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Range

Remember that range - both upper and lower – is primarily an acoustical phenomenon. There is no magical instrument, mouthpiece, or even lips! Larger or smaller bore instruments and mouthpieces *primarily* affect timbre (tone quality) and not range. It is vitally important that the brass performer develops:

Breath Control

The air stream through the lips, and thereby through the instrument, can be compared to the bow on string instruments. It must move in an even and consistent manner in order to produce proper vibrations and achieve a desirable tone. I find that yawning before the following helps relax the body and opens the throat. It also helps relieve nervous tension and is helpful just before walking on stage to perform. Try it!

Special Exercises:

Hold a sheet of paper by the upper corners about one foot (30 cm) in front of you and blow a steady column of air against it and try to change the angle of the paper by about 10 degrees. Imagine this is mezzo forte. Then blow faster so that the angle is increased to 20 degrees and imagine this is forte. Finally increase the angle to 30 degrees to produce fortissimo. Once you achieve the desired angle, maintain it with a steady airstream. Do not let it waver.

Place a piece of paper against the wall and stand six to eight inches from it. As you remove your hand from the paper, try to hold it against the wall with your breath. When you run out of air, take a very fast gasp breath and attempt to continue holding the paper in place for at least three breaths. You will find the paper falls to the floor until you develop the technique of taking fast breaths.

This last exercise develops the diaphragm control of the airstream. It is very tiring and should be done seated and not standing. It is easy to hyperventilate and should you become dizzy, stop and rest. I also suggest that it is only done about two to three minutes. I call it 'super soft' playing and the instrumentalist must produce a tone in the middle register so soft it is barely audible. The performer must strive for a steady tone. At first you will find that the tone stops and starts. Use the diaphragm to maintain just the correct level of air to support a tone. Someone 10 feet (3 meters) may not even be able to hear the sound. I repeat, *do this seated, and stop immediately should you get dizzy.* You will find that the diaphragm support required is exactly what is required for extending the upper register, yet does not tire the embouchure.

Flexibility

False tones are an excellent way to develop flexibility of the lips and better embouchure control. The more flexible the lips, the less air required for tone production and vibration is more easily achieved. False tones are those notes that acoustically do not exist on a brass instrument. They represent the tones between the fundamental and the first overtone, or second tone in the harmonic series. On trombone, a second line Bb is played and the lips are relaxed to produce an A, then Ab, G, Gb, and finally F. The concept is one of *relaxation*. Slightly dropping the jaw will help. Strive for as good a tone as possible on each note. The final objective is to slur from Bb down to F, then A to E, Ab to Eb, etc., until finally F to CC. The slide must be slightly lengthened for each lower tone. For trumpet the concept is the same, except you begin with C below the staff and while playing the C, lip down to B, then Bb, A, Ab, and finally G. Then do the same thing with second valve, then first, etc.

Muscular Development

As the lips become more flexible, breath control more stable, and diaphragm support more developed, the brass performer will find the need for more muscular control of the corners of the mouth. One might think of these muscles working against each other in an isometric manner. We have muscles that pull back as we smile and others that pull forward as we pucker. In fact the brass embouchure has been described by some as a *puckered smile*. I refer to the following exercise as 'pencil pushups' and

should be done daily, but only for short periods of time. If after two or three minutes the corners of the mouth do not feel totally fatigued, you are not doing it properly. Buy a new pencil that has a sharp edge on the eraser; do not use one with a rounded eraser. With the lips in a normal embouchure, place the tip of the eraser in the center of the lips; the area that would vibrate during playing. Let the pencil hang downward while you are holding it by the eraser placed lightly in the lips. Tighten the muscles on the side of the lips and attempt to slightly raise end of the pencil. *Do not move the jaw to do this, only the muscles.* Imagine you are lying flat on the floor and are raising you feet less than an inch off the floor. The tension placed on the stomach muscles in that exercise is similar to that of the sides of the mouth in the 'pencil pushups.' Do this for only about two minutes a day. You will gradually build the muscular and embouchure support necessary to avoid leakage of air in the sides of the mouth, and the control required in the upper register. _