A COMPLETE GUIDE FOR THE SUCCESSFUL TUBA PLAYER

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Sometimes, as teachers, we make this wonderful art of music too difficult. Too often teachers stress only the physical side of performance such as having a picture perfect posture, embouchure, or tongue placement. The goal should always be on the end result which is to make a beautiful and musical sound. Teachers should get that message out to students as fast as possible. Have the technical knowledge, but fix any bad habits by providing good examples of how the students should sound. Imitation is always the best teacher. I always remember observing a wonderful band director performing the passage on his instrument, the clarinet, and then having his young 13 year old tubist to imitate what he heard. The result was beautiful!

Concept of Sound

The first thing to consider is the sound. The teacher has to have a concept of that good tuba sound. There are so many recordings and C.D.s of great artists available nowadays to use as models. Listen to the best and relate the good examples to the student. Students must have an idea of what they should be striving for. They have to hear it for themselves. The teacher as well as the student cannot afford to be satisfied with mediocrity!

The most common problem that I hear with students auditioning for college is with producing a "nasal" sound. This is caused by a combination of bad habits. First of all they do not have a concept of a good sound. Physically, the student is using the bearing down muscles that we use for every day body functions which causes the throat to tighten, the tongue position in the mouth to be too high and the teeth clenched. This problem is so easy to fix, that is, if you know what sounds good. The teacher must fix the physical problems away from the instrument and then introduce the good habits to performance. Let's solve this problem by understanding what the student is doing wrong physically and fixing those problems away from the instrument. We must develop a program that eliminates the problems. The student has problems with the sound caused by restricted exhalation.

Posture

Good posture is very important to good breathing. If the trunk of the body is rigid and tense, then the breathing apparatus is tense. Tension ruins sound and technique and anything that causes undue tension should be avoided. It is most important to eliminate tension and work towards efficient breathing and exhalation. I recommend that how one feels most comfortable and relaxed while playing his instrument is most important. The best way I can describe good posture is to quote Arnold Jacobs, "stand while seated". The body is structured so that the maximal use of air comes in the standing position. So when sitting the student should have the concept of standing from the hips therefore keeping the spine long. It is also recommended that the tuba is the right height so that the mouthpiece goes comfortably to the lips. If a person is relatively small it might be necessary to elevate the student by placing a few books or a platform under the chair. I also recommend using a tuba stand while making sure that the student has the feeling that the tuba is an extension of his or her body and not the other way around.

Breathing as It Applies to Wind Instruments

Mechanics of Breathing

(as explained by Doctors Spence and Mason)

Air flows from a region of higher pressure to a region of lower pressure. Thus, for air to flow into the lungs from the atmosphere, the pressure within the lungs – that is, the intrapulmonary pressure – must be less than the atmospheric pressure. Similarly, for air to flow out of the lungs, the intrapulmonary pressure must be greater than the atmosphere pressure. The pressure within the gas-filled spaces of the lungs can be altered by the volume of the thoratic cavity. Thus, when the volume of the thoratic cavity increases, so does the volume of the lungs. The increase in the lung volume lowers the intrapulmonary pressure below the atmospheric pressure, and air flows into lungs until the pressure within the lungs again equals the

atmospheric pressure. As a consequence, air flows out of the lungs until the pressure within the lungs becomes equal to the atmospheric pressure.

Inspiration, or inhalation, refers to the movement of air into the lungs. Air moves into the lungs when the volume of the thoracic cavity – and thus the lungs – increases, and the intrapulmonary pressure falls.

There are two ways of increasing the volume of the thoracic cavity during inspiration. Once way is by contracting the diaphragm. When it contracts, the diaphragm flattens, lowering its dome. This movement increases the longitudinal dimension of the thoracic cavity. The second way is by elevating the ribs. In the resting position, the ribs slant downward and forward from the vertebral columns. The contraction of muscles such as the intercostal muscles, which are located between the ribs, pulls the ribs upward. This movement increases the anterior-posterior dimension of the thoracic cavity. During normal, quiet inspiration, the contraction of the diaphragm is the dominant means of increasing the volume of the thoracic cavity and lowering the intrapulmonary pressure. The elevation of the ribs is most evident during forced inspiration.

Expiration, or exhalation, refers to the movement of air out of the lungs. As previously indicated, air moves out of the lungs when the volume of the thoracic cavity – and thus the lungs – decreases, and the intrapulmonary pressure rises.

During quiet breathing, the volume of the thoracic cavity is decreased by passive processes that do not involve muscular contractions. When the muscles involved in inspiration relax, the elastic recoil of the lungs, chest wall, and abdominal structures return the ribs and diaphragm to their resting position. This activity reduces the volume of the thoracic cavity and raises the intrapulmonary pressure.

During forces expiration, as occurs in exercise, muscles are involved in further reduction of the volume of the thoracic cavity. The muscles of the anterior abdominal will aid in forces expiration by exerting pressure on the abdominal viscera, thus forcing the diaphragm upward. The intercostals, the transverses thoraces, the quadrates lumbar, and the serratus posterior inferior muscles also assist in reducing the volume of the thoracic cavity by dressing the rib cage.

Understanding the Workings of the Diaphragm

One of the most common errors of music teachers has been the role of the diaphragm during breathing. In The Physiology of breathing: A Textbook for Medical Student by Arend Bouhuys, M.D., Dr. Bouhuys states in chapter eleven, titled "Voluntary Breathing Acts: Speech, Singing, and Wind-Instrument Playing", "Muscle spindles are numerous in the intercostals' muscles, the most important muscles in regulating subglottic pressure. The diaphragm, which has few muscle spindles, performs no active role during speech or singing." Simply then, the diaphragm's job is simply one of inspiration not expiration. In fact, if the diaphragm does not relax after inspiration it will impede expiration.

Best Description of respiratory physiology of Wind Instruments

The best description of the respiratory physiology of wind instrument players is given by Professor Bouhuys in "Physiology of Musical Instruments." The respiratory muscles help to generate most of the energy that goes into playing a horn. They act out of the chest, which is for our purposes an elastic bellows. When the chest (that is, the lungs in it) is full of air, the chest tends to collapse as it relaxes. Just try for yourself: inhale as far as you can, relax all muscles, and you exhale with a sigh. Now try the opposite, which is more difficult to do: breathe as far as you can. Now relax all muscles, and the air flows in. The resting position of the chest bellows is somewhere in between, roughly in the middle of the volume excursion range of the chest. The respiratory muscles have to work with or against these elastic forces, depending on what the chest volume is and what pressure we need to play the horn. If we first want to breathe out slowly with very little pressure, after breathing in as far as possible we must use considerable inspiratory force to keep the air from going out with a sigh. Again, try for yourself. Breathe in deeply, and let go very slowly. You have to "brake" your exhaling, using aspiratory muscles to hold back, to keep the chest volume from decreasing too rapidly because of its own elasticity. When you continue, you reach a point where you are relaxed. Now continue to breathe out slowly, and you find that you now have to push with expiratory muscles to move air out at the same slow rate."

Perantoni's Pedagogy

Breathing

Perhaps the most important physical aspect of tone production is the breath. It is the source of energy that causes our lips to vibrate or "buzz". Correct breathing is, therefore, essential to good performance production and musical expression. The key factor to inhalation is to expand both the abdominal area and the rib cage naturally and simultaneously. The sternum (breast bone) must rise gradually along with an upward, as well as outward movement of the rib cage. At the same time, the abdominal muscles should be relaxing outward gradually, which increases the size of the lower section of the chest cavity. The abdominal muscle action and the rib cage action must be coordinated and balanced. This way the chest cavity is able to reach its greatest size with minimal waste of body energy. This will provide the most space for the lungs to expand to their maximum potential. The end result and our goal is to take the largest inhalation with the least mental and physical effort. So, simply take a deep breath naturally by initiating movement in all parts of the breathing apparatus simultaneously, again, the important work is **expansion.** Efficient breathing has to happen automatically. All we do is decide on a movement goal and let our subconscious part of the brain do the rest—the way our mind-body system was designed.

Think of sucking in air with the mouth shaped in the vowel "0". Exhale with the same sound. Listen to the sound of the air during inhalation and exhalation. It should sound the same. A good way to develop better efficiency of your lung capacity is to practice inhaling and exhaling into a breathing bag (anesthesia bag, 5 or 6 liter.) Take a deep breath and then fill the bag to your capacity. Now, inhale the air from the bag. Exhale and fill the bag. Repeat several times. Exhalation of carbon dioxide into the bag will eliminate hyperventilation.

During exhalation your lower abdominal area will move inward. Your goal is to blow through and beyond your mouthpiece. In other words "BLOW FROM THE LIPS." Rule. You can use up to three-quarters of your lung capacity without having to squeeze to get the remainder of the air out. Never play in the last one-quarter area. Otherwise tension in the body will cause a thin, tight, restricted tone..

Since the tuba is the largest of the brass instruments and is played in the lower register, a greater volume of air is used under less air pressure. The tubist cannot be expected to play long phrases like a person playing a trumpet for example. Tubists simply have to breathe more often. Therefore, learn to breathe quickly and sub-phrase longer phrases.

Another consideration must be given to the size (lung capacity) of the performer. A junior high student, for example, will have smaller lungs than an adult. Yet in many cases the teacher will demand the performer to attempt impossible phrases. The result will be tension causing unacceptable tone. In sections where there is more that one player on a part, breathing should be staggered. Each player or a group of players will breathe in a different place, yet concentrating on the desired phrase.

Embouchure

When you form a tuba embouchure, think of saying the word "Tuba". The "tu" (two) is a good example for basic formation. The important consideration here is forming firm corners of the lips. Next, form a slight pucker as your about to say a word beginning with the letter "p". Another good example for good embouchure formation is saying "phew".

Good general mouthpiece placement for the tubist is 50% top lip, 50 % bottom. Another helpful thought is that the top lip is mainly responsible for sound and the bottom lip for interval. Avoid excessive pressure on the top lip. You need just enough to from a seal. Think of blowing directly through the center of the mouthpiece. With proper inhalation, release a steady stream of air with a formed embouchure to produce a sound. Remember, to think "OH".

Articulation
The tongue is used to aid in articulating the start of the note much the same way as singing. Imagine that the only difference is that the vocal chords in playing the tuba are now the embouchure. The tongue will move up and down-not in and out. The tongue is secondary to the breath. For the best tone make a sound without the use of the tongue. The tongue itself does not produce tone. It aids pronunciation. Concentrate on blowing from the lips. A good attack is produced by simultaneously blowing while the tip of the tongue strikes the upper lip below the teeth while having a formed embouchure. You will get a more efficient buzz and sound than tonguing behind the upper teeth. More air will get through the lips. The concept of tonguing behind the upper teeth may work best for high brass instruments but this can result in causing the tongue to be too high in the mouth for the tuba causing a nasal sound. We have a much bigger mouthpiece than the trumpet and play in the lower register. A good attack will consist of the breathing apparatus, the embouchure, the oral cavity, and the tongue all in correct timing. To stop a note, simply stop the air. Think of an "h" ending"-"toeh".

Perhaps the most misunderstood concept of articulation occurs during faster articulation. The faster you play, the more connected notes become. The shortest notes having the most space between them are the eighth notes. "Toeh-toeh-toeh-toeh". The sixteenth notes are more connected. Also your basic attack is is somewhat softer:" toeh-doe-doe-doe" For faster playing we would use a double tongue: "toe-ko-doe-ko".; faster double tonguing becomes "doe-go-doe-go".

The legato tongue is used to assist longer notes for clearer articulation. The only separation between the notes will be the soft "d" as in the word doe.

Slurring is a technique essential to the success of all tubists. The first note of a slur is articulated. The slurred notes are done by the done by the embouchure without the use of the tongue. It is essential to keep a steady stream of air going to keep the lips vibrating during the slur. Think of changing the intervals of a slur at the last possible second in correct time with minimum amount of movement. Concentrate on the music rather than feeling the embouchure change on each note.

Time
Time is the soul of music. To play without time and without rhythm is not music. It is noise. Rhythm in music is the organization of sound and silence across time and is an essential component of all music. ***It is the energy of music***. Numerous dimensions contribute to rhythmic structures in music including tempo, meter, beat, and melodic and phrase patterns (Gaston 1968)

We are forever telling our student that playing the horn is about doing all the simple things perfectly. "Time" is, in a way, a simple thing. It's unenviable because we both want to give you practical "take it home and do this" kinds of advice on developing it. It's challenging because we want to talk more about the elasticity of time than how to turn your metronome on.

Listening
While it's true that there are more and more ***great*** CD's of *amazing* tuba players available, frankly you're limiting the flavors. There are great performances in all genres available in recording (and live of course). You need to get musical performance in your pores. How can you be expected to reproduce a sound or an effect (i.e. rubato in this instance) if you've rarely, if ever, heard it? Pick performances you like. A good rule of thumb is that those who have a reputation as a great player don't enjoy that just because they play the right notes most of the time. Listen to an older recording of oboist Ray Still of horn Philip Farkas or Adolph (Bud) Herseth on trumpet in the Chicago Symphony. You could get that on one recording! Listen to the perfection of how they play with the beat in solo passages. Part of that was Maestro Fritz Reiner. More of it was the player. There are about a million other good (and that's the operative word here) classical recordings from which you can learn and which you will enjoy at the same time.

Or why not listen to the aforementioned Sinatra, Bill Evans or Ella Fitzgerald or Tony Bennett or Diana Krall or a thousand other great artists?

Bottom line: You've been told this before. You've been told that you need to listen to some great playing. You've been told that practicing an orchestral part without really know the full orchestral context is basically a waste of time. Yet so many players think they can short-circuit the process.

You also need to listen to yourself! Strangely enough there are many players who never really have done so. You listen to the notes but do you listen to the music, to the time? One of the most beneficial things you can do for your playing is to record yourself. Good digital recordings are easy and inexpensive to do these days. You will be amazed at how hyper-critical you can become about your own playing. Bearing in mind that over analysis may become paralysis. Many players are also distracted by the music in front of them. No matter how many times they play a tune, they still doggedly stare at the notes. Turn the stand around at times and play from memory.

Successful Performance

Successful performance demands the development of good, physical habits that will happen naturally, like the simple task of picking up a pencil. Be concerned with the "doer". One can only play as well as he or she hears. Listen to master performers on all instruments. Imitation is still the best teacher. It is helpful to develop your ear through singing. This will strengthen a closer awareness of pitch, melodic line and expression. Sing everything in your mind while playing the tuba. Finally, put it all together (air flow, embouchure, articulation, and time, etc.) into one concentration, which is the making of music!

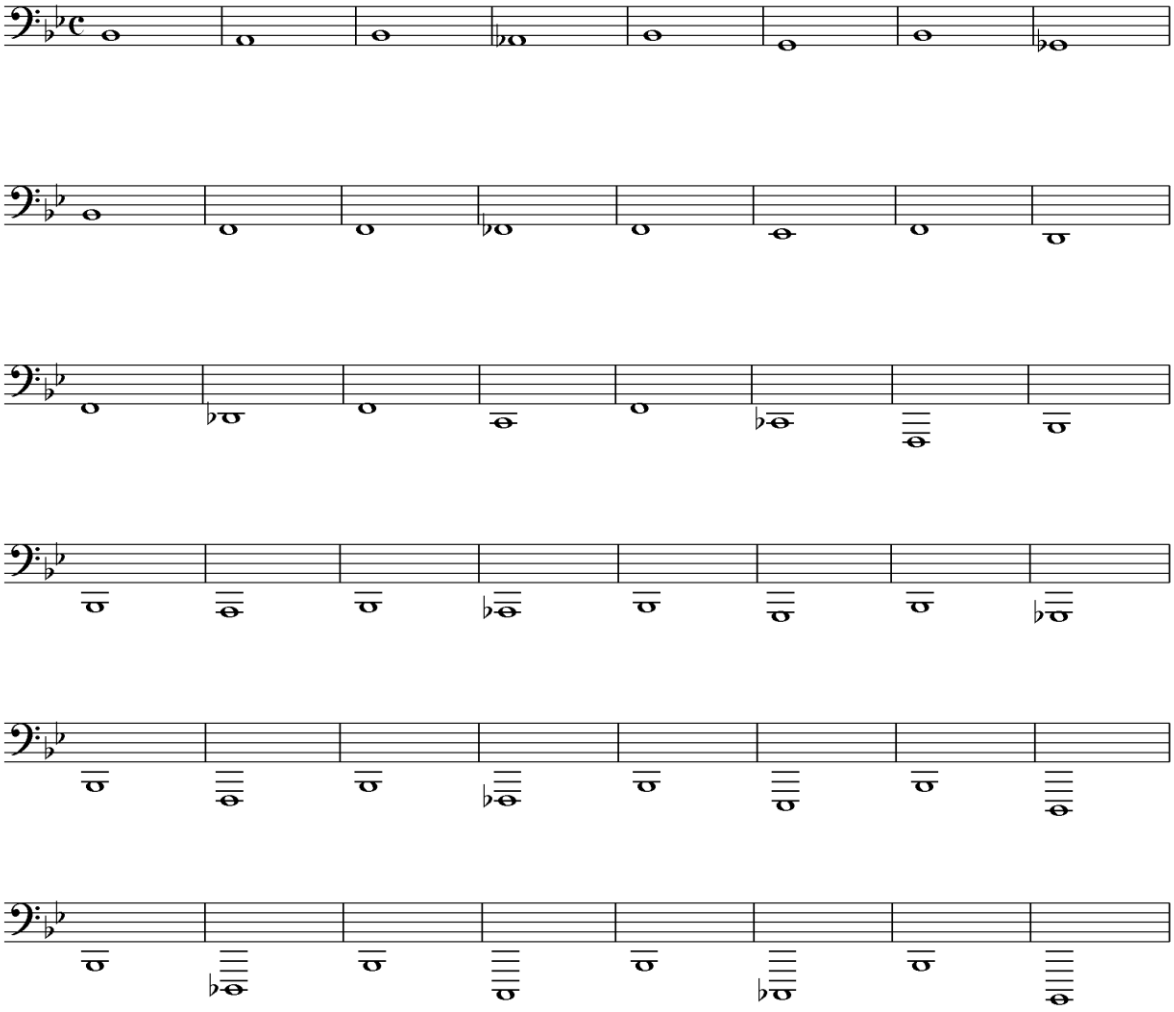
Expand Your Horizons

In the increasing competitive field of music our opportunities seem to be diminishing with each passing year. The quality of students coming through our colleges and universities today far surpasses the expectations of our pioneers and the competition for employment grows ever keener. By staying aware of career opportunities and by knowing how to select appropriate literature for our stude3nts we can better prepare them for whatever limits of our students further than they themselves would select, the possibilities we set for ourselves as tubists continue to expand. Stretch their boundaries and expand their focal points and they will find work.

Tuba Warm-Ups

Dan Perantoni
Trans. Paul Carlson

1 Bb Tuba



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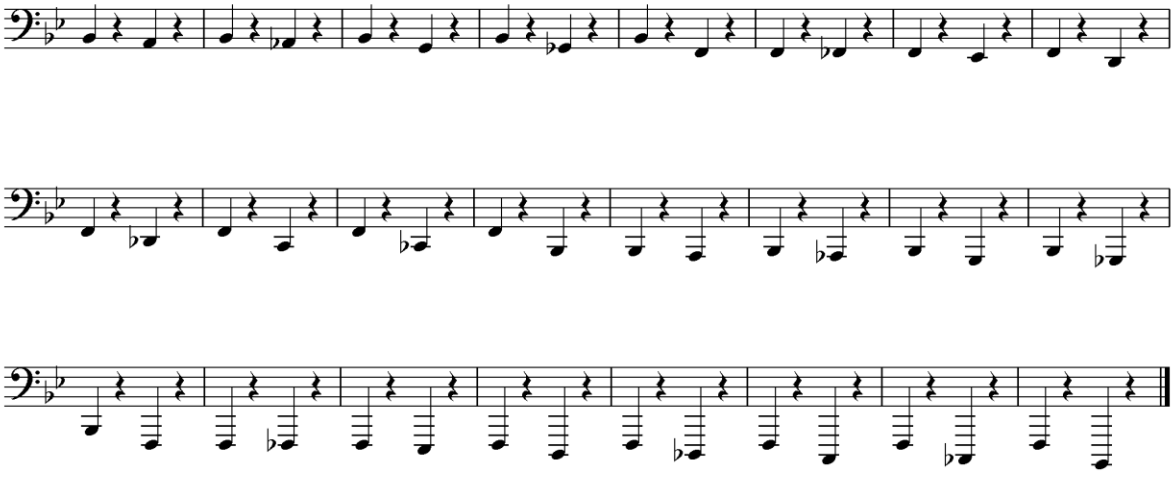

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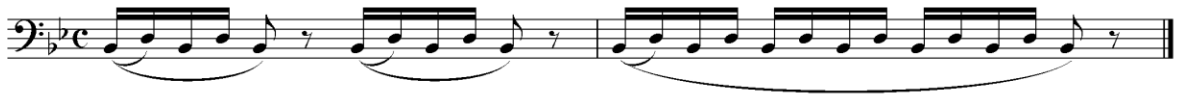

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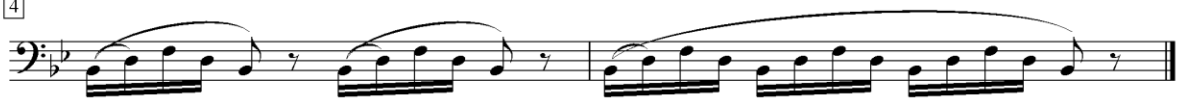

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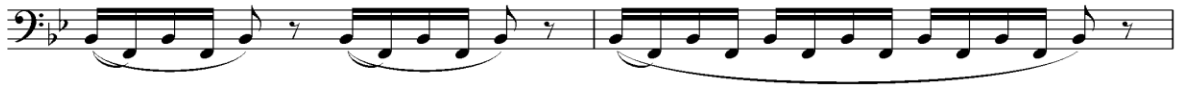

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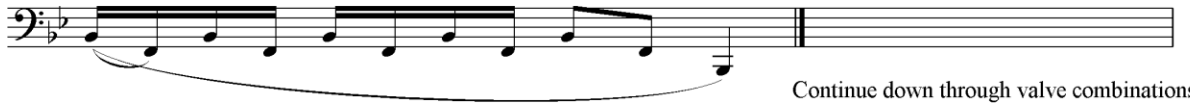

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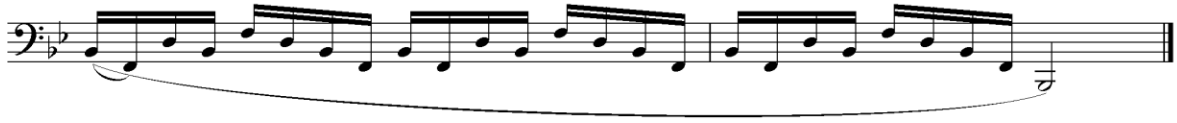

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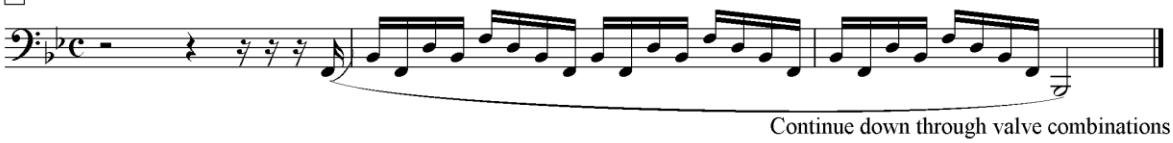

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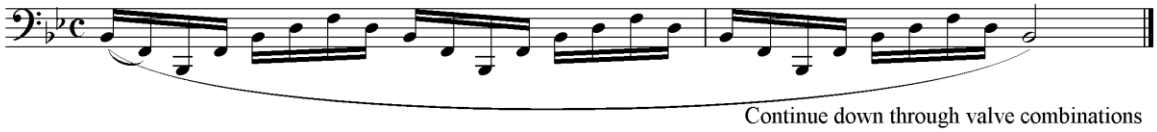

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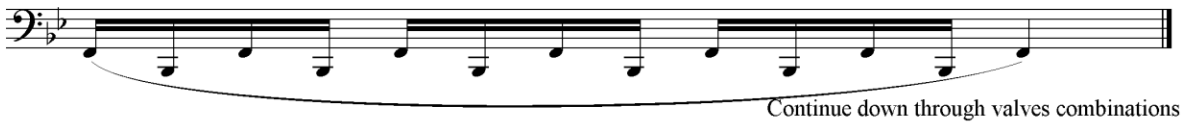
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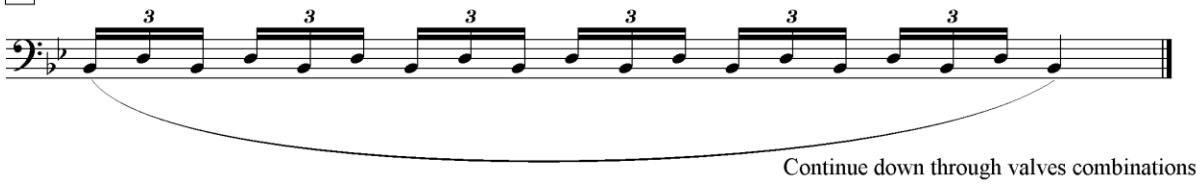
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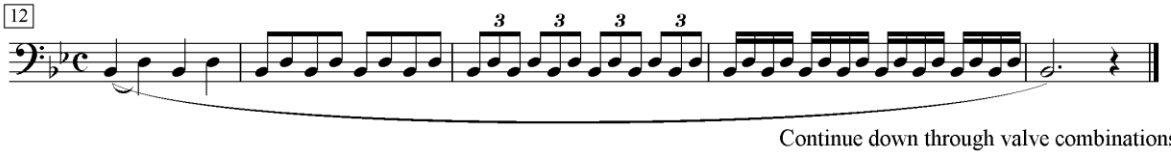
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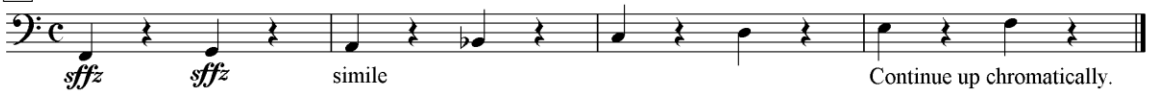

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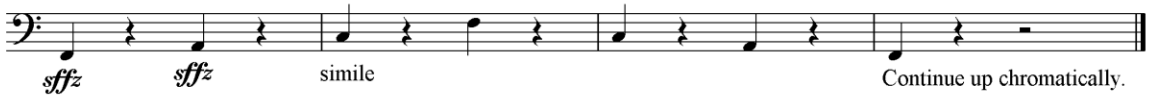

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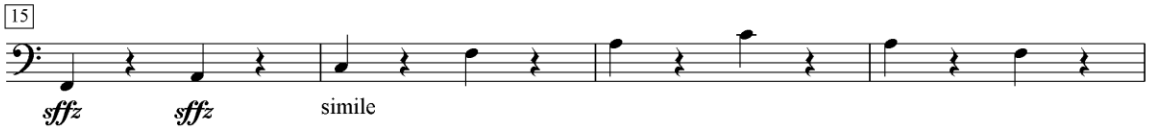

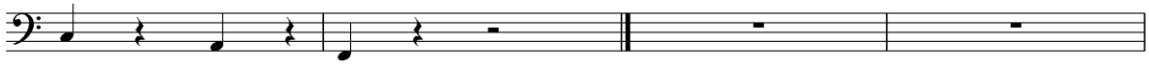

Continue up chromatically.

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Continue up chromatically. Then use the same pattern down chromatically. Go as high and as low as feels comfortable.

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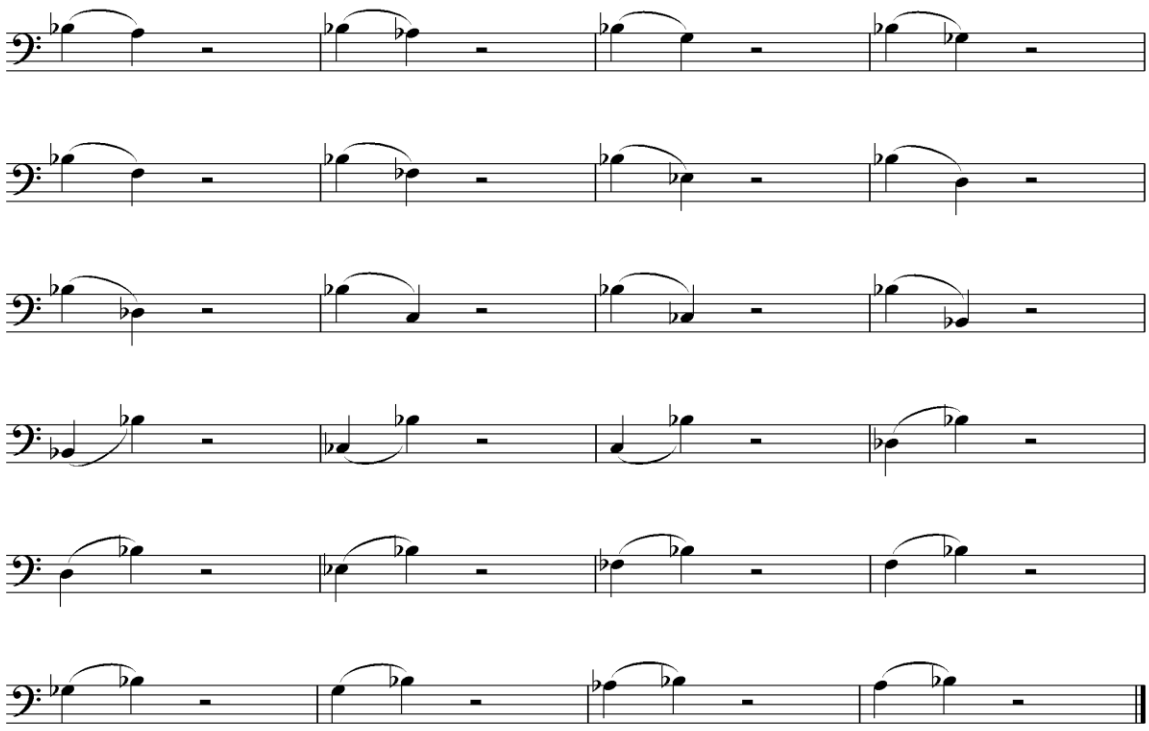

It is essential that whenever the rests appears you completely relax your body. Immediately follow this with the next example, which is a low exercise.

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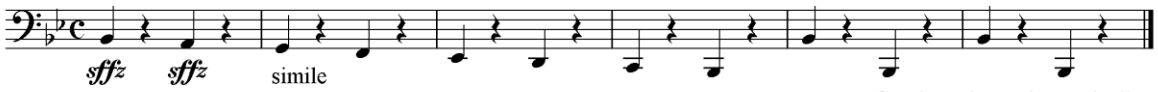

Continue down chromatically as low as possible with a direct and focused sound.

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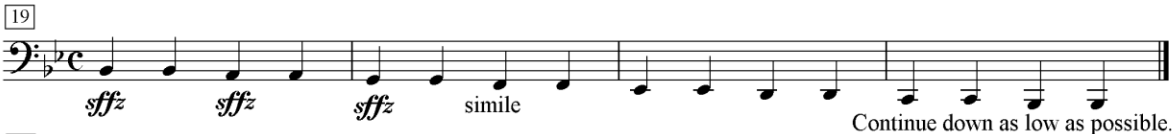

Continue down as low as possible.

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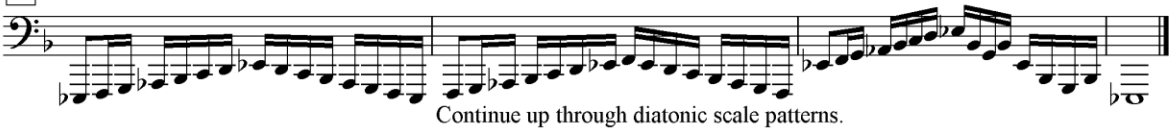

Continue up through diatonic scale patterns. This is a good exercise to increase tempo with a metronome.

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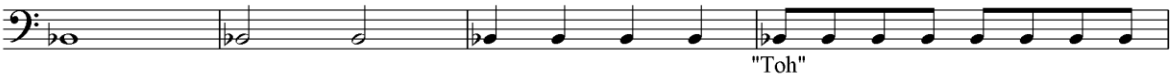

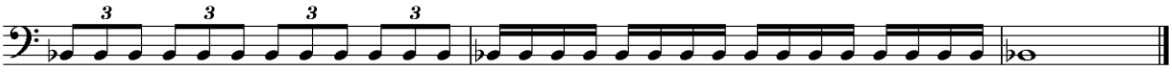

Continue down chromatically.