MUS 189: Low Brass Methods
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The Euphonium and Baritone Horn

Historical Sketch

Compensating Euphonium

Like the tuba, to which they are closely related, the euphonium and baritone horn trace their lineage to the serpent and ophicleide (see the tuba reading for additional information), and were made possible by the invention of the valve in the mid-1810s. Wilhelm Wieprecht (1802-1872), one of the individuals credited with the invention of the tuba, developed instruments roughly analogous to the modern baritone horn and euphonium as early as 1828, though an inventor from Weimar named Ferdinand Sommer is generally credited with developing the immediate ancestor of the modern instruments in the early 1840s. Adolphe Sax (1814-1894) also played a pivotal role in the development of these instruments, as the modern baritone horn is essentially descended from Sax's baritone saxhorn, and the euphonium from his bass saxhorn. Following the invention of the compensating system by David Blaikley in the 1870s, a euphonium essentially the same as that preferred by modern professional players was introduced. (*The compensating system is a technology which corrects the inherent sharpness in certain valve combinations, and is used on practically all of the better modern euphoniums and on some tubas.)

Non-compensating Euphonium

The above information is somewhat simplified, and omits the several variations of these instruments which emerged during the nineteenth century. Perhaps the most important of these variations was the double-belled euphonium, an instrument which enabled the player to alternate between a large "euphonium" bell and a smaller "baritone horn" bell to create different tone colors. This instrument was preferred by prominent American euphoniumists during the late nineteenth and early twentieth centuries, but was eventually supplanted by the British-style instruments beginning in the late 1940s; the British-style instruments are still preferred by practically all professional euphoniumists. Another of these variations was the "French C tuba," a six-valve instrument pitched one whole-step higher than the modern euphonium, yet used as the lowest brass voice in French orchestras well into the twentieth century.

Baritone horns and euphoniums formed an integral part of the brass bands which emerged throughout Europe during the mid-nineteenth century. The euphonium especially became a frequently employed solo instrument in these ensembles, a situation which has continued into modern times. Although a few concert band composers have called for both the baritone horn and euphonium, usually only the latter instrument is employed in concert band scores (although with parts often confusingly marked "baritone"). As in the brass bands, concert bands have traditionally employed the euphonium as the preferred tenor soloist.

A few composers, including Gustav Holst (1874-1934) and Richard Strauss (1864-1949), have employed the euphonium (under the name "tenor tuba") in orchestral works. A few players have used the euphonium instead of the tuba when playing ophicleide parts in early nineteenth-century works with success, but these parts are normally played on the tuba. The German tenorhorn, an instrument analogous to the baritone horn, is employed

in works by Gustav Mahler (1860-1911) and Leoš Janáček (1854-1928). Nevertheless, neither the euphonium nor the baritone horn has been incorporated into the standard orchestral instrumentation.

As a solo instrument the euphonium has always enjoyed a sizeable repertoire of showpieces for performance with concert band or brass band; many of the newer solo works for the instrument have come from composers associated with the British brass band tradition. Euphonium players have always borrowed solo repertoire from trombonists, cornetists, trumpeters, cellists, and bassoonists, often with considerable success. The baritone horn has little solo literature of its own, though a small number of British players are currently working to make a place for that instrument in a solo role.

Chamber ensembles of tuba and euphonium players are also now quite common, especially on American college and university campuses. These ensembles increase the visibility of the tuba and euphonium through performing opportunities of all types. A few individuals have experimented with using the baritone horn in these ensembles for certain works.

Instruments

Euphonium in Bb. The euphonium is essentially a tenor tuba, having a bore profile and sound similar to those of the tuba, but pitched an octave higher than the BBb tuba. The large, predominantly conical tubing of this instrument contributes to its warm, sonorous tone. Modern euphoniums can have three or four valves, and the best instruments employ the compensating system with fingerings including the fourth valve. Practically all American-made instruments, whether they are called baritone horns or euphoniums, are euphoniums. That said, a few of these instruments (such as the old Conn and King three-valve, bell front, small-bore "baritones") have characteristics that are really in between what the British would classify as a euphonium or baritone horn. In German-speaking countries the euphonium is sometimes referred to as the *baryton*.

Baritone horn in Bb. While sharing the same fundamental pitch, range, and fingerings as the euphonium, the baritone horn is much smaller in bore, bell, and mouthpiece size, and has a tubing shape that is more cylindrical than that of the euphonium. Its sound is much brighter than that of the euphonium, though in the same range. Think of a comparison to the trumpet family one octave higher; the very cylindrical trumpet is bright and like the trombone; the very conical flugelhorn is darker and like the euphonium; the cornet is in-between, and like the baritone horn. This instrument is today almost exclusively found in European brass bands. In German-

speaking countries this instrument is referred to as the *tenorhorn*. Although baritone horns were once almost universally three-valve instruments, four-valve models do exist today, including some compensating models.

Eb alto/tenor horn. Called alto horn in the US and tenor horn in Britain, this instrument is basically a smaller version of the baritone horn, pitched a fourth higher. It is found only in brass band music today, though early concert bands sometimes used this instrument instead of the French horn as the alto brass voice.

Marching instruments. Traditionally euphonium and baritone horn players have marched with the same instruments they use in concert settings, a situation which still prevails in most military bands as well as brass bands and more traditional marching ensembles. As drum and bugle corps have developed and American school marching bands have taken on many characteristics of these groups, bell-front, bugle-shaped instruments have been predominantly used for marching purposes. A number of makes and models are available; typically manufacturers will label their largest marching instruments *marching euphoniums* and the smaller ones *marching baritones*, though both of these instruments typically have a primarily conical bore profile. Another three-valved bugle, sometimes labeled as a *marching trombone*, is more cylindrical in bore and thus more analogous to the baritone horn. All of these are Bb instruments with the same written notes and fingerings as their concert counterparts. For better or for worse, the distinctions that are so vital when considering concert instruments are less so for marching instruments.

Choosing Students for the Euphonium

Facial structure. An extremely small mouth and/or thin lips may make the student a better candidate for a higher brass instrument, while very large-lipped individuals may be more successful on tuba. Extreme overbites or underbites can be a problem on brass instruments but can in some cases even be beneficial for woodwind players. A student with a lisp may have difficulty articulating properly on any wind instrument, but more so with the brasses.

Physical stature. It's hard to tell with young students, though students who are REALLY small at age 10-12 might never "grow into" the instrument. It's a good idea to have a parent meeting before choosing instruments for many reasons, one of which is to take a look at the stature of students' parents to see if those students are likely to be able to physically manage a large and heavy instrument.

Caveats. Of course, all of the suggestions above are "general guidelines" to help in guiding students to finding appropriate instruments for them. Sometimes a child who "on paper" seems like a poor candidate for a given instrument will sound great and seem to do well with a given instrument despite "breaking the rules." In such cases, "go with it," though it might be worth observing a bit more closely for a bit to make sure the instrument really is a good fit. Also, though it should go without saying, any stereotypes regarding particular instruments based on gender, race, etc. are irrelevant and should be ignored.

"Trying Out" the Euphonium.

- When allowing students to try instruments, have them try to create a buzz first of all. No really special embouchure formations—just buzz the lips, then do it in the mouthpiece. If a student can get at least an octave or so, he or she may be a good candidate for the euphonium. If higher or lower ranges are favored, try the trumpet, horn, or tuba, as needed. If the student can't buzz at all, strings, percussion, or woodwinds may be better.
- After having the student buzz the mouthpiece, you can let him or her play the instrument while you hold it and manipulate the valves.
- A student that gets a reasonably good sound on the mouthpiece and/or instrument, favors its middle register when play-testing, and LIKES the euphonium will probably be okay.
- A student that shows promise for the euphonium will likely show similar or equal promise for the trombone. A number of factors can help to determine which of the two a student should play, including

parents' arm lengths (if the parents are short/unable to reach seventh position, the child might not be able to either), financial situation (the child may *need* a school-owned instrument), and personal preference (if you've done your job in demonstrating and promoting all the instruments, some students will probably *choose* the euphonium). You will most likely have better luck getting good euphoniumists by starting students on the instrument, rather than transferring second-rate trumpeters to the euphonium in later years. That said, a student that plays another instrument and becomes ill-suited to it as he or she develops—for example, a trumpeter whose lips "fill out" too much for the trumpet as he or she grows older—may become a good euphonium player with sufficient practice.

- Start more euphoniumists than you think you will need, and always encourage them to "stick with it" and excel. The low brasses have a high dropout rate, unfortunately, and you will need to anticipate this and try to counteract it, if possible.

The First Day (or Two, or Three)

On the first day "with instruments" tell students they should leave their instruments in their cases. Before removing instruments, begin the rehearsal with some breathing exercises such as those found in *The Breathing Gym*. If possible, every rehearsal should begin with some of these exercises.

After breathing, have students get their mouthpieces only. Have them buzz "any note," and then have the class match pitches in simple patterns (i.e. middle register whole notes).

Have students place their cases on the floor, and "walk them through" removing and assembling the euphonium.

Show students how to lubricate the valves. (See below under "Assembly, Lubrication, Care"), and have them do so.

Demonstrate the correct holding position for the euphonium. The left arm should reach across the instrument, supporting practically all of the weight. The fingertips on the right hand should be placed on the valve caps, with the hand gently curved (as if holding an aluminum beverage can). The right thumb will be used for balance, but should support very little weight. Take care that the instrument is not placed on the right leg (causing the student to have to "twist" to reach the mouthpiece). A younger student might be able to rest the instrument on his left leg, but if he has to bend down to reach the mouthpiece have him either hold the instrument up, use a rolled up towel, a pillow, or other implement to bring the mouthpiece to the correct height.

Correct holding position (standing). The seated position is similar.

After you explain briefly to students which of the valves is the first, second, third, and fourth (if applicable), beginning on fourth-line F, teach students a Remington pattern whole-note exercise by rote. Repeat beginning on low Bb. If time allows, try doing the same starting on the Bb on top of the staff. This gets the students' "playing range" well ahead of their "reading range." While not all students will be able to play this whole range of notes from day one, the attempt is still good, and places you in a situation where each "new note" introduced in students' reading is one that they have already played in a rote exercise, at least for the first few months.

If time allows, distribute warm-up sheets and have the students repeat the "rote" Remington exercise while looking at it on the sheet. Hopefully some associations between reading and playing will begin to develop.

Lastly, "walk students through" disassembly of the instrument, and placement in the case.

Assembly, Lubrication, Care

Assembling the euphonium is simple—place the mouthpiece in the receiver and twist. Do NOT hit the mouthpiece.

Lubrication. Any standard valve oil is acceptable for piston valve instruments. Pull the piston out slightly, apply a few drops of oil, and replace. Tuning slides require just a small amount of tuning slide grease to keep them moving.

Care. It is a good idea to wipe out the valve casings periodically. Simply remove the pistons, bottom valve caps, and springs, and then use a rolled up paper towel (shop towels are recommended) to clean the casings. A valve casing brush may also be used as desired. After this, reassemble the valves, placing a generous amount of valve oil on each piston before reinserting it. Make sure to place the correct piston in each casing; the instrument might not play if one or more pistons are inserted in the wrong casings. In case of a mix-up manufacturers typically indicate the number of each valve on the top of the piston.

Pedagogical Concepts

Instrumentation. Instrument size is not an issue with euphonium like it is with the tuba—it is possible to purchase appropriate four-valve instruments for students to use from the very beginning. This is desirable if budgets permit because the intonation on four-valve instruments is superior to that of three-valve instruments, and there will be no need to introduce the fourth valve as something new at a later date. Compensating systems are preferred for advanced players, but not always cost-effective (compensating instruments sometimes cost two to three times as much as good four-valve non-compensating instruments).

> **A good, affordable, standard "school euphonium" is the Yamaha YEP-321, an intermediate four-valve non-compensating instrument. Several lower-cost makers make instruments that are essentially copies of the YEP-321; the Eastman EEP-321 is an obvious and good copy that might be more economical. Beware of too-cheap instruments, though; "good deals" on eBay, etc. that sound too good to be true…usually are.

If students do wish to purchase their own instruments, they need to personally try as many euphoniums as possible, showing preference for the four-valve compensating instruments. Inconsistencies in euphoniums abound, even from the same maker, and several of the same model might need to be tried before a suitable instrument is found (Yamahas are usually an exception to this). Dillon Music in New Jersey, Tuba Exchange in North Carolina, and Ferguson Music in California all keep a reasonably large selection of euphoniums on hand, and you MIGHT be able to get them to ship them out to let you try them (although this will incur substantial shipping cost). Joe Sellmansberger at Mid-South Music in Williston, Tennessee, is nearby and usually has a few new and used euphoniums in stock.

Clefs. Euphonium parts can be written in concert pitch in bass clef, or as a transposing instrument in treble clef, with the sounding pitch a major ninth lower than written (like the tenor saxophone or bass clarinet). Start students with bass clef, though students that transfer from trumpet or another treble clef instrument can use treble clef. Ideally, students will eventually learn to read both clefs; this is absolutely necessary for those that want to major in music in college.

Mouthpieces. While it is generally (and incorrectly) accepted that the euphonium and the trombone use the same mouthpiece, a good euphonium mouthpiece is generally deeper, fuller, and sometimes (though not always) more funnel-shaped than a good trombone mouthpiece. Students that use school-owned instruments should still own their own mouthpieces, as they will be more likely to care for their own belongings, and you will be able to get the best individual mouthpiece for each student.

Intonation can be especially problematic on these larger instruments, and players should be aware that the 1-3 or 1-2-3 valve combinations are VERY sharp, and need to be compensated for, either by using the fourth valve instead of these combinations, or by "lipping" the pitch in order to correct intonation.

Staying motivated. As with all instruments, individual practice is necessary, and obtaining a private teacher is highly desirable. This may be most important for low brass players, as they will need to be exposed to challenging material in order to offset the rather boring parts they most often receive in music for young bands. Retention of good players becomes a problem if students are bored into quitting band. As a teacher, do your best to choose at least some pieces that include challenging, enjoyable, and *individual* (not doubled with trombone and/or tuba) parts for euphoniumists.

Discussions of nomenclature (i.e. baritone horn vs. euphonium) can be confusing for young students, though you should use the correct term (euphonium) despite the markings on students' music. Save discussions of differences between the two instruments for when the students are older (or interested). While "euphonium" is the technically correct term, historically low brass nomenclature has not been as neatly defined as it is today. Be accurate, but not obnoxious.

Mutes. Straight mutes are available for euphonium, but are very expensive and rarely used. The odds of needing one of these in high school literature are slim.

Suggested Method Books for Individual Practice

Arban, Jean-Baptiste/Alessi, Bowman: *Complete Method*
Bordner, Gerald: *Practical Studies for Trombone*, vols. 1 and 2
Bordogni, Giulio Marco/Mulcahy: *Complete Solfeggi*
Clarke, Herbert L./Gordon: *Technical Studies*
Edwards, Brad: *Simply Singing for Trombone*
Fink, Reginald H.: *From Treble Clef to Bass Clef Baritone*
Fink, Reginald H.: *Introducing the Tenor Clef*
Gower, William and Voxman, Himie: *Rubank Advanced Method for Trombone*, vols. 1 and 2
Long, Newell H.: *Rubank Elementary Method for Trombone*
Mead, Steven (ed.). *New Concert Studies*
Remington, Emory/Hunsberger: *The Remington Warm-Up Studies*
Tyrell, H.W.: *40 Progressive Studies*
Vining, David: *The Breathing Book*

Suggested Reading

Ahrens, Christian. *Valved Brass: The History of an Invention*. Translated by Steven Plank. Hillsdale, New York: Pendragon Press, 2008.

Baines, Anthony. *Brass Instruments: Their History and Development*. New York: Dover Publications, Inc., 1993.

Bevan, Clifford. *The Tuba Family*. Second Edition. Winchester, UK: Piccolo Press, 2000.

Farkas, Philip. *The Art of Brass Playing*. Rochester, New York: Wind Music, Inc., 1962.

Frederiksen, Brian. *Arnold Jacobs: Song and Wind*. Gurnee, Illinois: WindSong Press Limited, 1996.

Griffiths, John R. *Low Brass Guide*. Roswell, Georgia: E. Williams Publishing Company, 1991.

Herbert, Trevor and John Wallace (eds.). *The Cambridge Companion to Brass Instruments*. Cambridge, U.K.: Cambridge University Press, 1997.

Morris, R. Winston, Lloyd Bone, and Eric Paull, eds. *Guide to the Euphonium Repertoire: The Euphonium Source Book*. Bloomington, Indiana: Indiana University Press, 2007.

Nelson, Bruce. *Also Sprach Arnold Jacobs: A Developmental Guide for Brass Wind Musicians*. Mindelheim, Germany: Polymnia Press, 2006.

Phillips, Harvey and William Winkle. *The Art of Tuba and Euphonium*. Seacaucus, New Jersey: Summy-Birchard, Inc., 1992.

Stork, John and Phyllis Stork. *Understanding the Mouthpiece*. Vuarmarens, Switzerland: Editions Bim, 1989.

Vining, David. *What Every Trombonist Needs to Know About the Body*. Flagstaff, Arizona: Mountain Peak Music, 2010.

Whitener, Scott. *A Complete Guide to Brass*. Second Edition. Belmont, California: Wadsworth/Thomson Learning, 1997.

Recommended Instruments (in Everett's Order of Preference)

Beginner (3-valve, non-compensating)

- Yamaha YEP-201
- Eastman EEP321
- John Packer JP074

Intermediate (4-valve, non-compensating **start here even with beginners if funds permit**)

- Yamaha YEP-321
- Eastman EEP421
- King 2280
- John Packer JP174

Advanced/Professional (4-valve, compensating)

"Below-Budget"-Priced
- Mack Brass EU1150

"Budget"-Priced
- John Packer JP274

Moderately-Priced
- Eastman EEP826
- Shires Q40, Q41
- John Packer JP374
- Yamaha YEP-642II
- Besson Sovereign 967, 968

High-Priced

- Miraphone M5050
- Besson Prestige 2051, 2052
- Willson 2900, 2950
- Adams E1, E2, E3
- Yamaha YEP-842

Marching Baritones
- Yamaha YBH-301M
- King 1127
- Eastman EMB411
- Jupiter JBR-1100M

Marching Euphoniums
- Yamaha YEP-202M
- King 1129
- Jupiter JEP-1100M

Convertible Euphoniums (single instrument with marching and concert configurations)
- Yamaha YEP-201M
- Jupiter JEP-1000M

Recommended Mouthpieces

Schilke 46D*, 51D, 52E2
Wick/Steven Mead SM Series
DEG/Brian Bowman BB1, BB2, BB3

*The Schilke 46D is a relatively unknown but good "beginner" euphonium mouthpiece. It has a small diameter like many beginner trombone mouthpieces, but a deeper, fuller cup that is more conducive to a good euphonium sound than the Bach 7C and 6.5AL trombone mouthpieces that are unfortunately often given to beginning euphoniumists, as well. Students with larger facial structures *might* be able to start on the Schilke 51D.

Prominent Players (not a comprehensive list, but you can start here)

Steven Mead
Brian Bowman
Demondrae Thurman
Adam Frey
Gail Robertson
David Childs
Bente Illevold
Robbert Vos

Online Resources

International Tuba-Euphonium Association. www.iteaonline.org
Tuba Forum. www.tubaforum.net
Sean Chisham's TubeNet BBS. www.chisham.com
David Werden. www.tubaeuph.com
Tuba/Euphonium Facebook Group. /www.facebook.com/groups/tubaeuph/
Dr. Everett's Blog. thereformingtrombonist.wordpress.com