

FLUTE LESSONS BY EMAIL

THE BACKGROUND

This document came about because a sax player in Sax On The Web wanted to start doubling on flute and piccolo. He noted that flute/piccolo was my major instrument and began asking me questions about playing the flute /piccolo in the forum, and then by email.

The email correspondence went on for about a year. Although I never heard the student play, these flute lessons by email seemed to work because he asked appropriate questions, and responded well to my analytical approach.

At the end of the year, he found two 'live' flute teachers, who were most impressed with the progress he had made, even though they did not know that his lessons had been by email.

I combined the email correspondence into a single document and offered it to another person in SOTW. From then, I filled a large number of subsequent requests, sending it by email. It seems to have been well received. It is now available here because The Administrator asked me if I would make it more readily available.

Please bear in mind the following:

1. For the student, English was a second language.
2. Much of the material is relevant specifically for a player facing the typical problems of a going from a reed instrument to flute. These problems may not be so prominent for a non-doubling flute student, whom I would probably have instructed differently.
3. I am a reasonably accomplished flute player (my first instrument) with a good tone, and have a rather analytical approach to playing, coming in part from a good background knowledge of applied science. This may suit some players, but not others, and it probably quite different from what you may get from 'normal' flute teachers. I have not kept up to date with the styles of playing and teaching that might be used by current gurus of the flute, so please do not treat the document as a definitive statement on flute playing. I double on sax and clarinet, most of my playing having been in 150+ shows.
4. There has been almost no editing – really only the removal of more personal correspondence. Consequently there is significant repetition and also the odd diversion. Putting the document into a more refined form has simply not been a high priority in my life, so I have been asked to offer it as it is.

Best wishes with flute playing.
Gordon Palmer, "Gordon (NZ)" in the forum.

THE CORRESPONDENCE

Student:

Sorry to trouble you. I've just doubled flute not long ago, I have flute playing problems. I seem unable to make loud sound on low D to low C. No matter how I changed the angle and lip positions, it is either too quiet or jump one octave up. Please advise how far away or how close should my upper lip (aperture) to the hole? More lips or less lips (1/3 or 1/4)? Roll more in or roll more out? I have noticed James Gallway rolled in too much and very close to the hole.

Is it much easier on Piccolo on the low notes?

Gordon:

The Galway style of playing is probably rather difficult for a beginner/doubler. In my perception it has an 'aggressive', tight sort of embouchure which demands great accuracy, especially for low notes, because there is only a very short 'wind-way' to focus the airstream. By contrast a recorder has a wind-way about an inch long. If you get it the slightest bit wrong with the Galway style - no note at all.

I suggest:

1. Put the side of your thumb covering 1/3 of the embouchure hole (EH). Look in the mirror and make your lip look like that.
2. The EH facing directly upward, not turned in towards the lips.
3. Do not pull lips tight against teeth. Just a very slight smile to remove wrinkles and give SLIGHT firmness to the lips. Get the lips to look more or less in their natural position apart from being pressed slightly together (except for the EH itself.) Pulling the lips tight dramatically reduces the length of the 'wind-way' between the lips. This needs length to make an accurate, non-turbulent airstream. (Galway probably makes an airstream that has severe turbulence quite close to his lips so he places the lips very close to the opposite tone hole edge to get the flute into the non-turbulent part of the airstream) Any air not accurately directed contributes little to tone or volume, just making you run out of breath.
4. The edge of the EH nearest your lip should roughly coincide with the line where you lower lip changes from lip colour to skin colour. If you have your lip right as in '1', '3' & '4', then just as with your thumb, you should not be able to see the edge of the EH that is hidden in the lip.
4. Blow through a slit in the lips. NEVER pout! Smaller, narrower slit for high notes; opposite for low.
5. Blow STRAIGHT AHEAD. (With the flute in position its mere presence will divert the airstream downwards into the hole. You can test this by blowing straight into the palm of one hand, and note how the airstream diverts down when you put a finger of the other hand where the flute would go.)
6. Make sure your lower jaw is sufficiently open to keep the lower teeth well below the embouchure. Otherwise the teeth cause extreme turbulence. Turbulence makes a fuzzy sound, not unlike a toilet flushing. Some players actually aim for a little of this though. I suggest you leave this concept until later and aim for a clear sound.
7. Top teeth and the tip of the tongue can also cause severe turbulence. Without the flute, raise the tongue while blowing, or raise the lips higher up the top teeth. Note the noisy turbulence (and if you are blowing into the palm of your hand note the dramatic decrease in air speed associated with turbulence.)
8. The low notes ARE far more difficult than those a little higher up the flute.

Practice loud clear notes higher up the first octave and work down.

9. It is much more difficult to tongue low notes. Initially slur down to them from the note(s) above.

10. Low notes need much less air pressure than you would ever use on a sax. The embouchure 'slit' needs to be considerably wider and more open for the lowest notes. i.e. more air at a lower speed.

11. Low notes are very intolerant of leaks further up the instrument - much more so than sax.

12. Many cheaper makes of flute have poor response on low notes. And the older the flute, the more difficult as a general rule. My teacher couldn't play my first ancient B&H wooden flute below G. I could, only by getting to know the exact parameters it needed, but what a weak sound! This Canadian teacher was an outstanding player, ex Boston Symphony, I think, and learnt from the great William Kincaid.

I hope all this helps. It is a summary of the first year of flute instruction. Any questions, ask.

The piccolo, compared with the flute, is much less responsive in the lowest half octave, and throughout its most common range it needs far more air pressure, far less air at greater speed, and the air focussed and aimed far more accurately. I once read that the airstream travels about 60 mph for the top notes, yet very little air is needed!

For flute there is no need to roll in or out if you have the embouchure described above. Then rolling is one option available to correct the tuning when it is stuffed up by volume changes; louder = sharper, unlike sax. (Roll in to flatten; out to sharpen) I think Galway has little need to play very softly in his solo playing, which is a possible reason why he can adopt his style of maybe less flexible embouchure.

Student:

Thanks Gordon, I really thank you so much for your help. For the first time, I started to sound the lower notes, thanks to your methods below. Amazing, your methods are quite different from my teacher and band director's, wow!

I was concentrating and believing in my teacher and band director's method of focusing the direction of my air-stream toward the far corner of the embouchure hole (EH), at 3 different angles for low, mid, high notes. But you asking me to blow only straight and let the aero-dynamics to draw the air-steam downward by itself, it worked, I really need not to worry about my air direction for the first time and it made all 3 octaves possible!! I must thank you.

More questions:

- with your methods, do I still have to move my jaws forward and backward to adjust?
- Where should I tongue it? to the lip? gum? or to the upper mouth cavity?
- the lower lip should be 100% relaxed or 50% relaxed?

Gordon

Please realise that there seems to be 'fashions' in flute playing styles, and each probably has its + & -, as I've hinted at before in referring to Galway, and there is nothing wrong with his results!

Answers:

"- with your methods, do I still have to move my jaws forward and backward to adjust?"

Moving the lower jaw back or forward moves the lower lip back or forward with respect to the lower lip, hence directing the airstream further up or down. (Test it while blowing into the palm of your hand.) This change of airstream angle can also be done slightly by small lip movements. It has much the same effect as turning the flute in or out. If the airstream hits the far wall of the EH at a more 'glancing' angle (by turning in or bringing the jaw back), i.e. 'less' of a right angle then it rebounds down into the flute at lower speed. It is this lower speed that makes the pitch flatter. For a good picture of this think of dropping milk on the floor... it rebounds at a speed which is actually greater than the landing speed, and spreads out all over the floor because it is rebounding at right angles. This can also be illustrated by squirting a garden hose at a flat surface at different angles.

So... these are really techniques for adjusting pitch, as I mentioned before, and these adjustments are needed only to compensate for the large pitch changes that relate to volume - much more so than on a sax. With no compensation the difference between a pp and ff high note can be 30 or 40 centimes.

Which method do you use? I suppose that is up to the correct fashion, or choose yourself!

"Where should I tongue it? to the lip? gum? or to the upper mouth cavity?"

The tip of the tongue to the gum immediately behind the base of the upper teeth. BTW NEVER, NEVER use the tip of the tongue to touch, i.e. support the lower lip. It stops the lower lip control from ever developing. I did it and had to begin again. And also, keep the rest of the tongue flat and out of the way, otherwise it causes severe turbulence to the airstream. Also, if you tongue in very slow motion you will notice the effect of the created turbulence on tone - rather bad! So the skill of tonguing is to keep even the tip of the tongue out of the way of the air stream as much as possible between the tonguing.

"- the lower lip should be 100% relaxed or 50% relaxed?"

This depends on whether you use the Galway style (seems very tight to me) or the opposite style as I've described, or somewhere between. But consider... what is the point of creating player tension by tightening any muscles that don't need to be tight. Actually your question is a bit odd because although there is a muscle at the front of the chin, and many other muscles pull (or effectively push) the lips about, the top cm approx of the lower lip contains no muscle tissue. I keep all muscles as relaxed as possible - perhaps 95% for those that support the lower lip. Galway seems to either stretch the lip tight around the teeth or compressed against the embouchure plate.

"- And sorry for this stupid question, what is the wood cork in the flute joint really

used for?"....

In a gross oversimplification it adjusts the tuning of higher octave notes relative to low notes. However if it is significantly out of position, or leaks, it makes the tone, volume and response gutless. The mark on the cleaning rod indicates where it should be. To move it from this position should only be the decision of a VERY accomplished player. If your upper notes are out of tune with lower ones it is because of your inexperience at the pitch accommodations I have mentioned.

Student

..... (questions misplaced)

Gordon:

Tonguing: Say "too too too too...." (and not "koo koo koo...". i.e. it must be the TIP of the tongue.)

Now WHISPER "too too too too..."

That is where your tongue goes.

OK, between the tonguing it is OK for the tongue to very lightly TOUCH the bottom lip but it must not give SUPPORT for the lower lip.

BTW "double tonguing" is done by whispering "too..koo..too..koo..too..koo..." but get used to the basics first.

Regarding the head cork, its job is to seal the end of the tube. Regarding its position, the following is the most useful information I have ever read. Please realise that you are not in a position to remove other variables to carry out this procedure unless you are a very experienced player. I leave my cork in the standard position, recommended for all flutes.

From Joe Butkevicius (in a reply in a different forum discussion):

"Mike: I think you meant to say that the distance from the centre of the embouchure hole to the cork plate is equal to the diameter of the bore at the centre of the embouchure hole. This is a good starting point, and it is the best "approximation" to start with. Also, figured into the equation are factors that affect the fine tuning such as the hole geometry, riser height, and the player's lips with respect to how they cover the hole and distance from the lips to the north wall. Cork distance measurements are usually 17.3 (my preference) or 17.35mm on pro flutes, student flutes can be as low at 17.15mm

I have noticed that (from trial and error) moving the head cork slightly to the left improves intonation AND response in the 3rd register.

Cork position affects the 3rd register more than the others. The actual amount per player and headjoint design will vary. This has to do with the effect of the mere existence of the cork in the system. Its mere presence creates a dead spot in the resonance which moves lower as the cork distance is increased. On piccs, you may notice that a range of notes, say high F#-A can all but disappear but Bb and above are fine. The cork position has a big influence on this in the 3rd register.

In general. each case is different, but general rules apply. Here's a basic formula to help fine tune cork placement:

First adjust the cork so that the cork distance matches the bore diameter at the centre of the embouchure hole.

Next: Play low C and overblow the harmonic. Compare the harmonic with the regular fingered C, and pull or push in the headjoint for these to be in tune.

At this point you have the correct length for the scaling. This is because flute designers set their scale by tuning the lowest C (tube length and first tone hole C.) This is the one location that the flute is designed to be most in-tune with it's given scaling. Any deviation of moving the headjoint in or out will cause the player to "compensate" more while playing.

NOTE: Modern scale flutes have the lowest C tuned slightly sharp. Before beginning to tune register C's, the foot joint should be pulled out 2mm before setting the headjoint length.

Next, adjust the registers 1st, 2nd, and 3rd with the cork position. Play low D and compare it to the next to D's above it, and against the 3rd D's overblown harmonic. To flatten the high D pull the cork out. To Sharpen, push the cork in. High D should be in tune or slightly flat when correct.

This procedure should solve most of your cork placement problems."

Student:

Dear Gordon, thanks so so much! Guess what? I play very very well today for the first time in my life! Thanks to your great advice, it (flute) all seemed too easy for me now.

Could I ask just one more question?

- You know we play saxophone with our right-hand little finger free and ready for the low notes or D#. But in flute, it is frequently used to hold the flute in balancing the weight. I often held merely on the D# post instead of pressing the D# key. Is this ok? Or will it flatten the E key? You know flute is not my main ax, so I don't expect myself to play like a pro someday. I need your permission to tell me it is ok to press on the post of D#. ;-)

Thanks a million.

Can I ask is this airy sound NORMAL or not when airstream hits the EH edge? I tried to reduce the airy sound but it's still there.

Could those pros completely eliminate the airy noise at all?

Gordon:

Its about 30 years since I taught flute so I am glad to have a successful pupil again. Regarding little finger. Flute was my first instrument and flute players are purists. So I cannot give you permission to play with a Lazy little finger. Yes, the E will be

flattened and dulled in tone. The 3rd octave E will be flatter still.

Really, it is a silly thing to make an issue of. Honestly, every flute player quickly gets used to this.

If you do take the lazy option you will need pressure on the post to stabilize the instrument for C# (all other fingers off), especially if you are humouring the pitch of the C# by turning the instrument in. (C# is the probably the most troublesome note on flute for intonation.) I ask, how do you then go smoothly to E from C#.

Even as an amateur you will want (surely) the 'E's to be in tune and easy note transition.

BTW have you got the 'foot joint' aligned such that the post you mention is in line with the centre of the D key cup where it should approximately be?

And it is quite permissible to turn the 'foot' joint to a location where your little finger easily presses on the Eb key rather than the post.

PERMISSION DENIED!!!! :-) (only slightly sadistic!)

Gordon

It IS possible for a beginner to play with a loud clear sound on the easier notes.

I've mentioned turbulence. It is the turbulence of the airstream (from short airway - tight lips, poor focussing, or interference with the air stream - tongue, teeth) or excessive air speed that makes airy (= 'fuzzy') sound. Perhaps you are blowing too hard - a flute will seem a very quiet, gutless instrument after the sax.

However many models of student flute will not make a clear sound unless it is very soft in volume, e.g. newer Artleys, Emersons, newer Gemeinhardt, and pretty well every thing else "American". Sorry to have to say that! I assume you are American but you didn't use the word "pinky".

This is one reason I keep pushing Yamaha student flutes, but in NZ the Yamahas are made in Japan, and the USA made ones MAY play differently.

The design of the head is actually far more important than the material itself.

Many sterling silver heads are worse than the regular heads of other makes, say Yamaha. A GOOD head made from sterling simply makes the loud result need less effort and quicker to happen after each tonguing. A bad head made from sterling is often worse even when of the same make!

Your flute is quite likely to be rubbish, and fuzzy, and possibly soft. I have repaired about 120 makes but not that one. Most are poor. When you try to play poor quality flutes louder in the 1st 2 octaves the extra effort goes into fuzz, not volume. They have a low volume limit.

I remind you not to aim at the far edge of EH, Aim straight ahead.

A flute will ALWAYS seem soft after sax unless you are playing in the top 1 1/2 octaves, which of course flutes do often. It is a relatively soft instrument. If you want to flatter yourself, but not do a lot for tone/volume development, then play in a kitchen or bathroom.

Don't you now feel for the flutes feeling insignificant in a band? It is no wonder they play sharp - it is because they are trying to play loud enough to be heard! Or even to hear themselves play!

:-)

BTW I hope you are using the correct F# fingering: T123-**6Eb, not T123-*5* as on sax, and playing second octave D & Eb with your 1st finger off. It's a pitch and tone

thing.

Gordon

I am quite a good piccolo player, yet if I am out of practice I am fuzzy for the first octave and a half. To be played WELL the piccolo is a very, very fussy instrument, and many flute players are unable to achieve this.

So what do you expect!!

It does take a lot of practice to play the flute/piccolo well and there don't seem to be many short cuts. A lot of training most go into very precise control of the embouchure hole shape. The most common cause of fuzzy sound is probably pulling the lips tight around the teeth and thereby destroying the LENGTH of the wind-way. The embouchure needs to be controlled by subtle pressure pressing the lips TOGETHER, needing great control over the muscles that do so. Hundredths of a millimetre are probably significant in a flute embouchure.

It is VERY rare for a clarinet or sax player to go successfully to a strong, clear tone on a flute. They typically rely on electronics to enhance their appalling tone. This is because with a second instrument they are just not prepared to put in the hard, patient slog needed for a fussy instrument. By contrast there are many good flute players who easily double well on sax. Quite simply, the flute is far less forgiving of lack of practice and short cuts to gradual development. The result of short cuts is fuzzy tone.

One practice exercise I have found useful in the past is to take a huge breath and play a LOUD clear single (easy) note until air runs out. Time it. Now do it again and make it last longer BUT NOT SOFTER. Again - LONGER. Repeat many times. Focus on volume and clarity. To play longer still and maintain volume and clarity blow the air HARDER. If you run out of air sooner then blow HARDER STILL, i.e. faster air. The only way to do this is by not wasting air - the air that is wasted in producing fuzzy sounds. And when you blow HARDER and still try to last a long time this is only achieved with better control of how much air passes the lips - hence automatic improvement of that critical pressure between the two lips.

Consensus among flute/piccolo players is that piccolo playing does no good for the embouchure of beginner flute players, and that even for accomplished players, most piccolo practice should be done on the flute.

The plastic Yamaha is a good instrument but must have ZERO leaks. The piccolo uses so little air that one breath could probably last for almost 2 minutes if you didn't die in the mean time. It is stupid for a beginner with little flute experience to even attempt to play the 3rd octave on piccolo. For the lower 1 1/2 octaves you are probably still using far too much air, and remember that the piccolo is designed specifically for the upper 1 1/2 octaves. It is pathetically soft and weak in its lowest 1 1/4 octaves. It takes a really good, practiced player to play it here with a sound that is appealing to listen to.

Student:

You never mentioned you are a piccolo player, a good one, wow :-) I find piccolo rather easy and I asked my band director to take up the piccolo instead of the flute, so I am now practicing with Yamaha YPC32. Today when

I got up to High D to High G#, my right ear rings. Could piccolo playing damage our hearing?

I couldn't go higher than hi-G# (on flute hi-B). Anyway after hi-G it is very thin.

Gordon:

Good luck with the Stars & Stripes piccolo part if you ever get to play it. It was thrust upon me when I was a piccolo beginner, age 15, on a piccolo that hardly worked.

On piccolo, as for flute, the first octave notes are called "low" notes (e.g. 'low G'), the second octave notes are called "high" notes, and the third octave notes are called "top" notes. I THINK this is standard terminology throughout the world. Are you referring to 'TOP' D & G#?

I am quite sure piccolo playing can damage the ears. I don't have significant loss. This is one reason to do most practice on flute. Accomplished piccolo players can play right up to top A or further without it being full volume. The real challenge on both flute and piccolo is to play with volume and pitch control in the third octave, where at least half the playing typically is.

An audiologist told me that if the ears are ringing damage IS being done.

"I couldn't go higher than hi-G# (on flute hi-B)" Piccolo plays 1 octave higher than the read music. A written G# played on piccolo is one octave higher than the note played on flute. They are both G#

"Anyway after hi-G it is very thin." I presume you mean TOP G. These notes above top G are even louder than G, and more difficult to control. If they are thin you are possibly using a strange embouchure, setting yourself up for significant problems later. A beginner on piccolo should not really be playing up there. There are documented cases of flute players losing control of lip tissue by straining, and then having to effectively stop playing for a long time to recover.

Student:

Sorry, here we call low,mid,high notes (just like in sax). OK, I'll adopt the low,high,top terminology from now on. I'll try to play loud and full on top notes and hopefully get a fuller C4 soon. I'll keep you post on my progress, thanks!

I am thinking of using an ear plug for my right ear, as it hurts a lot when I play the top notes.

Thanks for your teaching, <on flute> I have the total control of the low C to high G by now, from ff to pp. BUT, my high A and to high B is very unstable - always drop one octave to low A & low B. And I cannot even play mp on these notes, I have to play mf~ff to sustain these notes. Could you please help? Thanks!

And how do you play p on flute from high A to top notes?

Gordon:

Before I answer this

You say you have control " low C to high G by now, from ff to pp"

Just to clarify, do you mean 2nd octave G or third octave G?

Student:

I meant 2nd octave G. (I am using your terminology now: low, high, top)

[edit: terminology seems to differ around the world - Gordon]

I am having problem sustaining the 2nd octave A, Bb & B, I have to play hard and loud on these notes in order to get good tone. :-)

Gordon:

Are you doing 2 or 3 octaves on the piccolo? It is possible that you are getting into a tightish embouchure habit on the piccolo. This would make flute progressively difficult, and also mean that your embouchure on picc is not sufficiently versatile to adjust tuning and volume as you play, especially as you go higher. This would limit you as you progress, even if initially it seems comfortable and successful. I may well be wrong, but just be conscious of this possibility.

Student:

Back to my flute problem: I have new problem which is the hardest for me now. That I am having big problem when I played fast transition of from High D slur down to C. You know the Tx23|123 to 1xx|xxxEb. How to smoothly balance that damn flute? It always moved my lips a little during transition. Now I am holding it with my right hand fingers while playing the C in order to balance the flute, is this bad/cheating?

Gordon:

It is difficult to deal with this problem with ought seeing what you are doing. It will get worse, probably, for D to C#.

"Now I am holding it with my right hand fingers while playing the C in order to balance the flute, is this bad/cheating?"

Just DON'T do it. How will you EVER play faster if your fingers have to keep swapping from the keys to the flute body.

Also, don't be tempted to rest your right hand fingers on the mechanism.

I'll call the first finger section the one that contains the finger nail....

D is not a problem at all because you have so many supports on the flute, so it is C & C# that are the problem. If you are not holding the flute correctly then these are the notes that will be affected.

C is just a C# with first finger put down, so lets look at C#...

Balance is mainly to do with the correct positioning of right thumb, but maybe also to

do with alignment of the 3 flute body parts that is appropriate for you.

1. Make sure the support post at the top of the 'foot' section of the flute is approximately in line with the centre of the D key cup.
2. Get the embouchure hole in line with the line of key cups on the body, i.e. most of them except the G keys.
3. The right thumb should be approximately in a position it would be in if you grasp the flute between thumb and forefinger on the F key. The contact with the thumb is somewhat to the side of the thumb. There is a convenient slight hollow there on the thumb which is important for stabilizing the flute. The end joint of your thumb must NOT be bent. It should be straight or even in its bent-back position.
4. Now, put the flute in playing position. Like I have said before, do not tighten your lips against your lower teeth. If you do this you pull your chin tight and destroy the hollow between your lips and chin, a hollow especially made to fit the flute embouchure plate and stabilize the flute. :-)
5. Press down the Eb key - not hard - only enough to open the key. If you press ANYWHERE too hard you are exerting forces that must be compensated somewhere else. At this stage rest the flute VERY against your lip/chin area - barely touching it.
6. Now experiment with holding the flute in playing position using only the chin, right thumb, and little finger - keep your left hand completely away! That should be all you need. If the flute tends to roll then adjust your thumb position slightly to prevent this.

The thumb should be pulling the flute towards your body only very slightly, so that there is VERY GENTLE pressure of the flute against your lip. If it is pulling hard your thumb will have to fight your little finger all the time.

However the thumb should be carrying almost all the WEIGHT of the flute, and the little finger pressing quite firmly at this stage, so that there is no tendency of the head of the flute to rise or fall.

To get this balance of forces you MAY need to turn the foot joint slightly towards you or away from you where it joins at the body.

Remember - straight thumb - It must NEVER be hooked around the flute!!! Bad!!!

When you have got all these things right and can balance the flute with one hand then move on...

7. Now add the left thumb and fingers (as for G). Get the left finger support in the correct place.... Look at the area between the 2nd and 3rd joint (from the nail end). This should contact the flute body in a natural position near the pad of the small C key.
8. Check that you haven't mucked up the way you have balanced the flute with your right hand. Now lift your left thumb and fingers, i.e. fingering C#. The contact with the base of the left first finger serves two functions.
 - a. Its MAIN function is to push UP. This means your right little finger and thumb can press a lot more gently. They can relax.
 - b. It presses the flute SLIGHTLY more against the lip to make it more secure and

stable.

9. Now the flute should feel secure when you play C#. When you play other notes by closing more keys continue using the supports described above. Do not alter them! You do NOT use all the other fingers for supporting the flute. They are free to OPERATE the keys. They press only hard enough to close the keys, NOT to play a role in supporting the flute.

The only exception is when you play a note with finger off the Eb key, but supporting the flute is never a problem for this note.

Now practice changing from C up to Eb, closing fingers only lightly and making NO change to the way the flute is supported.

10. Changing from C to Eb should not be a problem. Now realise that to play D is just Eb with your little finger off. No problem at all. So changing from C to D should now be no problem.

Done!

I hope it works.

Describing this has been quite a challenge, but fun. Time I did some work!

Student:

What pitch is Yamaha's flute these days? 442? They are very sharp on my tuner. Thanks. And why they use 442? 442 and 440 can be adjusted proportionally?

Gordon :

Re "Yamaha's embouchure hole is too wide and a little to big."

1. You probably just haven't learnt to get what it has available. You may already have got all that the cheap one has available.

2. You may be stuffing up your embouchure by focussing on piccolo playing before you are a good flute player. I think EVERY teacher would tell you not to do that! The final digit of the model number, "1", refers to A = 442, i.e. all models unless you get a special one made.

I'm not sure why.

I believe there is pressure from European orchestras to keep raising pitch, which is so stupid.

One reason may be that it is far easier to 'lip' the pitch down on a flute than it is to lip it up.

If I am playing in a cold environment I would be very glad of the flute being pitched a little sharp, otherwise I would not get up to pitch.

I don't mind A = 442 as long as it does not creep up any more.

Student:

I still don't understand what the big different between 440 and 442, I mean if the flute is made as 442, then we just pull the headjoint a little bit out, then it is a 440 flute. Right? Please enlighten.

Gordon:

Look at the spacing of the tone holes at the top end of an instrument, and compare them with the spacing at the bottom end. The spacing is almost twice as much at the

low end.

Now, to exaggerate... If you pulled the head out enough to make 1st octave B flatten to Bb, then the flute will still not be long enough to make low C# flatten to C. You see, when you pull out the head to flatten the flute you flatten some notes (with not many fingers down) more than others (the ones with many fingers down). So you put the flute's scale out of tune with itself.

Another experiment illustrates this. Pull the head almost all the way out and play the second C going up to 2nd octave D. You have flattened the C by roughly TWO semitones to Bb, but you have flattened the D by roughly only ONE semitone to Db. The interval is now roughly semitones whereas it used to be two.

Another experiment: Pull the head out about 1". Play low C. Assume for the moment that this C is in tune. Now play a C scale from bottom C up an octave to the next C. as you went up this scale the notes became flatter and flatter, until the higher C is actually a whole semitone flat. Check this by fingering low C and overblowing it up an octave. This is a true octave higher, but to get this note with correct fingering you would have to finger C#!

That may be too difficult to follow. If you know string instruments with frets, pulling the flute head out has the same effect as moving the bridge of the guitar further from the finger board.

So, THEORETICALLY if a flute is designed to be A442 and you pull it out to A440 then the scale will be out of tune. In practice this is so slight that the player would probably never notice.

Student:

I was stupid and totally forgotten the fact that the tone hole distances are not proportional, it is just like on the saxophone. Now I completely understand why it matters so much to people on A442 or A440 or such. But like you say that 2Hz is not noticeable, the embouchure causes even more deviation than this. :-)

My mid term report: I am pretty stable now on low and most high notes (first 1 & 1/2 octave). I can even play low D & C loud now. Still working on fingerings on the top notes. High A is not very stable - I can hear overtone if I don't blow hard. Still having problem with high-D to C or C# trying to shift the weight or balance the flute during transition from D to C, the flute always moves a little and causes noticeable shaky sound on C or C#.

Can I use 123 x2x for F#? Because I checked the tuner, this fingering for F# makes not much difference from basic F# finger 123 xx3.

C# always sounds ugly and thin, just like in Soprano Sax. Sigh.

Gordon:

"I can even play low D & C loud now."

Your embouchure must be good then. The volume on these notes is the first thing to

suffer for me if I don't practice, which is most of the time!

"Still working on fingerings on the top notes."

It may help you to remember them if you think of them as follows:

D# is low fingering D# with a vent (G# key) opened to help.....
E.....E.....(G - both of them)
F.....F.....(A).....
F#.....F#.....(A & note Bb also).....
G.....G.....(thumb).....
G#.....G#.....(thumb + small C key).....

Note that these all follow a pattern.... the vent tone hole goes one position up the flute as the notes go higher. When it is not possible to open a vent in the correct place we open two vents, which makes these notes more unstable.

The other notes have slight irregularities:

D is low fingering G with a vent (first finger) opened to help it up 2 harmonics.
AF with vents in two places, one of them a double vent. It is amazing that this note works so well!
Bb.....Bb with a double, although it works reasonably with one.
B.....G with two vents, one of them a double vent.

"Can I use 123 x2x for F#?"

No! No proper flute beginners do this. It is flatter, duller, and softer. It is used only for E to F# trill. (But on some piccolos in the third octave it is easier and maybe more in tune.) Don't be lazy! Get used to it. F# to D in the second octave is very awkward if you don't get used to it.

"C# always sounds ugly and thin"

The better the flute, the more perfect it is.

Student:

Thank you for your reply and advice.

Do you think Split E mechanism is a burden?

Gordon:

It is definitely not a burden. It is very common here.

I think that it did not catch on so well in USA because USA has an illogical fixation on stupid in-line G keys, which are silly in every way imaginable and serve no useful purpose. To incorporate split E with in-line G, quite significant engineering compromises must be made. This is undesirable and affects the reliability of the instrument.

The silly American answer to this engineering dilemma is to resist the split E and keep the in-line G. The sensible approach, which we have on most flutes here, is the

opposite.

A split E mechanism does mean there is a little more work to do in adjusting the flute, but that is the only down-side I have ever heard of.

Student:

(Question lost)

Gordon:

Playing soft, in tune, on higher notes is the most difficult skill on flute, and needs long training of the muscles that control the lips.

I believe that to try to play above the first 1 1/2 octaves softly does much damage to a beginner's embouchure. Instead aim for clear, pleasant, strong tone.

As any athlete will tell you, there are not many short cuts to muscle tone and control. It is just time and practice.

However, to ease the journey try some psychology on yourself.....

A trick is to practice higher - but EASIER - neighbouring notes and then sneak down to the difficult ones with stealth!

Top D is a lot easier than the High A-B. Top F, G, and even A are probably easier than High A-B, so do some practice on these top notes. Be conscious of how much air SPEED they need, and how much lips pressing together they need. Do the practice in front of a mirror so you can also get visual feedback of what works. If you have trouble with these top notes revise all the early instructions I gave you.

Once you get more confident with these TOP notes try slurring from Top D to High B, maintaining the same embouchure and air speed. Once this is good try tonguing the B.

KEEP THE AIR SPEED UP!

If your lips start vibrating together stop and take a break. It means you are on the right track but your lip control is just not up to it yet. Vibrating lips, trumpet style, can become a difficult thing to overcome, so don't let it take hold.

I think you will find High C & especially C# even more difficult than A & B. These are fussy notes, wanting to jump down an octave. On the other hand the top notes I mention are ones that, because of the fingering, are much more stable and stay up there better.

Some even more difficult notes are top E, F#, and G#, which all would like to jump down a fifth. Once again, practice the easier (but higher) neighbouring notes and sneak up on the difficult ones with stealth!

Student:

.....As for the E-mechanism, I found that with E-mechanism caused a lot of notes flat on alternative fingerings. Guess that I should stick with basic fingering for now.

I am totally messed up here, because when I played flute more often, my piccolo embouchure is destroyed, and if I played piccolo, my flute embouchure is having problem, and even worst - after I played flute or piccolo, my sax fingering got mixed up! Guess I am getting old, my brain cannot adapt well these days.

Gordon:

Don't be lazy!

Alternative fingerings. There are heaps of times that you can't use them, and they are almost always of different tone or out of tune. In my experience the ONLY one that is in common use is the thumb Bb for very fast pieces with out B naturals. I have used it only ever for Midsummer Nights Dream.

There are some very nasty fingerings on flute which are demanding of very accurate finger coordination. The more you use alternate fingerings the more you have NOT practiced the precise coordination for the awkward fingerings when they arise. An extreme example: For second octave D you could use C + trill key, but that will never give you practice at going cleanly C-D-E, for which you cannot use the trill key.

By all means use an alternate sharp fingering for a top G# if you cannot lip it up enough when it goes flat when you play the note ppp, but that is a long, long way from where you are at now!! It is MUCH better though that you practice lipping the note in tune. There are relatively few times when an altered fingering can solve an embouchure/breath support problem. :)

"I am totally messed up...." Practice, practice, practice!!!!

" my brain cannot adapt well these days" It keeps getting worse! However I didn't start sax until I was about 40. My brain eventually associated the fingering with my hand positions, which was fine until I got a soprano sax, and my brain thought it was a clarinet! But it has been trained now. I suppose it improved from playing in shows, where one changes maybe 60 times in a performance.

Student:

I have been busy at work for sometime. Now I come back to piccolo again after worked hard on flute. Could you please help answer some of my questions:

- 1) Music store said that Armstrong's flute and piccolo need a little more air to blow than Yamaha. Is this true?
- 2) Why they say wooden piccolos are only for indoor playing - not outdoor? Is it because wooden piccolo not loud enough? Or because the wooden could crack outdoors? Hong Kong's humidity is very high 60 to 90%
- 3) I am using "pouting" embouchure on flute and piccolo recently and find that pouting is more easier to control.

4) I remember that you told me to put piccolo higher on my lower lip (compare with flute), but Yamaha embouchure is slightly bigger, so I have to cover touch the embouchure edge with the edge of my lower lip. Is this ok? And I like to cover the embouchure hole by 1/2.

5) I am now able to control the first 1 & 1/2 octave of the piccolo. You are right, the 1&1/2 octave is not sweet at in timbre - a little bit sound like "airy tone"

Gordon:

.....

Now, the continued ravings of Gordon..... :-)

1. I have an Armstrong for repair beside me. I'd say an emphatic, "No". Perhaps this is 'store-speak' for the piccolo having leaks or a misplaced crown cork, or other crown cork problem, or damaged embouchure hole?

2. Probably just the fear of cracks. Actually the humidity is similar here and I don't think I have ever seen a cracked piccolo. A piccolo has thin walls, which would reduce the likelihood of cracks. Cracks would be most likely when the instrument has high humidity inside the bore - i.e. being played - while the timber on the outside is very dry, e.g. in the sun in a very dry climate, or in a low humidity, heated room.

3. A good embouchure is not what is easy for a beginner. The criterion is that the embouchure will serve the player well for a good sound, and good pitch and volume control, over the ENTIRE 3-octave range, ESPECIALLY the top octave where flutes/piccolos play a lot, but where the beginner typically has almost zero control. It is very unlikely that a beginner is in a position to judge whether or not his embouchure will eventually achieve that.

BTW the only embouchure I know really well is that which I was taught. I know it came from world top player, Kincaid, possibly modified by my very capable teacher, and I actually do not have a label for it. Any other embouchures, I can only evaluate in terms of a scientific, analytical approach. (I am talking physics here - air pressure and flow, boundary layers, forces, turbulence, laminar flow, etc, which I have studied in engineering) What the player is aiming for is extraordinary control and versatility in control of the 'wind-way' length and cross-sectional shape, every physical feature of the outer end of the wind-way (there are many!), and also pressure exerted by the lips on the airstream itself, right along the wind-way, all this being achieved by muscles remote to the location, because there is actually no muscle tissue in the immediate vicinity of the embouchure wind-way itself.

4. I think 1/2 is OK for piccolo, but no more. 1/3 to 1/2 for flute. Any more and you are likely to 'strangle' the sound somewhere in the range. There will obviously be variations for different lips, and we sure are different in our lips! my experience of lips comes from teaching about 400 beginners, but I think none of them were Asian. NZ did not have many Asians 35 years ago. I'm so glad we do now.

Here is something that may interest you, Study your lip in the mirror. There is a line where the skin of the lip changes from where the lip is normally in contact with the other lip, and normally damp, to the slightly firmer tissue where the lip is normally

exposed to the outside air, and is drier. I believe that the precise position of this line (perhaps to 1/100 mm) is utilized in a good embouchure, at or very close to the outer end of the wind-way. I believe that for an adult the change in tissue texture is more pronounced, and enables adults to get better control than children, providing that they use this change in texture to greatest advantage. The shape of that edge where the airstream is released from the wind-way is absolutely critical for a good, versatile tone. I learnt this from a local friend who is one of the world's leading teachers of recorder (blockflute) design and manufacture.

Student:

Many thanks for your reply with great answers!

I noticed that when I played piccolo, my tongue tended to touch both lips, this must be bad right? Also I notice I spit a lot of saliva out recently. Is this normal? But I am quite satisfied with my recent tones however. Thanks.

Gordon:

These two issues are related.

I supported my lower lip with my tongue for four years, and then had to begin all over again.

You will never teach your lip to give the right support while it is being supported with tongue muscles instead of its own muscles.

You will never be able to tongue quickly while your tongue is busy doing other things.

You are right. It is very, very bad.

Saliva is collected in the space just behind the gums of your central lower teeth, where your tongue should not be!

Then it is swallowed at the next opportunity.

Student:

Help! Although I have been improving greatly after your teaching, I am still having problem to do slurs in 3rd octave. I can hear unwanted noises during slurring within the 3rd octave, especially slurring from top G to top F or top D (I had no such problem with legato). I tried everything but failed.

Gordon:

These are probably noises from less-than-perfect synchronization of the fingers. The flute is very responsive up there, and therefore shows up any imperfections.

Particular problems occur when you have to lift one or more keys at the same time as closing one or more others. I'm not sure exactly what the synchronization should be, but you can experiment by focussing on each finger in turn, . For example the thumb.... move it very slightly BEFORE the other keys that you move. Then try moving it very slightly after. Do this with each finger involved in the note change.

At some point you may just chance a perfect synchronization. Try to repeat it. Do not play quickly - just go from note to the other, many times slowly. The more you focus on this the more times you will just chance it right, and this is the beginning of programming the brain to get it right every time.

I still frequently go over difficult changes very slowly to focus on synchronization

and refresh the programming.

Imperfections in note changes frequently exist in recordings by top players, and should not be there. The average professional orchestral player manages to eliminate them. I suspect recording stars get complacent and stop doing so much of that ground-work reinforcing practice. I heard James Galway in an interview playing a snippet from a piece that was fast but not too difficult. He had many blemished note changes. He clearly had not practiced it recently. Most of the audience probably would not notice though.

It is probably easier to get clean 3rd octave note changes with greater air speed. High air speed in this octave seems to be a requirement for any really good playing. I practice by myself, and then find I have to greatly increase the air speed to copy the tone of the same piece in a top recording.

Practice, slow focussed practice, more slow focussed practice, and more and more. It MUST be focussed and extremely self critical. It is a total waste of time practicing with imperfections because it will take ten times as much practice to undo the incorrect conditioning of the brain. It is a common problem for doublers to try to find short-cuts in areas where there are none.

Just some food for thought for you:

When I am unpractised, or a beginner, and play slowly (slurred notes), the notes are say 1 second long and the blemishes between the notes may be 0.2 seconds long. If I then try to play fast, all I do is I reduce the note length to say 0.1 second, and the blemish remains at 0.2 seconds (and possibly gets longer!). This means that 2/3 (0.2 out of the total 0.3) of my playing consists of foul-sounding blemishes.

However if I practice slowly and thoroughly, and focus entirely on removing the blemishes I may reduce them to say a length of 0.05 seconds. NOW when I and reduce the note length to 0.1 seconds 2/3 of my playing is sweet sound and only 1/3 blemishes.

The moral of this is that the only way to practice playing fast is to practice slow and focus on removing the blemishes between notes. Simple, eh! Logical?

Also, how to play loud f or ff for low D and notes below? Or is it just not possible to play loud for the lower notes?

A sax and clarinet (and oboe) maintain volume down there. A flute definitely gets much softer, and all aspects of embouchure and breath support must be perfect to push the volume to an acceptable loud. Forget about ff. Note that when a good player plays a loud low note, that note is on the very verge of 'breaking;', i.e. going silent or up an octave from being 'pushed' too far. If the player got one of many parameters microscopically wrong then that note would suddenly fail. The solution is practice, practice, practice, altering everything about your playing ever so slightly to find what produces better results for you. Note that if I stop practicing for a while it may take many hours to restore quality low notes. Doubling on other reed instruments does not do much good for flute low notes! The really top quality flutes do have more volume available down low, but probably only for serious players who practice enough to get it out.

Student:

You are the greatest! I understand you completely and agree with you too, thanks. I'll practice more to get perfect, one day. I hope you don't mind my asking too many questions and holding up your time.

I followed your advice on how to tongue - tip of the tongue touching the gum behind the upper front teeth. However, I have noticed that air still leaks from the side of the tongue, which means it is impossible to seal the air completely without touching both lips! I have to use the root of my tongue to seal off the air from the throat.

Sorry, I do not understand. Tonguing is like whispering the syllable "too, too, too" If air leaks how can you pronounce this syllable? I guess we are all different, and what our tongues can do depends on our speech patterns that we grew up with. All the time while I am playing UI am sealing the sides of my tongue against my back few teeth, exactly the same as when I begin to say 'too'. What do you do in preparation for saying 'too'?

Gordon:

Your mouth may be such that the SIDES of your tongue has to touch your cheeks, but if you let your tongue go backwards and forwards to touch the FRONT of your lips I am sure you will never be able tongue quickly, because I think the tongue is always slow to go in and out compared with how fast the tip can go up and down. That is because for an in and out movement much more mass has to be moved, and a far more complicated muscle action is required. Tonguing involves the front part of the tongue moving up and down and the rest remaining stationary.

Student:

Also, I noticed that it is very difficult to tongue the gum in the 3rd octave. I have to tongue my upper teeth to achieve that. Is tonguing the upper front teeth acceptable?

Gordon:

I think touching the back of your top teeth is fine, as long as your tongue is not going backwards and forwards, and as long as it is not touching the centre of your lips (in which case it would HAVE to go backwards and forwards.)

Student:

I have some more questions on flute.

- I noticed my fingers are too slow for fast music, maybe an adult beginner like me (started after 32) usually is like this? We can never get faster anymore?

Gordon:

I believe we CAN get faster. It just takes quite a bit longer. I started sax when I was about 45. The high notes involved finger work that my fingers had never done before. I initially thought I was too old to learn new tricks but I persevered, and mastered it, and have gradually got faster. The mind needs a prod every so often to remind it not to stagnate.

Student:

- Is B foot important?

Gordon:

1. It is very rare for flute music to have a low B.
2. If the music does have a low B then it probably does not have a low C, in which case you can slide an appropriate length of plastic hose on the end of the flute to turn C into B. It will make C# a little flat but that can be 'lipped' up.
This is what I did once, even though there was a low B foot joint present and available for me to use, because even just playing the low B requires extremely accurate placement of the finger between the C roller and the B roller.
3. For playing C, a low B flute is a real nuisance because you have to place your finger so carefully, in exactly the right place on the low C roller. On a C foot flute you just slap your finger carelessly anywhere on the key roller.
4. The low C is there mainly to make available an improved fingering for the 4th C, which you will probably never play, and which you can play quite well without the low B anyway. I can, and do.
5. A low B flute is 80% a player's statement of snobbery.
6. The case for a low B flute does not fit into a standard brief-case.
7. A low B flute is heavier = more shoulder problems.

Student:

I have noticed many Muramatsu Flutes are in C foot.

Gordon:

The type of foot joint is entirely optional with most models of Muramatsu.

Student:

I am wondering whether B is really important?

Gordon:

No, it is not, unless you are a significant orchestral player, where 1 piece in 1000 may need low B!

Student:

Maybe the B foot can help balance the flute better?

Gordon:

Utter nonsense!

People talk a load of rubbish about this option, mainly to justify their snobbish decision to buy such a thing.

Well that's my opinion anyway.

Ha!

Student:

Thank you again for your reply. Why it "SHOULD be down" for 2nd octave E? I just have here a passage from C2 to A2 in only 1 beat. This is too fast for me to put down my pinky. Can I play the E2 without pinky down? Thanks

Gordon:

This is a bad, lazy habit. There are two issues:

1. Clean-sounding notes

2. Accurate finger coordination for clean, quick changes between notes, i.e. shortening the messy noises between notes.

The First:

As I think I explained in a previous email, 2nd octave is slightly flat and has a dull sound, lacking volume without pinky.

The flute is a refined instrument, having an exceptionally even tone and volume for adjacent notes across the range. This E is already a particularly dull note on most flutes, and flute players do not wish it to be any worse.

The Second:

As I explained before, fast playing is the same as slow playing except that the notes are shortened. Messy noises during the actual note changes are the same length for both fast and slow playing. So if your pinky can't change notes cleanly fast, then it is because it cannot change notes cleanly while playing slow. So every time you take short-cuts playing fast you are training yourself in that mucky change, and it will become progressively difficult to make clean changes while playing slow.

This is probably why flute players do not, in general, make short cuts in fingerings. They do the full fingering most (if not all) of the time in order to keep in practice with it, because it will DEFINITELY be needed in SOME situations.

The sax is a lazy-man's instrument, where there are more alternative fingering options.

As an illustrative example on sax.... If a beginner ALWAYS plays Bb with the Bb key, because it is the easier option when there is a following G, then when a B also becomes involved (say G-Bb-B-Bb-G-Bb-B.....repeated) it means then player must resort to non-lazy finger co-ordination which involves finger changes the player has not practiced and will find exceedingly difficult.

On all instruments, short-cut options which avoid demands on accurate finger coordination will eventually back-fire on the player. On flute, if your pinky is not used to being quick and accurate you will eventually have a mess when scale-type passages involve both 2nd octave D (which MUST have pinky off) and C or C# (which must pinky down for holding the flute). So, you see, your laziness in pinky-for-E becomes related to your problem with holding the flute!

This concept also applies to the previous email re changing from Low C to Low E. The pinky needs as much practice as it can get in the awkward slide from being on the C key, to being on the Low C# key, because it will HAVE to do this - no alternative - when going from C to Eb! Therefore it is a good idea to keep it in practice by using CORRECT full fingering when going from C to E.

Be honest now... repeatedly using short-cuts for playing at speed means one is trying to avoid accurate finger coordination, and in the process, very likely practicing *POR* finger coordination. These short-cuts are simply ways of avoiding the foundation of slow, accurate practice of note changes that will DEFINITELY be needed at SOME time, for SOME notes, in SOME situations - usually slow passages where any

inaccuracy becomes very conspicuous to the audience!

The short-cuts will eventually come back to bite you! Every musician knows this to be true!

Student:

My dear teacher, thank you for your teachings, I have been playing and sounding very well on my flute and piccolo in as short as only 3 months! I play much better than those people in the band (tone wise) who learned flute for 1-3 years. My band director was surprised that I sound so well (I didn't tell him you taught me all along, otherwise, he would be pissed). :-)

Gordon:

Just tell him!!! Hehe!

Student:

- Yes, I will tell him when the time is right. Actually, I had already told all my friends in the band that you taught me flute and piccolo.

I have noticed that there are 2 kinds flute embouchure: 1) pressing both lips together to control the size and tension of the aperture; 2) let the lower lip relax (acting as a platform), and then press down the upper lip onto the relaxed lower lip. Please kindly advise which is better.

For me, the second method is a bit easier, but the sound turns out like the sound of Chinese flute (thin and buzzy - actually we Chinese liked this sound)

Gordon:

I think there are many kinds of embouchure. You have to aim for the sound you want, with some consideration for the audience, of course.

It is claimed that a somewhat buzzy sound has more 'edge', more 'carrying power', and it is possible that from a distance, say in a large hall, it is not apparent at all.

Personally I try NOT to get the buzzy, thin sound. It comes from a turbulent airstream, and there are many of ways to make the airstream turbulent.

In deciding what embouchure/sound you want you have to give consideration to all issues, e.g. with this embouchure will I be able to eventually, with practice, produce controlled volume, adjustable ('lippable') pitch (to compensate for volume changes) pleasant-sounding notes throughout the third octave, and will I be able to produce strong notes at the bottom end of the range. If not, then perhaps you should re-think your embouchure, or face restricting your range.

Unfortunately I cannot help you much with this decision because the only embouchure I know well is the one I was taught - probably your No. 1.

Student:

- Yes, I am using your embouchure method right now. The No.2 embouchure was the embouchure that my band director taught us, I found it too thin and too buzzy. You are quite right it creates tiny turbulence on the lower relaxed lip that I can feel it & the aperture is extremely flat and thin.

For piccolo, I believe is only 1 way of blowing: pressing both lips together. I have noticed the lips have to be pressed real tight for 2nd and 3rd octave in order to create a nice tone. Is this kind pressing-tight ok/normal on piccolo?

Gordon:

It is necessary, because there must be high air pressure, a very small aperture, very high air speed, excellent focussing, and superb direction control.. This pressing of lips, whether conscious or not, is necessary to gain full control of such an airstream. (In my opinion)

Student:

I forgot to ask you something:

- You are right, in a much earlier mail you were mentioning that, when playing loud the pitch could be as sharp as +30 cents. I am having problem when playing 'The Music of the Night' from middle G2 (mp) jump to 3rd octave G3 (ff) , it is as high as +30 cents !! How can I flatten it? I cannot lip it, because I have to play it FF, so I have to open more EH, but the more I open it, the sharper it is. Can I roll the flute in to flatten it (just for this note)? Please kindly enlighten. Sorry for too many questions in a day. :-)

Gordon:

It is air FLOW that creates volume.

You don't have to open up the EH to play loud.

But if you close the EH to control the pitch then you must aim the air more accurately to play loud, otherwise you lose the note altogether.

There are many ways to flatten - moving chin, lips, flute, but all have the same effect.

Consider the angle at which the air stream strikes the far wall of the EH 'chimney'. The closer to a right angle this is, the sharper. To flatten a note all methods rely on reducing this angle.

PS: Our ears EXPECT the pitch to get sharper to some degree as we play higher. This is perhaps because on a piano the octaves are 'stretched', so that the top C is actually quite sharp (in a mathematical sense) compared with middle C. This is because of the construction of piano strings, which makes some of their most conspicuous overtones sharp, e.g. play C on the piano, and the 2nd G harmonic above this C is sharp. Therefore it clashes with the G string. When tuning a piano there are compromises made all over the place so that these discrepancies in tuning are as inconspicuous as possible. They cannot be removed.

However if I am playing in my top octave, in unison with a trumpet an octave below, I must be mathematically in tune with the trumpet (exactly twice the frequency) or the 'beat frequency' will sound dreadful - out of tune. So tuning is an ongoing thing that alters through the music according to instrumentation. WE have to alter to whatever sounds best in each situation.

However that is not a licence for flutes to play very sharp as they so often do. Remember that clarinets cannot be lipped anywhere near as much as a flute, and clarinets go flat when they are loud. It is more or less up to the flute players to do the most adjusting.

Student:

Forgot to ask:

- Is Altus a good brand?

Gordon:

Altus came from Taiwan (as far as I know) and was related to Jupiter. Then I think they moved the factory to Japan a few years ago - not sure. I have seen only a few. Well made mechanically, but it is possible that they have rather soft metal and need to be handled more carefully. Very responsive - loud and clear throughout the range. I was so impressed I nearly bought the first one that came here, but that may have been hand picked. I have not been so impressed with some others, so perhaps they are a bit variable. The standard Japanese flute by which others tend to be measured is the highly respected Muramatsu (James Galway plays one?). I think top players may claim that Muramatsu, compared with Altus, has available a larger range of tone colour to the player - darker, richer, expressive colours.

In some ways the more responsive a flute is the more difficult it is for an inexperienced player to control - as with a motorcycle or racing car! To get control the beginner player closes the embouchure hole, rolls the flute in, and generally stuffs up their embouchure for ever getting real control of the beast. Well that is my perception, which of course has its limitations.

Student:

(Question lost - probably about playing flat.)

Gordon:

You are probably rolling it towards yourself. This will make it flatter (i.e. not so sharp) and dull the sound. you are probably doing it so that you cover more, hence making it easier to play - see previous answer - a short-cut to thousands of hours of practice - with a price to pay in versatility of pitch, (hence in-tune volume) and tone.

Student:

You are damn right, I am ashamed to say I keep finding the short-cuts. OK, I'll practice the right way more. But with the right way, my lips keep buzzing like blowing a trumpet (on the highest 1 & half octave). What can I do to prevent flutter lips?

Gordon:

Training muscles is a long process. It is possible that the non-muscle soft-tissue beneath of the skin also needs to gradually firm to stop it vibrating. I have heard that considerable damage can be done to the embouchure by this vibration, taking a long time to repair, so don't do it! Expect good flute playing to take some time. It is definitely not like sax playing, which is far less demanding by comparison.

Learning sax is like a child learning to hold a spoon.

Learning flute is like a child learning to use chop sticks. No comparison.

Student:

Today my band director said that my tonguing is lame and unclear on E1 & D1. When I started with E1 or D1 (begin of a phrase), he said, my tonguing became unclear or too soft.

Yes, I have noticed that too. But if I tongued these first notes hard or clear, I always jumped an octave, I said. Then he said that I have to control the air-pressure, and still have to tongue it hard.

I can't do it. Please help. I tend to curl my tongue backward (like saying 'R') for these 2 low notes, in order to prevent them jump up an octave, which he said was bad and he can't hear my tonguing. What can I do? Any trick or as usual any short-cuts. Appreciate your help, always.

Gordon:

It is a difficult area for flute and I am no expert, otherwise I'd manage it better myself, although in my case I suspect it because of no practice most days.

You will NEVER tongue clearly with your tongue curled back, because the large air cavity in front of your tongue acts as a damper resisting quick changes in pressure.

I presume there is something else wrong that is making you do this. I have mentioned most of this stuff before. Your determination to find shortcuts is coming back to bite you, as I think I promised would happen.

1. Lips pulled tight against the teeth so that air CANNOT be focussed into a non-turbulent stream. Go back to my earliest posts about this. I want to a lot of trouble to explain the importance of length of wind-way. Grrr! I once met a player who played with her upper lip curled up, so that her upper teeth were all she had as the upper side of her embouchure was teeth. This simulates the extreme of tight-lippedness and the resultant tone and volume is pathetic on all notes. Try it! It sure illustrates my point.

2. (More tight lip stuff!) Have you practiced these notes with the illusion that a loud 'buzz' in your tone is actually volume tone. It is not. It is volume of buzz, so practice the tone itself, otherwise you will be practicing getting the parameters wrong! I keep telling you, on flute there are no valid short cuts, and you seem to specialize in trying them all out, to your detriment. Lips rolled tight is good for making buzz. It does not make good tone and is no foundation for the rapid adjustments described in 3. Grrr!

3. Loud low notes are extremely critical in their requirements for a perfect BALANCE between air pressure, air flow (controlled by size of embouchure slit), air direction, and air focus. When you tongue, all these parameters need to change precisely together as the air pressure increases, all in a split second. You must train the many muscles which control the lip to respond exactly and minutely to pressure changes during this split second. By curling your creating the pressure damper you are effectively avoiding facing this process, by making all changes of pressure far slower. This is chopstick versus spoon stuff. Long, slow, thoughtful practice is required to master it, establishing the paths for the biofeedback that gets things right in an on-going manner.

3. Analyse WHY you are curling your tongue. Is it for deliberate for (pseudo)volume, general tension in your body? Maybe it just happens because you are tightening

related muscles to get your lip tight. Do you think you have established it just for the tonguing or for sustained notes too? Play the cleanest long, low note you can. While playing it, relax your tongue more and lie the front of it at the bottom of your mouth with the tip lying flat behind (but maybe touching) your lower teeth. Can you play your good note like this? If so, then why the curling?

4. Are you getting your teeth or the tongue in the way of the airstream, making it turbulent and hence uncontrollable?

The following may be a valuable exercise for limiting the parameters (see 3 above) and focussing on training the lips (in relatively slow motion) to adjust to air pressure changes that occur during tonguing, or playing in general.

Keep the tongue lying flat and inactive for this exercise. Put the lips (sealed) together and relax the 'blowing' muscles (abdominals etc). Now begin a note by just blowing - no tongue involvement. Start with say B, and work down, regularly going back to B to check. Don't 'make' an embouchure - allow the air to make it. Get the cleanest tone and note beginning possible. While doing this focus on the lips and notice exactly what they are doing. Use a mirror. Be as relaxed as possible. Look in the mirror for some of the time. Don't look at music because it absorbs too much of the available concentration. Don't look in the mirror all the time because it does likewise.

I find the following extremely helpful, both for clean tonguing and general tone. Try it for any exercises/tunes with repeated tonguing. All it is: Between each note and the next, take a small breath, collapsing your embouchure and opening your mouth slightly to do so. A panting effect. Tongue each new note at the same time as you start blowing out again. It is tedious and you cannot play fast. Listen, and concentrate on tone and clean attack. Try it for a variety of notes in the 1st 2 octaves only. Don't complicate things with 3rd octave issues! Perhaps one reason that it helps is that it forces you to slow down and be attentive to the tonguing itself. Perhaps another way is that all the muscles that are used for tonguing are put into a relaxed, neutral state before each tonguing. Use the mirror some of the time.

Student:

Wow, some very heavy stuff, took me a while to digest. Thanks, I got what you mean. And I have been practicing Low E, D, C tonguing all weekend and found out that my problem was caused by curled tongue - tongue too far back, and tongue not completely lowered after attack which caused turbulence. I am much better now. Thanks man!

My band director now criticizes on my flute embouchure that my aperture is a little too small/narrow. I don't see/hear any effect on my sound/tone. Is there any effect at all? Thanks.

Gordon:

Is your band director an accomplished flute player?

Does he have an ulterior motive in his criticism?

Is he one of those who are so insecure that they need to put others down in order to elevate themselves?

James Galway's aperture is minute. His playing is not too bad!

Student:

Dear Gordon, my distant teacher, mentor, repair helper, I definitely couldn't get to this far without your help and clever advice. I am now OK with flute and piccolo (both embouchure and fingering) - final leap out of the critical barrier. Telling the truth, I gave up on flute once, then picked it up again in January and at the point it was so frustrating and I almost gave it up for good, I wrote you an email. I am glad that I did. Now, I have 2 axes in my arsenal. :-)

Gordon:

I'm glad you did not give up. I wouldn't be surprised if you gave up again. It is a frustrating instrument, with plateaus of learning that are difficult to break through to reach a higher level. I gave up a few times myself, but then my determination won every time.

Student:

How should I care for the solid-silver and silver-plated flutes? Should I use 3-m anti-tarnish strip? And if my silver-plated flute is tarnished to yellow or black, should I use silver cleaning cloth? Will it take away much silver from the silver-plating? Or I should just leave it as is? Many thanks.

Gordon:

I have never used 3-m tarnish strips but I think they are probably worthwhile tarnish prevention method. It is probably better that they do not actually come in contact with the flute. One customer says they did not help. They do nothing for the flute while it is out of the case. If you do not want any tarnish, never play the flute!

Most of the time I just use a soft cotton cloth to wipe off finger marks. Cotton is better than poly-cotton. The best cloth is one that the silversmith and jewellery trade use, called "Selvyt", made in England, available in many sizes - totally lint-free.

Occasionally, (and during customer overhauls) I use Goddards silver cloth. Some makes have poorly graded abrasive and leave a scratched surface.

You certainly don't need to use this type of cloth often. and if you don't use it often you do not need to worry about removing silver - The tarnish is created by using up silver from the surface, and if you remove tarnish you remove silver, but it is very, very little.

Most players, including myself, do not worry about the tarnish which develops in inaccessible places. The only appropriate time to remove this is during a complete overhaul and repadding, because the handling involved is likely to do considerable damage to the pads/felts/corks.

During a complete overhaul I use a chemical bath for the body. This possibly turns the tarnish back into silver.

NEVER get liquid or silver polish in the mechanism. It is corrosive, and must be completely removed after use.

NEVER leave powder residue of cleaner in inaccessible places. It promotes corrosion by trapping pollutants from the air, and absorbing oil from the pivots.

Student:

Thanks for the tip on caring silver.

I heard they only used activated carbon in 3-m strip, to absorb H₂S in the air.

I also heard that most professional players use Toraysee micro-fiber cloth (silk-like) to wipe their flutes.

Gordon:

I think you're right. Activated charcoal. So it, in itself, would be safe touching the flute, but when it becomes saturated with hydrogen sulphide and sulphur oxides, I'm not sure that it will still be safe. And you have no way of knowing when it is saturated.

"I also heard that most professional players use Toraysee micro-fiber cloth (silk-like) to wipe their flutes."

I have never heard this, and have never seen a Toraysee cloth in a flute case. Microfibre is a wonderful, superfine thread which can be either woven or knitted. It comes in many forms. However it is polyester (often combined with nylon) and therefore (as far as I know) intrinsically more scratchy than cotton.

I think you will find that Selvyt is still the standard used by jewellers and anybody serious about keeping silver looking good. I just did some web searching which seems to confirm this.

I have hardly used the microfibre cleaning cloth I bought, because its fibres catch on the hard skin of my hands - it feels awful, and also on anything sharp on instruments. The Selvyt cloth does not. Perhaps I have an inappropriate form of microfibre. There is a lot I don't know in this area.

There are many different types of silver tarnish. This affects me in that some are very easy to remove and some are very difficult.

In general, once the surface of metal is sealed by tarnish the tarnish protects the base metal from further contact with the tarnishing agents in the atmosphere. Therefore the tarnishing process comes to a stop - that is until the protective tarnish is removed. Sometimes this protective tarnish is called a 'patina'. In my experience, protective tarnish tends to be shiny.

Iron is the big exception to the idea of a protective tarnish. The tarnish - 'rust' - keeps flaking off, leaving the bare metal to tarnish more.

So I suppose the short answer to your question is that it depends on the nature of the silver surface (rhodium is sometimes added to reduce tarnishing) and exactly what the tarnishing agents are. So I don't know.

A shiny black (from tarnish) flute seems to not tarnish any more, but not many players want a shiny black flute!

For more info see:

<http://www.silversmithing.com/care.htm>
<http://www.silvexonline.com/silverinfo.asp>

Student:

I have been playing well with my flute these days. I am able to get good rich sound throughout all 3 octaves now, even for the low D and Low C - I can play them much louder. I have no problem with open holes - I got used to them now.

However, my new flute teacher has pointed out that I seem to press the flute against my lower lip too much. (She played flute for 20 years) She said I should just lightly touch my lower lip on the lip plate. But I find it difficult to anchor the flute by just LIGHTLY touch on the lip-plate. (I remember you once wrote on SOTW that you can put a razor blade between your teeth and lips and not cut them.) I have been watching very carefully many flutists playing including James Galway on DVD. I saw them press the flute against their chin and lips, also their lower lips have been flattened by that.

I find that my flute is having minor leaks, because when I blow Low D and Low C, I must close them hard with fingers in order to get loud sound. Finding the leaks on flute pads is extremely difficult!!

Gordon:

I agree with your teacher. Rest the flute against the lip with very little pressure. High pressure achieves nothing. Yes, Galway has his lower lip pulled against his teeth but I don't think it is tight and I don't think he presses the flute hard to his lip. It is only tightening muscles to oppose others - hence general tension, and the length of the wind-way is likely to suffer. I think Galway still maintains a long wind-way. I think his tight looking lip is only one lip pressing tight and flattening against another, not tight against the teeth. I think that unlike clarinet, a curve in the area below the lower lip is maintained to accommodate the flute and keep it secure without pressure. I mentioned razor blades only to illustrate a point. I don't actually use them!

Pushing the flute hard against the lip is equivalent to pushing a sax mouthpiece hard up against the upper teeth - simply unnecessary, and a source of tension.

But that is just my view of things.

Finding leaks on a flute and dealing with them is very easy for a good technician, but I am not teaching you flute adjustment by email! It typically involves about 20 to 25 adjustments, all inter-related. Too complicated by email!

Student:

I recently found myself 2 flute teachers(at the same week), one is the local music conservatoire flute graduate, he is

(40) now working at ***** very professional!!! Taught me a lot of things on professional breathing and how to blow a good, strong, beautiful professional tone. Surprisingly, many things he taught me are what you have been teaching me before. Then my second teacher, she is a new teacher from ***** (26), she mainly focus on my fingering and techniques, because she told me that my tone is already beautiful (due to my past 6 months of teaching-myself), with a lot of projection and overtone. Wow, this is the best comment I've had for years. I am glad that I am making professional tones now, I must thank you for that.

Gordon:

It gives me a thrill that you are doing so well on flute.
LOL! Have you told your teacher that you had lessons by email from a guy who never heard you play. I think that is so funny!