Alto Clarinet: The Endangered Species of the American Band

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Introduction

In regards to jokes, the alto clarinet of the band is the viola equivalent of the orchestra. Both instruments will get you handicapped parking if you put the case on the dash of your car. However, unlike the viola in the orchestra, American music educators have done their best to get the alto clarinet removed from the wind band. In this regard, they have been quite successful.

In the United States, music publishers of new band works do not include parts for alto clarinet and no longer consider the instrument a part of the standard band instrumentation. American composers, also sensing their market, no longer write parts for the instrument. This of course, has had ramifications beyond publishing.

Instrument manufacturers, seeing a decline in the American school band market for alto clarinets have scaled back research and development. Yamaha hasn't revised or improved their alto clarinet design since 1988. Selmer's design has also not fundamentally changed since the 80s. Because demand for bassethorns is the majority of the new instrument market in this range of clarinet, they seem to be a bit more up to date design-wise. In this regard, the bassethorns are perhaps a technically better instrument than the alto clarinets in this study. Bassethorns, however, are not a perfect solution either since they require the player to transpose when reading an alto clarinet part.

If a band director programs a work written prior to 1980, chances are good that they may have to deal with an alto clarinet part. Since bands no longer have dedicated players on the instrument, it means asking a player to double. Since the instruments are not used regularly, they may not be well maintained. The instruments are almost always school-owned. Therefore, there is no player ownership concerning either the mouthpiece or equipment.

The "perfect storm" in this scenario is a weak inexperienced player, married to an instrument of poor quality or in need of maintenance, with a bad mouthpiece, ligature and reed. The musical result is pre-determined. Unfortunately, the conclusion drawn by the conductor is that this is the instrument's fault, and the medium of band would be better served if the instrument did not exist.

History and Nomenclature

The first clarinets to extend the sounding range of the early clarinets were clarinets d'amour, bassethorns and alto clarinets. These were pitched in multiple keys of G, F, and Eb. Clarinets d'amour, often pitched in G, differed from alto clarinets of the same key, in that their bell was pear-shaped. Alto clarinets after 1800, were generally pitched in F and Eb, but lacked the extended range of the bassethorn.[1]

Alto clarinets pitched in G existed as early as 1740.[2] Ironically, by the early Nineteenth Century alto clarinets were seen as an improvement on the early bassethorn. Ivan Müller, in collaboration with Heinrich Grenser, developed and was performing on a 16 key alto clarinet in F by 1809.[3] Joseph Fröhlich wrote in1817, ". . . Mr. Müller created the alto clarinet from the basset horn. His service in this regard is to have removed the unnecessary bass notes of the basset horn, thereby ridding the instrument of the dull, covered sounds it made, and by this means gaining an instrument capable of great power." L. Busseler wrote in 1879, "The basset horn is still to be found in a few (German) military bands, but it has mostly been replaced by the alto clarinet, which is easier to handle."[4] The alto clarinet has almost always been a part of the wind band, that is, until recently.

Bassethorns and alto clarinets never became part of the standard orchestra. Whereas they occupied a viola role in the band or wind ensemble, the alto clarinets

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[1] Rice, Albert (2009). *From the Clarinet d'Amour to the Contra Bass: A History of Large Size Clarinets, 1740-1860*. Oxford University Press, p.9-10.
[2] Ibid, p.11.
[3] Rice, Albert (2003). *The Clarinet in the Classical Period*. Oxford University Press, p.66.
[4] Hoeprich, Eric (2008). The Clarinet. Yale University Press, p. 249

were not thought necessary in the orchestra, especially in light of Adolphe Sax's technical improvements to the bass clarinet. Although Berlioz writes about the alto clarinet that, "it is a very beautiful instrument which ought to take its place in all well established orchestras," he never wrote for it.[5]

Modern Usage and Complaints

The alto clarinet is part of the family of clarinets in the clarinet choir and full modern concert band. In this clarinet family the instruments alternate in the keys of Eb and Bb and include the Eb soprano, Bb soprano, Eb alto, Bb bass, Eb contra-Alto, and Bb contra-bass clarinets. Each instrument has a unique color. Many of the outstanding composers of the band repertoire such as Grainger, Dello Joio, Copland, etc., have written significant parts for the alto clarinet.

The clarinet family of instruments is similar in concept to the saxophone family consisting of Bb soprano, Eb alto, Bb, tenor, Eb baritone, and Bb bass saxophones. In each case, the ranges easily overlap allowing one to skip an instrument with no loss of notes. The real loss is in the color of the instrument. Just like each saxophone is unique in its tone, so it is with the clarinets.

It has been suggested that the key of the Eb alto clarinet produces an inferior instrument. However, considering that clarinets have historically been made in a wide variety of keys, there is no compelling reason why this particular key is worse or better than any other. If instrument makers can produce a beautiful basset horn in F, there is no reason other than economics that prevents them from making the same improvements to the alto clarinet.

The alto clarinet has also been accused of being out of tune. My experience with clarinets in the entire family has not shown the alto clarinet as having the market cornered in regards to intonation issues. With good quality instruments, the scale of the

[5] MacDonald, Hugh (2002). Berlioz's Orchestration Treatise: A Translation and Commentary. Cambridge University Press. p. 131.

clarinet family is probably overall better, and certainly no worse than that of the saxophones or flutes.

In another effort to justify not using the alto clarinet, directors have stated that they don't hear a color difference having the alto clarinet in the ensemble. However, this is a product of balance more than anything else. Norman Heim notes that in clarinet choirs and wind ensembles where the instruments were one on a part the alto clarinet became an important part.[6] In this circumstance, the alto definitely adds a depth of color to the ensembles. In large bands however, there is generally only one alto clarinet (when used) among a large section of soprano clarinets. And it is only present usually because somewhere there is a solo. It is not there in a balanced instrumentation, and consequently its color impact is limited.

This would be similar to a saxophone section of 12 altos with one tenor (God forbid!). In this case, the tenor's color would be lost in contrast to a balanced section of two altos, one tenor, and one baritone sax. A balanced clarinet section of 12-16 players in a full clarinet choir orchestration would ideally consist of Eb soprano, 2 first clarinets, 2-3 second clarinets, 2-4 third clarinets, 2 altos, 2 bass, Eb contra-alto, and Bb contra-bass.

Who Plays the Alto?

The instrumentation demands for band music are by no means standardized for clarinets. It simply makes sense to have flexibility for whatever demands the music requires. Players should be expected to rotate and double on the harmony clarinets. However, in preparation they need to learn about the instruments and gain some hands-on experience.

It can be very useful to have clarinet players engage in a clarinet ensemble experience where they take turns learning to play the harmony clarinets. What is

[6] Heim, Norman. Why Not the Alto Clarinet? NACWPI Journal – Official Publication of the National Association of College Wind and Percussion Instructors 39:4 (Summer 1991) p. 17.

learned, concerning ensemble, balance, tuning and ability on secondary clarinets makes for a much improved clarinet section in the band.

This recommendation for doubling is not just for college-level ensembles, but for school ensembles as well. Clarinet players in public school ensembles that only play bass clarinet, for example, often end up technically underdeveloped by music of limited range, and rhythmic and fingering simplicity. In addition, the act of playing all roles within the clarinet section provides valuable insight and learning in regards to the importance of all parts within the section.

Unfortunately, the practice for assigning a player to play the occasionally needed alto clarinet part in band usually goes this way: give the task to the last clarinet player in the 3rd section. My recommendation is that instead, you assign the part to one of your better players. My reasoning in this regard takes into account the importance of having real strong players on the low clarinet parts, since they need to project with authority for balance as described earlier. In addition, the lower clarinets play a crucial role in tuning the section, so it is best to have a more advanced player who will deal with the intonation issues involved in learning to double.

Playing a harmony clarinet is not an easy task for those who have not had the experience. The voicing and use of air is very different from the standard clarinet. It is unreasonable to expect a player to be proficient without substantial time to really acclimate to the instrument, and to develop a quality stable of reeds. Like with all wind instruments, practicing with drones and tuners is recommended. A semester to get up to speed with a harmony clarinet is not unusual. By the second semester, the player should be well acquainted with the intonation idiosyncrasies, alterations to fingerings, and voicing needed for a satisfactory performance.

Equipment: A Personal Journey

Faculty support and quality equipment is essential to a player's willingness and happiness to do something extra by doubling. Inferior instruments and accessories do not motivate students to double. Few students, even on the college level, will have

their own professional level alto or bass clarinet, let alone the contra clarinets. If you do not have the resources to purchase a professional level alto clarinet for your inventory, there are some steps you can take to make older equipment function better.

First, look for any wood five piece alto clarinets in your inventory. The wood instruments are generally five-piece, whereas plastic instruments are usually three-piece. But among plastic instruments, some like Vitos can be adjusted for intonation in the middle joint. Check the inside of the bore of the top key joint on a wood clarinet to see that it is not water-damaged through neglect and years of not swabbing.

Before my school was able to acquire a professional alto clarinet, we purchased and refurbished an older LeBlanc wood clarinet. The bore was in good shape. However, the instrument was made to be played with a neck strap, so we had a peg kit soldered onto the bell and removed the lyre holder. Because the instrument was designed to be played with a neck strap, the angle of the neck was not appropriate. Today, the necks of many altos, including those of LeBlanc, are angled for seated playing with a peg, so we purchased a replacement neck with a tuning cup and then fabricated and soldered a brass extension to produce the correct length[7]. The tuning cup creates less disturbance

[7] Neck with brass extension designed and fabricated by John Kagerer, Alaska Music and Sound, 1000 Ingra Street, Anchorage, AK 99501

to the bore than pulling out the mouthpiece. LeBlanc's current alto clarinets have a longer top joint, but the bore has remained the same. So, with the added extension to the neck the new neck works quite well with the older instrument.

We then overhauled and re-padded the instrument with quality synthetic pads, purchased and refaced a new mouthpiece, and bought a decent ligature and cap. We also purchased a high quality clarinet silk swab and new case for the instrument as well. As you can see in Chart 1, this used instrument was raised to a professional level of quality for one-third of the cost of a new instrument.

Chart 1 - LeBlanc Used Alto Clarinet Refurbishing Costs:

Used LeBlanc Alto Clarinet (1960-70's era)	$800
Complete overhaul with cork and synthetic pads	$700
New LeBlanc case	$300
Peg kit and installation	$150
Neck with brass extension	$500
Vandoren Mouthpiece B40/B44	$130
Mouthpiece re-facing	$120
Vandoren Master ligature & cap	$75
Tuning rings for middle joint	$90
Silk Swab	$12
Total Investment:	Approximately $2,877

This refurbished LeBlanc alto has become my preferred instrument. I have been using this instrument frequently in performance (chart 4 of YouTube videos). It has a well-designed key mechanism that makes it easy to double on. It is a large bore instrument and consequently projects well. All notes are in-tune and usable. The large bore however, has the drawback of causing the pitch in the primary register to go sharp when playing soft. The player needs to keep the throat relaxed in these instances and voice downwards, letting the tone go a bit fuzzy to hold the pitch down.

A smaller bore instrument will have a more compact tone but consequently also does not project as forcefully as the larger bore instruments. The smaller bore is what

leads many to prefer the basset horn sound. A smaller bore alto, like that produced by Selmer Paris, is somewhat closer to the tonal characteristics of the Buffet basset horns. But due to the small bore, it also blows in a somewhat "stuffy" manner like a bassethorn and the 12ths are somewhat large on both instruments.

Chart 2 - Bore size comparison:

Alto Clarinets*		Basset Horns	
Selmer Paris	.668	Selmer Paris	.621
LeBlanc	.709	Buffet Prestige	.677
Yamaha YCL-631	.673		
Amati ACL 681	.670		

* Repeated requests to Buffet inquiring about the bore size of their alto clarinets went unanswered.

My school had the opportunity to purchase 2 Buffet bassethorns, and I elected in addition, to purchase a small bore Selmer Paris alto clarinet. The intention was to have a different quality of sound (more like a bassethorn) for use as an option in clarinet ensemble, wind ensemble, and in Mozart Divertimenti for 3 bassethorns. I expected this $8,000 professional level Selmer Paris alto clarinet to be substantially better than the refurbished LeBlanc. However, what I learned in this experience is emblematic of the manufacturing situation in the world today.

Many professional players have stepped forward to champion the use, development and repertoire for the bass clarinet and more recently the bassethorn.[8] The alto clarinet has had no such champions. So, I may be one of the few or even only professional player in a long time to try to use an alto clarinet seriously as a chamber and solo instrument. Upon receiving the Selmer alto clarinet, I spent the summer getting acquainted with the instrument. With a new mouthpiece, adjustment of key height, some tone hole undercutting, and a bit of tape in other tone holes, I was able to produce a relatively even and predictable scale. That is, with the exception of the three lowest pitches (F, E, & Eb). These three notes were each a horrendous 20-30 cents flat.

[8] Heim, Norman. Why Not the Alto Clarinet? NACWPI Journal – Official Publication of the National Association of College Wind and Percussion Instructors 39:4 (Summer 1991) p. 17.

Upon measuring the bore, I discovered that the bore at the top of the bell was over a tenth of an inch larger than the bore of the instrument! I layered tape in the top of the bell and fraised and inserted tape into the low E tone hole to try to get at least the low F close to pitch. However, the low F is still somewhat low, and the E and Eb are completely unacceptable. So, the YouTube performances on the instrument listed on chart 4, were on selections that did not require the use of low E or Eb.

Our saxophone instructor, around the same time, had bought a used 1980's vintage Selmer Paris alto clarinet for use in jazz. Upon inspection, the design of the instruments has remained essentially unchanged, with the exception of his horn being played with a neck strap, and the newer instrument having a floor peg. His bell was the same dimensions, and his lowest notes were out of tune as well.

So, for over three decades, Selmer has produced an alto clarinet with a design that intentionally sacrifices the pitch of the three lowest notes in an attempt to correct for increasingly widening 12ths in the second register. This incredibly bizarre design flaw (choice?), I submit, would have never been allowed to persist in a professional level bass clarinet. Since I desire to perform music that utilizes the very common low E, I consider this instrument unusable.

The following chart compares what I have observed in preparing and using both the LeBlanc and Selmer instruments in performance.

Chart 3 – Comparison of LeBlanc and Selmer Alto Clarinets

	LeBlanc	Selmer
Bore:	Large (.709)	Small (.668)
Blows:	Free	Somewhat resistant
Tone:	Open (somewhat fuzzy when soft in primary register.)	Compact (more clear when soft in primary register.)
Scale:	Excellent: Even	Wide 12ths, lowest three notes unusable
Embouchure:	Open mouth when playing soft in lower primary register.	Open mouth/voicing ascending in second register.
Fingerings:	1st finger F# fuzzy-use chromatic	2nd finger low B bad, use 3rd finger or chromatic
Key Layout:	Similar reach to regular clarinet	Much wider reach than regular clarinet
Projection:	Strong in low register	Moderate in low register

So what do the instruments sound like? There are subtle differences. The following chart contains links to selected performances utilizing the two instruments. You can compare the sound of the small and large bore alto clarinets either solo or in the company of bassethorns.

Chart 4 - YouTube Recordings

Mozart Divertimenti for Three Bassethorns:
Mario Ayerdis, bassethorn; Mark Wolbers, alto clarinet; Austin Roach, bassethorn

Small Bore Selmer alto clarinet: Mozart *Divertimento No. 1, Rondo*
http://www.youtube.com/watch?v=B47hy-C0eds

Large Bore LeBlanc alto clarinet: Mozart *Divertimento La Clemenza di Tito, "Parto"*
http://www.youtube.com/watch?v=G5Iq0Gt1yQs

Alto clarinet solo performances: Mark Wolbers, alto clarinet

Small Bore Selmer alto clarinet: *Homage a M. de Falla* by Bela Kovacs
http://www.youtube.com/watch?v=MeCTP3uIAwo

Large Bore LeBlanc alto clarinet: *Homage a J.S. Bach* by Bela Kovacs
http://www.youtube.com/watch?v=IuVfdOKYr10

Tuning the Alto Clarinet

As noted earlier, alto clarinets are now produced with a movable tuning cup near the mouthpiece. Should you have an older instrument, any pulling to lower pitch should be done at the mouthpiece and middle joint. Do not pull where the neck goes into the body unless you have tuning rings to fill the gap. This gap will distort the pitch on the throat A and Bb.

In regards to tuning, players should check the pitch of a short primary note such as either the bottom-line E or bottom-space F and adjust the mouthpiece/cup if necessary. Then check the low G below the staff and also the D in the middle of the staff and pull out in the middle of the instrument if still sharp. Since the impact of pulling out diminishes as you play notes that vent farther from where you pulled out, a one-piece body can easily be out of tune with itself with the top of the instrument flat and the bottom of the instrument sharp. Tuning rings are recommended if any sections are pulled out more than .5 mm.

Mouthpieces

In my experiments with a wide variety of alto clarinet mouthpieces, I have found the most satisfactory tone and intonation with Vandoren B40/B44 mouthpieces that I have refaced. All of the basset horn and alto clarinets heard on the selected YouTube links in Chart 4, utilize refaced Vandoren alto clarinet mouthpieces. Any success that I have had in refacing these mouthpieces is attributed to Mr. Robert Scott of Lansing, Michigan. His long career of outstanding workmanship in mouthpieces and woodwinds has been an inspiration. The following mouthpieces are modeled on dimensions he refaced on an alto clarinet mouthpiece for me in 1981. Chart 5 contains one original factory measurement and the refaced measurements of the mouthpieces and the instruments they were played on in the YouTube links in Chart 4.

Chart 5 – Alto Clarinet Mouthpiece Measurements

Factory Vandoren B-44
Tip = 130
.050 = 3
.034 = 9
.024 = 15
.010 = 26
.0015 = 38

Refaced Vandoren B-44 LeBlanc Alto Clarinet
Tip = 148
.050 = 8-7
.034 = 14
.024 = 19
.010 = 28
.0015 = 41-40

Refaced Vandoren B-40 Selmer Alto Clarinet
Tip = 153
.050 = 9.5
.034 = 15
.024 = 20
.010 = 29.5
.0015 = 39.5

Refaced Vandoren B-40 Buffet Bassethorn (Right-Austin Roach)
Tip = 145
.050 = 8
.034 = 14
.024 = 19
.010 = 28
.0015 = 41

Refaced Vandoren B-40 Bassethorn (Left –Mario Ayerdis)
Tip = 140
.050 = 9
.034 = 15
.024 = 20
.010 = 29
.0015 = 41

Bassethorn or Alto Clarinet?

In deciding whether to utilize the alto clarinet part in band, the first decision the conductor must make is to determine if it is essential and in what way. Some composers simply double the alto clarinet part with the 3rd clarinets, or less frequently, the bass clarinet. In that case, with no solo parts, one could justly conclude that the part is not essential. However, if the alto clarinet has prominent solos or occupies a unique harmonic voicing position in the orchestration, it is not only needed, but multiple players may be needed to have proper color and balance.

If needed, should you use a bassethorn or alto clarinet? My personal recommendation is that you have available at least one alto clarinet and one bassethorn. The Buffet Prestige bassethorns are well-made instruments that in my opinion are superior to the altos that I have tried. The bassethorns have a beautiful compact tone, perhaps more akin to a regular clarinet, and not as robust as a large bore alto. However, they are not perfect instruments. The 12ths are wide, the lowest extended notes tend to be a bit low, and because of the extended notes and small bore it blows with some constriction. But most importantly, the player needs to be able to transpose down a whole step when reading an alto clarinet part.

Clarinet students usually learn to transpose by transposing C clarinet parts by reading up a whole step on the Bb clarinet. My experience has been that most students are not truly competent at that, and consequently even worse at bassethorn transposition. They either write the parts out, or you have missed notes and insecure playing. In that case, you might very well obtain a better performance by using the intended alto clarinet. Its more deep sound will give a richer color to the ensemble as well. Thus, it is best to have both instruments available as an option for use depending on the players.

In my case, although our Buffet bassethorns are superior instruments to our alto clarinets, I still tend to favor the use of the alto clarinets for band compositions that call for the part. Part of my position is fealty towards the composer's sound vision. The alto clarinet does sound different than a bassethorn. It is a lot like the

difference between cornets and trumpets. The richness of the band sound palette, I believe, is enhanced by these subtle shades of tone.

Percy Grainger writes two versions of "Rufford Park Poachers" in his orchestration masterpiece, Lincolnshire Posy. Version A opens with piccolo, Eb clarinet, Bb Clarinet, Bass Clarinet and then later a flugelhorn solo. The use of the three clarinets provides a beautiful pure hollow woody quality, since clarinets generally do not use vibrato. Version B is set a P4 lower and opens with piccolo, oboe, alto clarinet, bassoon and then goes to a soprano sax solo. This version is reedy and earthy.

Grainger writes in his notes to bandleaders that Version B with the soprano sax,

> *"is to be preferred – that is, if its player has assurance enough to throb forth this melody with searching, piercing prominence. This solo was written, partly, in the hopes of convincing bandleaders and bandsmen of the supreme desirability of this glorious instrument – to my mind the loveliest of the whole saxophone family. Its bucolic intensity is a golden gain to the wind band. ("But it is so rarely heard in tune," is the argument against it. But are the B clarinets ever heard in tune, in the band? Never by me. Yet I readily admit that they are un-do-withoutable. Strict in-tune-ness is a pedant's goal, not a practical musician's.) But even on those colleagues who do not share my passion for the soprano saxophone I urge the supreme importance of keeping instrumental families intact."*[9]

Based on the quote above, I suspect Grainger and I are in agreement about the alto clarinet and the clarinet family as well.

In Conclusion

The alto clarinet has existed in bands and wind ensembles since the mid 18th Century. With the selection of an appropriate player and utilization of good equipment,

[9] Grainger, Percy (1987) Lincolnshire Posy (ed.) Fennell, Frederick. Ludwig Music Publishing, Cleveland. p. 74.

the alto clarinet can make a positive contribution to the color, harmony and solos in our wind bands. Music educators and conductors should take the time to review their inventory and to seek help if needed in guiding students towards a successful experience in doubling on the harmony clarinets. The creation of clarinet ensembles within our band sections can provide the opportunity for students to pursue and gain experience on the harmony clarinets. This doubling capability makes the task of meeting the varied instrumentation demands of wind band music much easier. And although the alto clarinet parts can be rewritten for other instruments or not used at all, the loss of the alto clarinet diminishes the color palette of the clarinet family. The best way to correct the alto clarinet's path toward extinction in the American band is to encourage our best composers to utilize the entire family of clarinets. Publishers could provide both alto parts in Eb and F for those who would prefer bassethorns. Instrument manufacturers would then have more incentive to improve instrument designs that have not substantially changed for over three decades.