Demystifying the Bassoon (Part 1)

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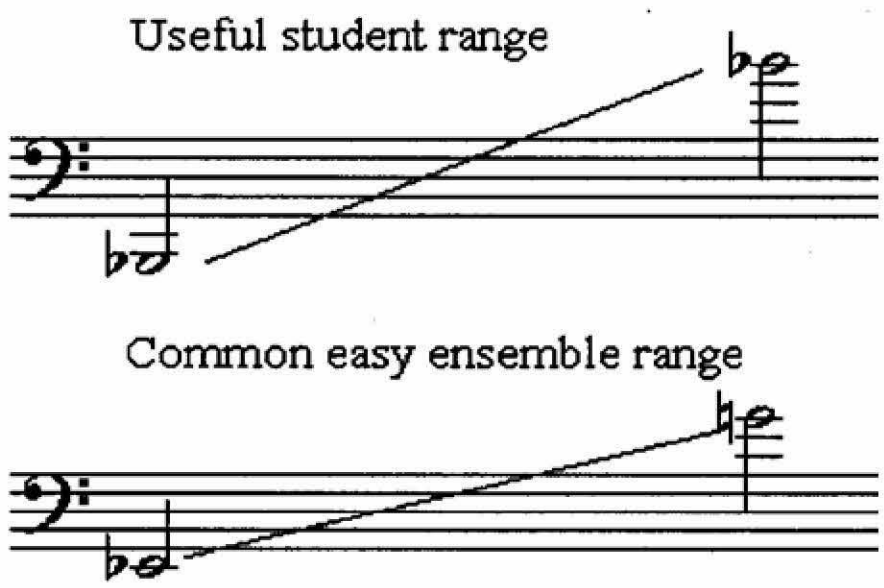
The bassoon is the instrument least understood by instrumental-music teachers and is often neglected in university woodwind-methods courses. It is understandable that school music teachers would be reluctant to teach an instrument that is thought to be confusing and complicated. Schools are expected to have bassoons but some school systems do not own any due to their expense. In addition to the high initial cost, the poor quality of older student instruments, and the general scarcity of adequate repair service, some ensemble directors have reasoned that bassoon parts can be covered by other more easily heard instruments. All of these points contribute to the general low interest in the bassoon in some school-music programs.

The previous paragraph seems to imply that an instrumental ensemble could just as well do without bassoons. Why bother at all? Here are some arguments in favour of trying:

- The bassoon attracts independent, self-motivated students who enjoy being "one-of-a-kind."
- It has an exotic tone and is scored in all but a few styles of music.
- A vast repertoire of band, orchestra, and chamber music exists that includes the bassoon.
- Full ensemble instrumentation requires the double reeds.
- Bassoons augment the small complement of low reeds and add variety to the colour and textures in the ensemble.
- A bassoon, once purchased, can last many decades with reasonable care and maintenance.

Musical Examples 1 and 2: Bassoon Ranges.



Ranges

The bassoon's range is very wide: three-and-a-half octaves in the hands of a skilled player. Music for advanced school ensembles normally makes use of three octaves from the B-flat below the bass staff to the B-flat on the middle line of the treble staff. The range for beginner and intermediate ensembles is usually restricted to the E-flat just below the bass staff to the second-line G of the treble staff. (See Musical Examples 1 and 2, above.) While solos can be found in all registers, the most effective solo range is just above the bass staff.

The Bassoon's Function and Musical Roles

With the exception of certain ethnic and jazz groups, the bassoon is required in almost every kind of ensemble: symphony, ballet, heatre and opera orchestras, concert bands, wind ensembles, military bands, and chamber-music groups of all sizes. However, in North America it is almost never required in marching bands.

Due to the wide variety of articulation, pitch control, range, and dynamics, it has unlimited scope as an artistic medium. It can be electronically amplified and is often heard in recordings, sound tracks, commercials, and even pop music. The bassoon most often provides harmony and accompaniment, with an occasional opportunity to play a solo. While it is often defined as the bass of the woodwind family, it usually plays in the tenor range (from the Bb just above the bass staff to the second-line G of the treble staff).

Notation

Bassoon parts in instrumental music are most often notated in the bass clef. Tenor clef appears in advanced band, chamber, and orchestral music. In some twentieth-century Russian and French music, high bassoon parts are notated in the treble clef; when this occurs, the notes are played at the indicated pitches.

Assembling the Instrument

Teachers should consider restricting students to using the bassoon at school during the first few weeks of lessons. Allow the instrument to be taken home only after you are sure the student knows how to put it together and take care of it properly.

Assembly Guidelines

Devote the first lesson to assembly, disassembly, and care of the instrument. If the instrument is new, follow the manufacturer's assembly instructions.

- Have two armless chairs. The player sits in one, facing the other.
- Place the case on the opposite chair.
- Open the case.
- Place the seat strap on the chair under the thighs about 8cm/3 inches from the front of the chair seat.
- Carefully take out the reed. Immerse it completely in a small cup of lukewarm water.
- Lubricate all tenons with brass-instrument slide grease (best for the large joints). The tenons may not need greasing every time the instrument is assembled.
- When assembling and disassembling the instrument, grasp it on the wood/plastic body to avoid bending the keys.

Figure 1: The Parts of the Bassoon.

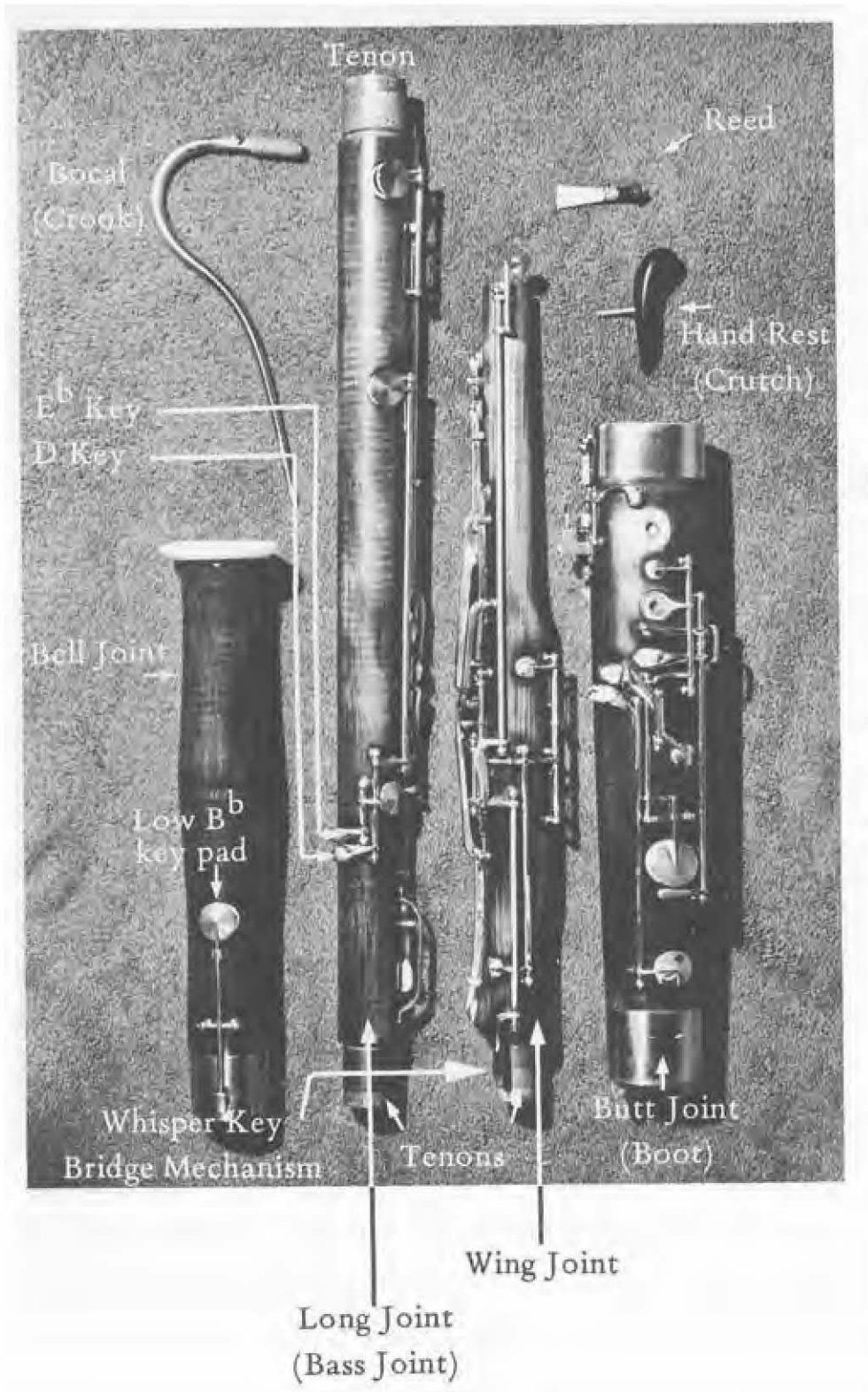


Figure 2: The Assembled Bassoon.

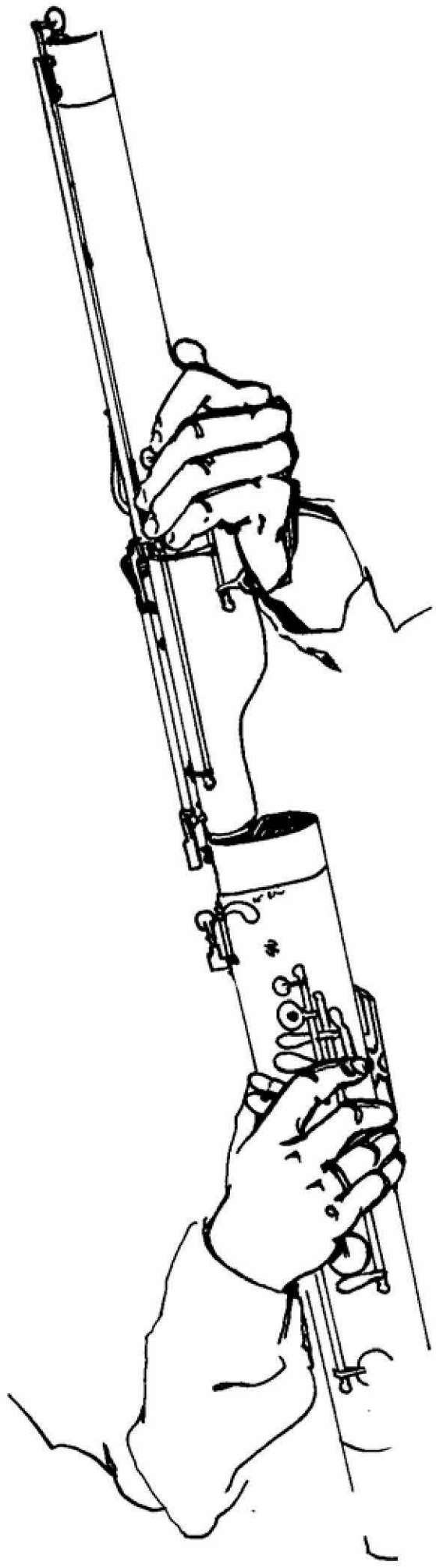
If there is no joint lock or if there is a joint lock that will allow separate assembly of the wing and long joints, assemble as follows:

- Remove the double barreled butt joint from the case with one hand, with the bore openings upward.
- Remove the wing joint (shorter of the two longer pieces) with the other hand and place the tenon into the smaller bore opening, using a twisting/pushing motion. (See Figure 3)

If the bassoon has a joint lock holding the wing and long joints, the two joints must be pushed into the butt joint together.

- Grasp both joints in one hand, the butt joint in the other, and insert using a pushing motion only.
- If the tenon does not fit easily into the receiver, it should be re-lubricated. If re-lubrication does not help, the cork or thread around the tenon must be reduced in size to allow a firm fit.
- If the tenons are too loose, leaks will occur. The cork must be replaced with a thicker one or thread must be added to give a firmer fit. Those adjustments may have to be done by a woodwind repairer. A loose tenon will allow leaks between the joints.
- Adjust the wing joint so that the half-moon shape matches the outer circumference/shape of the larger of the bore openings in the butt. Through trial and error, the positioning of the wing joint becomes obvious.
- The wing joint should be placed so the whisper-key bridge mechanism connecting the butt joint to the wing joint closes the whisper-key pad properly without binding the low E key (also known as the "pancake" key).
- Small pieces of tape placed on the instrument near the joints can mark the proper meeting points once they are identified.
- After inserting the wing joint, hold the assembled joints in one hand, and place the long joint into the larger butt joint bore. (See Figure 4)
- Avoid scraping the wing joint with the long joint's two keys or the stop block near the low C key.
- Insert with a twisting/pushing motion.
- Any swelling due to weather change, wearing of the key corks or bumpers, and maladjustment of the rods or posts will create a leak at either the whisper-key pad on the crook or at the low E key on the butt.

Figure 3: Assembling the Wing Joint and Butt Joint.



- Joint locks tend to become worn out quickly due to the stress of assembly and disassembly, and due to taking up the strain of worn corks or thread on the tenons.
- Place the butt of the bassoon on the floor.
- Remove the bell and hold down the B-flat key pad with a thumb to avoid contact with the bridge key on the long joint.
- Insert onto the tenon of the long joint with a twisting/pushing motion. (See Figure 5)

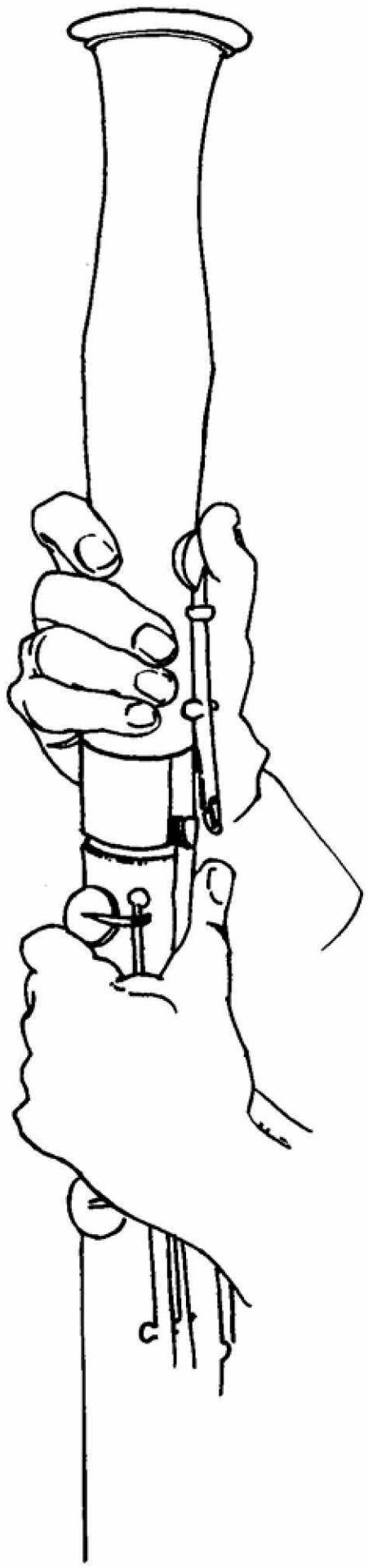
Figure 4: Inserting the Long Joint.

Now insert the bocal (or crook).

- Hold the bassoon in front of you with the bottom of the butt joint on the floor.
- When inserting or removing the bocal, grasp it as close as possible to its corked/thread-wound end to avoid bending it. (See Figure 6)
- Insert it into the top of the wing joint with a twisting/pushing motion, being careful not to scrape the whisper-key pad with the raised vent on the bocal.
- Use slide grease (not cork grease) to lubricate it.
- The bocal is the most delicate part of the instrument. Sometimes pitch problems can be improved by changing the bocal.

- Attach the bassoon to the seat strap, and take the reed out of the water cup.
- Place the reed on the end of the crook by gently pushing it on using a back and forth motion.

Figure 5: Inserting the Bell.

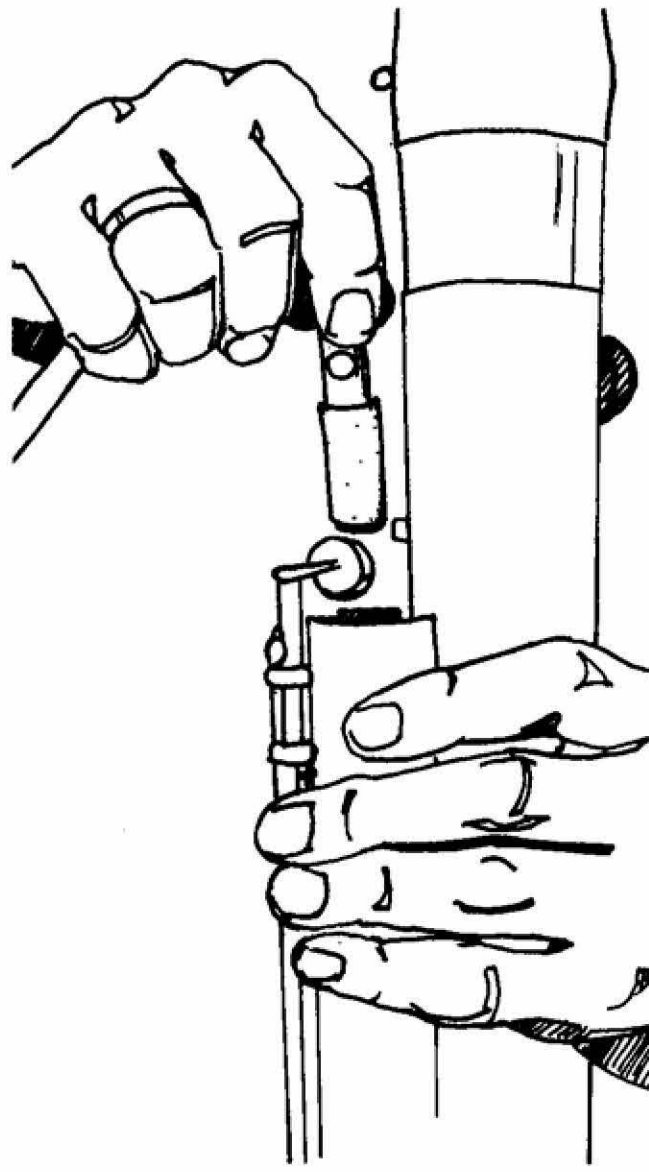


- Avoid twisting it all in one direction, as if screwing on a bottle cap.
- Adjust the reed and bocal so that the player's head is held in a straight position with the eyes parallel to the horizon.
- Before playing, position the bocal tip between the pads of the high A and high C keys, and so that the bocal vent is aligned with the whisper-key pad. (See Figure 7)

Disassembling the Bassoon

- Put away the reed in its case.

Figure 6: Inserting the Bocal.



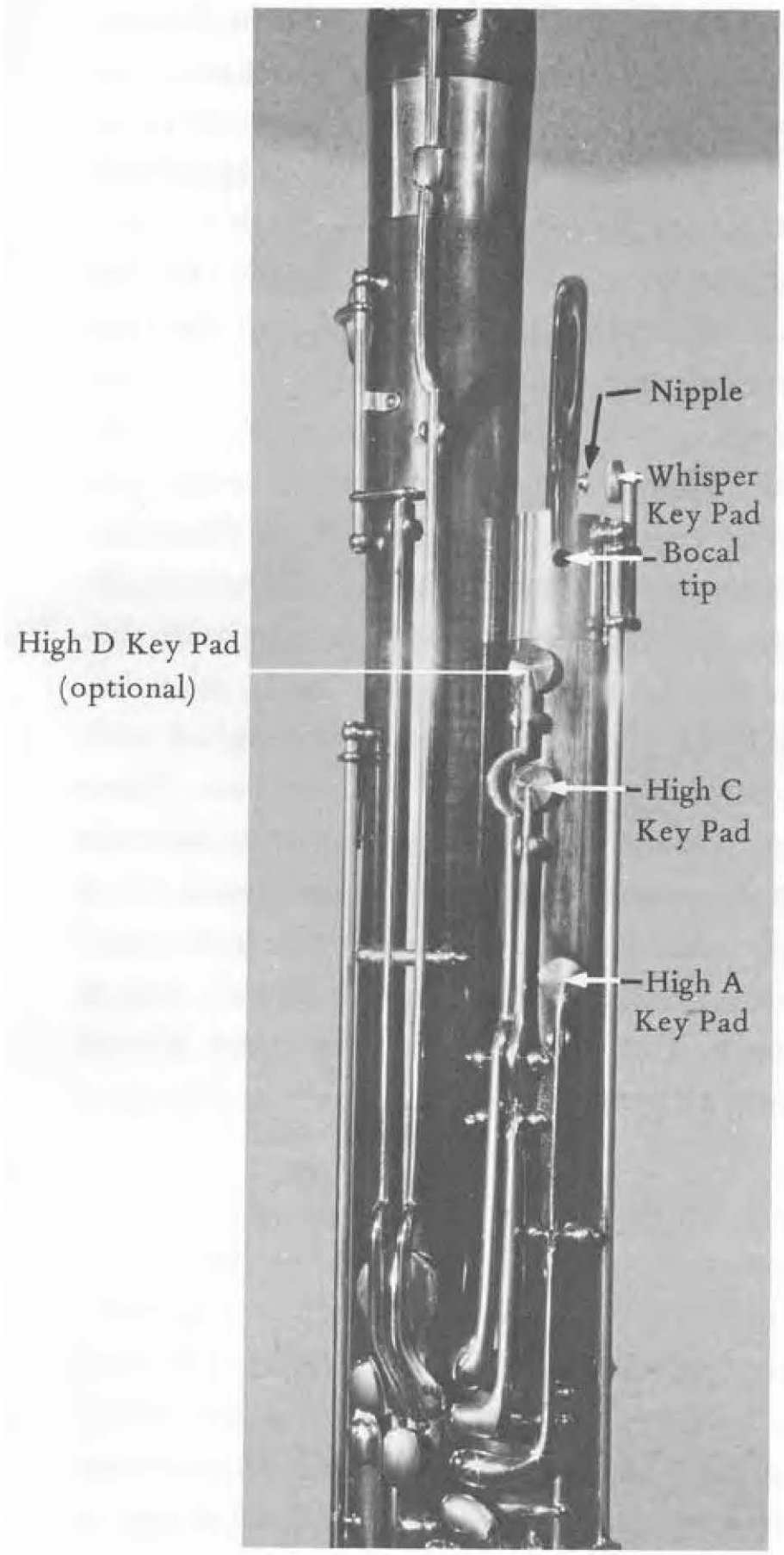
- Put the bottom of the bassoon on the floor in front of you.
- Remove the bocal and replace it in the case. (See Figure 8)
- Take apart each piece. Place them in the case in the reverse order from that used to assemble the instrument.
- Be sure to replace the seat strap in the case.
- Make sure the case is latched before lifting it off the chair.

Cleaning the Bassoon

While playing, condensation builds up in the bore of the wing joint and the small bore of the butt. Pour out excess moisture from the small bore side. Do not let water run down the wide side. Insert a lint-free cleaning cloth wrapped around a wooden dowel about the thickness of a pencil. The dowel should be long enough to reach the bottom of the butt joint. Do not jab the dowel up and down, let it remain in the tube to absorb the moisture. While the butt joint is drying, drop a weighted swab down the wing joint from the wide end to the small end. This swab is thinner and longer than a clarinet swab to avoid getting stuck in the bore. It should not be necessary to swab the larger side of the bassoon bore, as it will not become damp under normal playing conditions.

Avoid using the cleaning brushes supplied with some bassoons to remove moisture. These brushes are made of wool or other

Figure 7: Aligning the Bocal.



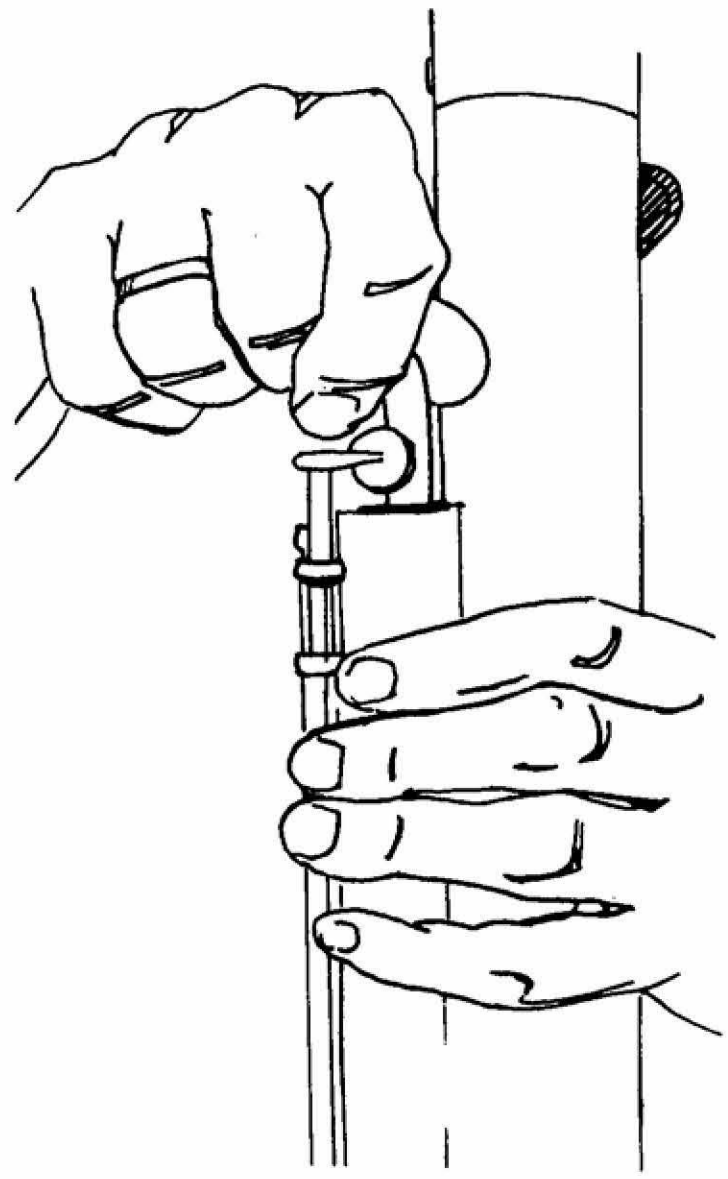
material wrapped around a thick wire twist. The material does not absorb moisture efficiently and the unprotected wire at the tip can severely damage the bore of the instrument.

Care and Maintenance

Examine the case to determine if the instrument and accessories are being held in place securely when the case is carried. Small pieces of padding can be added to prevent movement and scratching.

Every three months, clean the bocal with a bocal brush, and clean the vent opening with the bristles of a clean, used toothbrush. If some key pads stick in damp weather, use a very light application of baby powder on the pad face. If the sticking continues, the pad face should be cleaned with a safe cleaning fluid to remove

Figure 8: Removing the Bocal.



grease and dirt. Use a piece of tissue or thin cloth to apply the fluid without removing the key. Avoid damaging the finish or the tone-hole facing.

Before oiling the keys, use a very soft brush to remove lint and dust from beneath the keys. Use brass-instrument valve oil to lubricate the key bearings and rollers at least once a month, more often in dry environments. While oiling the bearings, examine each screw and rod. Tighten any that have become loose, making note of those that consistently loosen while playing, for adjustment by a repairer. Wipe excess oil from the key bearings after oiling.

A well-adjusted bassoon will require very little day-to-day maintenance other than care in assembly and use. An annual checkup by a woodwind repairer is recommended, especially if the instrument is in daily use. Minor leaks, pad replacement, bothersome noises, and key adjustments can be taken care of to make playing easier and more enjoyable.

Any reed, embouchure, or intonation problem should first be analyzed by checking the condition of the instrument. Leaks, for example, usually develop over a long period of time and their progress is hardly noticed. To aid in tracking down leaks, refer to L. Hugh Cooper's invaluable free pamphlet "How is Your Bassoon?" (Royal Oak, Michigan: Custom Music Company, 1974) [http://www.custommusiccorp.com/]. A characteristic of

a leaking bassoon is its inability to play softly, even with a good reed.

Unpacking and packing the bassoon should be done at the rehearsal or practice site. If it is necessary to carry the instrument outside of the case, remove the reed and bocal. Carry the bassoon vertically in front of the body so that the bell will not strike the top of a doorway. Grasp it firmly with one hand just below the top of the butt joint. Do not carry it horizontally like a shotgun or walking stick under one arm, as this leaves it vulnerable to collisions with people or objects. During extended rests when performing, remove the reed to avoid accidental damage. When not using the instrument, it should be put away in its case.

An inexpensive reed-soaking cup is a used 35mm-film canister. The sealed cup can be put into the bassoon case. In very dry playing conditions, re-soaking the reed will be necessary while practicing, rehearsing, or performing.

Purchasing A Bassoon

During the nineteenth century, bassoons were refined at the hands of two eminent players: Carl Almenraeder and Eugène Jancourt. Their work resulted in the two types of bassoons commonly in use in the world today: the German and French systems, respectively the Heckel and Buffet systems, named after their principal manufacturers. The differences between the two kinds of instruments are great enough that a player familiar with one system cannot easily play the other. The reeds are different, the bore shape and key positions differ, and the tone produced is intended to be different, the tone quality of the French/Buffet sounding rather more nasal, the German/Heckel less. The differences become minimal when one hears excellent players on both types, and sometimes it is difficult to tell which is being played.

While the German/Heckel system became most common in North America during the early twentieth century, occasionally one finds a French-system instrument for sale in a pawn shop or on the Internet. If you are in doubt about an instrument's key system, compare the illustrations on a fingering chart. French-system bassoons do not have a white ring around the bell joint, and may have a ledge cut into the bell. A German bassoon will most often have a slight bulge in the bell and might have a white ring around the top. Keep in mind that any German system bassoon can be called a Heckel-*system* instrument, but that does not mean the instrument was made by the venerable Heckel firm, unless the instrument is stamped with an authentic Heckel trademark.

With the exception of the contrabassoon and the piano, the bassoon is the single most expensive instrument to purchase when new, even considering the least expensive models. The reasons for this are the large amount of handwork necessary in the manufacture, and the relatively small worldwide market. Prices have inflated for bassoons just as they have for most other things. A well-made bassoon, built by a reputable maker and kept in good condition, will *appreciate* in value over the years and can last many decades. Usually the value of a used instrument is about the same as that of a brand-new instrument of similar model and make. Older, good-quality bassoons can be restored by experts, but that work will be costly. However, the cost to make an older instrument usable might be less than the cost of a new bassoon.

If you conclude that shopping for a used instrument will be the best strategy, inform bassoonists and instrument repairers so that the "grapevine" of information can be tapped. When purchasing an older instrument, the experience and advice of a bassoonist or instrument repairer will be invaluable.

New instruments can be purchased through larger music shops or woodwind repair shops. Advertisements in music magazines are good starting points for sales information. Most of the instruments used in North America are made in Western Europe or the United States. A word of caution about purchasing a bassoon: bassoons make in Czechoslovakia and the People's Republic of China are not usually up to the standard required in North America, and are often completely unusable.

The condition and quality of a bassoon can ultimately affect a student's progress. A poor instrument may cause the student to lose interest. If the student is continually adjusting for major pitch discrepancies, the embouchure, reed making, ear development, and finger technique are all going to be sacrificed to accommodate those shortcomings. It goes without saying that the player is better off in the long run with the best possible instrument. Ideally, the instrument chosen should be the best that one can afford and that does the job intended.

Specifications for Purchase

The instrument may be made of wood or a synthetic material such as polypropelene. Man-made materials are a great advantage in extremes of temperature. Storing a bassoon in very hot rooms or cold car trunks is not recommended, but if such conditions are unavoidable, take them into account when deciding on an instrument.

- The tone quality of a well-made plastic instrument is no different from that of a wooden one, and in some cases may even be better.
- It should have a pitch level of A4 = 440 Hz at a room temperature (21 degrees C / 72 degrees F).
- A basic bassoon has at least 21 keys.
- A hand-rest holder should be installed. Using a hand rest is recommended for beginning players.

Manufacturers break down their instruments into classifications that match the demand for the instrument:

- Most expensive is usually the "professional" or "artist" model because it is designed to come with all or most of the conveniences that a professional would require.
- The "student" or "standard" model is designed for the student market.

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- Sometimes less expensive models between the student and professional models are available
- Some manufacturers make instruments specifically for persons with small hands.

Additional key work can be ordered on a new instrument for an extra cost per key. A useful added feature is a whisper-key lock. There is not much point in paying for trill keys beyond those on a basic instrument if the player is rarely going to use them. Most trills can be performed without special keys.

Linings in the tone holes are an additional cost on some instruments but are standard on others. They improve intonation, add to an instrument's useful life, and are worth the additional cost.

A high D key is not essential unless the player is doing a lot of higher-register playing.

The most useful rollers are on the F/Ab keys (4R.H.), and on the Eb/Db keys (4L.H.). In some cases, those rollers are included as standard equipment.

If you buy without the advice of a player or teacher, the process of instrument selection will take the form of shopping and comparison, just as it does when purchasing any expensive item. If you have the advice of a bassoon teacher/player, their experienced opinions will be valuable before purchase. 𝄞

Part Two of this article will discuss beginning playing technique, reeds, teaching materials, and selecting students for the bassoon.

Christopher Weait has wide experience as a performer, composer, and conductor. He has taught at the high-school and university levels, and has adjudicated at numerous music festivals. Since 1984, he has been the professor of bassoon at Ohio State University in Columbus. For 17 years prior to that, he was a principal bassoonist of the Toronto Symphony Orchestra. He can be heard on recordings for the d'Note, Innova, Crystal, and CBC labels.

Chris was the soloist in his own *Three Canadian Folksongs for Bassoon and Band* at Sir John A. MacDonald Collegiate Institute in Scarborough, Ontario on March 23, 2004. He performed the work with the Ohio State University Symphonic Band, conducted by Professor Richard Blatti, during their tour of Ohio, New York, and Ontario. The work is 6'30" and is not difficult for bassoon. The three movements are entitled "When the Shantyboy Comes Down," "Bold Wolfe," and "Alouette."