

Anonymous "This is Arnold Jacobs - 10-6-78", UNPUBLISHED

BF: I found this in Jake's studio. I think that this is a transcription of some interviews done for the Yamaha Corporation

A little discussion of mouthpieces made by Maestro Schilke and its relationship for the use in the Yamaha tuba.

I just want to say first of all that in brass instrument playing you have three basic variables, one is the instrument, in this case it would be the tuba, the second variable we might say would be the mouthpiece used in the tuba and the third variable would be the player using the mouthpiece in the tuba. It is very important that we understand that we do have these three variables and the problems of one affect the other two and as we go particularly into the discussion of mouthpieces relative to tubas we still have to consider the fact that there is a player who is going to change all these values around so these are general concepts.

There are certain rules that are established as a very large tuba played with a very large mouthpiece is going to have a very strong fundamental in the tone and rather weak overtone. This is a phenomena that can be measured by having an electronic analysis and we will find the overtone is weak compared to the fundamental.

If we have the same situation we will say of a very large tuba, oh I have in mind possibly a large sousaphone, or very large bore upright tuba, and the player has to be put into a situation where he needs to lighten the tone, this could be done very easily by say he is using a large instrument with a #67 Schilke mouthpiece and the tone is very organ like and if he has to do a solo in front of a group or play some very sprightly like music where actually too much weight in the tone would be in the way, the Schilke #62 would dramatically alter the quality of tone coming out of the tuba. In other words if the player played in somewhat the same embouchure, same manner with the same tuba, the introduction of a small mouthpiece, in other words the shallower cup will immediately enhance the overtone concept and decrease the amount of fundamental in the tone. I use this procedure a great deal myself when I am playing with a large tuba, one which would be very adequate for a Prokofieff and the ring operas of Wagner and if I have to go on the stage with the same tuba but play a trench work, Berlioz composition or something very sprightly and light, I immediately will switch to a Schilke #62 and it is amazing - the difference in the quality of tone-it becomes bright. In other words We are simulating the change to smaller equipment even though we are still using the same tuba we very definitely have an altered quality due to the mouthpiece.

Now, you could reverse this same procedure. You could take a very small tuba, I believe you have one that I tried downstairs, a very small B flat tuba, I think it is your school line, I don't know what your terminology would be on it, but this very small tuba has a very lovely tone with the average mouthpiece that you would use, but it would be too light we will say to put into a band concept where you are going to have to use instruments that are going to replace a bass section - then obviously you do not want a tuba that is going to be just marvelous in light solo playing. In other words we remove it from the baritone concept and move it into the contra-bass concept and with a very small tuba which inherently will have a light tone, which indicates possibly smaller decibel output but also lack of fundamental and enhanced overtones. Now, a little tuba of this type put into a concert situation where you have trombones and other instruments intruding into their overtone series - if they have a very small

fundamental you are not going to hear very much. In other words you are not going to be left with very much tone. You can alter this moderately by the introduction of a larger mouthpiece. In other words if you put a #67 Schilke mouthpiece into the very small tuba - immediately you will have somewhat stronger fundamental somewhat lighter overtones. In other words it will be more of the true bass sound. A bandmaster can very frequently get benefit from this type of thought because he will have a certain freedom if he has instruments that he has purchased - let us say they are modern instruments - yet he feels the players are too light, he can immediately add more weight by suggesting that they use the larger mouthpiece. If he has very large tubas and he

wants to reverse this procedure, he can do the opposite. If he wants to lighten the tone he could have larger mouthpieces. He could have two large tubas and two small tubas or he could have all tubas of one size and then do a certain amount of altering with the mouthpieces and give them a certain flexibility.

I think on the next tape I am just going to discuss first the Yamaha line of tubas as I perceive it from having tested them recently.

In discussing the Eb, upright 4 valve tuba, there is not much I can say. This is a very fine instrument. I have just recently purchased one myself and use it extensively. I find this to be a very satisfactory bass tuba. I think for personal reasons I would like the instrument to be made slightly larger, in other words in order to use the horn adequately with the Chicago Symphony Orchestra I have had to have a certain amount of tubing removed from the main tuning slide to bring the instrument up in pitch because we are maybe ten cents above the .440 and I felt with the type of embouchure that I use in a mouthpiece that could be a little bit shorter tube length just to get me up to where we do our basic playing. But, this is a fine tuba and I would not want to add too much to it in terms of asking for anything special. I think it is very adequate the way it is.

The next one I would like to discuss would be the YBB103 3/4 size. This is a very small tuba. I don't know if that is what you would call 3/4 size, but this is a very small instrument and I do want to make certain suggestions on all 3 valve Bb tubas - any 3 valve tuba. We have to find some way we will say of bringing in the B and the C (that is the B natural). The trumpet of course would do it by extension of the slide - you know the tuning - not the tuning slide but the third or first valve slide - we have to have some way of tuning the horn accurately. You can of course play with a longer first and third slide and get a compromise intonation which is being done. But, you still actually if you extend the B natural - in other words we are going to have the third slide pulled and the first - you are apt to have a very flat F sharp in the upper register. In other words if you are going to keep the slide out - if you move it, it would be all right - but if you are going to keep it out you are going to run into problems in the upper range. For the very elementary tuba this is not significant. It plays primarily within an octave and a half of range and then the compromise intonation of extra long length in the first and third slides would not be terribly damaging out in case the student does want to go to advanced playing, then you really should have a means of adjusting either the third slide or first, or both. This could be done by triggering. I think Mr. Schilke would be more adequate suggesting how to do it in terms of the mechanical arrangements but I do think this should be added to the 3 valve Bb tubas. I have always felt that it is very important to have a horn with proper intonation so the player does not at least get into the habits of tipping up or tipping down - in other words possible impairment of his tone production. There is an up lipping in any case in ensemble but you do not want to have to fight the tuba to do it This very small horn, I felt, is excellent as far as general intonation went - general tone production I thought was quite good. I would be much

happier With it if it were slightly larger bore - not take up any more space - not have much additional weight, in other words this is obviously a horn for a young person - but you have to recognize that young people usually have small lung capacities - in other words the lung capacities become you might say fairly sizeable with their growth in height and usually around the ages of 18 to 21 it becomes maximal, but if you are dealing with 12 year olds, people at grade school level, and they have not achieved their heights, etc. you need an instrument that gives adequate resonance. Now, just a slightly larger bore with that same instrument, would I think increase the resonance of that instrument and I do think, actually would enhance the tone. It would not be quite as close to the baritone in sound. In other words the overtone aspect would be reduced somewhat - the fundamental would be increased. Now, the way it is today

I have felt after trying several different mouthpieces with the horn that from my recognition and based on my experience that it was much better as an ensemble instrument if the #67 mouthpiece were introduced as basic to that instrument and I could conceive in solo playing of the 62 or the 66 or for general etude playing at home, etc., but really for the purposes of going into ensemble situations where they have to simulate what the bass fiddles would be doing in a concert group, in other words as a true bass sound, then you would get much closer to it with the Schilke 67 or 66. The 62 would be fine for the solo aspect but really bring out too much overtone and weaken the fundamental too much because it is already weak because of the size of the instrument.

To sum it up I would like to see some arrangement of slide pulling for the B natural and the C in lower register for this very small tuba. I would like very much to introduce a slightly larger bore if that is possible, but if not I would very definitely recommend the Schilke #67 mouthpiece for it.

The next horn that I tried was the YBB I guess it would be 201. This was the three valve top action upright tuba which is truly excellent in response. This instruments I enjoyed playing on personally very, very much. With three valves, again, we run into the situation that I mentioned on the smaller instruments. We have the problem of making adjustments for the B natural and C. If the slides are situated to where you can reach them with the left hand and maneuver them for length, this is easily overcome. If they are not situated comfortably for the left hand, then possibly a lever system could be installed, that is if Mr. Schilke could take care of the mechanical situation, but I do suggest that there he some Way of tuning the horn properly for B natural and C and then to reduce the length so that the same valve situation in the upper octaves would not tend to go flat. Players constantly miss upper F sharp we will say on the Bb tuba, sometimes simply because the note is flat and if they have good pitch recognition they are reaching for a higher note than actually exists on that instrument and very frequently will overshoot - and what do they do they wind up with one of the notes above it. This is easily corrected by having the ability to put the tubing back to the proper length. In other words, that would tune for that particular register. Most double Bb tubas seem to have a compromise type of intonation to where first valve slides are a little longer than we would really want for the proper use and third slides are usually a little longer and you get a compromise tuning to where the low B and C are only moderately sharp, but then the upper range usually you have moderately flat. It is better that you can tune accurately for both. The instrument though had a wonderful sound and very basic response and was just beautiful. After playing the 201 I went to the 4 valve unit which I suppose would be 321. Now, this instrument I recently purchased myself. This is a very satisfactory tuba - this is the top action tuba - not the front action - this is the top action Yamaha double Bb. Now, again, we have this very excellent response and of course with d fourth valve we do not have the problem of intonation on the low B and C

because we can adjust the fourth valve slide properly and find the proper intonation. Usually on the tubas I recommend the use of four valves if the player can possibly hold it. Now this instrument the tone production is excellent. Many people feel that any time you add a valve you moderately deteriorate the tone production of the instrument you are using. I suppose this is true up to a point, but if the instrument is tight and the valves are very well made, etc. I think it is such a minimal thought that it is really - I don't even consider it. I usually use in the line of C tubas 5 valves so that I can have proper intonation and full range and I feel that the loss would be so slight and what I gain would more than outweigh it so I recommend the use of added valves when necessary for register, range and intonation.

Now the instrument, the four valve upright double Bb had excellent response. The low register was very easily and freely produced. Intonation on the horn was very, very good, valve action very responsive. Now, I use on the bigger tuba - if I go on the stage for you might say general purpose, if I were to play that double Bb tuba with a concert hand, I would no doubt use the Schilke 67 mouthpiece in the concert band because the tone would be true contra-bass tuba. There would be a great weight to the sound and still clarity and would still be a very good sound and would have much more of what our bass section would produce with a symphony orchestra. In other words it would remove itself from the baritone quite a bit but it would be a proper contra bass sound.

The 66 is somewhat smaller and retains a good deal of the contra bass sound but it is a modification. The 62 of course would go to the other end of the spectrum and we would have a much stronger overtone. If I were to take that same tuba and I would want to play you might say a solo in front of the band where they were accompanying me, or say if I had to do a Strauss horn concerto or the Vaughn Williams Tuba Concerto, I would want the 62. As soon as I would use the 62 I would gain tremendous projection to the audience because of the increased overtone content and weakened fundamental, but it would be much more recognizable because I would be the soloist, I would not be fighting all sorts of sounds intruding in my overtones, basically, and the weakened fundamental would be of no disadvantage and the enhanced overtones would give much more soloistic character to the tone. So, I would definitely conceive that a player if he had one rim could also have many different Gaps, possibly the 62, the 60?

He could have more than one cup with the same rim. He would not have problems of using different vibra groups the musculature would remain the same and with moderate adjustment of the tuning of the instrument because with the shallow cup very likely he will have to pull out the tuning slide with a deep cup very likely he will have to move it in. Once these adjustments are made why he has a great deal of tonal flexibility according to the type of work that he is going to do. In discussing, I believe it would be the rotary valve tuba, that is YBB 641 Which I also tested, this instrument is a rather unique instrument in the sense it is a rather large bore but has a very bright sound. The intonation was excellent. It was a good instrument There are little problems you might say with the - I think it was the upper G going sharp but it could easily be compensated for by the use of the third valve. Basically the intonation was good but the tone is unusually bright for such a large tuba. Some people want the very bright tone but I want the consideration established that these instruments are used in a variety of purposes. If you use the large tuba in a brass quintet the bright tone is a plus In other words this is something to be desired. This horn, you might say, with the Schilke 66 which is the medium mouthpiece was unusually bright. When I put the 67 in it modified to a rounder more characteristic sound that we would want in a tuba of that size. In other words I felt that this tuba was primarily, if it was for orchestral use would be primarily used with the Schilke 67. If it were used in the symphony orchestra for very light playing Berlioz or what will I say very sprightly works, lots of articulation but very light characteristics of sound, then I would not

hesitate to use the 62 with it realizing that it would be almost a specialized type of sound but for general purpose playing I felt that the contra-bass aspect of the tuba was enhanced with the Schilke 67 mouthpiece, moderately so with the 66. In other words the 66 would be a modification for fairly large horn like that, it would give a good quality but the true roundness of it and the true contra-bass aspect of that tuba are enhanced by the 67 mouthpiece. I don't know why but this tuba has an unusually bright sound. I have an Alexander double B, somewhat similar in size, which has more fundamental in the tone, less overtones more fundamental and so it rather surprised me at the amount of overtone content in this particular tuba. If I used it personally I would use it with a 67 mouthpiece. For solo playing I would definitely think of the 62 mouthpiece. The tuba was excellent. The response I thought would be enhanced possibly with a slightly larger mouthpiece. I don't know what it would do in terms of manufacture, etc., but I felt that the instrument would possibly have a little - oh a little more fundamental in the tone and possibly a little easier response than it has the way it is today.

This is a discussion of mouthpieces, basically the Schilke 62, 66 and 67 mouthpieces. Now, we cannot of course discuss mouthpieces separately unless you have concepts of what tuba you are going to be using it with and another important factor is what the player - what type of music the player is going to be concentrating on. Instead of a generalized sense - I just want to say that the long deep cup - somewhat conical in shape, french horn type of mouthpiece as applied to tuba will enhance the ability of the player to maneuver up and down with smoothness. By that, I mean the quartet type playing, broken chord, etc. the ability to very smoothly have transitions from one note to another while moving up, moving down, the gain with this type of mouthpiece in a general sense is more fundamental, less overtone, you could use other terminologies, it would be less bright, darker sound, less brightness in the tone. I do prefer the stronger fundamental or less overtone, as I think it is more accurate terminology, but as you use the large french horn type of cup for the tuba, I think you enhance the contra bass aspect of the contra-bass tuba. Going to the opposite extreme, as you go to the more characteristic trumpet type cup, in other words which is translated to the tuba as I suppose it would be like the Schilke 62, this enhances tremendously the overtone of the instrument, but it also, I think, gives the player a better series of partials in the sense that you cannot lip up or down as freely. In other words for intonation you must have a good horn or it will expose the intonation of the horn because the partials of the instrument become much more clearly defined. The ability to come in on a specific partial I think is enhanced - the ability to maneuver it up or down - above or below through tipping procedures, I think actually is much harder to do with a mouthpiece like the 62. I find in Europe for instance, in Germany, I was looking a series of mouthpieces over, most of the tuba players use fairly large bore F tubas or large bore BBb, but they use the fairly large bore instruments, but played with the shallow type cup. In other words if we were to look for similarities it would be something like the Schilke 62 and then the instrument being somewhat large would give considerable resonances though by the use of the smaller shallower cup there is more of a soloistic sound and you might say as a result somewhat of a loss of a contra-bass tuba sound. The sounds would be considerably brighter, but for recital purposes or for playing in brass quintets or for solo purposes, this type of mouthpiece like the 62 is absolutely ideal. But, many times in the ensemble situations where the band master needs the simulation of contra-bass tuba sounds, in other words what the bass fiddle would provide for the Chicago Symphony Orchestra, if we have to do this sort of work, you might say playing typical bass parts we would prefer the larger mouthpiece and one which reduces the overtone and enhances the fundamental. Now, the 67 of course would be the one we would go to for going as far from the overtone and as close to the fundamental as we could go I would very definitely suggest for a player working with a concert band that if there is a section of four

tubas maybe they might want two with the 66 or the 67 mouthpieces for the more characteristic contra bass tuba sound and maybe two tubas with the 62 for the ability to have a little more - what will I say - proximity to the baritone type of sound. While they are bass instruments they would still have a very soloistic quality of tone. If a person requires fast as the staccato I think the response of the 62 is an improvement, in other words the clarity of ins staccato is improved by the 62. The 66 is moderate and the 67 the staccato is still there, but it loses some of the transient aspect in the entrance of each note. The response in the 67 you can play just as fast but the tones will not have quite the clarity just like the bass fiddles when you hear them in an orchestral situation they tend to rumble just a little bit. There would be some of that with the very large tuba mouthpiece and there would be an increase in the definition of clarity do you move to the 62. What will figure a player with a good embouchure and with a medium bore tuba if he were playing in a quintet, he could use a 62, he would have almost the same effect as using a much smaller tuba. The tone would have clarity.

It would have actually an enhanced ease in execution which comes with the 62 mouthpiece. If this player took this medium bore tuba and he we will say is in a university type situation, and he went to the concert band with exactly the same tuba, but he wanted to immediately have the more characteristic sound of a true bass instrument, the 67 or the 66 mouthpiece would immediately give a darker sound. When I use the word dark, I mean actually not a lack of resonance but less overtone and more fundamental. Now as soon as you do this, why the trombones and some baritones above, they would hear more bass from the sound with the 67 or the 66 mouthpiece. He would also gain in the ability to play you might say in terms of a very smooth legato which I think is enhanced by the cone shaped cup, he would lose some of the definition, if he were playing typical trumpet parts, it would be much more difficult on the cone shaped mouthpiece than it would be on the bowl shaped mouthpiece of the 62. For general purpose playing I think people with very large tubas would be wise in using the 62 cup. For very small tuba I almost suggest the opposite because with the very large tuba rather than sounding extremely deep and heavy they modify the instrument by the use of the small mouthpiece, the 62. I would think people with very small mouthpieces would be wiser to use the rather large cup like the 66 or 67 in order to take that small instrument which inherently would give a very bright tone with the 62 and by putting the 66 or 67 would immediately move toward the contra-bass sound. Now, these are variables and a player then has a great deal of leeway.

I do suggest that a player tries to keep one rim, but once he has one rim, he could have different types of cups and while he as a player that a certain variability in his own constant by using conceptual thoughts he can brighten his sound, he can - I can give the anatomy of it, etc., but this is done in a players brain, not by consciousness of his fibre groups that are going to be functioned, but by his tonal concepts he can move himself towards the - you might say deeper sound, the darker sounds or the brighter sounds by tensing or relaxing embouchure, by re-shaping the embouchure according to concepts - but I am primarily considering the equipment rather than the player in this discussion, so I would very definitely recommend that players do get used to the same rim, but with multiple cups. It can be a little confusing at first, but we will find that there is a gain in being able to alter color according to concepts that the player wants. As an example, I can remember Mr. Bauchens, when he was studying with me, he is our fine tuba player at the Lyric Opera, he had to give a recital. He used a large double Bb tuba and he was going to play in a very live hall. I suggested for the recital he use a Schilke 62 or equivalent and he tried it and he never went back to the big mouthpiece. It worked so well with the large tuba and he was so comfortable with it, he just stayed on it. I had this experience with many other

tuba players and I know from my own work that I much prefer to do my solo work, etc. with the Schilke 62. It enhances the response of the instrument. Now this of course is speaking for the rather large instrument and if a person is using a very small instrument he might want to move in the other direction because there if he wants the characteristic sound of the tuba he will find it in the larger cup.

Mr. Schilke has just entered. Maybe I will let him listen to some of this.