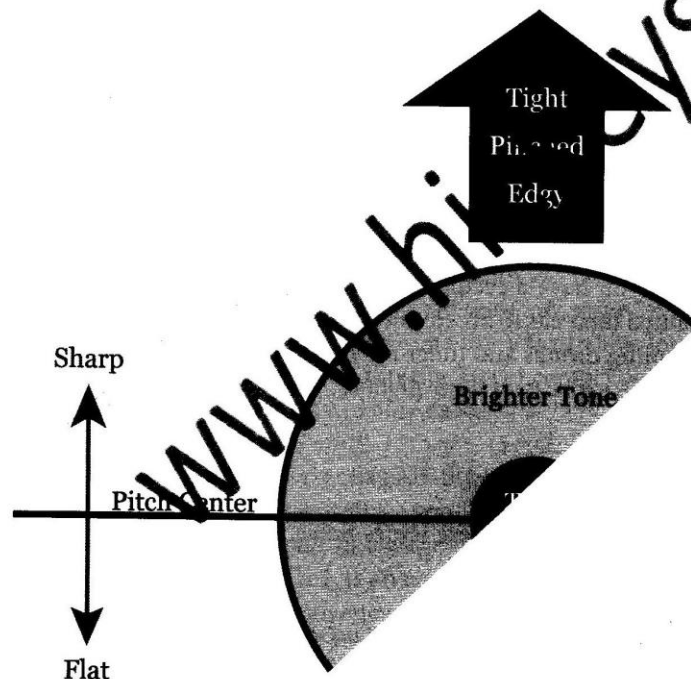
Let's break down these tools in further detail.

1. Finding the center.

The breath attack is a powerful tool for finding the resonant center of the tone. If you breath attack a note with an easy and free approach, allowing the tone to seek its own level, there is a high probability that you are playing in the center or "agreeing with the horn." Several ground rules need to be observed: first, there should be no hesitation in the breath from the beginning of the breath through the end of the note; second, always use a good attack—no accent or "wah"—just solid tone. If you miss the note by aiming too low or too high, it will be obvious.

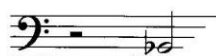
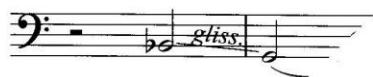
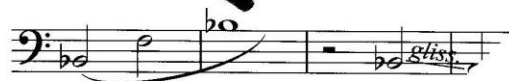
2. Is it correct? Is it in tone? Is it in tune?

A simple way to assess the tone is this "target" diagram:



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are a series of trigger studies by Thomas Cramer that are an excellent way to incorporate the trigger into the technique:

Trigger Studies

1 Thomas E. Cramer

2

3



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6

V V V V V

7

ff *smile*

8

ff

ff

ff



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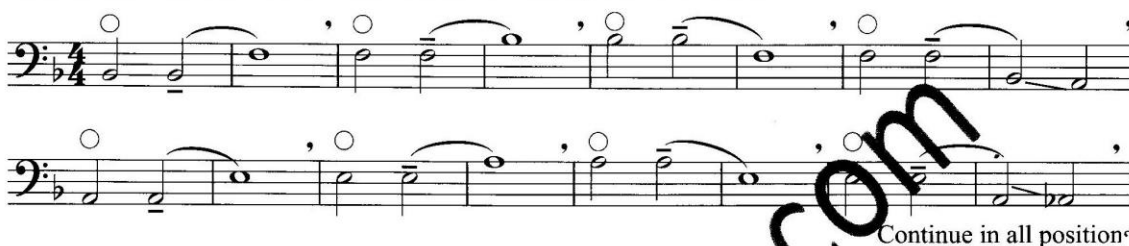
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Dr. G's No Time - No Bad Habits Warm-up

Andrew Glendening, University of Redlands
2011 Pokorny Seminar

1. Do a few breathing and stretching exercises before you begin playing.
2. Do some easy buzzing (tunes, scales, pairs, expanding scales, etc.)
3. Connect the air and buzzing freely to the sound with breath attacks.
4. Loosen up the jaw.
5. Loosen up the tonguing.
6. Loosen up the arm and/or fingers.
7. Smoothly connect the high and low ranges.
8. Refresh your accuracy with glisses and chromatics.
9. Check the low range and refresh the trigger locations.
10. Don't forget soft...

Breath attack the first note marked with the O. Also try this "a la Caruso" and without the horn.



From Peter Gane's Circuit Training. "Arching the Jaw"



Strive for a free and relaxed motion. No stiff jaws. ^



Fast triple tonguing. Wa!



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6

f

7 Presto

mf

8

9

pp

10



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Articulation Studies by Thomas Cramer

1 Prestissimo

ff

2 Prestissimo

f

3



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