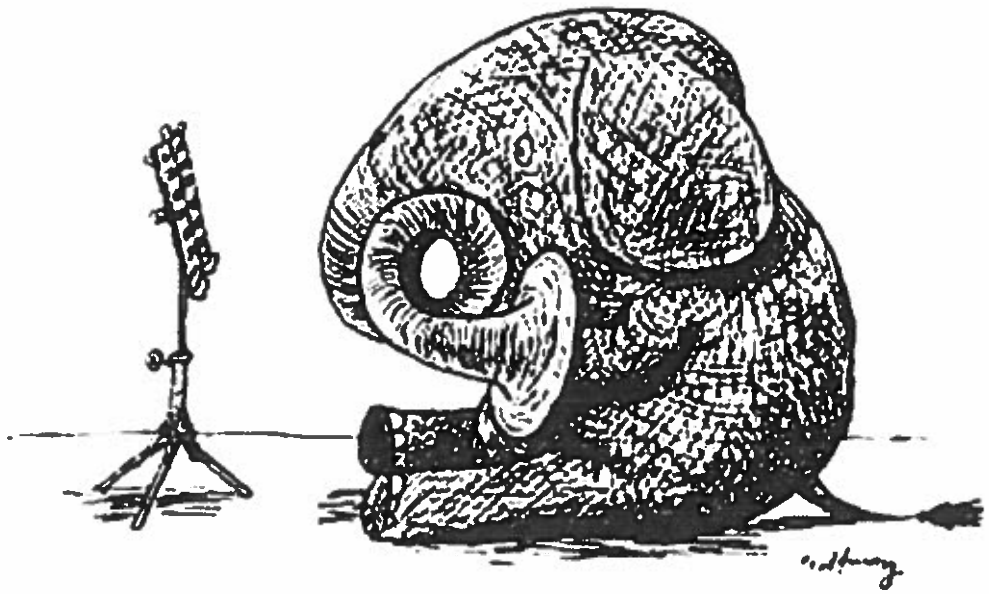
Lessons For Beginner Horn Students

Presented by Brian Beck



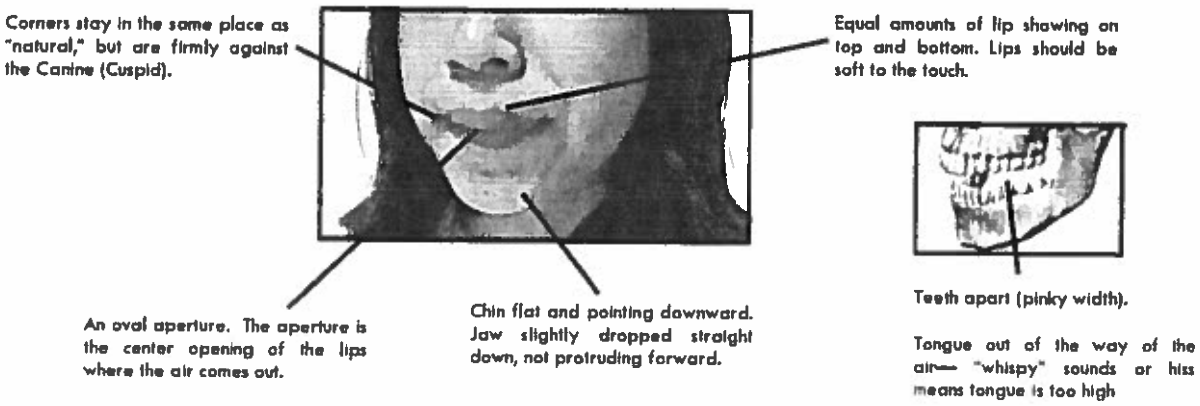
Texas Bandmasters Association Convention July 2009

Lesson 4: Embouchure

The embouchure is a fancy word meaning how the face looks when the student is playing. Stress how very little changes from the "natural" face to "horn" face.

Natural Face	Parts of the Face	Horn Face (Embouchure)
Relaxed, no crinkles	Forehead	Relaxed, no crinkles
Normal	Ears	Normal
Neither up, nor down	Eyebrows	Neither up, nor down
Normal	Nose	Normal
Soft, against teeth	Cheeks	Soft, against teeth
Lightly touching	Lips	Lightly toughing
Natural	Corners	Firm against the Canines (Cuspid)
Together naturally	Teeth	Apart (pinky width)
Softly laying on bottom of mouth	Tongue	Softly laying on bottom of mouth
Soft to the touch	Chin	Flat, pointing downward
Natual	Jaw	Slightly dropped straight down, not protruding forward

It is important for each student to have a mirror, as this will help them see what the director is asking them to do. Most students will come very close just by watching the director. Take time to compliment and correct every embouchure in the room.



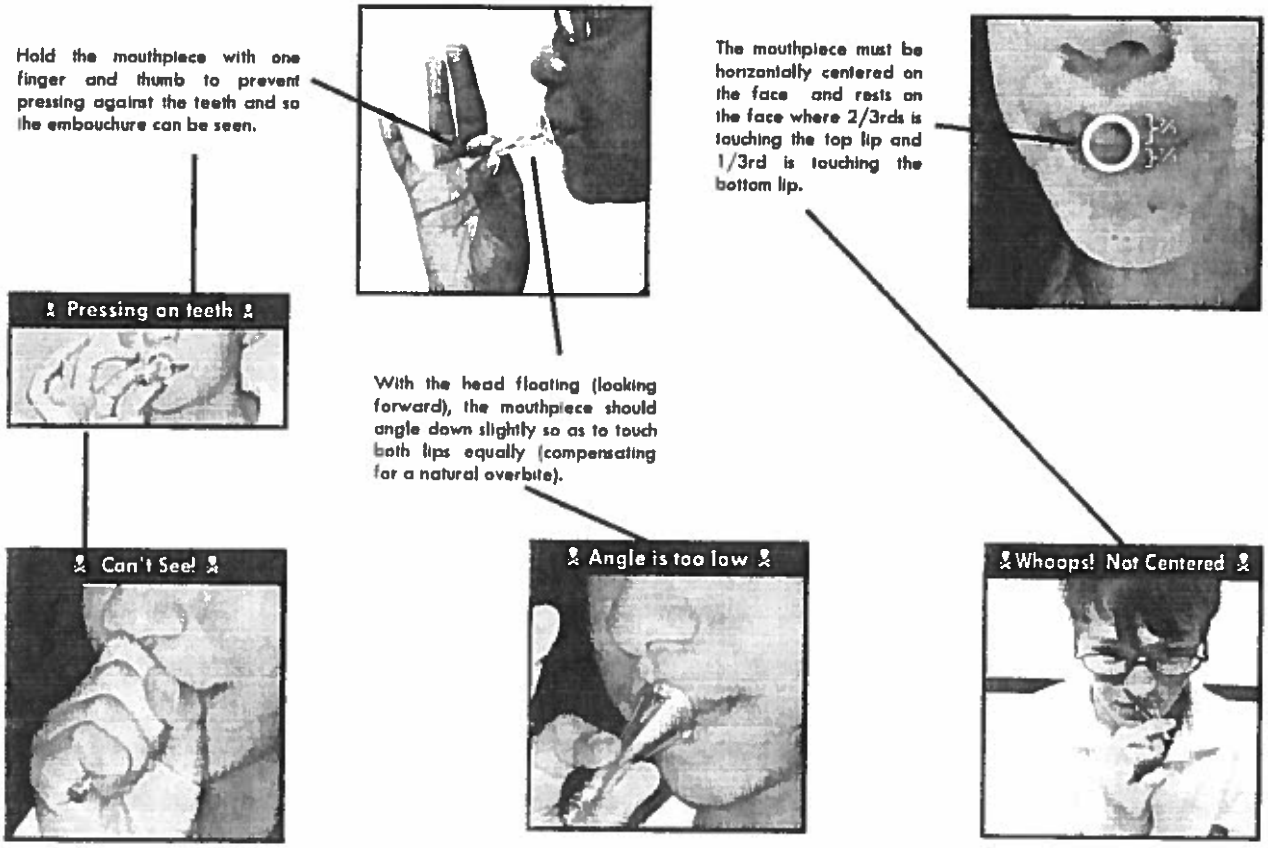
It is time to practice blowing air through the aperture. Have the student breathe in saying "ah" and blow out saying "poo" (just like the Simpsons). Have them lightly touch their lips, checking for softness. Check every student.

Lesson 5: Mouthpiece Placement and First Sounds

Once most of the class can demonstrate proper posture, breathing, and embouchure formation, it will be time to make the first sound with mouthpiece. It is important for each student to know exactly how the mouthpiece feels on the lips, which is why it is a good idea for the director gently to place the mouthpiece on the student's face first, then have the student duplicate it. After both the student and director agree that the mouthpiece and embouchure look correct, then the student works on making the first sound, beginning with a director demonstration. It is very important for the students to hear a proper mouthpiece sound to which they can compare. Travel around the room alternating between director and student - the goal is learning the audible characteristics of a proper mouthpiece sound.

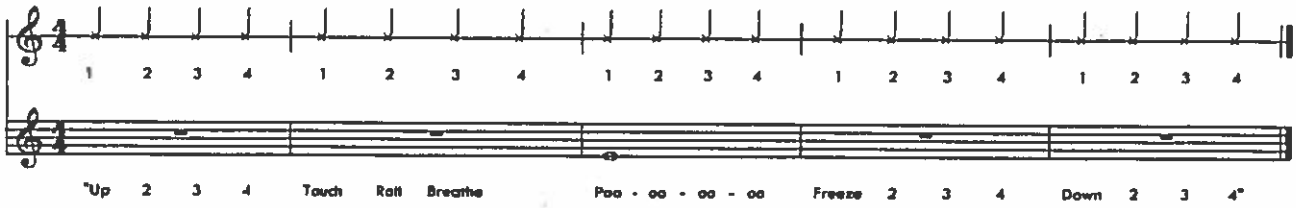
Steps for Mouthpiece Placement

1. Check for good posture; if not, move on to the next student. The class will catch on quickly to the director's expectations.
2. Lick lips so they are very moist.
3. Have the student take a proper breath and blow air through the embouchure. If a shallow breath is taken, move on to the next student.
4. Place the mouthpiece on the embouchure without changing anything. No matter what comes out (if anything), the student must learn to keep the air moving.
5. Place the bottom of mouthpiece on the edge of the bottom lip and swing the mouthpiece upward to where it lightly touches the top lip, making sure the outside rim of the top lip is inside the mouthpiece.



First sound troubleshooting

It is now time for them to make a sound while holding the mouthpiece. Review the steps with them (lick, touch, roll, breathe, blow), turn on the metronome, have them create a sound using the following pattern. It may seem extensive, but this process covers many important concepts.



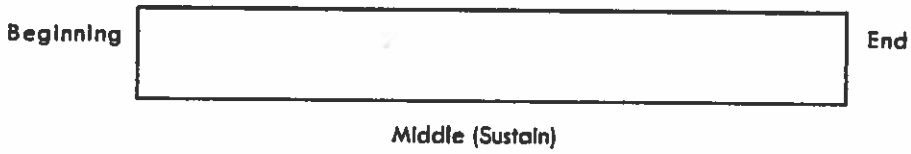
This pattern stresses keeping the body still and calm and reminds the brain of what to think for each count. Freezing after the note helps students with releases, and bringing the mouthpiece up and down together introduces them to section playing early on. Have half of the class chant what to do while the other half performs and vice versa.

Possible Outcomes	Problem	Solution
No vibration, just air.	Either the air speed is too slow, the lips are far apart, or the lips are too hard. Could be pressing the mouthpiece against teeth and spreading the lips apart.	This is very common at first; it's okay. Do a couple of "Tired Horses" or "Motor Boats" to loosen up the lips and try again. Check hand position as well.
No vibration, no air sound.	Performance anxiety . . . The lips are pinched together and the air is not escaping. It is possible to try too hard.	Say something funny to relax the student. Have him take a couple of deep breaths and try again. "Tired Horses" or "Motor Boats" to loosen up the lips would help as well.
Tight sound, pinched vibration.	Teeth too close together, lips pressing against each other, tongue possibly too high and forward in mouth.	Start all over by just blowing air through the mouthpiece. Lightly bounce the mouthpiece on lips.
Tubby, wet, or spitty sound.	The lips are rolling out and the vibration is caused by the inside of the lip.	Have the student think more of an "ooo" vowel to keep the inside flesh touching the teeth and gums.
Short vibration, followed by coughing.	The tongue is too high in the mouth ("hee" vowel) causing the salivary glands to become overactive.	Have the student breathe in with an "Ah" shaped mouth a few times, then try again.
Vibration of multiple pitches at once.	The lips are vibrating at multiple spots on the mouth, causing tiny apertures across the bottom lip.	Do a couple of "Tired Horses" or "Motor Boats" to loosen up the lips and try again. Check hand position as well.
High pitched, squeaky vibration.	The lips are pressed against each other and perhaps the teeth are too close together.	Have the student say "YA YA YA" and try to duplicate that on the mouthpiece. Although advanced, this also works on opening up a player's tone.
Thin, weak vibration.	The lips are working well, but the air speed is not fast enough to sustain a full sound.	Take a deeper breath and try to play longer. Stand across the room and have the students make their sound go all the way to you.
Vibration is wobbly in pitch.	Something is moving.	Check foot tap and hand position. Have student blow air into the palm of the hand and listen for a steady stream.
Full tone, relaxed vibration.	Everything seems to be working well.	Great! Have them do it again several times and hold as long as possible.

Name _____ Inst. _____

Consistency Exercise

Nearly every problem in playing can be narrowed down to mistakes at the beginning or at the end of a note. The goal is to have each note sound the same from beginning to end.

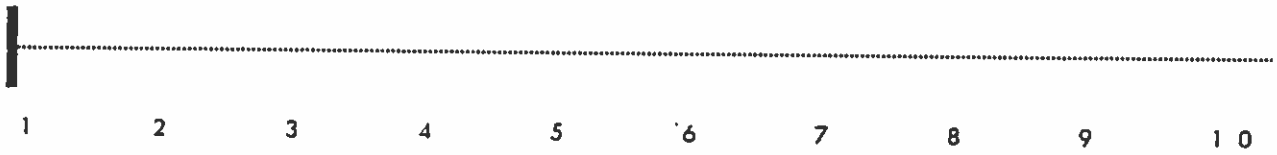


The following exercise is to see how steady a sound can be. Play a note for 10 counts with mouthpiece or instrument and have another person graph each sound in the space provided - noting every bump, wiggle, dip, flutter, etc . . . How still is your sound?

Exercise No. 1 on Mouthpiece Only

Exercise No. 2 on Mouthpiece Only

Exercise No. 3 on Mouthpiece Only

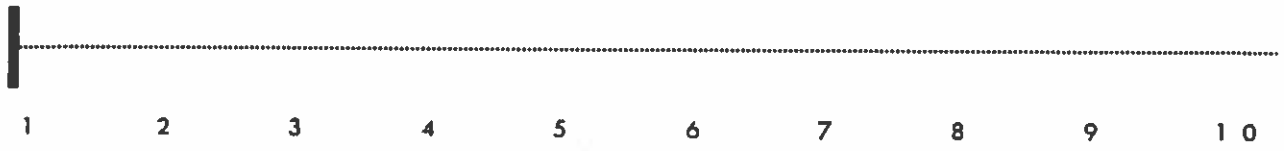


Exercise No. 4 on Mouthpiece Only

Keep trying for a steady sound!

Exercise No. 5 on Mouthpiece Only

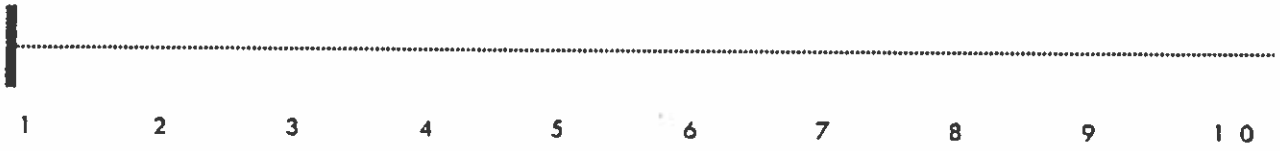
Exercise No. 6 on Instrument



Exercise No. 7 on Instrument

Exercise No. 8 on Instrument

Exercise No. 9 on Instrument



Exercise No. 10 on Instrument

Lesson 6: Holding The Horn

The most crucial element in holding the horn is the angle of the lead pipe and mouthpiece to the embouchure. The angle must be slightly downward so that excess pressure is not placed on the top lip. The bell should be angled away from the body. Bring left hand up and imagine they are holding a cheeseburger (or creating letter "C"). Keep the fingers curved and on the ends of the valve keys.

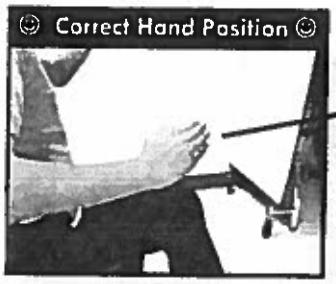
Check head and horn angle every day, look for a slight angle downward.

The left hand fingers should be curved and on the ends of the valve keys.

The bell should be angled away from the body.

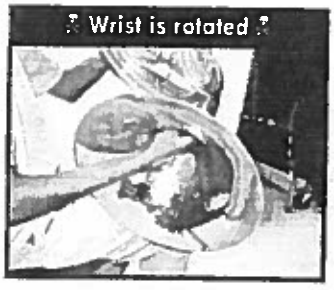
In order to create the proper right hand position, have the students reach their right hand out like they are going to shake hands or have them salute the director for all his or her amazing work. Bring the thumb alongside the index finger (hand may naturally cup slightly.) Keeping the wrist straight place each student's hand in the bell so the line formed by the thumb and index finger is at the 12:00 position. The rest of the fingers must be against the side of the bell farthest from the body. Adjust how far the hand goes in the bell based on the student's hand size and tone produced. Check right hand position several times every day.

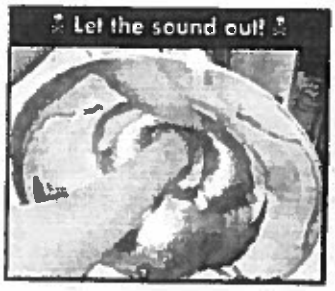
Check right arm to see if the elbow is away from the body and the wrist is straight. Have the students imagine they are wearing a cast and cannot move their hand.



Check the right hand for straight fingers touching each other and thumb line is at 12:00.

CHECK HAND POSITION EVERY DAY!





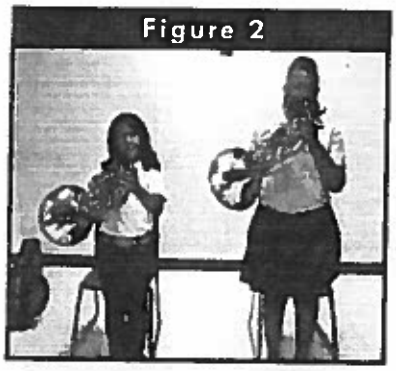
"To Knee Or Not To Knee"

One area of posture that generates many opinions is whether students should place the bell on the knee or hold the bell off the knee. I believe in teaching students to play off the knee. This allows the students to sit in proper band posture and completely bring the horn to them keeping the weight balanced between both hands. The body should not change when holding the horn.

In Figure 1 illustrates two students; one is short for her age and the other is tall for her age.

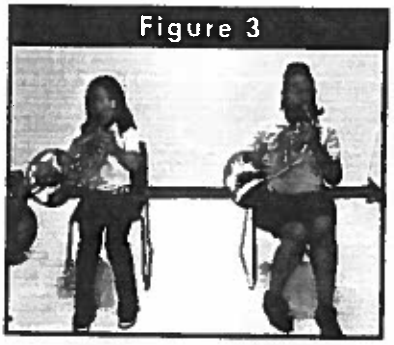
Figure 1

Figure 2



When standing, both demonstrate proper posture (spine straight, shoulders relaxed and sloping downward, head floating, etc . . .) and bringing the horn to their faces without compromising posture (Figure 2).

Figure 3



Ideally, the upper body (the part that holds the horn) should remain the same regardless of what the lower body is doing (e.g., marching band) and even when sitting, both students should have no trouble bringing the horn to their faces. Using any part of the lower body, however, would compromise the upper body position, which is why I teach students not to use their lower body to hold the horn.

Figure 4

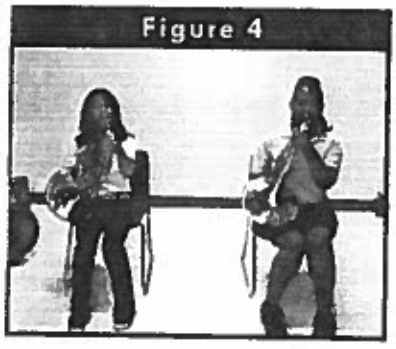


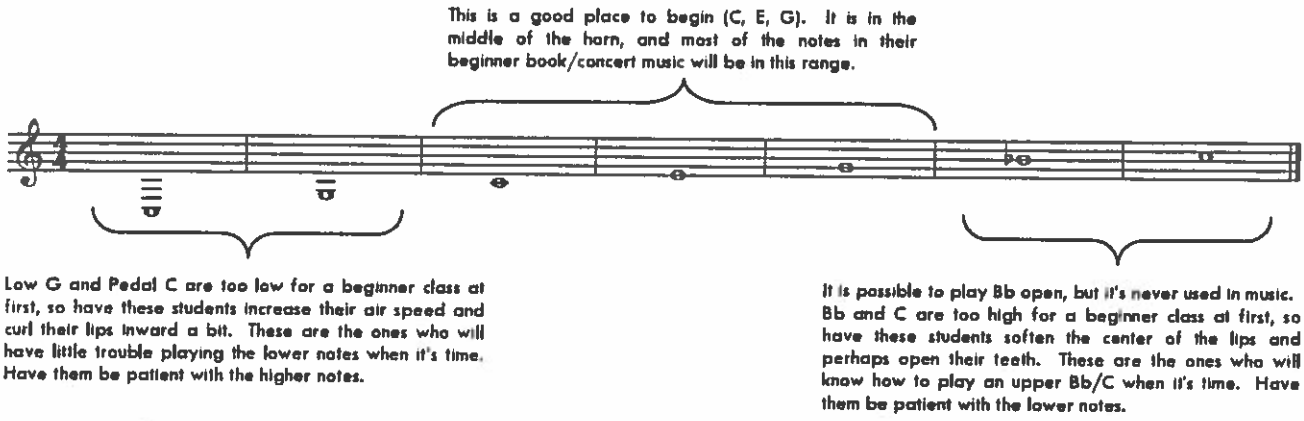
Figure 4 shows the same two students compromising their upper body so the bell can rest on the knee. The smaller student is having to raise her head because her torso is not tall enough to reach the mouthpiece, and the taller student is having to hunch over to meet her mouthpiece. Neither is bringing the instrument to her face.

If you prefer your students to play with the bell on the leg, please make sure the angles are correct. Adjust where the bell is placed on the thigh, move the right foot in or out, left or right, twist the lower body or turn the head until proper playing angles are achieved.

Lesson 7: Starting With The Full Instrument

As soon as the class can demonstrate a steady, relaxed sound on the mouthpiece and proper playing position, it is time to move to the full instrument. Have the students play individually with the goal of holding a note for a long time with a steady, relaxed sound.

First line E is one of the easier notes to play on horn, which makes it a good starting note for the class. Don't worry about what note they play at first, as long as it is of good quality. Hearing all the different notes can be frustrating, but try to think positively. Look how many notes they are learning without even trying ☺. This is a great opportunity for ear training. Begin by playing a first line E, then have the first student play a note. Was it higher, lower, or the same? Repeat the exercise with the next student. Most will be on a C, E, or G, which is where they should be. A few will sound on a low G or upper Bb or C. Work with each individual on getting to an E.



Once most of the class is on an E, it is time to fill in the rest of the notes (C, D, E, F, G). Do not wait for everyone to match pitch at first. This takes time and practice, so practice playing back and forth. Play and repeat lines out of the book to give the students a chance to hear and feel the difference between one note and another.

It is important for students to understand there are no "wrong notes," and to answer with facts, not opinions. Instead of allowing them to say "I messed up," have them say "I played too high" or even "I played a G instead of an E." This way they are learning with each time. Find something to compliment them on each time they play. Get their brains working and confidence built up. Most students know how to correct a problem, but they need the opportunity to say it out loud. Saying the correction out loud will help them at home. Practice by using some of these series of questions:

1. What note did you just play?
2. How do you know?
3. What note should you have played?
4. How do you know?
5. What do you plan on doing differently next time?

1. Did you play the notes on the page?
2. Which measure sounded different?
3. Would you like to try again?

1. What is the first note in measure 3?
2. How do you know?
3. What will you need to do to play that note?
4. What note is in measure 4?
5. What will you need to do to play that note?

1. What note did your neighbor just play?
2. What note should he have played?
3. If you were the teacher, what would you tell him to do?

Lesson 8: Flexibility Exercises (Air Planes, Racecars, Roller Coasters)

It is important for brass players to be able to move their aperture while air is still moving. This is called a lip slur.

Flexibility Exercise No. 1: Airplane

Begin with a pitch that is in the middle of the student's range.

Airplane landing safely.

Descend to a lower pitch by bringing the lips forward a bit, opening the jaw, and maintaining the same air speed. This will open the aperture and allow a larger air stream out of the face, causing a lower pitch.

Flexibility Exercise No. 2: Racecar

Ascend to a higher pitch by bringing the lips closer to the teeth a bit and increasing the air speed. This will make the aperture smaller and speed up the air, causing a higher pitch.

Racecar accelerating.

Begin with a pitch that is in the middle of the student's range.

Flexibility Exercise No. 3: Roller Coaster

The next step is to combine an airplane with a racecar to create a roller coaster. These exercises are great for alternating between teacher and students. Begin with a small interval (Looney Toons Land) by finding a note in the middle of their range and only moving a note above while maintaining a fast air speed - after all, it's a roller coaster. Gradually increase the interval over the course of the year (The Titan!). The goal is to move from low to high smoothly without any weird changes in the embouchure or tone.

1. Have the students practice in front of a mirror to check for movement. Keep the head and face still, no bobbing up and down or raising/lowering eyebrows. Check for a flat chin.
2. The bottom lip should not disappear under the top lip when going higher or pooch out when going lower.
3. Avoid a pinched tone caused by pressing the center of the lips together or over tightening. Work on making the aperture rounder while keeping the center of lips soft.

Lesson 9: Articulation

When students can consistently play the first few notes it is time to introduce tonguing. Have the students first blow air through the embouchure, while emphasizing the continuous forward motion of the air stream. Demonstrate tonguing four quarter notes on air using a "too" or "doo" syllable then have the students repeat. Next move to the mouthpiece then the full horn while watching and listening to each student. Try to hear each student individually every day for the next few weeks. Bad habits can quickly develop and are very hard to correct later. Practice saying this alliteration to help place the tongue: "Tip of the Tongue to the Top of the Teeth."

First time: Say "Too," have students touch their chin to check for stillness.

Second time: Articulate "Too" against hand (no voice); listen carefully for where the tongue is touching.

Third time: Play on mouthpiece; nothing should change.

Fourth time: Play on instrument; nothing should change.

Possible Articulations	Problem	Solution
"Phoooooooooooooooo"	No part of the tongue is touching the teeth.	Have them say "too" multiple times. Focus on the tongue touching the teeth.
"Phoo Phoo Phoo"	No part of the tongue is touching the teeth and the student is restarting the air for each note.	Say "Too," repeat on the mouthpiece, then instrument.
"Nah Nah Nah"	Either the median (flat part of the tongue) is touching the teeth or the tip of the tongue is touching the roof of the mouth.	Have the student repeat "Tip of the Tongue to the Top of the Teeth."
"Larr Larr Larr"	The tongue is beginning too high in the mouth ("eee"). The median is flicking the back of the teeth, then rising into the middle of the mouth ("argh").	Have them say "too" multiple times. Focus on the "ooo" vowel sound.
"Thoo Thoo Thoo"	The student is tonguing between the teeth and probably moving too slow.	Have the student repeat "Tip of the Tongue to the Top of the Teeth."
"Dut Dut Dut"	The air is being stopped by the tongue.	Say "Too," repeat on the mouthpiece, then instrument.
"Guh Guh Guh"	The student is trying to articulate with the back of the tongue.	Have the student alternate between "Goo" and "Too" and explain the difference.
"Teeyaw Teeyaw"	The tip of the tongue is touching correctly but is too high in the mouth ("eee"), or the jaw is moving during articulation.	Have the student articulate with air only and check the chin for stillness.
"Hootoo Hootoo"	The student is tonguing too late or the air is moving before the tone.	Have the student act as if he is spitting out a sunflower shell. This will line up the air and tongue.
"Too Too Too"	The tongue is working well.	Keep up the good work ☺. Practice with different rhythms.
"Good articulation, different notes each time"	The tongue is touching in different parts for each note or the student is changing vowel sounds for each note.	Focus on keeping the same vowel sound for each note by saying "Too" multiple times.

Brian Beck

Brian Beck serves as Director of Bands at Faubion Middle School in McKinney, Texas. Prior to Faubion, he taught in the Duncanville Independent School District as a band director at Byrd Middle School, where he was "Teacher of the Year" in 2009. Additionally, he taught beginner classes at Daniel and Brandenburg Intermediate Schools. Mr. Beck is a 1994 alumnus of the Duncanville Band Program and was a member of the TMEA All-State Band. He holds a Bachelor's Degree in Music Education from Texas A&M University-Commerce and a Master's Degree in Music Education from the University of Houston.

Bands under Mr. Beck's direction have received consistent Superior ratings at UIL concert and sight-reading contests as well as Best in Class awards at other contests and festivals. The Byrd Symphonic I Band has been a perennial finalist in the TMEA Honor Band competition each year and has been selected as Texas State Honor Band a record three times (1982, 2004, and 2008). The Duncanville High School Wind Ensemble was also selected as the 5A Texas State Honor Band for a historic third time. This is also the first time in TMEA's history that a 5A high school and its feeder CCC school have won in back-to-back competitions simultaneously.

Mr. Beck is very active in composing and arranging for both instrumental and vocal ensembles, many featured in honor band concerts, state marching contests, compact disc recordings, and choral concerts. His arrangements of *Russian Sailor's Dance* and *La Basque* were featured in the Reed Middle School CCC Honor Band concert in 2003, and *Why Then Should I Fear?* was commissioned and performed by the Cooper High School AA Honor Band at its TMEA concert in 2004. Other works by Mr. Beck were performed at the 2005 Honor Band concerts featuring the Byrd Middle School Symphonic I Band and Duncanville High School Wind Ensemble. These included an original composition, *Technicolor Pachyderms*, commissioned by friend and colleague David Brandon, former Director of Bands at Byrd Middle School, and a wind band transcription of the second movement of Sergei Prokofiev's *Symphony No. 5* commissioned by Dr. Tom Shine. Other pieces premiered a the 2009 TMEA Conventions were *Mosswood Lullaby*, an original composition dedicated to Olivia Williams (daughter of long-time friends Gary and Brittney Williams) and a transcription of Percy Grainger's *Jutish Medley*.

Mr. Beck is a member of the Association of Songwriters, Composers, Arrangers, and Publishers (ASCAP), and his works have been published by Southern Music Publications, Anthem Publications, and Alfred Publishing. Other affiliations include Texas Music Educators Association, where he served as the Region XX Middle School Band Chairman, and Texas Bandmasters Association, and was selected as the 2009 Phi Beta Mu "Outstanding Young Bandmaster of the Year."

Mr. Beck lives in McKinney with his wife, Dr. Kelley Beck, a Neuropsychologist at Integra Hospital of Plano, and dogs Daphne and Bailey.

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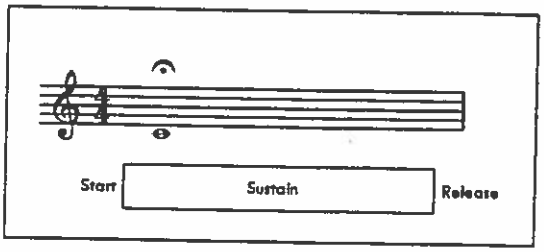
Horn Warm Up Exercises

Long tones are lines designed to help a player with quality of sound, technique, and air flow.

1. Always breathe the same regardless of what is played.
2. Start every note the same (tongue in the same place).
3. Keep the same vowel sound throughout each note.
4. Keep body still after the end of a note.

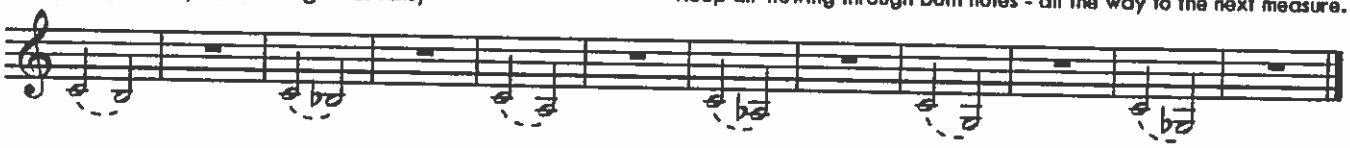


Exercise No. 1 (Long Tones)

Keep body still during the rest as well as while playing.

Exercise No. 2 (Descending Intervals)

Keep air flowing through both notes - all the way to the next measure.

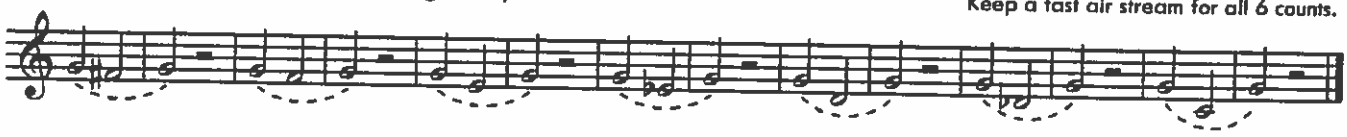


Exercise No. 3 (Ascending Intervals)

What changes? What stays the same?

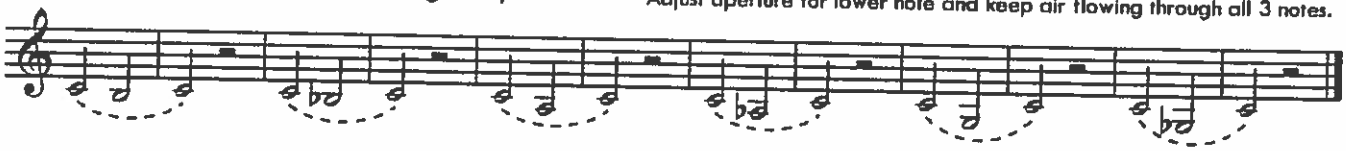
Exercise No. 4 (Remington Descending on G)

Keep a fast air stream for all 6 counts.



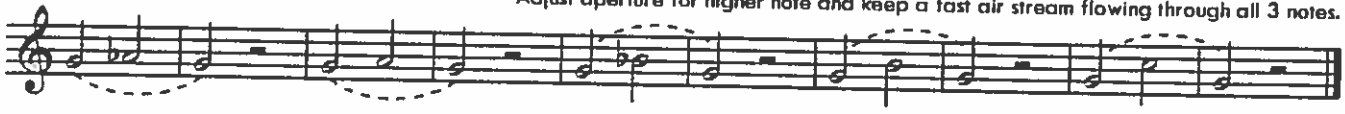
Exercise No. 5 (Remington Descending on C)

Adjust aperture for lower note and keep air flowing through all 3 notes.

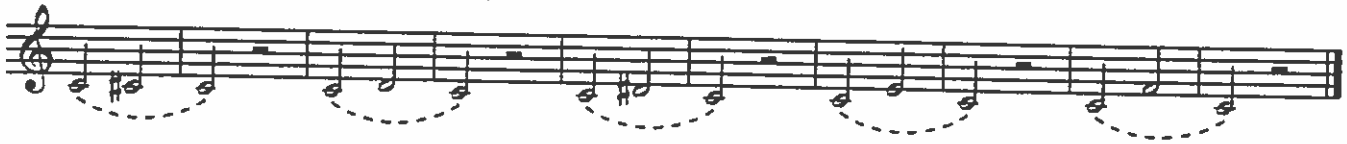


Exercise No. 6 (Remington Ascending on G)

Adjust aperture for higher note and keep a fast air stream flowing through all 3 notes.



Exercise No. 7 (Remington Ascending on C)



AN-THEM PUBLICATIONS

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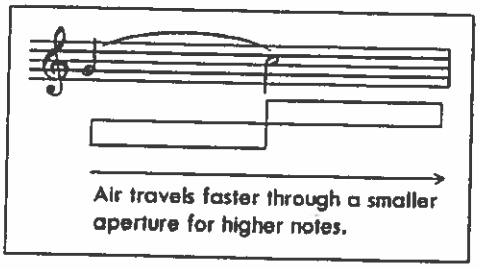
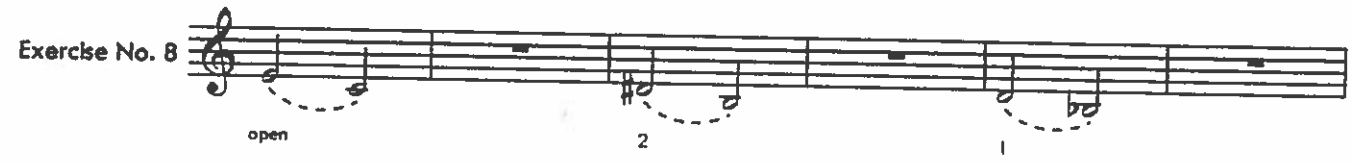
Horn Warm Up Exercises

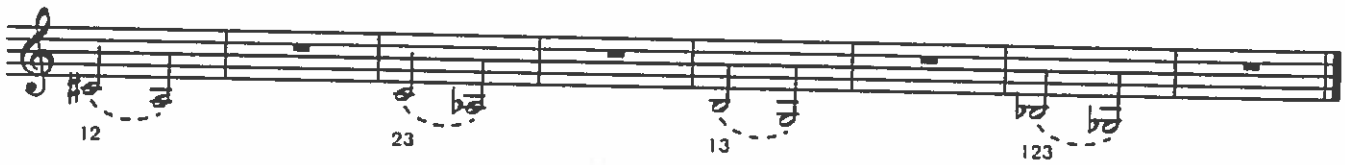
A lip slur is smoothly connecting two or more notes of the same valve combination with air only. The notes under a slur marking are not to begin with the tongue.

1. Keep air flowing to the end of the very last note.
2. The aperture gets smaller for higher notes.
3. The air speed increases for higher notes.

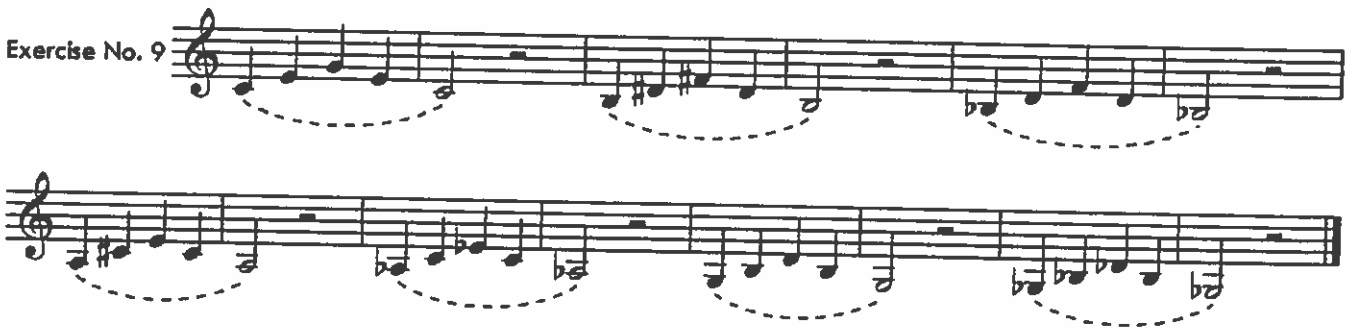


Exercise No. 8

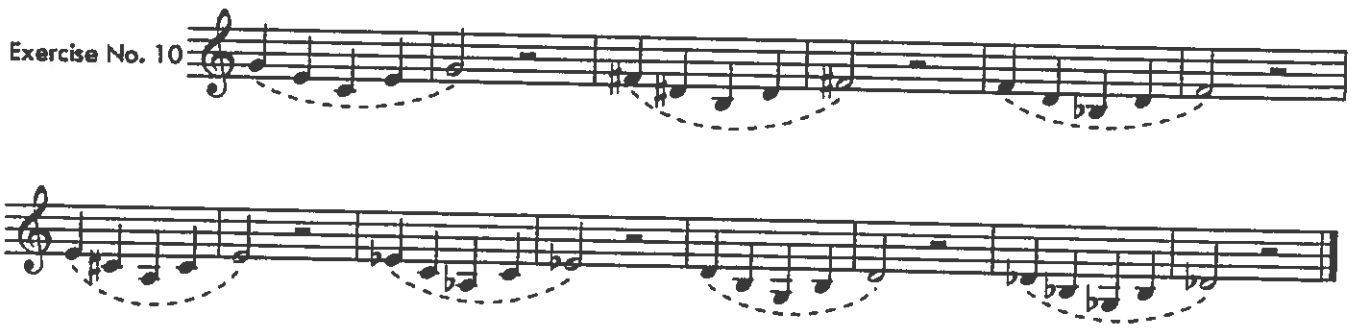




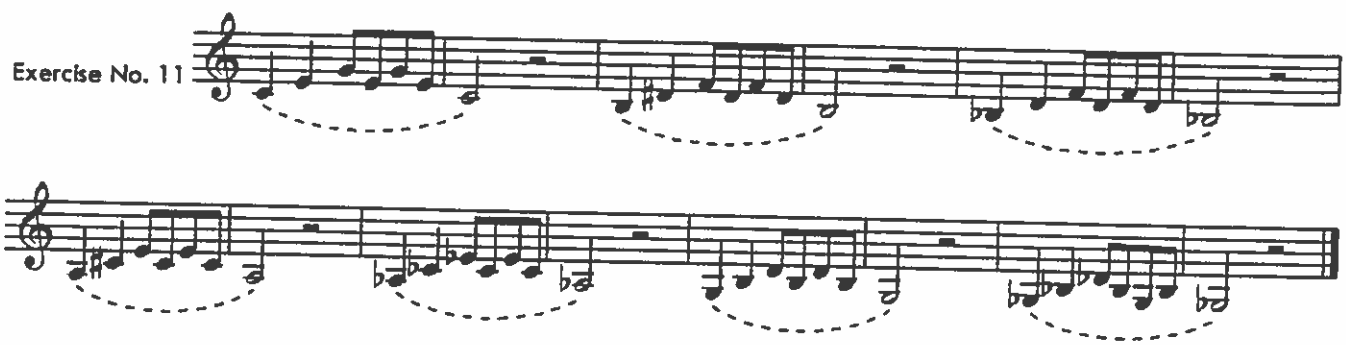
Exercise No. 9



Exercise No. 10



Exercise No. 11



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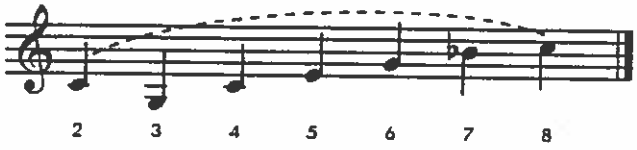
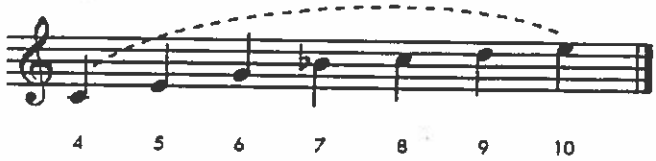
Exercise No. 12a (Overtone Series)



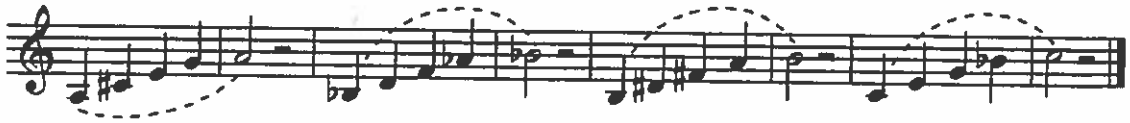
Exercise No. 12b



Play Exercises 12a and 12b on each valve combination

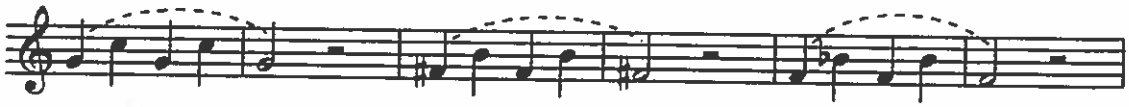
Open . . . 2 . . . 1 . . . 12 . . . 23 . . . 23 . . . 13 . . . 123

Exercise No. 13 a

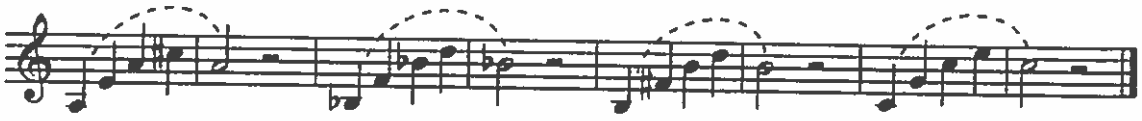


Exercise No. 13 b

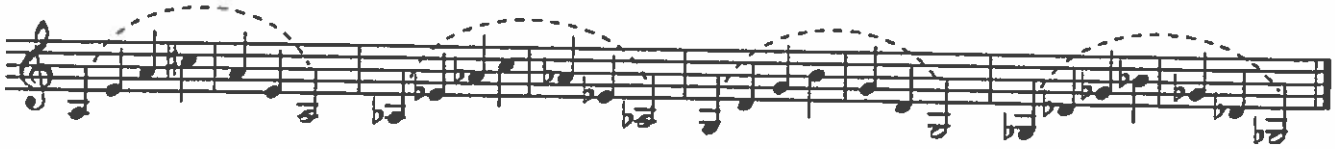
Exercise No. 14



Exercise No. 15



Exercise No. 16



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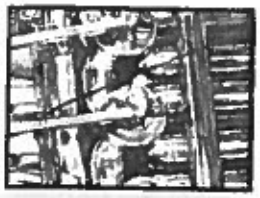
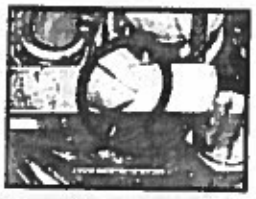
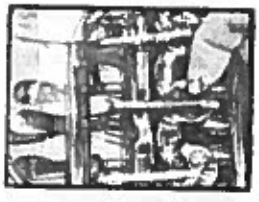
How To String A Rotary Valve

By Stuart de Haro







The ability to restring your own valves is a necessity for all horn players. This document will show you the proper way to restring a rotary valve and explain common errors people make in doing so. Strings should be changed at least once a year. Inspect them often for any signs of fraying.

Supplies

- Sharp utility knife
- Rotary valve string
- Elmers Glue (optional)
- Small screw driver
- Needle nose tweezers

Preparation

Cut a piece of string about six inches long and tie a double knot in one end. This may seem long to you, but it is better to have the string too long and have to cut length off after the fact than have it be too short and impossible to work with. If the string begins to fray, dip the tip into a little glue, wipe off any excess, and let it dry. This will solidify the tip, making it much easier to thread the stop arm. It is important to string one valve at a time, (1) you can use the other valves as a guide and (2) it will help you line up the valves easier.

Step One: Thread the string through the hole in the middle of the lever.

Step Two Bring the string around the far side of the stop arm and start making a "figure 8" around the stop arm and the stop arm string screw.

Step Three Finish the "figure 8." It is commonly thought that it is necessary to loop the string underneath itself at the stop arm string screw. This is not true. Doing so accomplishes absolutely nothing except making it difficult to adjust the lever height and string tension.

Step Four Pass the string through the hole in the end of the lever and pull it taught.

Step Five Loop the string around the lever string screw in the direction that it tightens (clockwise). Looping the string counterclockwise (a common mistake) will cause the string to loosen when the screw is tightened. Also, here the string does need to be looped underneath itself as shown in the photo to the left. This keeps it from slipping off the screw. Tighten only the lever string screw, leaving the stop arm string screw loose.

Step Six While holding the stop arm in place, press the lever. The string should move relatively freely around the stop arm string screw and allow you to put the lever in the desired position. Once it is set correctly, tighten the stop arm string screw.

Step Seven Check the string tension with your fingertip as shown in the photo below. It should move slightly and without much effort. If it is very loose (slack appears when you move the key), then check to make sure the string is wrapped around the lever string screw clockwise. Loosen that screw and pull the string tight to take out the slack. Most of the time, however, it is a little tight at this point. If it is very tight, loosen the lever string screw just a little and retighten it. This should give it a bit more slack. If the valve string is too tight, it will slow down the action on your valve because it is pulling the valve against the casing. This will also lead to rapid and uneven valve wear.

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Begin With The End In Mind

Beginning band is just that - the beginning. These student are at the front end of a seven-year musical experience and hopefully a lifelong affinity. Since these students will be in band for a while, make sure they are on the correct instrument. Collaborate with the other schools in the district to assure proper instrumentation and balance for the middle and, ultimately, high school. Below are some questions to help with recruiting:

1. How many horn players are in 7th-12th grades?
2. What does the high school need?
3. Are there other middle schools in the district?
4. How many horns does the school own?
5. Do students use home horns?

Recruiting Fifth Grade Students

It is always a great idea to perform for the fifth graders, multiple times if possible. Take time to bring over a band to demonstrate each instrument. Have a student from each section play something fun for the audience. This might be the first opportunity for most actually to see and hear an instrument. Good times to perform are just before Winter Break and a few days before sixth grade choice sheets are passed out to the students (around early March).

Emphasize the importance of academic excellence to the audience and let them know that they must maintain good grades to play a school-owned instrument. This attracts the high achievers to these very important instruments and prevents most eligibility problems over the next seven years. At no time should the horn be described as the "most difficult" or "hardest" brass instrument to play so as not to scare off students who might otherwise be interested. Every instrument has its own set of challenges.

Beginner Interview

Directors must be a bit more discriminating in selecting students for school-owned instruments, mostly due to the fact that there are a limited number of instruments available. An ideal horn player should come across as confident, willing to try new things, and not afraid to make mistakes. A good ear helps as well; students who can match pitch with their voice usually have an easier time with horn. Students who perform well on the Selmer Test (distinguishing higher and lower pitches) would be good candidates for horn. Take time during the interview process to give potential horn students a mini lesson. The following are some physical characteristics to check when considering a student for horn:

1. Look for medium to thin lips, covering the top teeth, and with no pronounced "cupid's bow" when forming an embouchure. Students with lips that are too full may have trouble forming an embouchure small enough for the horn mouthpiece.

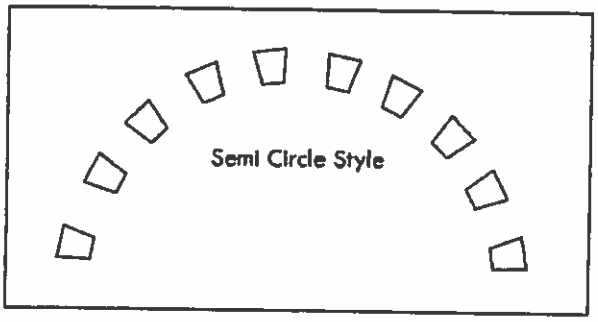
2. Have the student bite down and check for a natural overbite. Students whose jaw protrudes too far forward may have problems with horn angle and top lip pressure.

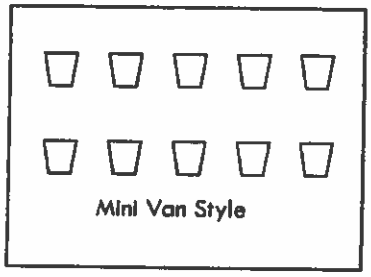
3. Demonstrate a flat chin and have the student duplicate. The chin controls how much of the bottom lip is being used in the aperture and can greatly affect the student's tone and response.

4. If the student can obtain a fairly relaxed sound on the mouthpiece while demonstrating the correct physical characteristics, they have a good chance of being successful playing horn.

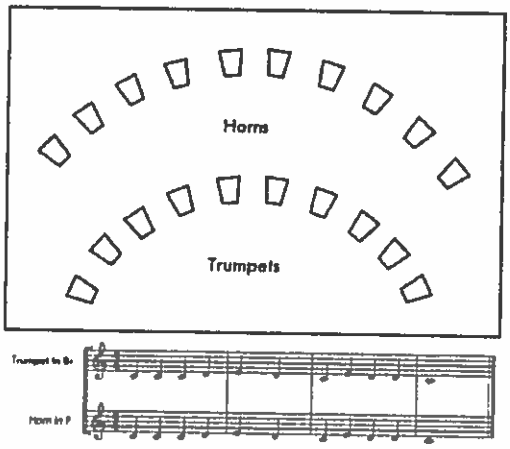
Class Scheduling and Room Design:

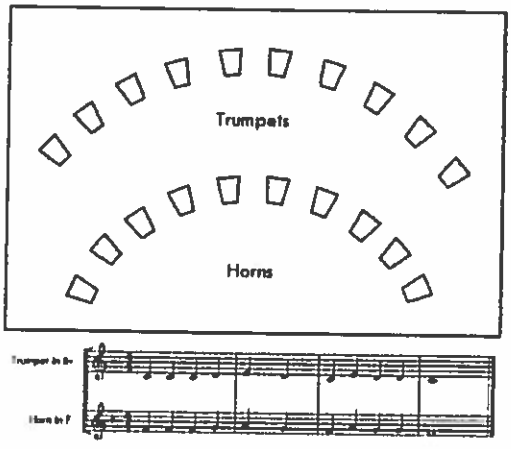
Schedule the horn class by themselves if at all possible. Try to find a room big enough so every chair has enough room for the director to walk all the way around it. Horn players are the only musicians that need to look good from behind as well.





If there is not enough room or teachers, it is possible to combine horns with other instruments. The first choice is with another brass instrument, preferably trumpet. The embouchure is similar, the first few notes and ranges are close enough not to cause confusion, and even through the trumpets will be playing a higher pitch, the interval (P4th) is common and easy to hear.





Positioning the students in the room can either help or harm ear training. Have the horns sit in the back when performing lines that sound on a different pitch than the trumpets. The sound of the trumpet section will project forward and not into the horn player's ear. This arrangement also gives the director a better opportunity to walk behind the horn section and listen to their pitches. Conversely, have the horns sit in front of the trumpets when performing lines that sound on the same pitch. The sound of the trumpet section will project forward into the horn player's ear. This arrangement gives the horns a chance to hear the pitches from an instrument whose partials are farther apart.

Supplies for Beginner Horn Students:

Case Name Tag ($0.99 - 2.99)
Every instrument needs to have a name tag on the handle with a luggage tag or on the side of the case itself with masking tape.

Black Notebook ($0.99 - 2.99)
A 1" or 1.5" hardbound notebook is best, any larger and the rings wear out. Make sure the name is clearly labeled on the spine. Every student should have one from last year; however, after a year of wear and tear, it is probably best to purchase a fresh, clean binder.

Five Dividers ($0.99 - 1.99)
So much music and information is given to the students that a notebook with five dividers is the best way to organize it all. Every piece of paper will be filed under a divider. The dividers can be labeled Information, Warm Up, Scales, Rhythm and Theory, and Music.

Pencils ($0.99 - 1.99, Box of 12)
Have the students keep a pencil in their case and in their band binder. Teach the students to put it on their stands each day and find a reason to use it each every day.

Small Mirror ($1.99 - 3.99)
Students can use any mirror that is small enough to fit into the case or zipper bag. Clip-on visor mirrors work well.

Folding Music Stand ($10.99 - 29.99)
A music stand is essential for proper posture and should be used for home practice as well as full band rehearsal.

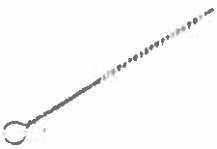
Band Method Book ($5.95—12.95)
There is no perfect method book, especially for horn. A good beginner book moves slowly at first (whole, half, quarter notes and rests), introduces theory as needed, and is easy to understand without director help. Check to see if the "how to" information at the beginning is consistent with the district's pedagogy. Find a book that includes lines for horns only as well as lines for the entire band. If the selected book does not include specific horn lines, have the class use trumpet books and staple in a horn fingering chart. Do not worry if the book has weird scale lines or poor band music as these can be supplemented individually.

Supplies for Beginner Horn Students:

MC Mouthpiece ($29.99 - 44.99)
Choose a mouthpiece with a medium cup size and that is readily available. A suggestion is the Farkas MC Mouthpiece.

Slide Grease ($2.99 - 3.99)
Slide grease comes in three states: solid, gel, and liquid. All have their advantages. Brands include Selmer, Schilke, Fat Cat, and Hetman.

Valve Oil ($2.99 - 5.99)
Brands include Al Cass, Blue Juice, Holton, Roche Thomas, and Alysin.

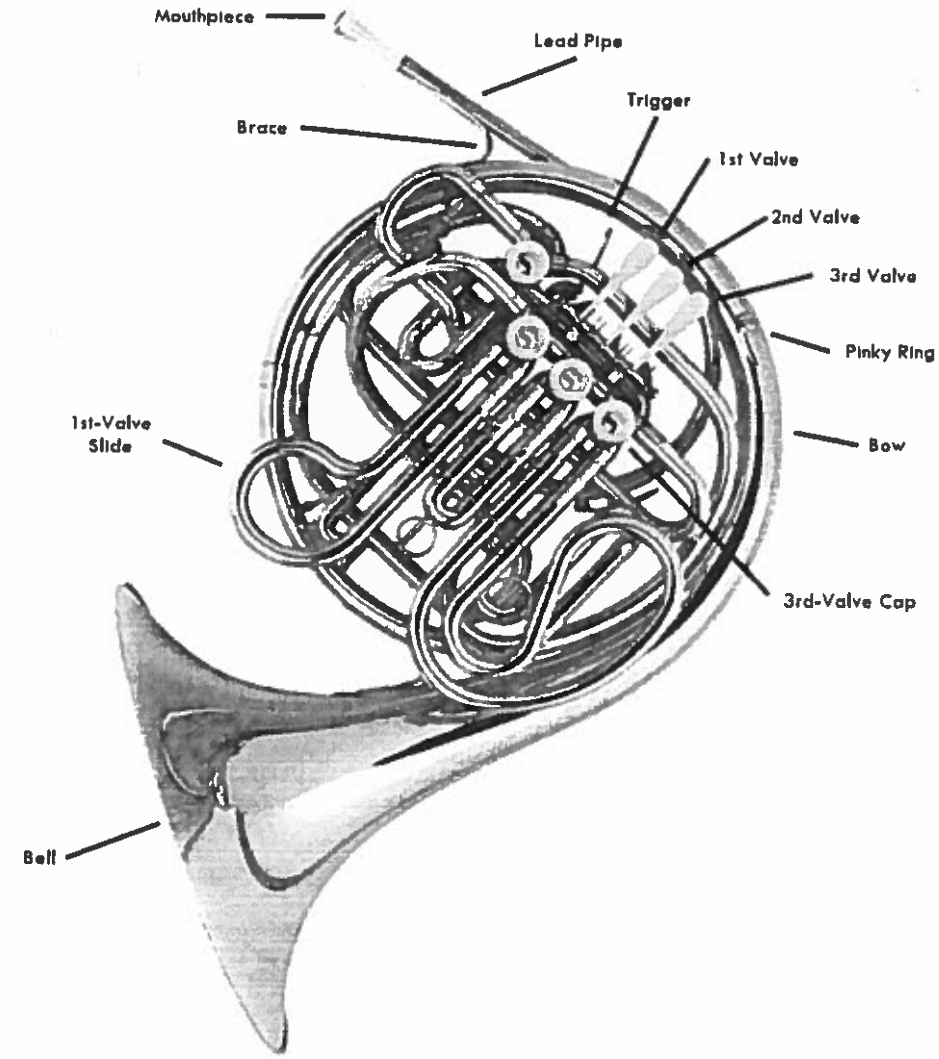


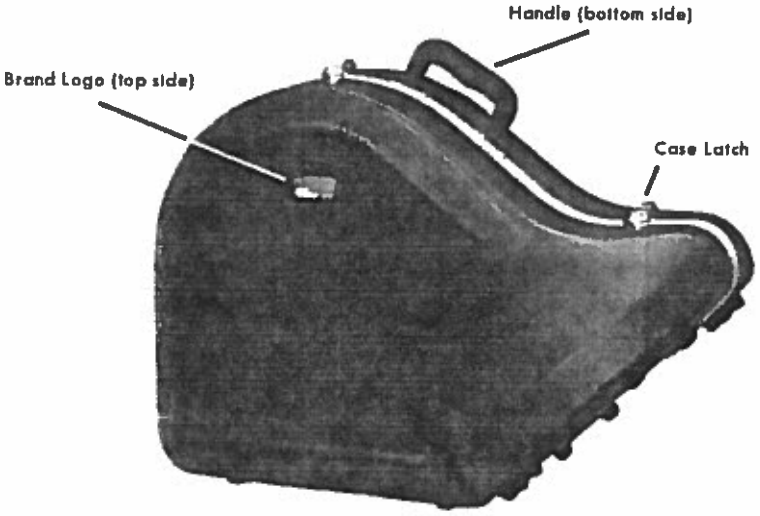
Mouthpiece Brush ($2.09 - 2.99)
Take time to teach the importance of cleaning the mouthpiece.

Vinyl Coated Cleaning Snake ($3.99 - 8.59)
Vinyl coated snakes are firmer than non coated, will not get easily stuck, and will protect the lacquer from scratches.

Metronome/Tuner ($25.99 - 39.99)
The two main ingredients in music are pitch (the notes) and rhythm. Every band uses a metronome in class every day. It is only fitting that students practice with one at home as well. Like the metronome, each band uses a tuner every day. It is only fitting that students practice with one at home. Now, there are combination metronome/tuners for sale. Choose a metro tuner that has a volume control, headphone out, and a quick response microphone built in such as the Korg TM-40 Metro Tuner.

Anatomy of a Horn





Beginning of the Year:

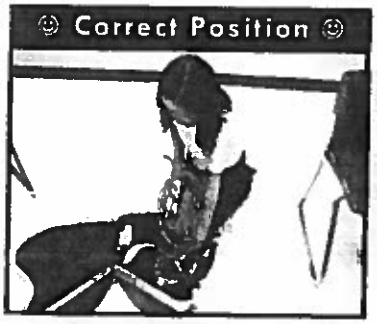
The first few days are usually spent checking rosters, listing supplies, and assigning instruments. School instrument checkout takes longer than expected. Because of this, these classes begin the year a little behind, so be patient and remain positive. The most effective way to get the students to turn in their rental fee is to begin without them. Reward the diligent by teaching them first. Whoever has a mouthpiece gets to learn first. Whoever has paid the rental fee gets to hold the instrument first.

Lesson 1: Getting the horn out

Even though it's out of order - even though the students know nothing about horn, it is important to teach the class how to get the horn out of the case and hold it properly. This will help protect the horn from damages as well as excite the class about playing. Plus, students are going to attempt it at home anyway, so it's best to teach them early the proper way - the only way. Taking time now will help protect the district's investment in costly instruments.

When You Assume . . .	It is always wise to assume the students know nothing and will experiment at home. Do not trust any method book to educate the students on instrument assembly and maintenance.

Opening The Case



Begin with the students kneeling in front of their chairs and the case in front of them. Follow these steps and do them very slowly (as if in space). Stop immediately if something is being done incorrectly or out of order.

1. Figure out which is the top of the case in lying flat: (1) most cases have the brand's logo on the top, (2) the handle is almost always located on the bottom side, and (3) the top side is usually a little thinner.

2. Locate and open all the latches, and open the case slowly. Some cases open 180 degrees, other only 100 degrees. It is important to know how far the case opens to slinging it onto the floor.

3. Having the class kneeling frees up both hands and gives them leverage over the instrument.

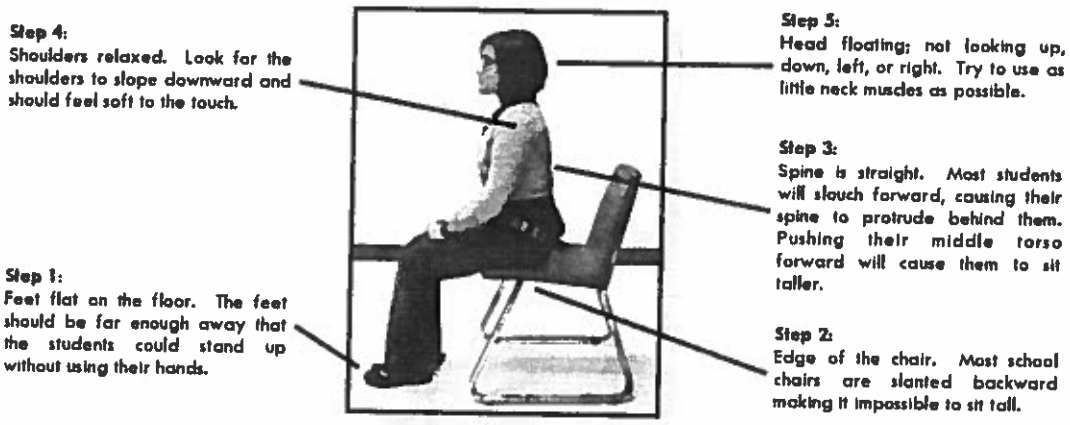
4. Locate the mouthpiece and gently insert it into the lead pipe. Pick the horn up by the bow with the left hand.

5. Using the right hand, close and latch the case and stand it on its end.

6. Sit in your chair and, while holding with horn with the left hand, slide the case to the right side of the chair.

Lesson 2: Posture

The second lesson is basic playing posture. Everyone is well aware of posture (stances). They use it in baseball, football, video games, etc . . . , now it is time to teach just another posture for the class. Students should be taught to sit with their feet flat on the floor, on the edge of the chair, spine straight, shoulders relaxed, and head floating. With their feet on the floor they should be able to stand easily without any extra effort. These simple steps should be reviewed daily as to become second nature. Basic posture is very simple yet vital to proper breathing and playing position.



Lesson 3: Breathing

Proper breathing is simply the ability to move lots of air in and out efficiently. The best way to teach proper breathing is to demonstrate for the class and have them copy. Look for the following things:

1. Check to see if every student is breathing through the mouth and not the nose.
2. Look for stomach expansion, followed by the chest.
3. The shoulders might rise slightly, but definitely without tension.
4. Air should constantly be moving in and out like ocean waves.
5. Listen for a deep, silent air stream both in and out. Taking in too much air will create a tense, hissy sound, and exhaling too quickly will cause the throat muscles to tighten.

Breathing Exercises

In 4/Out 4 Have students put a hand six inches in front of the face and blow into the center of the palm. Turn on the metronome to 65 bpm, and have them inhale and exhale for a specific number of counts. This helps them ration their air. Begin with 4/4 then experiment with different count structures, ultimately reaching in 1/out 8.

Frozen Paper Hold a sheet of paper six inches from their face. Have them focus the air stream onto the paper causing it to move. If the air stream is constant, the paper should not move until the air stops.

Silent Santa This exercise helps the students realize how much air the lungs can actually hold. Have them say "Ho, Ho, Ho," then have them say it without their voice and during inhalation. With each "Ho," the lungs increasingly fill up.

Techniques for Beginning Classes

ECHOING – Modeling and Monitoring

Concepts taught include Rhythm, Style, Dynamics, etc

1. Echoing -
    a. Modeling – Teacher/Class --- Play 3 counts rhythm and rest on 4
    b. Monitoring – Individual Student/Class

2. Creating – Individual Student/Class

3. Reading Skills – Read rhythms from board or book – Ind Student/Class

4. Ear Training – Focus on first five notes of scale in echoing format

5. Written dictation

FIVE FOLD MUSIC CLASS

1. Singing
2. Playing
3. Listening
4. Moving
5. Creating

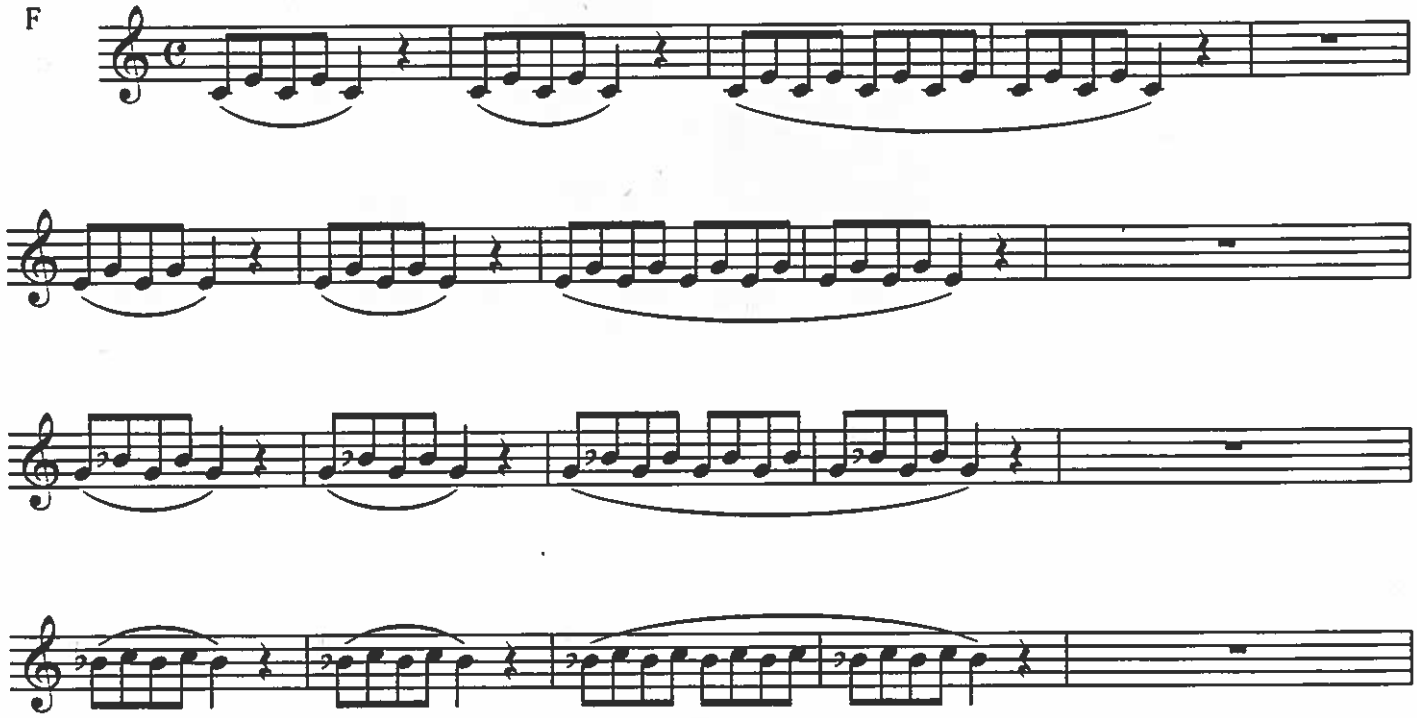
Play all slurs on
f horn 0, 2, 1, 12, 23, 13, 123

Then chromatically higher on Bb
23, 12, 1, 2, 0

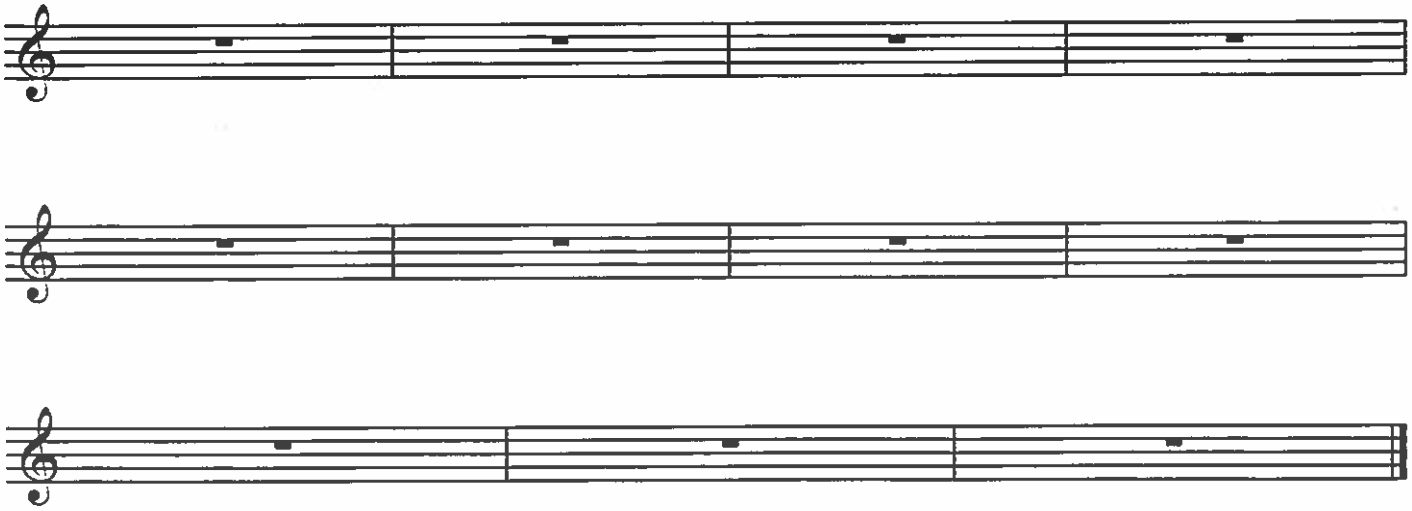
Beginner Slurs

Morrow

Horn in
F

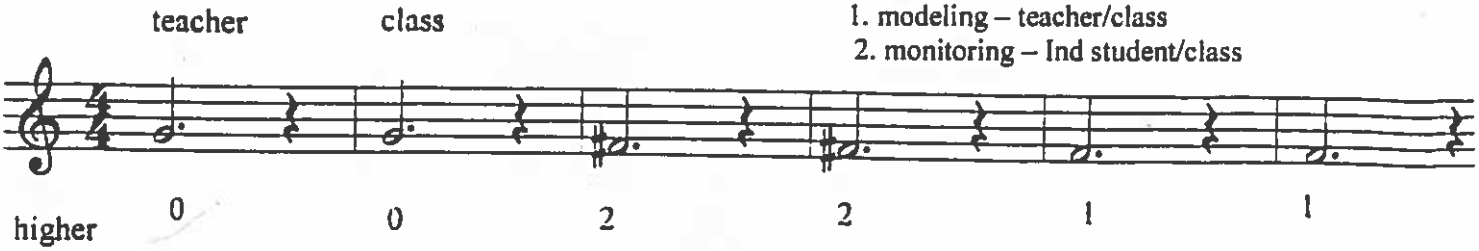


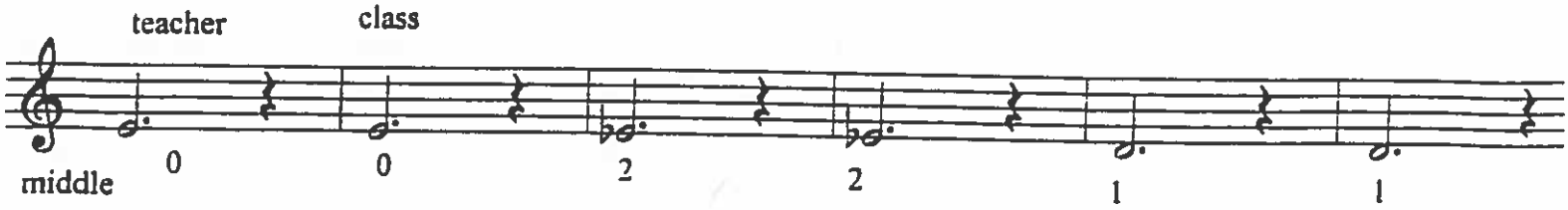
After these slurs are smooth, even, and easily played, start playing the 5, 7, and 9 note slurs

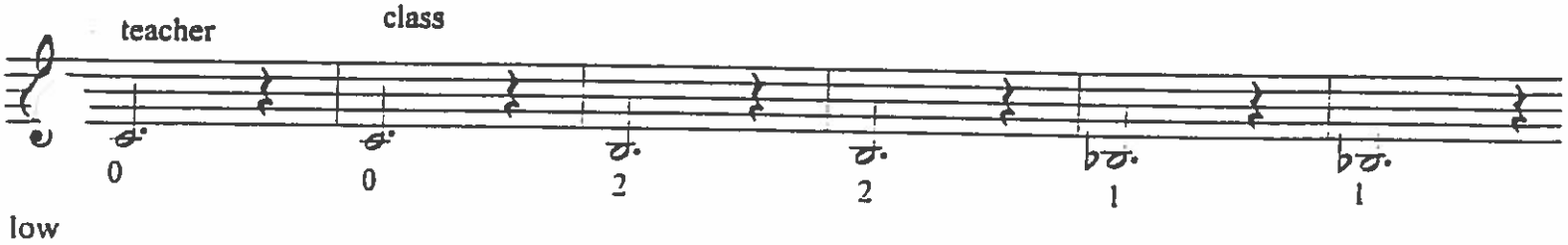


Beginning Horn by ROTE

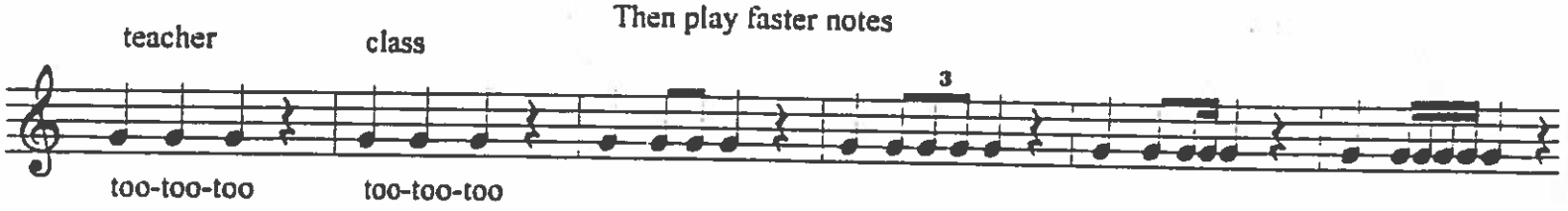
Music Education
1. modeling – teacher/class
2. monitoring – Ind student/class



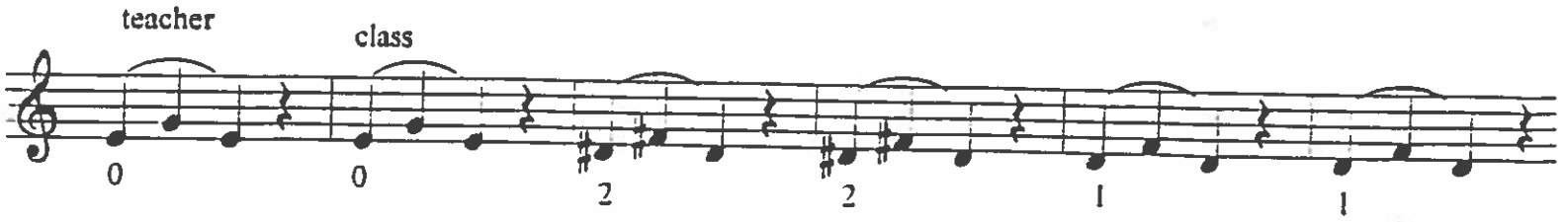




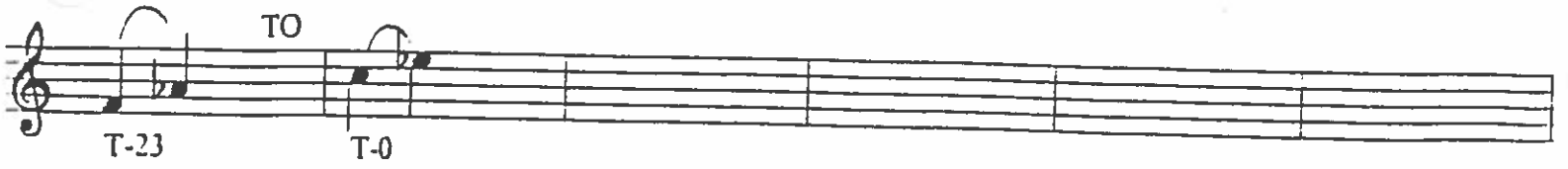
Then play faster notes



SLURS



Then chromatically higher on
Bb horn -23,12,1,2,0(1,2,0)

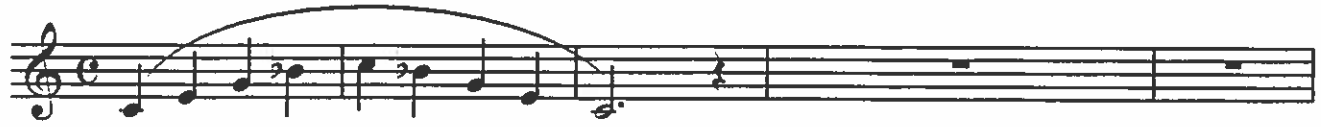


Beginning Slurs

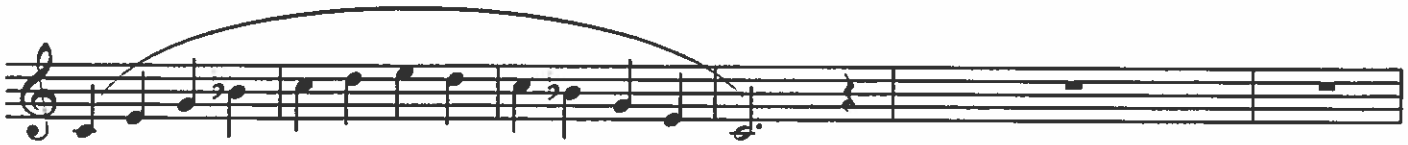
Morrow

Play all slurs f horn - 0,2,1,12,23,etc
Then Chromatically higher on Bb - 23,12,1,2,0

Horn in F

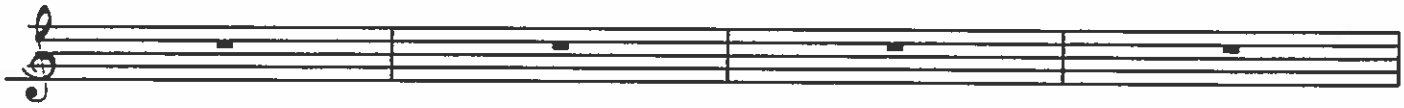


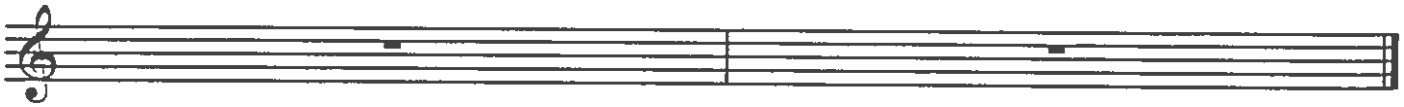
5 note slur



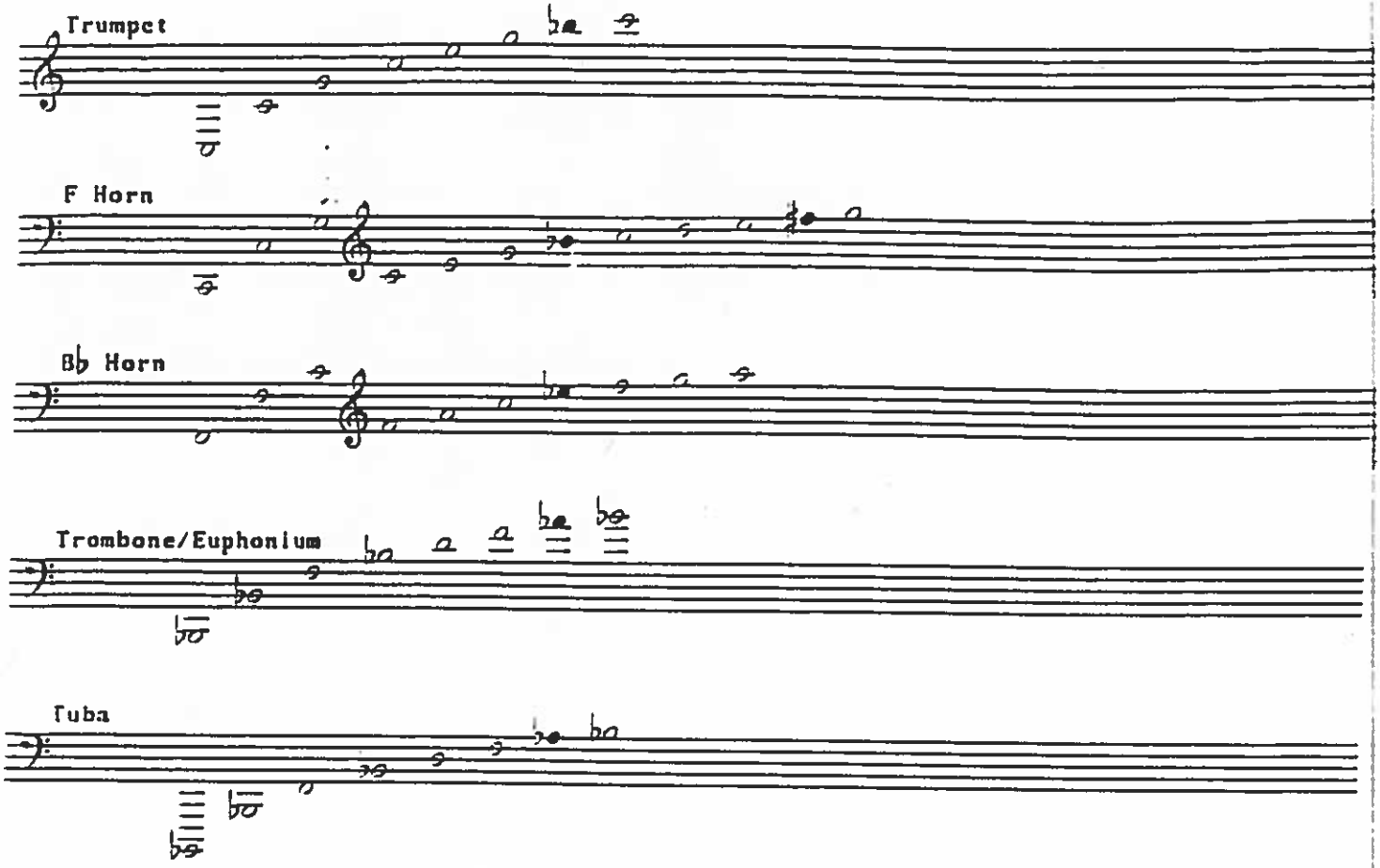
7 note slur

9 note slur

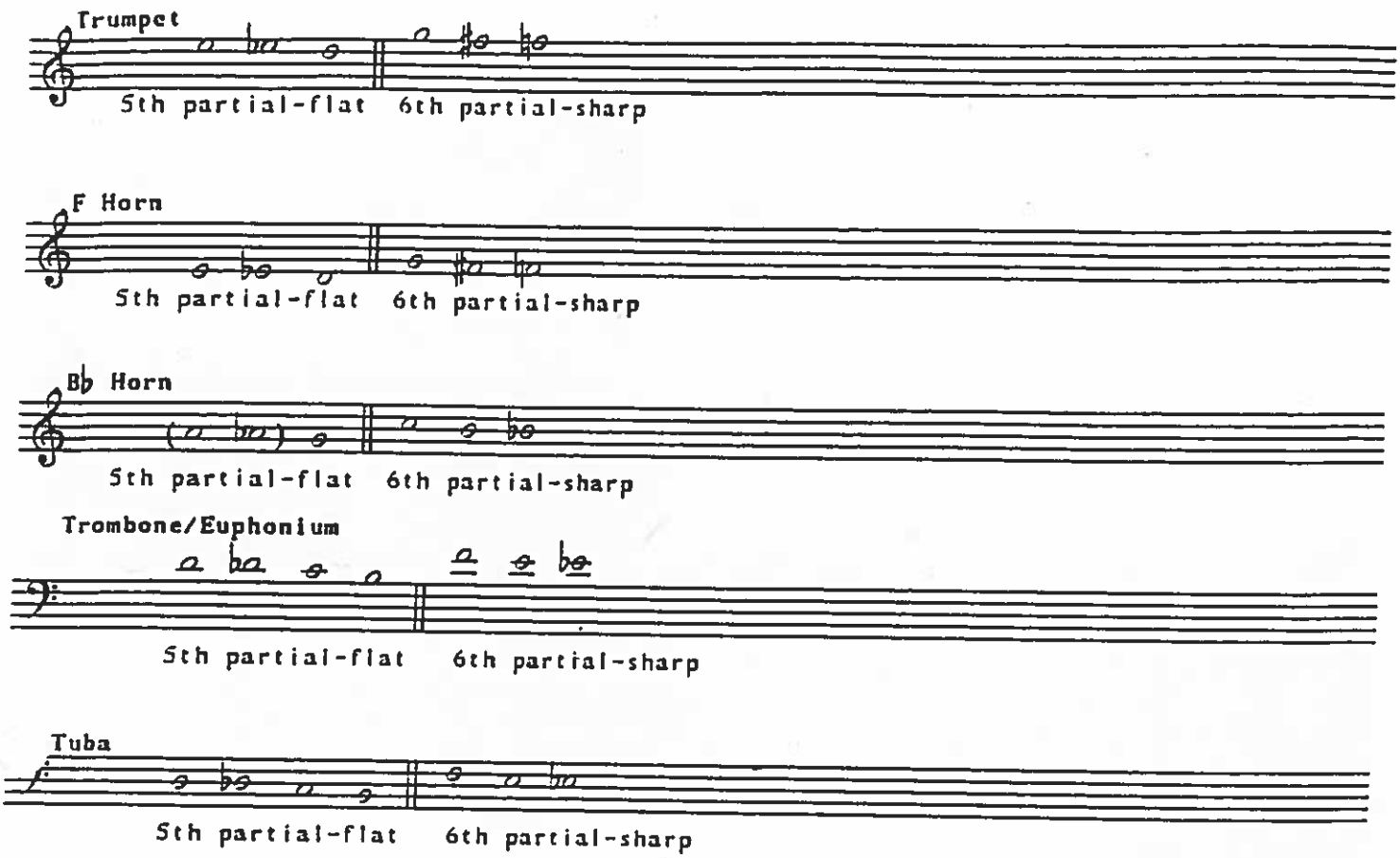




Brass Overtone Series



Brass Tuning



Write a Note

It's Not the Horn, It's You: Six Things You Should Adjust Before You Even Think About Moving Those Tuning Slides
by Brian Brown on Monday, August 23, 2010 at 10:11pm

Here's an article on intonation that I wrote for high school students a few years ago. Enjoy!

It's Not the Horn, It's You:

Six Things You Should Adjust Before You Even Think About Moving Those Tuning Slides

by Brian Brown

Introduction

"Horns,you're sharp! Pull out!" How many times have you heard your director utter that dreaded and unwelcome phrase during rehearsal? If you're a middle school or high school horn player, you're probably tired of being told you're out of tune, tired of pulling your tuning slide out 17 feet and still being sharp, and tired of the ridicule from the other sections (yes, they notice, and yes, they're making fun of the horn section - sorry!). Unfortunately, adjusting your slides is not usually enough to correct intonation problems. In fact, the horn is usually the last thing that needs to be adjusted; in most cases intonation problems can be traced to at least one ofthe following six sources:

1. Posture

Before you lift the instrument, before you take that first breath to play, and before your lips touch the mouthpiece, make sure you are sitting correctly. You've been instructed how to do this, of course, but even the most seasoned players will occasionally allow their posture to lapse into something a little too casual for good tone production. Make sure you're sitting up straight, not slouching or leaning. If you play with your bell off the leg, be sure your shoulders aren't raised or tense. If you play with the bell on the leg, make sure you're not hunching forward or extending your neck to reach the mouthpiece, depending on your height. Good posture helps air flow (which in turn, affects intonation), prevents fatigue, and simply looks better to the audience.

2. Right Hand Position

There are many of you, and you know who you are, who use proper right hand position when the director and private teacher are watching, but immediately rest your hand on your leg when nobody is looking. Stop doing that! There are also many of you who keep your hand in the bell, but really aren't sure what to do with it. The preferred right hand position can be achieved as follows:

- Hold your hand in front of you as if you are about to shake someone's hand
- Bring your fingers together and cup your palm slightly
- Put your hand in the bell, keeping your wrist straight, and make sure you're the bottom knuckle of your thumb is touching the bell at the 12 o'clock position.
- An incorrect hand position can cause a myriad of problems, but bad intonation is the mostglaringly obvious result. If the hand is too far out of the bell, the pitch will be sharp. If it's too far in the bell, the pitch will be flat and the tone will be muffled and dull. A correct hand position will make it much easier to play in tune with a blended, pleasant tone.

3. Leadpipe Angle

Many players overlook this important aspect of horn playing, especially during marching season. The leadpipe of the horn should not be parallel to the ground. The actual angle varies depending on the model of the instrument and posture of the player, but it will probably be between 15 and 30 degrees below parallel. A high leadpipe angle increases the pressure of the mouthpiece against the upper lip, which inhibits vibrations, which in turn nearly always cause the pitch to go sharp. It also increases fatigue and makes the tone sound rather unappealing. Luckily it's easy to fix. Just spend some time practicing in front of a mirror in order to identify and correct problem areas.

4. Air

You're sitting up straight. Your hand position is correct. Your angle is somewhere in a natural position, avoiding the extremes caused by bad habits or mellophone (some mightconsider them the same thing!), so now it's finally time to take that first breath. You've heard countless breathing lectures by this point in your life, so I'll make this as brief and painless as possible. Make sure you're using your abdominal muscles when inhaling and when exhaling. When you inhale, expand your stomach, and when you exhale, flex the abdominal muscles to help propel

the air out of your lungs. Keep your throat open when breathing; there should not be any feeling of resistance before the air reaches your lips. Proper breathing ensures efficient vibration of the lips, which is essential to tone production and intonation.

5. Embouchure

Much like breating, this is a topic of countless lectures, discussions, and admonitions, so I won't spend eternity writing about it. Quite simply put, your embouchure can be the cause of and solution to any intonation problems you may have. Make sure it's correct. Look at pictures of other players' embouchures, look at your own embouchure in a mirror, and consult your private teacher or band director regularly for feedback. The following is a brief list of attributes of a good embouchure:

- The chin is flat, pointed slightly downward
- The corners of the mouth are neither smiling nor puckering
- The cheeks and chin are not puffed
- The teeth are open – about the height of the tip of your little finger
- Mouthpiece placement should be about 2/3 upper lip, 1/3 lower lip

6. Pitch Center

When I was in high school, I heard that phrase about a million times, but never really heard a good definition. It wasn't until college that I actually received a useful explanation of the concept. My private teacher in college was the first person to explain to me that the tone quality changes depending on how high or low on the pitch you're playing. I knew that it was possible to "lip" the pitch up and down using the embouchure, but I didn't really pay much attention to the fact that there's a "sweet spot" where the tone is more resonant and full. That "sweet spot" is the center of the pitch.

Awareness of pitch center is the key to understanding intonation. You could be doing everything else correctly, but still be sharp or flat if you're not aware of the pitch center. Unfortunately, certain instruments do make it difficult to identify the center. Conn 8D's, Holton Farkas models, and other large-throated instruments have a much larger "sweet spot", and thus pose a difficulty in finding the true center of the pitch. Because it is easier to sound good when playing above center, and because a sharp tone projects really well, many students develop a permanent habit of playing sharp, but adjusting the slides to extreme lengths in order to compensate. This sometimes leads to the misconception that certain

instruments are "built sharp." If a student switches to a smaller throated instrument such as a Yamaha 667, or other Geyer-wrapped models, the pitch and tone problems become frustratingly obvious. Again, many band directors and students alike carry the misconception that these horns are sharp. It's important to remember, however, that the horn is almost never sharp – it's the player.

What can you do to find the center?

This may sound oversimplified, but the best way to find the center is to listen for it. Push your slides all the way in and experiment with bending the pitch until you can hear that point of resonance. Start with a middle C, and bend the pitch up and down until the tone quality "locks in" and sounds good. Then repeat the process on E, G, and third space C. Then check the pitches with a tuner. They'll be sharp,of course, but if your fundamentals are sound and you've found the pitch center, you'll probably be a lot less sharp than you were before. Then and only then should you start the process of adjusting your tuning slides. Play a third space C on the B-flat side and adjust the main slide until it's in tune. Then play the same note on the F side and use the F tuning slide to make fine adjustments. Repeat the process using middle C. After that, tune the other open notes before proceeding to the various valve combinations. During this entire process, listen frequently to an external reference pitch. Most tuners will play a sustained tone, but if one is not available to you, try using an electronic keyboard or even a piano.

Tuning is a slow, detailed, tedious, boring process, but the results are well worth it. Imagine the relief you'll feel when the band plays "F around the room" and you're not the one who's sharp! Your section, the conductor, and the entire band will benefit from your efforts, and you'll be able to concentrate on making music instead of wondering where to put your slides.

Developing a Daily Routine

Dr. Daniel Kelly, NCTM
Texas A&M University – Commerce

The vast majority of advanced brass players advocate the use of a practice routine to develop and maintain technical proficiency. For the purpose of this discussion, a "daily routine" (sometimes called a "practice routine" or "warm-up routine") is a collection of drills and exercises that address certain physical or technical skills. Most often the contents of a daily routine changes very little over the short-term, although players often find it helpful to include difficult passages from their repertoire or may add exercises to address a specific need (such as extremely soft attacks, large interval leaps, upper register playing, etc).

While "daily routines" by exceptional teachers and/or performers have become very popular (for example, the routines or drills of Bill Adam, Louis Maggio, Max Schlossberg, James Stamp, and Carmine Caruso), most players compile their daily routines from a variety of sources. There are a few points to keep in mind when developing your daily routine:

- **To be most effective, your routine must be a daily occurrence, a standing date with your horn that you are able to keep every day.** It should be comprehensive enough to cover the various aspects of your playing (see below) but not so long that you are never able to finish it. A three-hour routine is great if you have the mental prowess to maintain your concentration for that long, have the endurance to complete it, and have a sufficient block of time open every day. You will benefit the most from a routine of 45-90 minutes.
- **The daily routine should be easy to navigate.** Although compiled from several sources, your routine should not be spread out among several method books. The more cumbersome your routine is, the more likely you are to avoid doing it or to accidentally leave things out. Once you've decided on the contents of your routine you should photocopy it and keep it in a folder or small binder. This will also make it easier to rearrange things as your chops or concentration requires.
- **The daily routine should cover five basic aspects of your playing:**
    - ***Warm-up*-** exercises that you like to use to prepare the chops, fingers, ears, and BRAIN for the work to come. Mouthpiece buzzing, lip bends, flexibility studies, long tones, articulation drills, pedal tones, etc., are all valuable warm-up components. Your warm-up should be fairly easy to do- lip flexibility studies are fine for someone who can do them comfortably, for others they result in a tightening of the throat and chops and a great deal of frustration… what a lousy way to begin a routine! A 5- to 10-minute warm-up component is most helpful because you can also use it before rehearsals or later practice sessions.
    - ***Fingering studies***- scale and arpeggio studies, Clarke's *Technical Studies*, chromatic scales, trill studies, Nagel's *Speed Studies*, Plog's fingering studies (*Trumpet Method, Bk. 2*), etc. are all good examples.
    - ***Articulation studies***- exercises to coordinate the fingers, air, and tongue, such as scales and arpeggios, interval studies, Schlossberg, Stamp's "Staccato Exercises," double- and triple-tonguing drills from Arban, Chris Gekker's *Articulation Studies*, etc.
    - ***Flexibility studies***- such as Earl Irons, Walter Smith, Arban, interval studies (slurred), etc.

- ***Range studies-*** flexibility, articulation, and scale/arpeggio studies into the upper register, Schlossberg, Stamp, Jay Zorn's *Exploring the Upper Register*, etc.
- ***Tone and pitch accuracy studies-*** Long tones, pitch bending, slur exercises, simple interval studies, scale/arpeggio studies, etc.

As you may have noticed, a single exercise can cover different aspects of your technique. For example, scale studies improve finger technique, articulation, range, and intonation (pitch accuracy). Like a healthy diet, a successful routine offers variety to keep your interest. It should also be challenging enough to allow you to improve but not so difficult that you can't get through it or you feel bad about your playing afterwards. As you improve, your routine will change accordingly.

Other than the warm-up portion, there is no preferred order to the exercises. In fact, I feel it is important to mix topics within the routine, as this more accurately reflects real-world playing. (Have you ever sat in a rehearsal and played *only* lip slurs for 15 minutes?) However, you may find it helpful to follow range or flexibility studies with some finger studies that are easier on the chops or practice multiple-tonguing only after you've worked on single-tongue studies.

OTHER POINTS…

You must strive to play your routine MUSICALLY at all times. Allowing yourself to mindlessly run through the routine with no concern for the outward product is a complete waste of your time and effort. You must do more than "go through the motions." Sloppy or unmusical technique is of absolutely no value.

Use your metronome. Keep track of tempos on each exercise and increase the tempo on an exercise when you're satisfied with it. This is also good for your ego, as you can actually *see your improvement over time*. The ticker isn't only for tongue and finger studies- use it on your flexibility and range studies, too. You may be surprised at the rhythmic fluctuations in your lip slurs or interval studies.

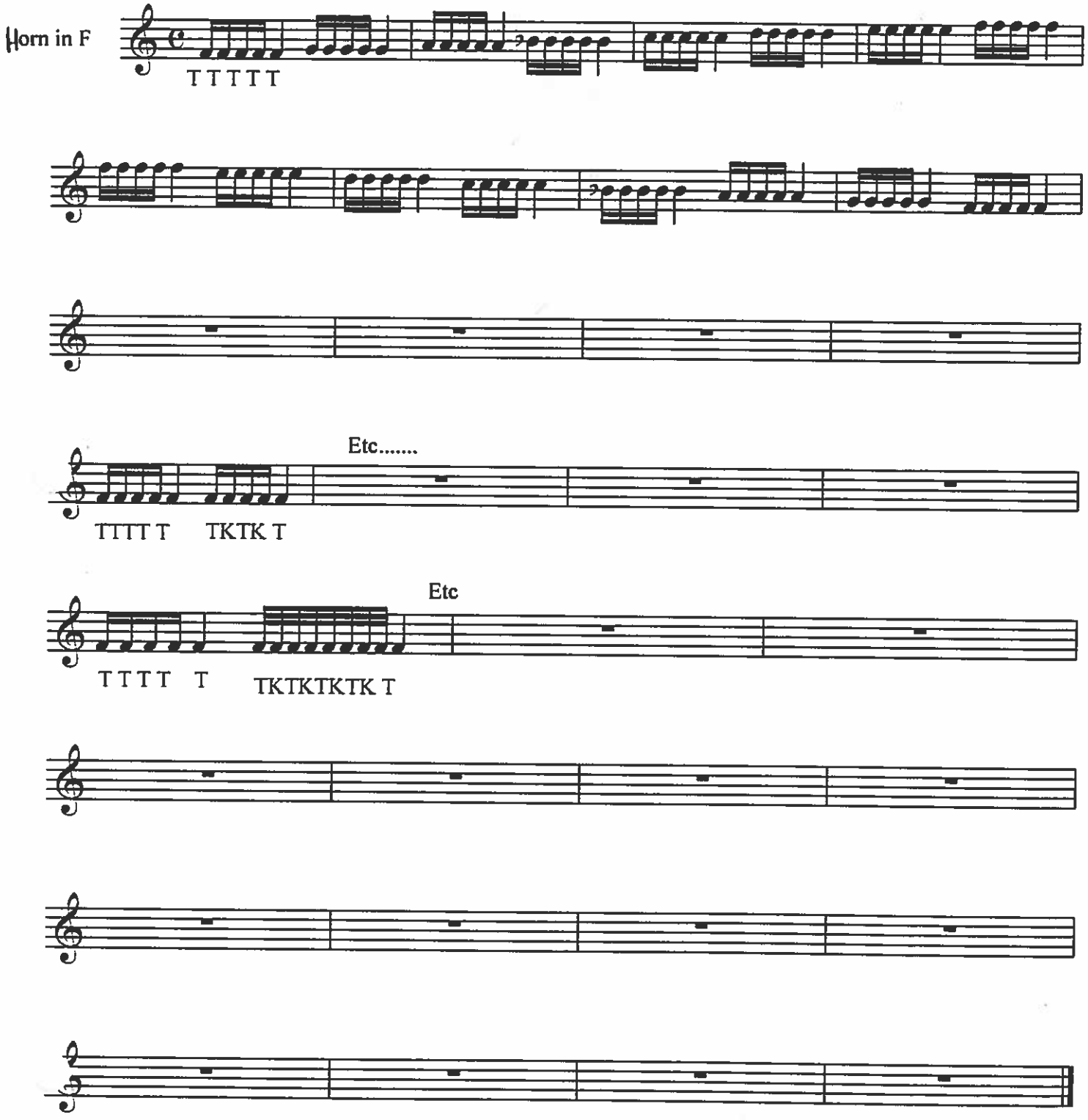
Schedule time in your morning for your routine. Covering all aspects of your technique early in the day will make the rest of your practice sessions and rehearsals more successful. However, you must avoid getting to the point where you feel you can't have a good playing day UNLESS you've done your routine. There will be days when your schedule or playing commitments just won't allow you to squeeze in your routine. It's helpful to think of your technical skills as a bucket with a small hole- if you add enough technical practice into the bucket every day you can get by with the *occasional* missed session. However, miss too many days and the bucket will certainly run dry!

Don't forget to rest. Be sure to take time between exercises to rest the chops, particularly after range and flexibility studies. Your chops should not be *completely exhausted* at the end of your routine. A good rule of thumb: rest as much as you play.

Double Tongue Exercises

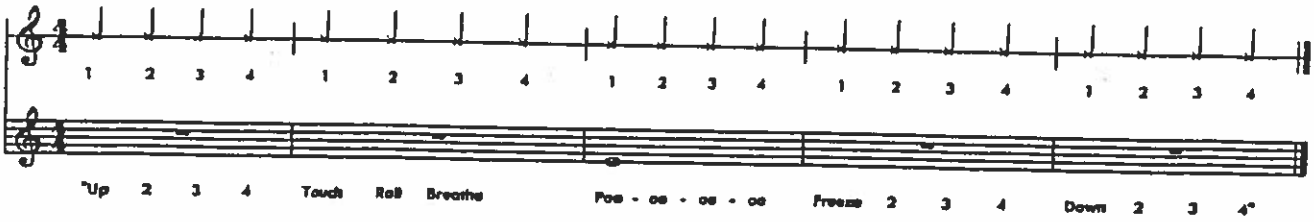
Michael Morrow
Assoc Professor of Horn
TAMUC

Single tongue



First sound troubleshooting

It is now time for them to make a sound while holding the mouthpiece. Review the steps with them (lick, touch, roll, breathe, blow), turn on the metronome, have them create a sound using the following pattern. It may seem extensive, but this process covers many important concepts.

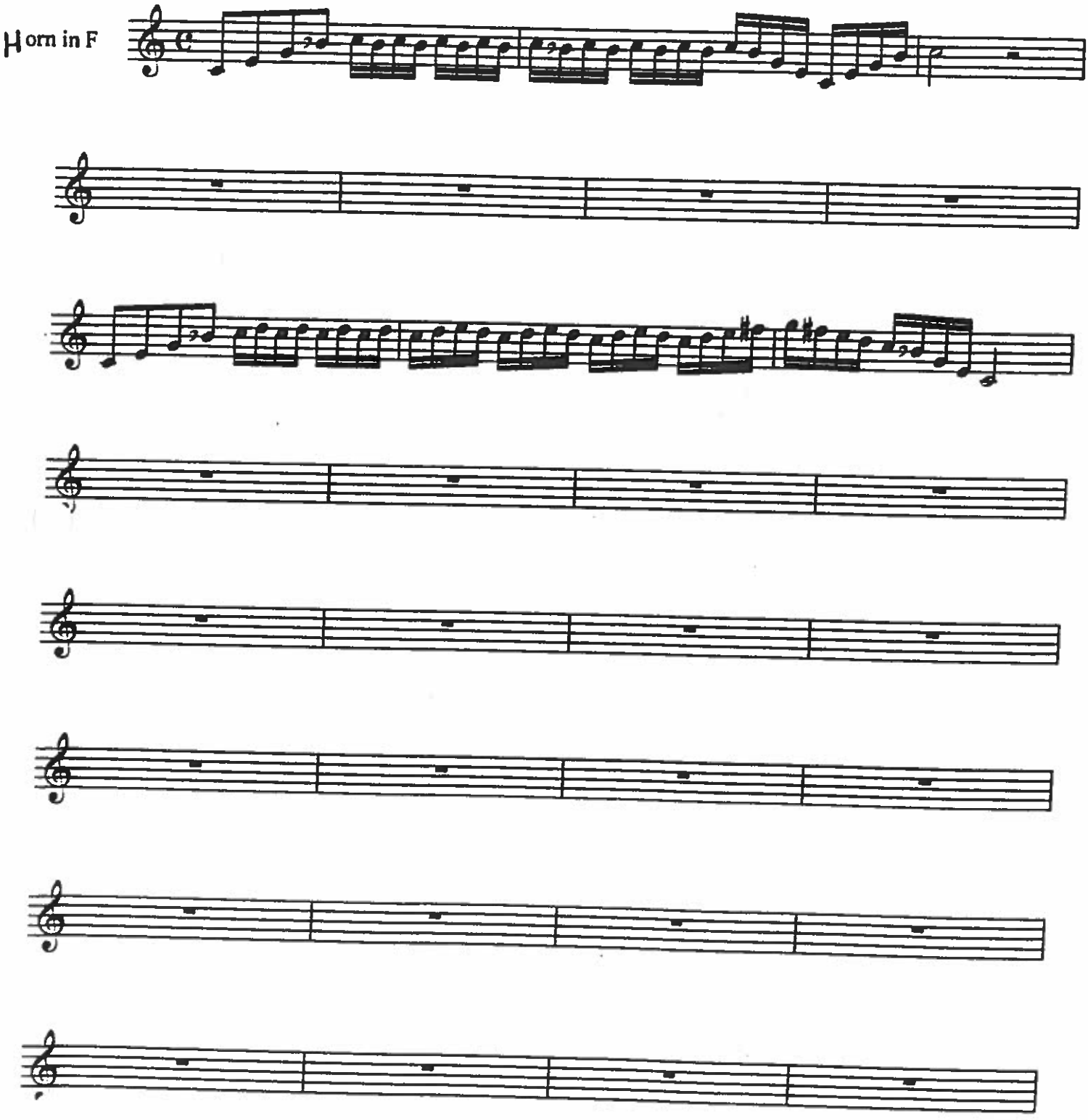


This pattern stresses keeping the body still and calm and reminds the brain of what to think for each count. Freezing after the note helps students with releases, and bringing the mouthpiece up and down together introduces them to section playing early on. Have half of the class chant what to do while the other half performs and vice versa.

Possible Outcomes	Problem	Solution
No vibration, just air.	Either the air speed is too slow, the lips are far apart, or the lips are too hard. Could be pressing the mouthpiece against teeth and spreading the lips apart.	This is very common at first; it's okay. Do a couple of "Tired Horses" or "Motor Boats" to loosen up the lips and try again. Check hand position as well.
No vibration, no air sound.	Performance anxiety . . . The lips are pinched together and the air is not escaping. It is possible to try too hard.	Say something funny to relax the student. Have him take a couple of deep breaths and try again. "Tired Horses" or "Motor Boats" to loosen up the lips would help as well.
Tight sound, pinched vibration.	Teeth too close together, lips pressing against each other, tongue possibly too high and forward in mouth.	Start all over by just blowing air through the mouthpiece. Lightly bounce the mouthpiece on lips.
Tubby, wet, or spitty sound.	The lips are rolling out and the vibration is caused by the inside of the lip.	Have the student think more of an "ooo" vowel to keep the inside flesh touching the teeth and gums.
Short vibration, followed by coughing.	The tongue is too high in the mouth ("hee" vowel) causing the salivary glands to become overactive.	Have the student breathe in with an "Ah" shaped mouth a few times, then try again.
Vibration of multiple pitches at once.	The lips are vibrating at multiple spots on the mouth, causing tiny apertures across the bottom lip.	Do a couple of "Tired Horses" or "Motor Boats" to loosen up the lips and try again. Check hand position as well.
High pitched, squeaky vibration.	The lips are pressed against each other and perhaps the teeth are too close together.	Have the student say "YA YA YA" and try to duplicate that on the mouthpiece. Although advanced, this also works on opening up a player's tone.
Thin, weak vibration.	The lips are working well, but the air speed is not fast enough to sustain a full sound.	Take a deeper breath and try to play longer. Stand across the room and have the students make their sound go all the way to you.
Vibration is wobbly in pitch.	Something is moving.	Check foot tap and hand position. Have student blow air into the palm of the hand and listen for a steady stream.
Full tone, relaxed vibration.	Everything seems to be working well.	Great! Have them do it again several times and hold as long as possible.

Harmonic slurs warm-up

Morrow



Michael Morrow
Professor of Horn
Texas A&M-Commerce

ɔrn Basics

Listen for:
1. Breathe and Play
2. Beginning Attack
3. Tone Quality
4. "Ah" Release

Beginning Slurs

Play All Slurs on F horn - 0,2,1,12

Then Play Chromatically higher on Bb horn - 23,12,1,2,0

Michael Morrow
Professor of Horn
TAMUC

Horn Clinic – Starting Beginners

A. SEATING POSITION
- Mouthpiece angle should be slightly down
- Bell position
  1. ON the leg
  2. Lower the right leg
  3. Bell OFF the leg
  4. Bell throat on leg

B. TONE PRODUCTION INVOLVES THREE FACTORS
- Air Speed
- Lip firmness
- Teeth/Jaw position

C. MOUTHPIECE PLACEMENT
- 2/3 upper and 1/3 lower lip

D. THE FIRST SOUND
- Blow air easily and bring lips together slowly – the lips will vibrate easily and efficiently
- Teach students how to hear the "Three Sounds" and How to Correct

a. Tight, pinched sound – relax lips, open teeth or jaw
b. Good Sound
c. Unfocused, uncentered sound – bring teeth closer together

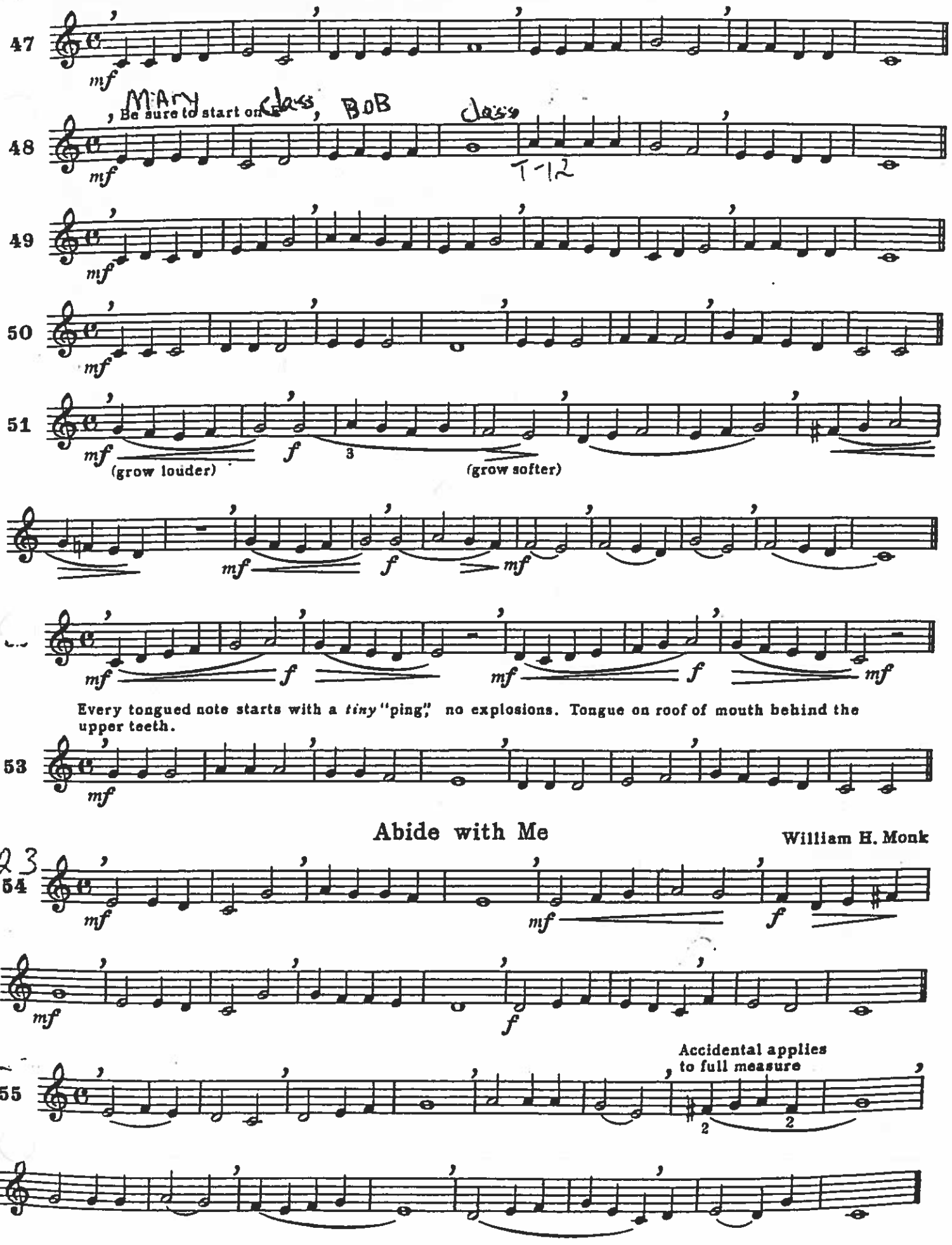
E. HOW TO TONGUE – relate to speech
- Count 1, 2, 3, breather on 4 – breath will be relazed
- Repeat above with "Two Loaves of Bread" – 1, 2, 3, breathe Two loaves of bread

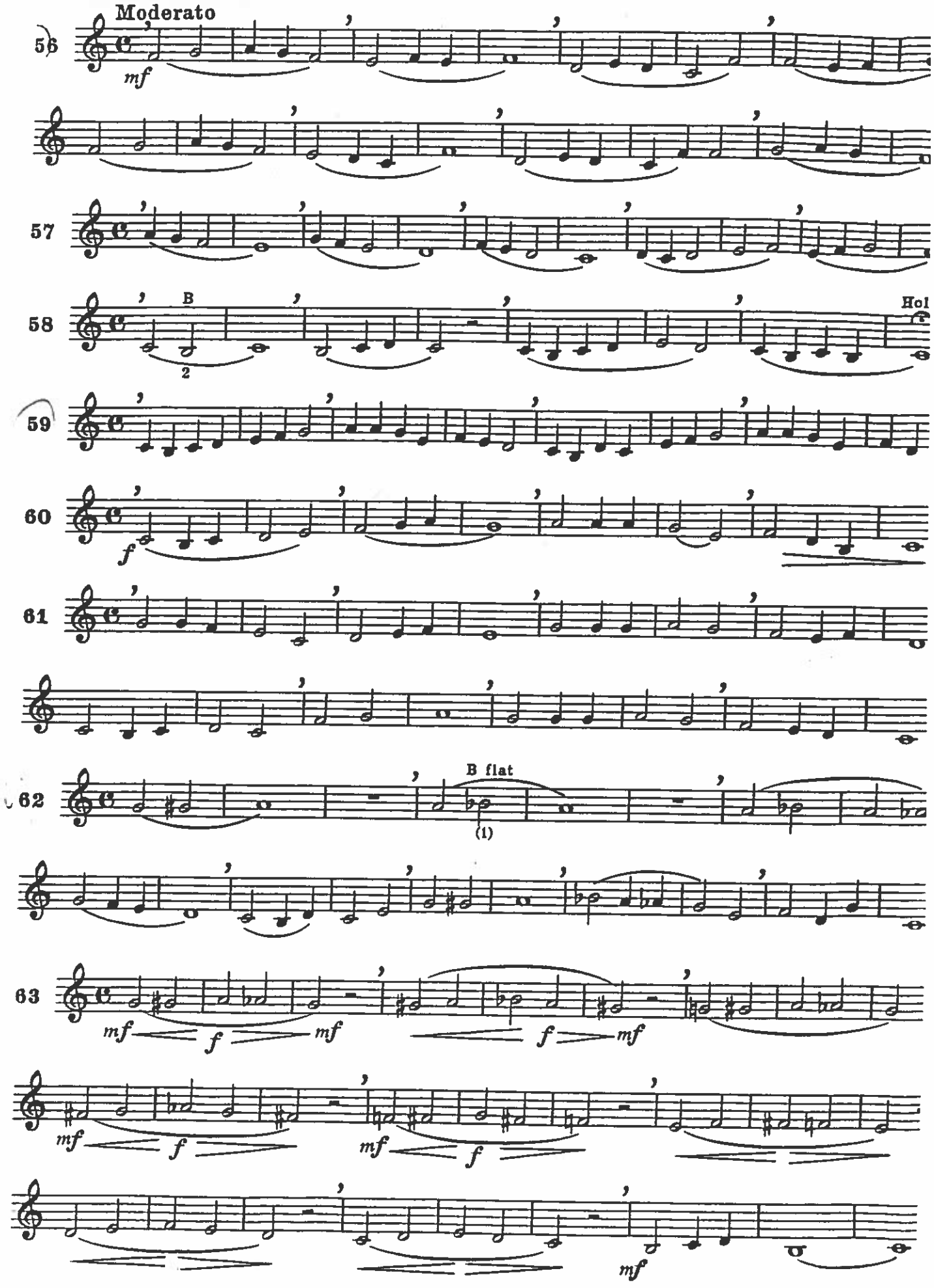
This teaches the student to breathe and tongue correctly. No student will take a quick, catch breath and hesitate before saying "Two loaves of bread"

F. HOW TO STOP A SOUND – again relate to speech------"Ah" release
- Say "ah" or "tah" with the student with several durations – we stop the BREATH
- Stop the notes on the horn in a similar manner
- Practice note releases on Woo-Too

G. HOW TO TEACH SLURS
- Keep air steady
- Have student say "tah-ee" for higher slurs – "tee-ah" for lower
- Move teeth slightly closer for higher notes, further apart for lower

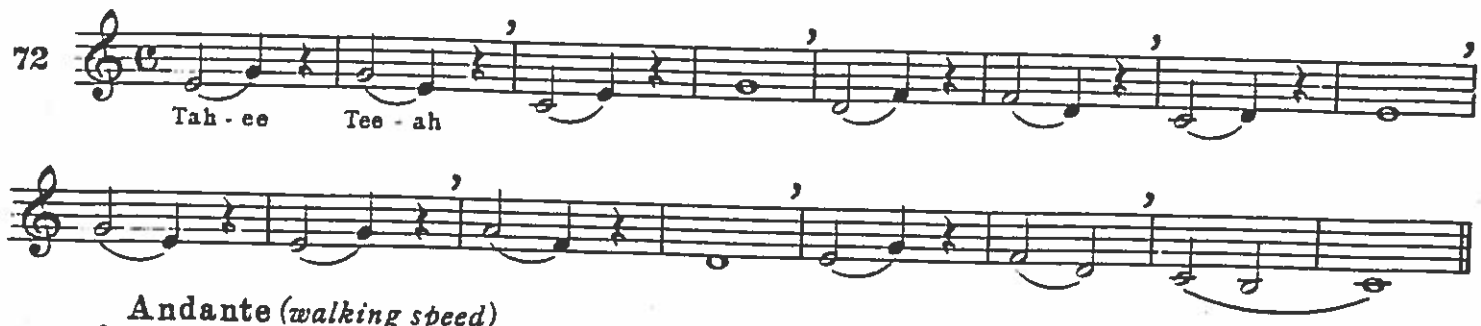
Basics to be stressed include the following: **BREATHE AND PLAY, BEGINNING ATTACK, TONE QUALITY, "AH" RELEASE**


47
mf
48
mf
, Be sure to start on
MARY
Class,
BOB
Class
T-12
49
mf
50
mf
51
mf
(grow louder)
f
3
(grow softer)
mf
f
mf
mf
f
mf
f
mf
Every tongued note starts with a tiny "ping," no explosions. Tongue on roof of mouth behind the upper teeth.
53
mf
Abide with Me
William H. Monk
123
54
mf
mf
f
mf
f
Accidental applies to full measure
55
2
2


Moderato
56
mf
57
58
B
2
Hol
59
60
f
61
62
B flat
(1)
63
mf
f
mf
f
mf
mf
f
mf
f
mf

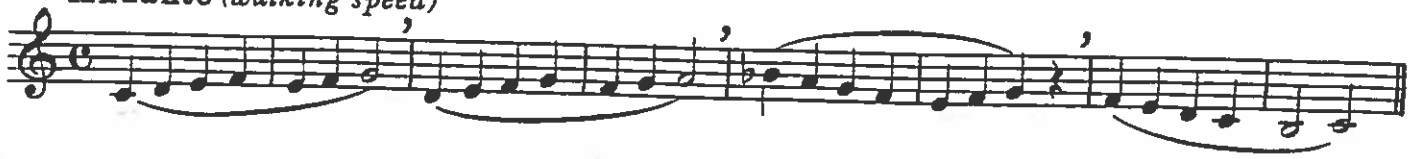
Mixed Slurs

72



Andante *(walking speed)*

73



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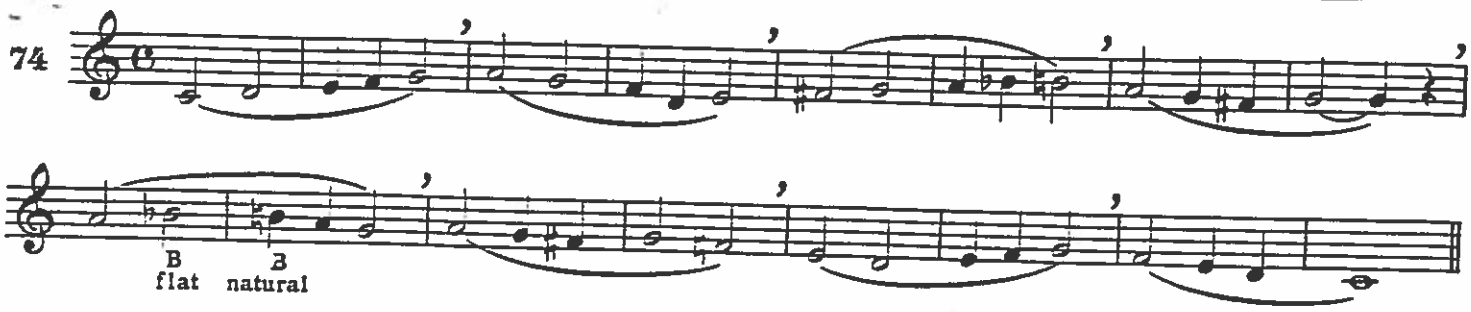

Background Music

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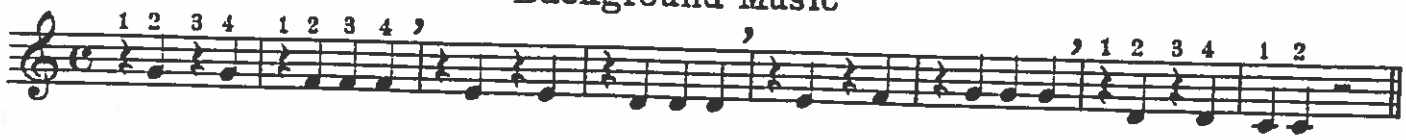
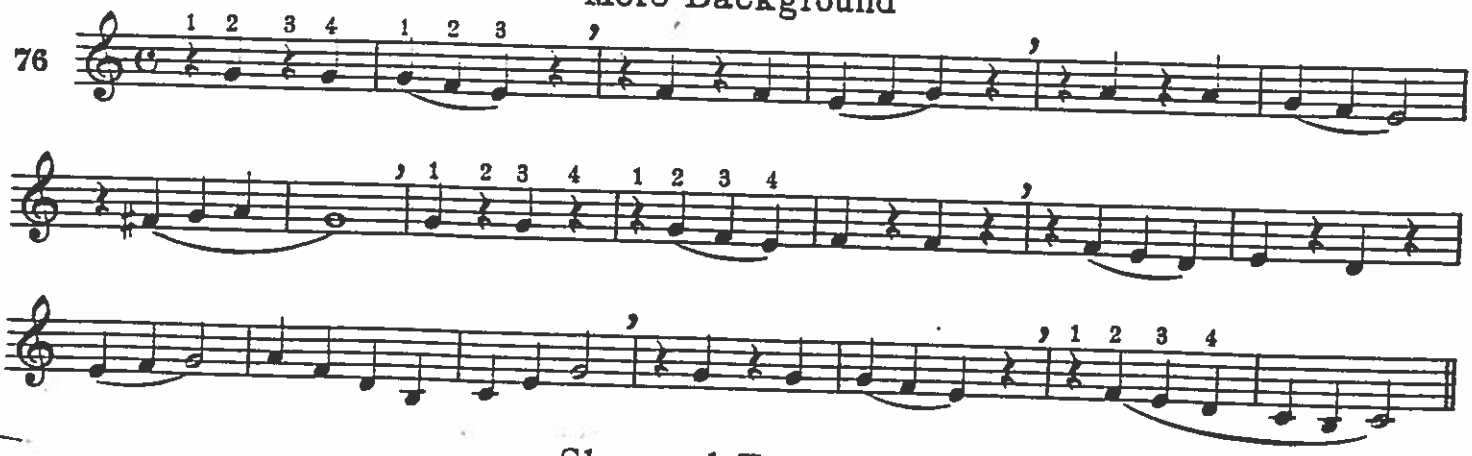


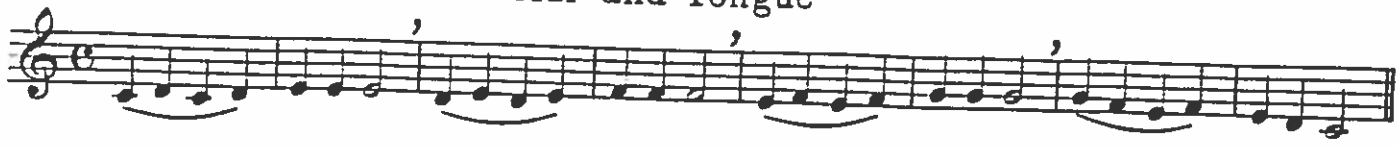
More Background

76



Slur and Tongue

77



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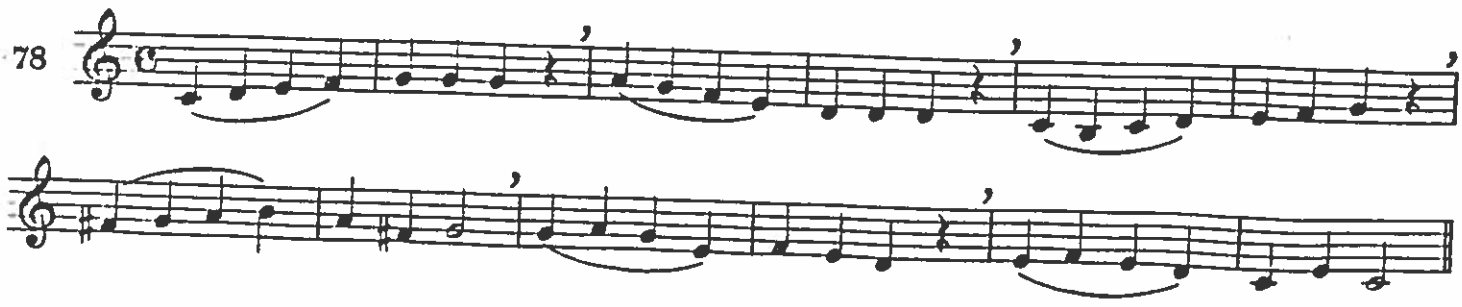
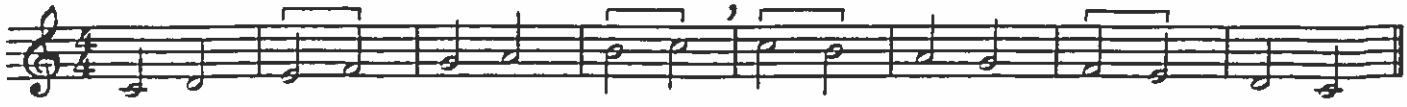


C Major Scale

⌐ indicates a half-step; unmarked intervals are whole steps.

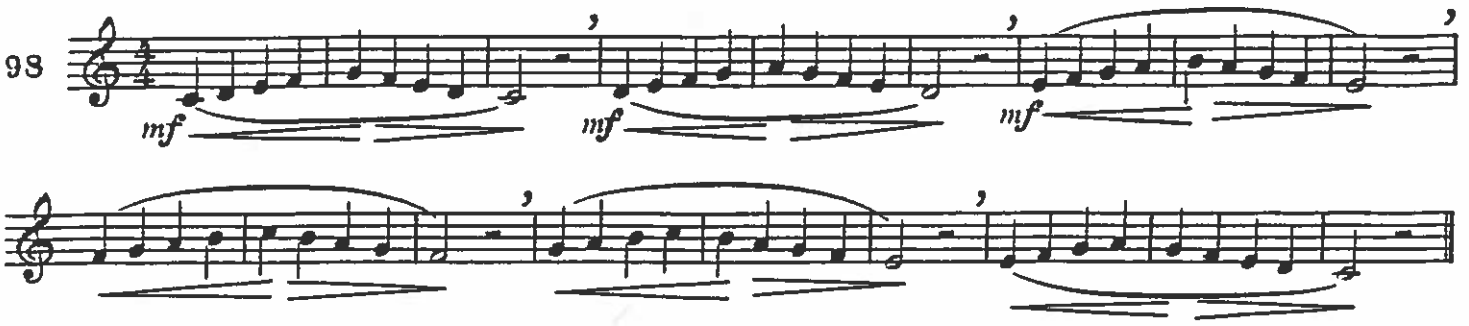
96



Twice as Fast

97

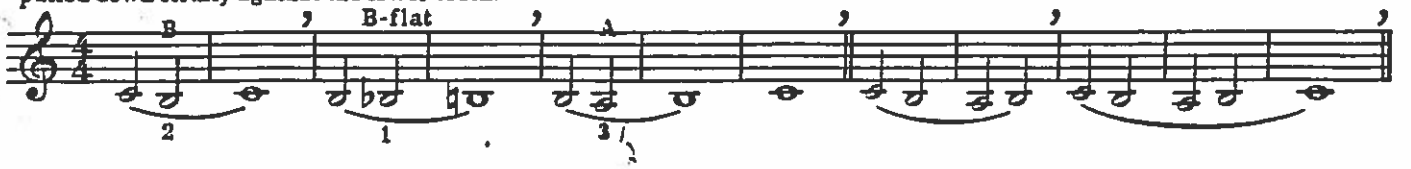
98



Going Down

Use *Taw* for the low register. Do not over-relax as you go down. Keep mouth corners pulled down firmly against the lower teeth.

99



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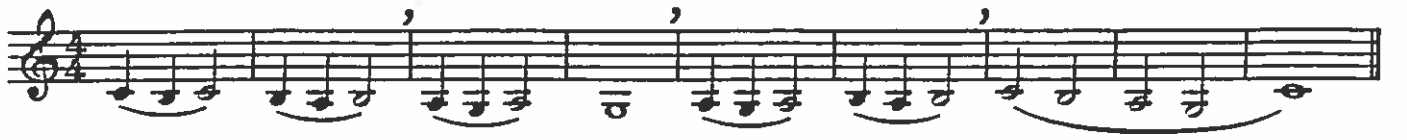

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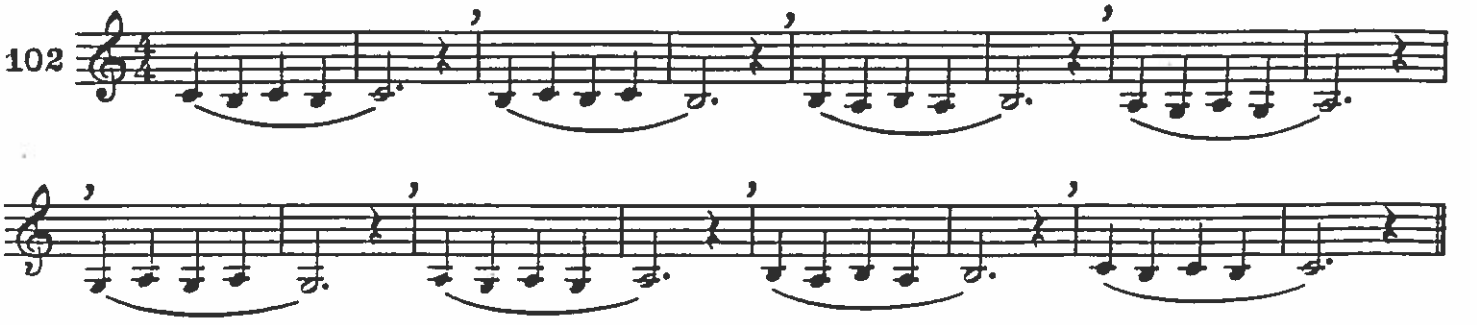
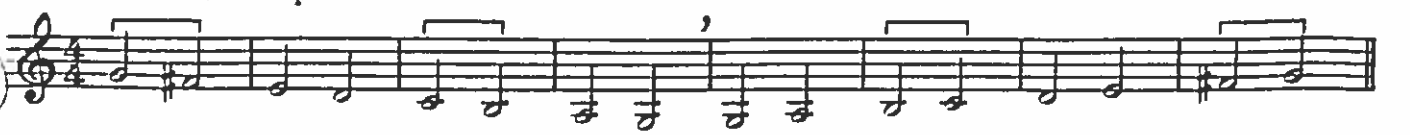


G Major Scale

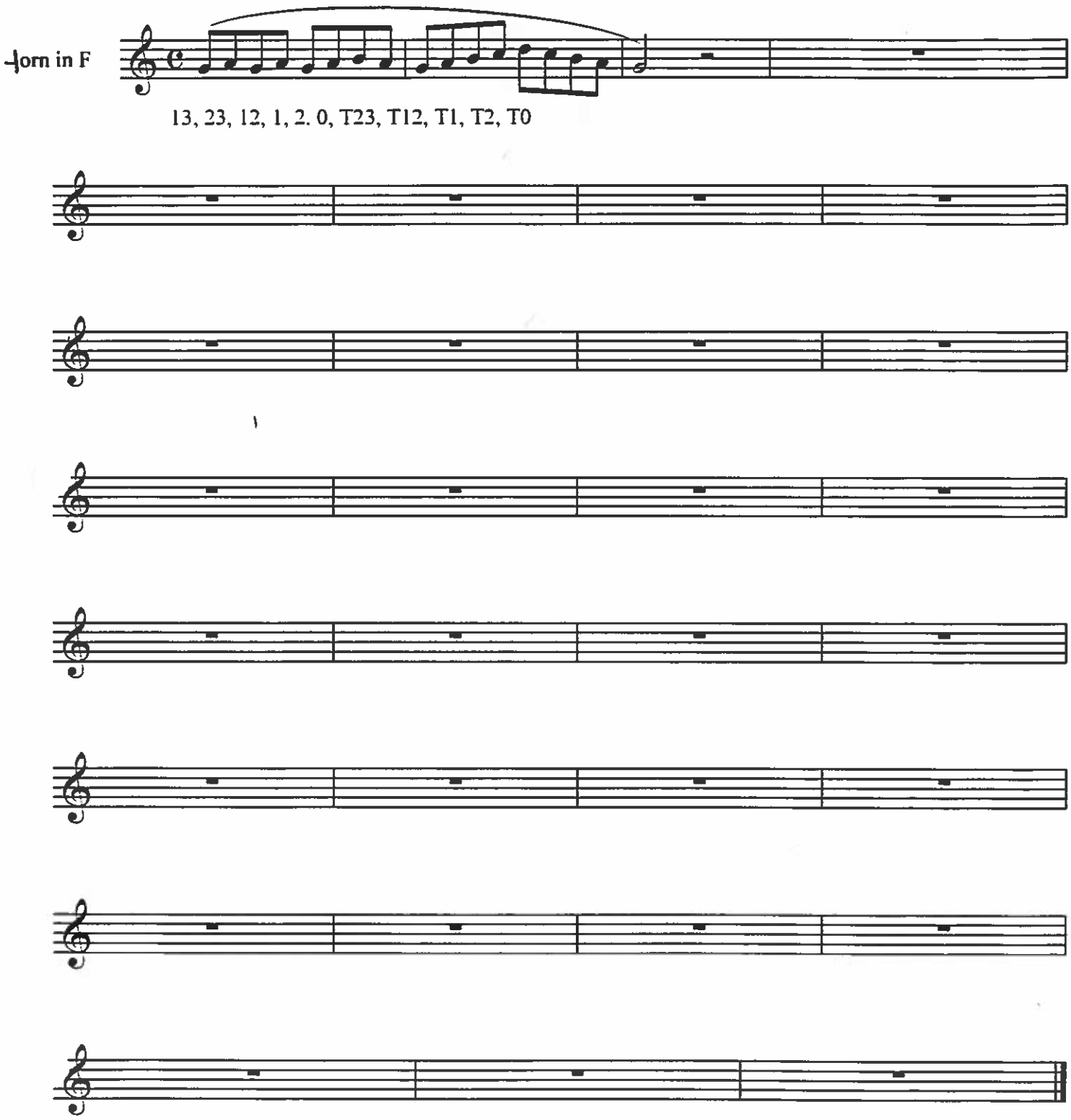
⌐ marks the half-steps

103



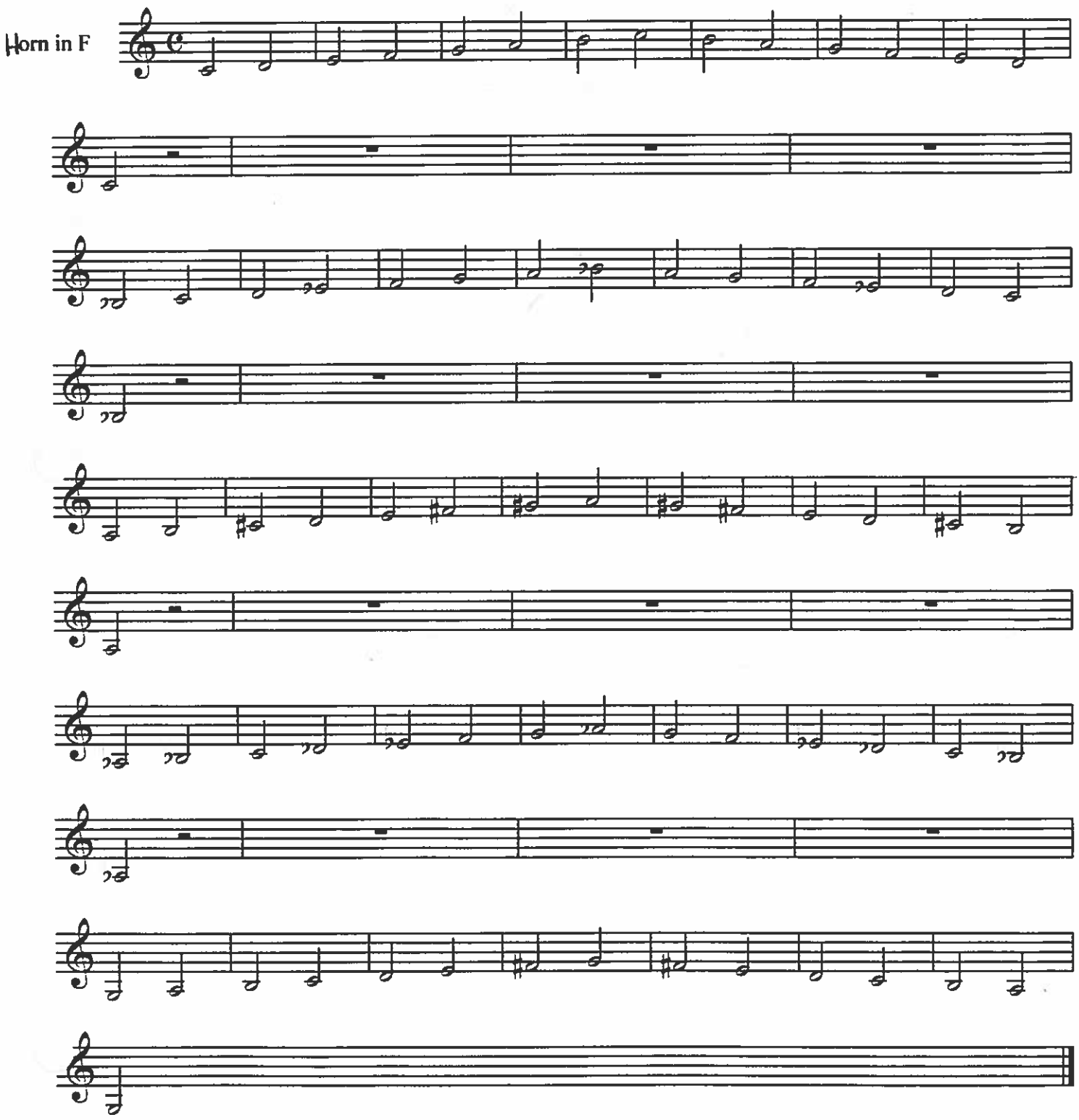
Horn Range Extender

Morrow



Horn Scales

[Composer]



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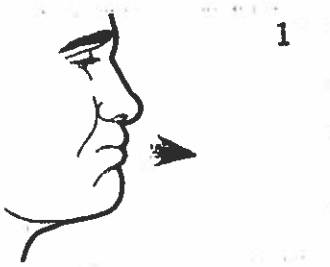
Lesson

By Jeff Nelsen
Canadian Brass
University of Indiana
Yamaha Clinician

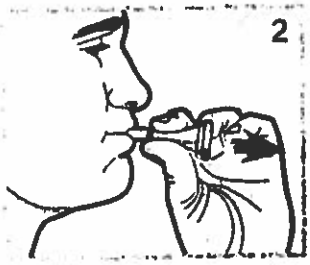
The Lip is a Reed

When we begin to play a brass instrument, we are told to make a buzz. We do this with our facial muscles—and often with too much muscle. During our search for higher/lower/louder/softer notes, we spend tons of time trying to relax our embouchure. So, one day I got fed up and just took away all the muscle, experimenting with adding a little bit at a time until I produced a sound. This path of discovery changed everything about my playing. I found myself enjoying increased resonance, a better pitch center, more efficiency and endurance, and better flexibility. Try the following four exercises to develop the ultimate embouchure efficiency for yourself. As demonstrated, see what happens when you move from using all the embouchure muscles to create sound to having facial muscles provide support around a passive reed (the lips) that vibrates in the mouthpiece.



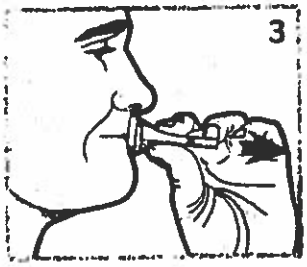
▲ Relax and breathe

Sit or stand in front of a mirror in order to watch your lips for optimal relaxation. Take a relaxed full deep breath and blow out a healthy "mf" type exhale while leaving your facial muscles completely passive. Repeat and, if possible, relax even more.



▲Use the mouthpiece as a "straw"

Put the small end of the mouthpiece in your mouth and blow out of it as if it were a straw. You'll learn how to add the muscles in the corners of your mouth without adding extra muscle. Don't grab the mouthpiece shank with your lips; just put the shank on the bottom lip and let gravity bring the top lip down. Air can leak around the sides of the mouthpiece shank.



▲Turn the mouthpiece around

Blow into the large opening without creating a buzz. Blow out in a totally relaxed fashion while letting facial muscles be as relaxed as possible. Make sure all the air goes through the mouthpiece and not out the side of the lips. Watch yourself in the mirror, trying to look as relaxed as possible.

▲Let the sound happen naturally

Take a full deep relaxed breath and blow two seconds of "mf" air into the front of the mouthpiece in the same way as Ex. 3. Do not create a buzz. After two seconds, slowly bring your lips together until physics causes them to buzz.

Notes: This technique is less about lips vibrating against each other, and more about the lips getting caught in the air stream and vibrating *within* the air, against each other, and/or against the metal of the mouthpiece. Notice how relaxed the lips and facial muscles can be when relying on the air to cause a passive lip "reed" to vibrate. Finally, put your mouthpiece into your instrument and repeat Ex. 4. Don't worry about what pitch comes out of the mouthpiece while in the horn; let the air/sound produce any pitch. Repeat. While doing each of the above steps, release all control for a while, then add "muscle influences" back in a very little bit at a time with each exhale. It helps me to think the "lip is a reed," or "L.I.A.R." (Yes, your lips may have been "lying" to you all this time!) This approach reminds us that we might not need all the muscle we've been using. Turn L.I.A.R. into a habit by practicing with a 10-minute timer. Each time the alarm goes off, stop what you're doing and run through the four exercises. Have fun with this lesson, and if it doesn't work the first time, be patient and try again.

MODES "CHEAT-SHEET"

TO HELP MAKE SURE YOU GET IT RIGHT THE FIRST TIME …

IONIAN – *Fancy name for major*

DORIAN - *Nat. minor w/ raised 6th OR use key signature of the note one whole-step below tonic:*
C D Eb F G A Bb C

PHRYGIAN - *Nat. minor w/ lowered 2nd OR use key signature of the note two whole-steps below tonic*:
C Db Eb F G Ab Bb C

LYDIAN - *Major with a raised 4th OR use key signature of note P4 below (or P5 above) tonic:*
C D E F# G A B C

MIXOLYDIAN - *Major with lowered 7th OR use key signature of note P5 below (or P4 above) tonic:*
C D E F G A Bb C

AEOLIAN - *Fancy name for natural minor*

LOCRIAN - *Minor with lowered 2nd & 5th OR use key signature of note one half-step above tonic:*
C Db Eb F Gb Ab Bb C

WHOLE-TONE - *Scale built entirely of whole-steps:* C D E F# G# A# C

JAZZ MINOR - *Major with lowered 3 OR ascending form of melodic minor:* C D Eb F G A B C

BLUES - *Natural minor with added raised 4th (blue note) and omitting the 2nd and 6th:*
C Eb F F# G Bb C

LYDIAN DOMINANT - *Lydian scale with lowered 7th OR combine Lydian and Mixolydian:*
C D E F# G A Bb C

LYDIAN AUGMENTED - *Lydian scale with raised 5th:* C D E F# G# A B C

Muted and Stopped Horn

The use of a non-transposing mute is indicated by the following expressions: **mit dampher** (German), **avec sourdine** (French), **con sordino** (Italian), or simply "muted" in most band music.

Hand stopping or the use of a metal transposing mute is indicated by the use of a + above the note or the terms **gestopft** (German), **bouche** (French), **chiuso** (Italian), of simply "stopped."

The player is required to transpose when playing "stopped" horn or when using metal transposing mutes. To play stopped horn the player must use approximately the same hand position as for normal playing except that the hand is closed completely against the side of the bell. Be sure that the fatty part of the hand helps make a good seal and that the thumb knuckle is out and not turned under. Because of increased resistance, the student may feel the need to blow more forcefully to achieve the characteristic "stopped" horn sound.

Intonation problems are caused by differences in hand and bell sizes.
Many young students have problems with stopped horn because a small hand fits too far into the bell causing the resulting pitch to be sharp.

I would suggest the following rules be used when transposing a part for stopped horn:
1. Play the tone ½ step **lower** on the **f horn.** Most often this will achieve the best results.

2. If any players have severe pitch problems but are producing the correctly characteristic sound, I would suggest playing the tone ½ **higher** on the **f horn.**

3. Play the tone with **any** fingering on **either side** of the horn that achieves the correct pitch.

The cost of a good metal transposing mute is approximately $130.
I recommend the Trumcor Tri Stop which is $130. Others can be as high as $285.

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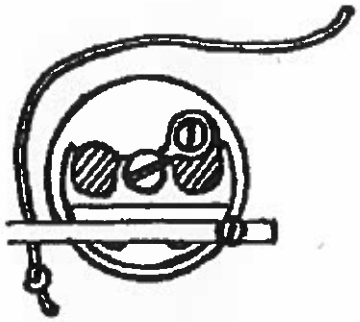
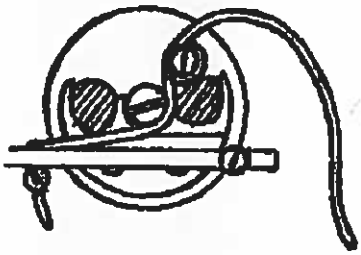
Associate Professor of Horn
Texas A&M University-Commerce
2nd Horn – Dallas Opera Orchestra and Dallas Wind Symphony

Stringing a Rotary Valve



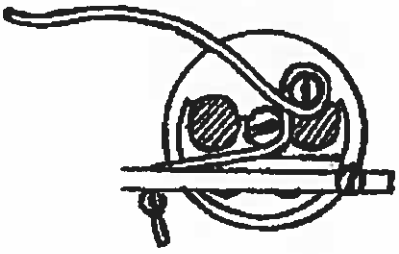
1

Take a length of strong nylon or Dacron cord and form a double knot at one end; fuse the end in a flame to keep it from fraying. Thread the cord through the hole as shown.



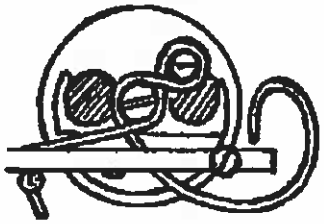
2

Bring the free end partly around the stop-arm, counter-clockwise, having first loosened the string screw.



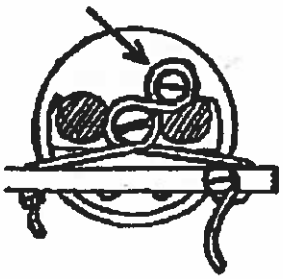
3

Pass the cord clockwise under the screw head and adjust the lever so that it is approximately perpendicular to the rotor shaft when the stop arm is halfway through its stroke. Tighten the string screw.



4

Continue the cord counter-clockwise around the stop arm, under the first part, and thread it through the hole at the end of the lever.



5

Holding the stop arm against the bumper, wrap the cord clockwise around the string screw and tighten. The cord should be loose enough to be deflected about 1/8 in. up the side of the stop arm. Cut of the excess cord, leaving about 1-½ inches and fuse the end. Adjust the keys by careful bending until they are level and about 1-¼ inch above the tail of the bell.

Techniques for Beginning Classes

ECHOING – Modeling and Monitoring

Concepts taught include Rhythm, Style, Dynamics, etc

1. Echoing -
    a. Modeling – Teacher/Class --- Play 3 counts rhythm and rest on 4
    b. Monitoring – Individual Student/Class

2. Creating – Individual Student/Class

3. Reading Skills – Read rhythms from board or book – Ind Student/Class

4. Ear Training – Focus on first five notes of scale in echoing format .

5. Written dictation

FIVE FOLD MUSIC CLASS

1. Singing
2. Playing
3. Listening
4. Moving
5. Creating

Common Terms

In addition to the following common terms, you should commit to memory all terms found in your etudes, ensemble pieces and jury selections!

A

a2 – indicates that the entire section is to play, used to cancel a previous *solo* or *divisi*
accelerando – gradually increase the tempo; accelerate
a cappella – in the manner of chapel music, without instrumental accompaniment
adagio – slow
adagietto – rather slow
adagissimo – very slow
ad libitium (commonly *ad lib*) – the speed and manner are left to the performer
affrettando – hurrying, pressing onwards
agitato – agitated
al coda – play to the *coda*
al fine – play to the *fine*
alla breve – cut time
alla marcia – like a march
allargando – broadening, gradually slower
allegro – lively, or fast
allegretto – fast, but slightly slower than *allegro*
andante – moderate walking tempo
andantino – slightly faster than *andante*
animato – animatedly
a piacere – at your own pace
appassionato – passionately
arpeggio – literally, *like a harp.* Used to indicate that the consecutive notes of a certain chord are to be played quickly one after another, instead of at the same moment. In piano music this is sometimes a solution used to play a wide-ranged chord which, technically speaking, cannot be played simultaneously with one hand.
assai – very
a tempo – return to the original (previous) tempo
attacca – (at the end of a movement) is a direction to begin the next movement immediately, without a gap or pause

B

bewegt – moved, agitated (German)
brillante – brillantly
brio – vigor
brioso or *con brio* – vigorously or with vigor

C

cantabile – "singingly" or in a singing or vocal style

cesura or *caesura* – often called "railroad tracks," indicates complete break in sound
coda – "tail," or added secion of music found at the end of a piece
common time – the time signature 4/4
con – with
con moto – with motion
con sordino – with mute
crescendo – gradually louder
cut time – synonymous to the meter 2/2: two half-note beats per measure, also called *alla breve*

D

da capo (*DC*) – return to "the head" (beginning)
dal segno (*DS*) – return to "the sign"
deciso – decidedly
diminuendo (or *dim*) – gradually decreasing volume. It is the opposite of *crescendo*
divisi – (or *div*) literally divided, indicating that a part with two or more simultaneous notes should be playes with one player for each note
dolce – sweetly
dolente – sorrowfully
doloroso – sadly, sorrowfully

E

espressivo – expressively
-etto – suffix meaning "little" or "not as much as"

F

fermata – a hold, sustain the note at the descretion of the conductor or (in solo works) or performer
fine – end
forte (*f*) – loud
fortepiano (*fp*) – loud, then immediately soft
fortissimo (*ff*) – very loud
fortississimo (*fff*) – very, very loud
fuoco – fire

G

giocoso – gayly or humorously
giusto – strict, exact, proper
glissando – continuous sliding from one pitch to another, usually by a chromatic run
grazioso – gracefully

H

I

impetuoso – impetuously (rashly, impulsively, recklessly)
incalzando – increasing speed
-issimo – suffix meaning "very" or "more"

J

K

kraft – strength (German)

L

lacrimoso – sadly
lamentoso – mournfully
langsam – slow (German)
larghetto – slowly, but not as slow as *largo*
largo – slowly
lebhaft – lively, gay (German)
legato – smoothly, in a connected manner
leggiero – lightly or delicately
lent – slowly (French)
lento – slow
loco – play as written (generally used to cancel an *8va* direction)

M

ma – but
ma non troppo – but not too much
maestoso – stately or majestically
marcia – a march
martellato – hammered out
marzial – martially
mässig – moderate (German)
meno – less
mezzo – medium
mezzo forte (*mf*) – medium loud
mezzo piano (*mp*) – medium soft
mit – with (German)
moderato – moderate, often combined with other terms, for example, Allegro moderato
molto – much, very
morendo – dying away in volume or tempo
mosso – motion, used in conjunction with *piú* or *meno* for more movingly or less movingly (respectively)
moto – motion
mezza voce – with subdued or moderated volume, literally *half voice*

munter – lively (German)

N

non – not
non tanto – not too much, can refer to volume, articulation, tempo, etc

O

octave sign (*8va* or *8ba*) – an indication to play the passage one octave higher or lower (resp.) than written
ossia – "or," denotes an alternate (often easier) way of performing a passage often notated with a footnote, additional small notes, or an additional staff

P

pesante – heavily, ponderously
piano (*p*) – soft
pianissimo (*pp*) – very soft
pianississimo (*ppp*) – very, very soft
piú – more
poco – little
poco a poco – little by little
poi – then
portamento – a slide between two notes Similar to a *glissando*, except no distinct pitches (i.e., chromatic run) can be heard
presto – very quickly
prestissimo – very, very quickly
prima volta – first time
primo – first

Q

quasi – as if, almost

R

rallentando or *rall* – gradually slower
rinforzando or *rf* – to stress by strength
ritardando or *rit* – gradually slower
robusto – boldy, robustly
rubato – flexibility of tempo within a musical phrase for expressive effect
ruhig – calm, quiet, tranquil (German)

S

scherzando – playfully
scherzo – a joke

scherzando – in a playful style
schneller – faster (German)
sehr – very (German)
sempre – always
senza – without
senza sordino – without mute
sforzando (or *sfz*) – a sudden, strong accent
simile (or *sim*) – similarly - i.e., continue applying the preceding directive, whatever it was, to the following passage
smorzando (or *smorz*) – smother the notes; dying away
soave – smoothly
solo – typically one player or used to denote an important line that should be prominent
soli – significant passage to be played by all also may be used to cancel a *solo* directive
sordino (or *sord*) – mute
sostenuto – in a sustained manner
sotto voce – soft tones, literally "under the voice," proceed in a more understated or more subtle fashion
spiritoso – spiritedly
staccato – seperated, detached (not necessarily *short*)
subito (or *sub*) – suddenly
suivez – go on, continue (French)

T

tacet – do not play indicated section or passage
tenuto (or *ten*) – sustained full value, often with added emphasis
tranquillo – peacefully, tranquil, calm
tremolo (or *trem*) – a rapid repetition of the same note, or an alternation between two or more notes usually more than a whole-step apart
trill (or *tr*) – rapid alternation between two note a half- or whole-step apart

U

un poco – a little
unisono – (or *unis*) in unison, several players are to play the same part, often used when returning from *divisi*

V

vivace – lively, quickly
vivo – lively
V.S. (*volti subito*) – turn page quickly, found often in orchestral or pit parts

W

wie vorher – as before (German)
wie zuerst – as at first *or* as the beginning (German)

X

Y

Z

Scales

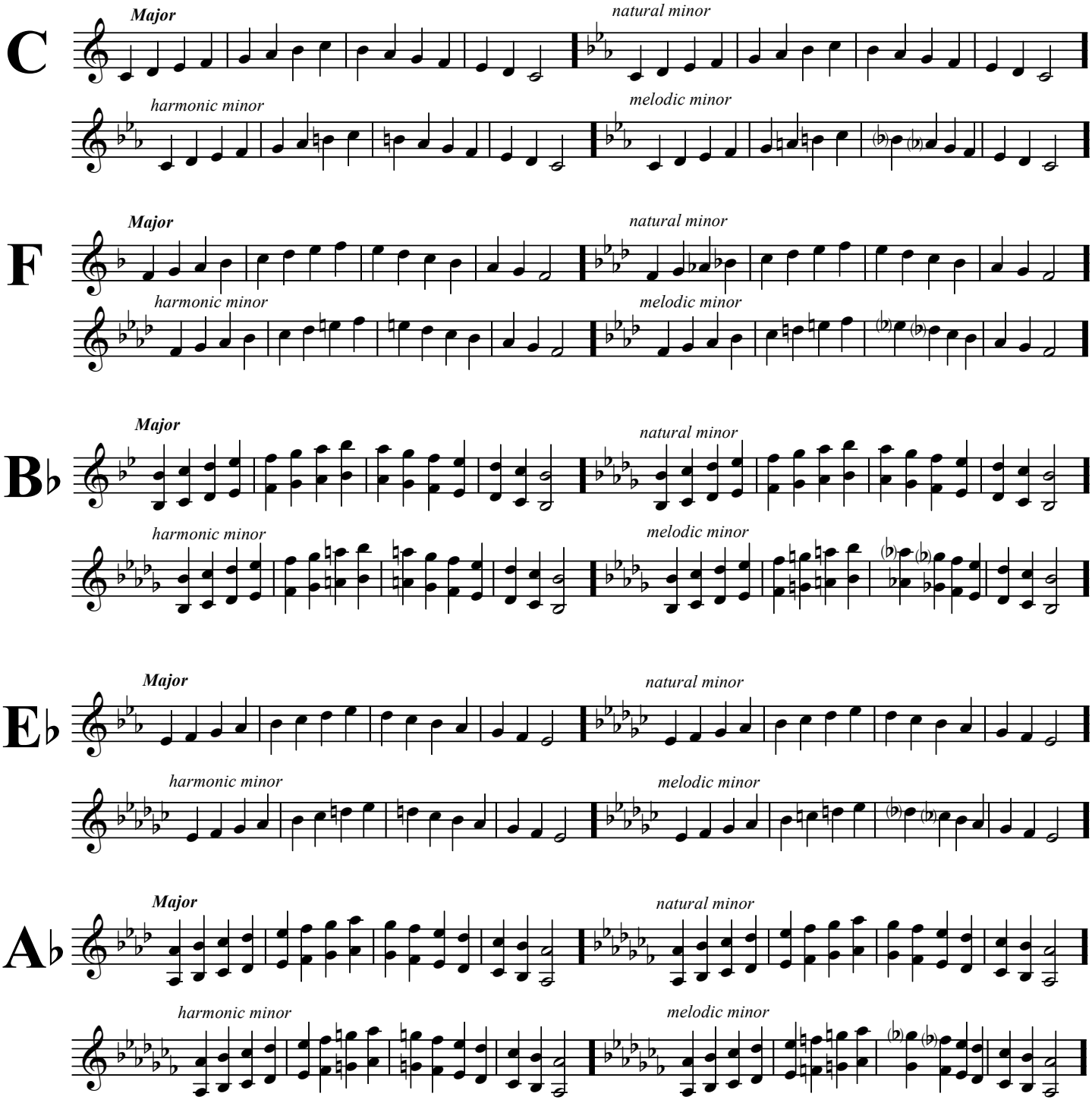
Majors with Parallel Minors

FORMS OF THE MINOR SCALE:

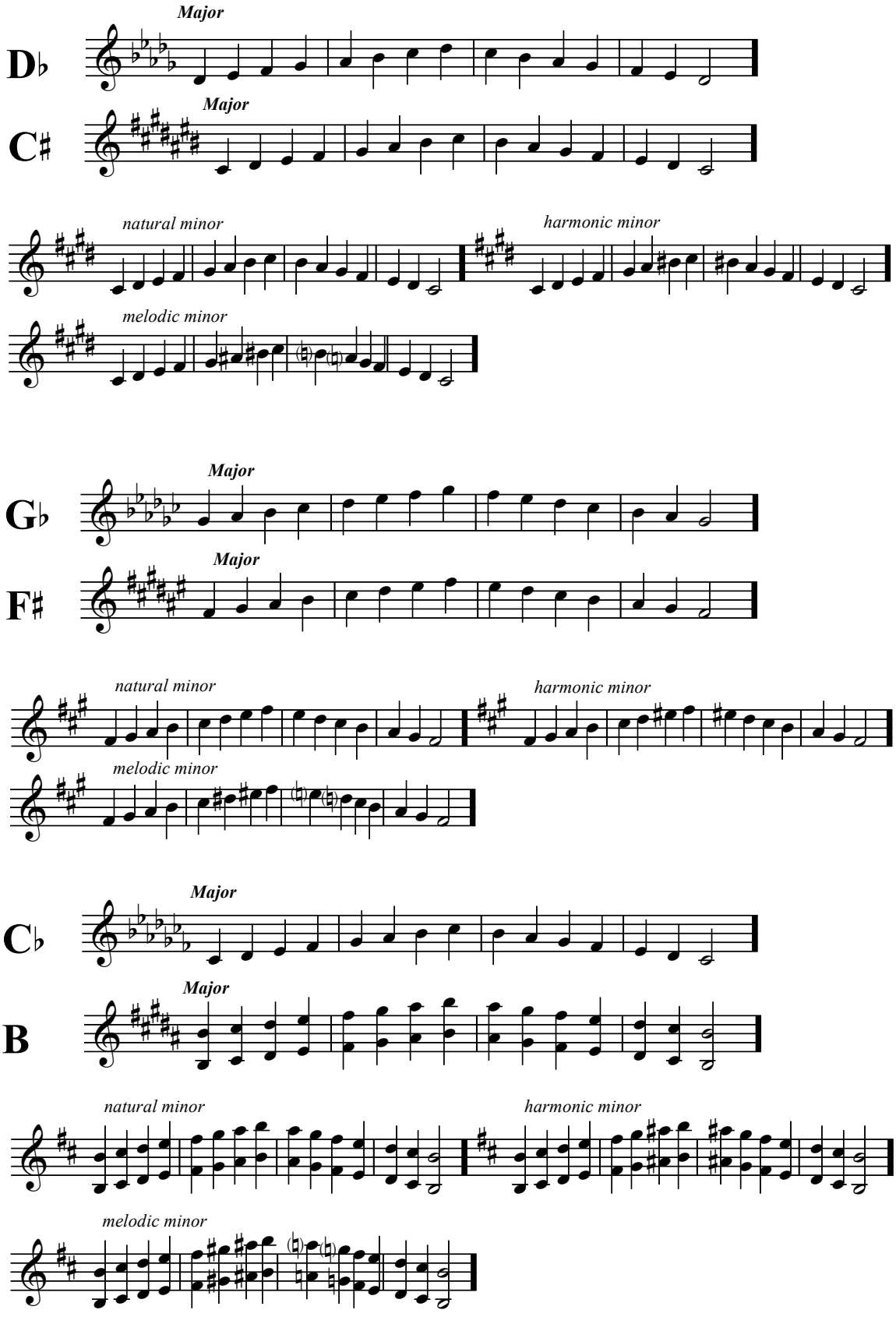
Natural Minor- minor scale without any alterations.
Harmonic Minor- natural minor scale with a raised 7th degree (*leading tone*). This is the most commonly used minor form.
Melodic Minor- natural minor with a raised 6th and 7th degree ascending and un-altered 6th and 7th degree descending.

The *relative minor* to C Major is A minor- they share the same key signature.
The *parallel minor* to C Major is C minor- they share the same starting note (tonic).

To find the key signature for any minor scale, count up three half-steps from its starting note and use the key signature for the major scale built from that note.



The following pairs of major scales are enharmonic equivalents- they start on the same sounding pitch, although they are spelled differently. The parallel minor is built only from the "sharp" keys.



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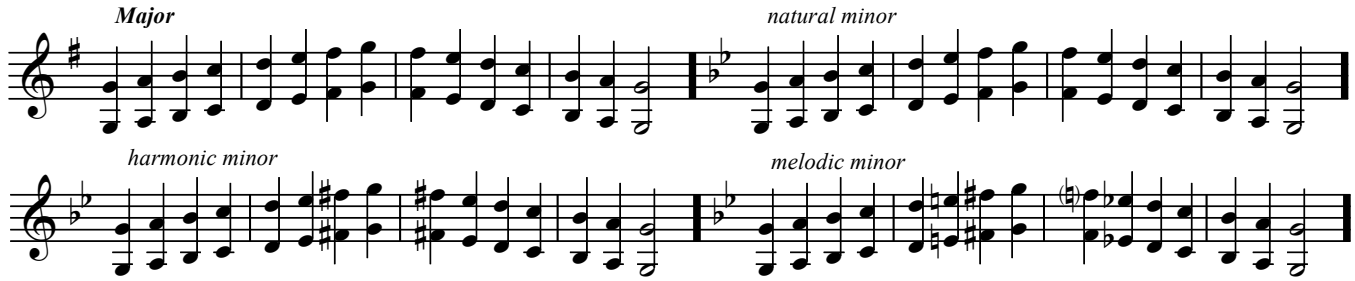
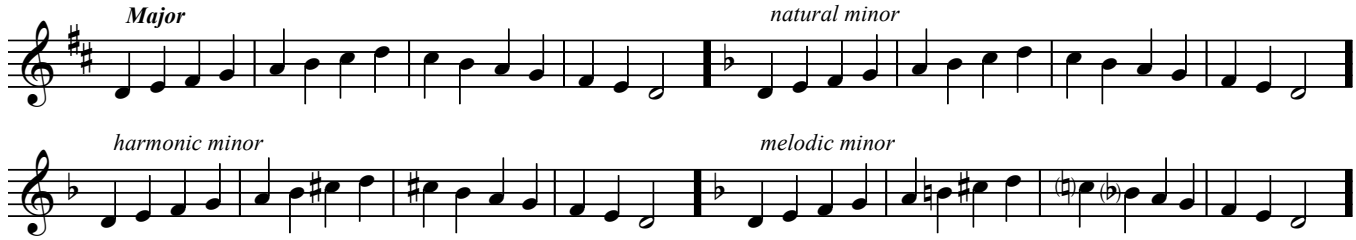
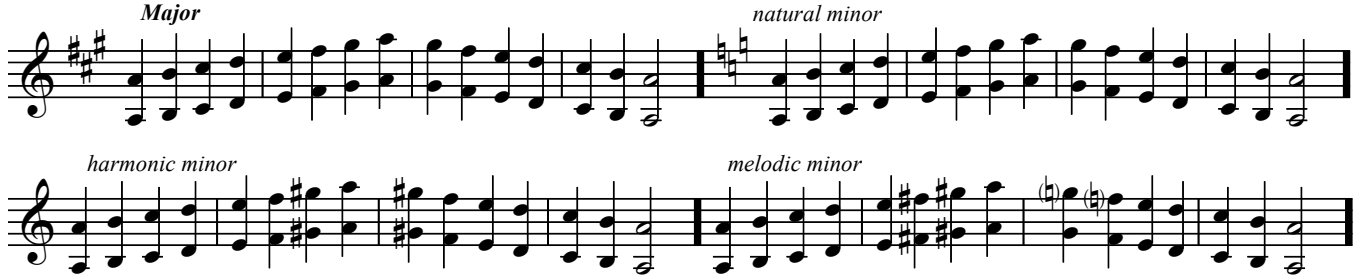


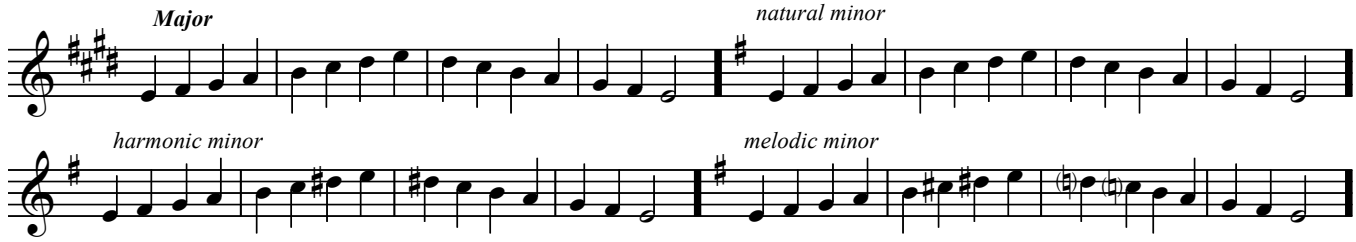
D



A

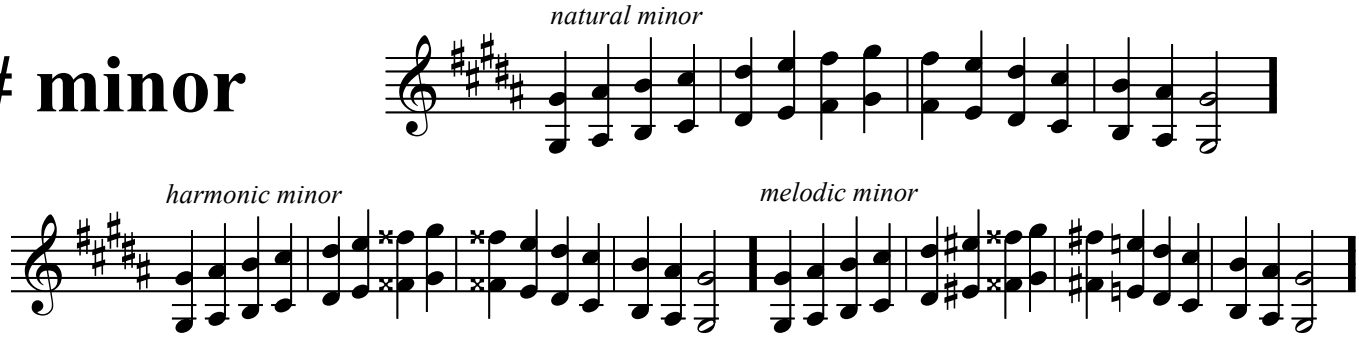


E



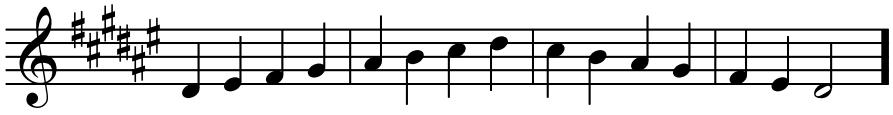
The following minor keys do not have parallel majors, but nonetheless you should be familiar with them because they are used from time to time.

G# minor



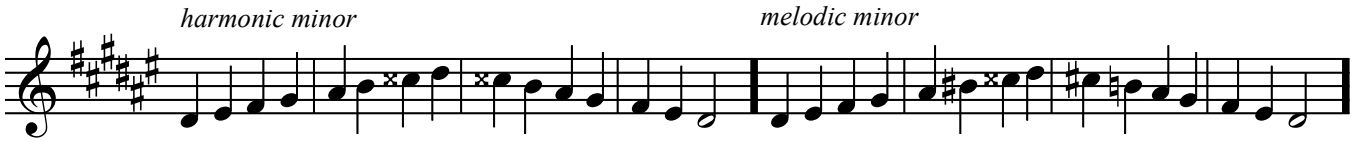
D# minor

natural minor



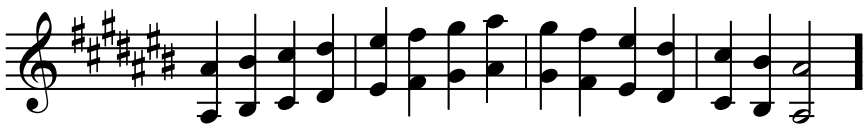
harmonic minor

melodic minor



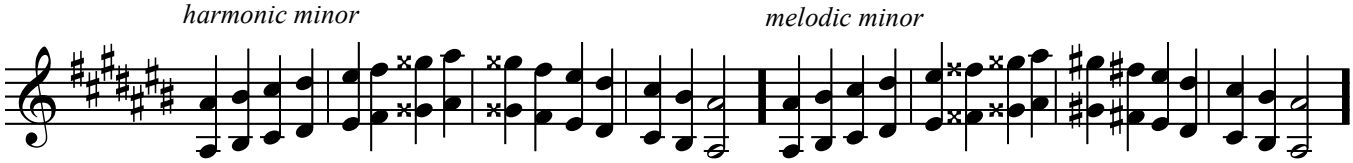
A# minor

natural minor



harmonic minor

melodic minor

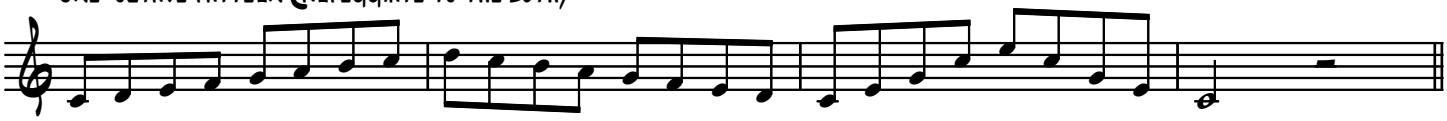


Required Scale Patterns

Refer to SCALE & ARPEGGIO REQUIREMENTS for specific scales and metronome settings.

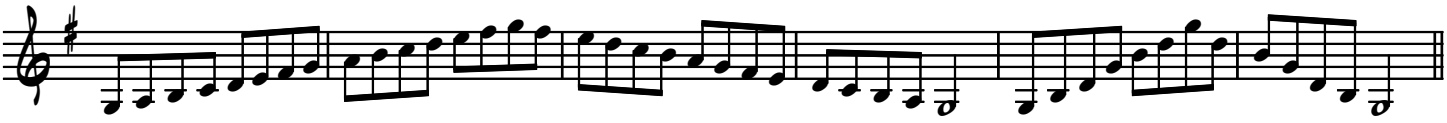
Level One:

One-octave pattern (Arpeggiate to the 10th)



(All tongued)

Two-octave pattern and arpeggio- required for F♯, G, A♭, A, and B♭ scales (and all others, if possible)

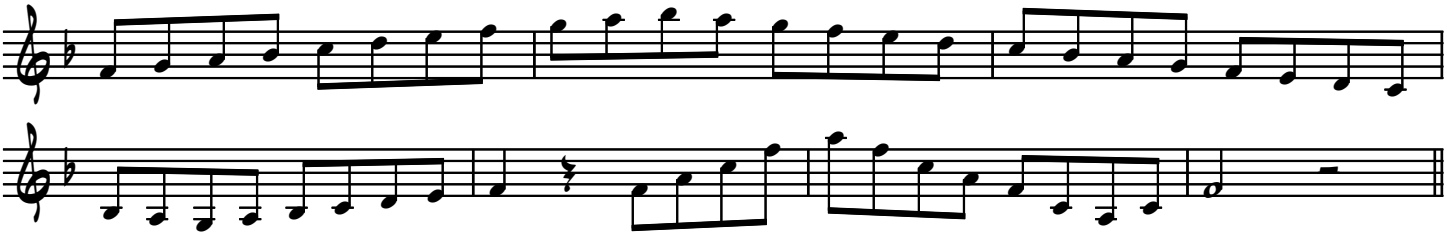


(All tounged)

Level Two:

Play scale and arpeggio through your ENTIRE PRACTICAL RANGE, above and below TONIC.

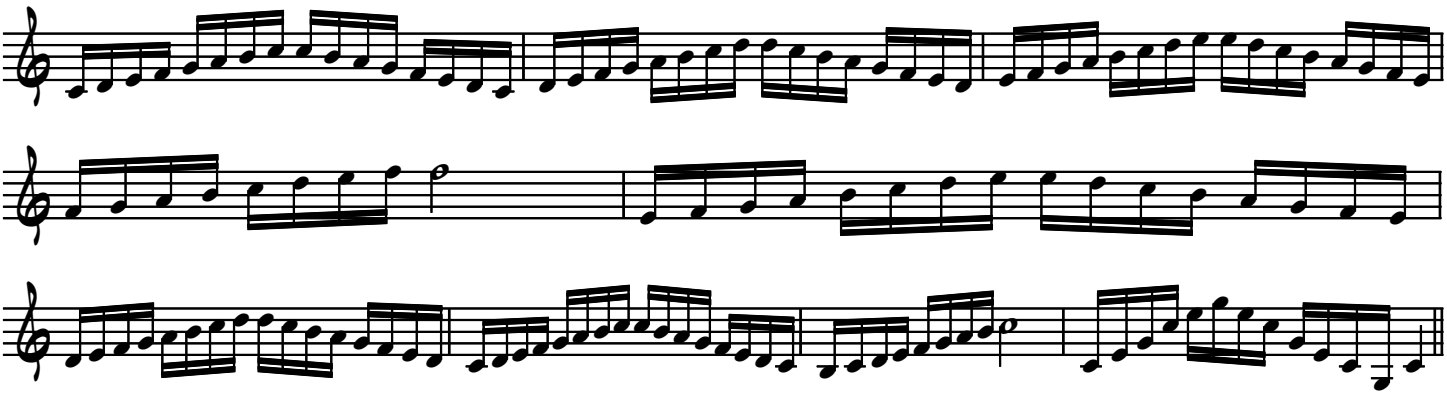
For example: if your highest DEPENDABLE note is a B, your F scale will be played as:



(All tounged)

Level Three:

Scale pattern up to the fourth degree and back down. Arpeggiate through your entire pratical range.

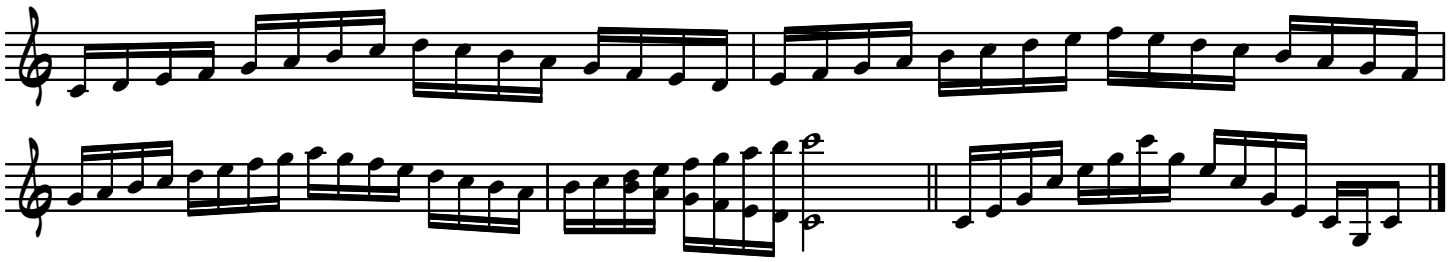


(All Tounged)

Continued on next page

LEVEL FOUR:

ARPEGGIATE THROUGH YOUR ENTIRE PRACTICAL RANGE.



(ALL TOUNGUED)

Scale & Arpeggio Requirements

Refer to *REQUIRED SCALE PATTERNS* for rhythms/patterns to be used for each semester.

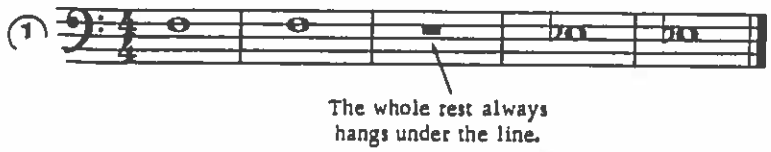
Metronome markings below refer to the quarter-note pulse and are *minimum* requirements for the semester – you are encouraged to go faster!

	Music Minor & Elective Study	Music Education	Music Performance
LEVEL ONE	60	80	100
LEVEL TWO	72	90	120
LEVEL THREE	60	80	100
LEVEL FOUR	72	90	110

Scale/Arpeggio requirements vary depending on your degree and semester of study:

	Music Minor & Elective Study	Music Education	Music Performance
LEVEL ONE	Majors Chromatic	Majors Natural Minors Chromatic	Majors Minors (3 forms) Chromatic
LEVEL TWO	Add: Natural Minors	Add: Harmonic & Melodic Minors	Add: Modes (Dorian, Phrygian, Lydian, Mixolydian, Locrian)
LEVEL THREE	Add: Harmonic Minors	Add: Modes (Dorian, Phrygian, Lydian, Mixolydian, Locrian)	Add: Whole-Tone Jazz Minor Blues
LEVEL FOUR	Add: Melodic Minors	Add: Whole-Tone Blues	Add: Lydian Dominant Lydian Augmented

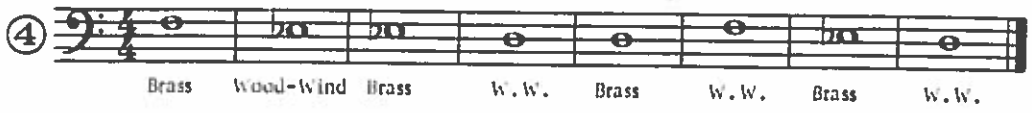
For the first few pages name and finger the notes before you play each line.



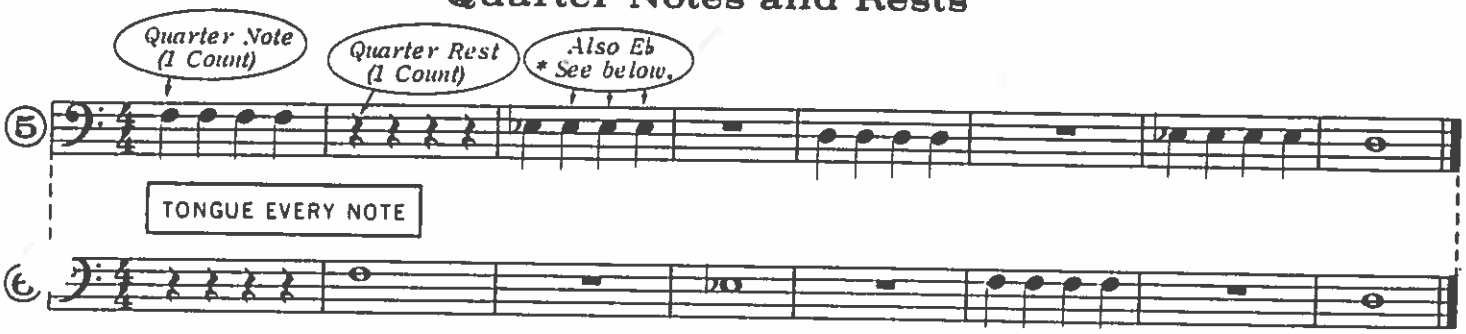
TONGUING

- When we start a tone we "tongue" it unless certain marks indicate otherwise.
- To "tongue" a tone on the Trombone you merely say "Tu" (or a similar syllable preferred by your teacher) as you start your tone. Teachers differ as to the exact spot for your tongue to touch. Ask your teacher which he prefers. DO NOT PUT YOUR TONGUE BETWEEN YOUR TEETH.
- Do this (tongue) as you start EVERY tone until we learn otherwise.

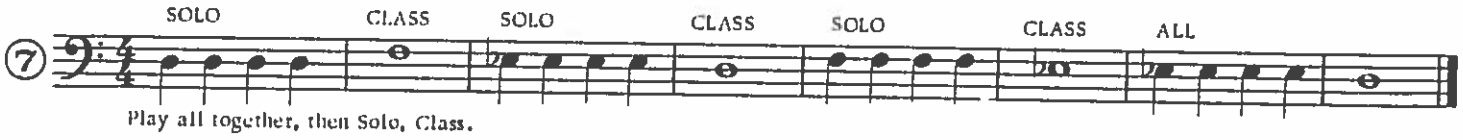
Take Your Turn



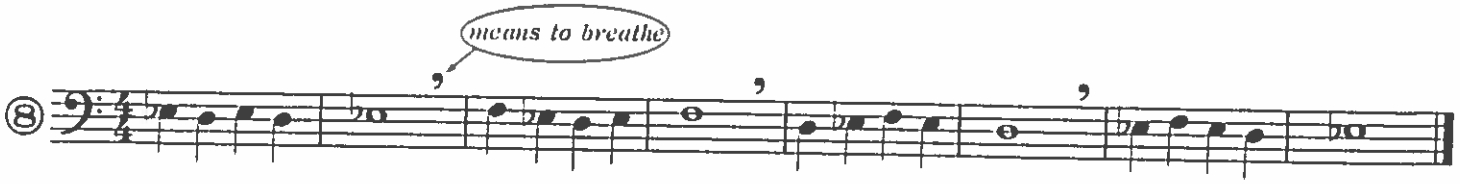
Quarter Notes and Rests



In this book there will be many times when two lines can be played together. This will be indicated by a broken vertical line joining them. Always learn each line separately first. The class should then be divided and the lines played together.

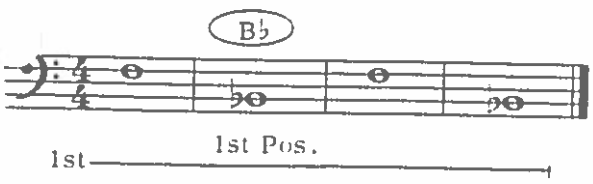


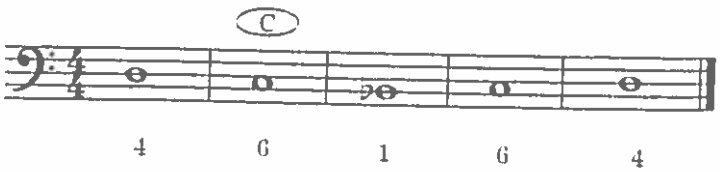
Play all together, then Solo, Class.



ALWAYS LOOK AHEAD.
BE READY FOR THE NEXT NOTE

Trombone Extra

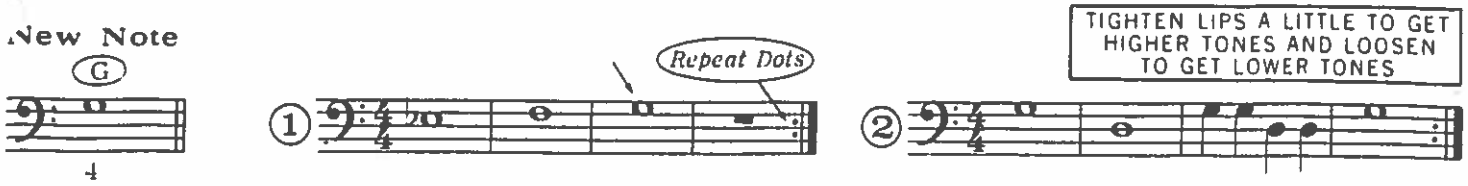




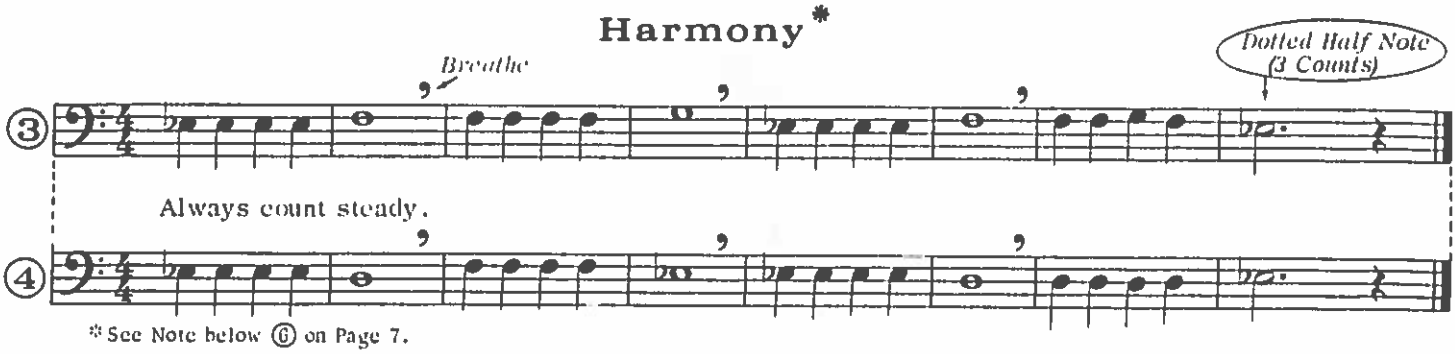
* A Flat remains in effect throughout the entire measure.

As a beginner the most important thing is the development of careful playing habits. Always be sure of these things:

1. Proper position - lips, hands, fingers, posture, etc.
2. Always get a pretty and pleasant tone with no wavers.
3. Tongue all notes correctly.
4. Blow plenty of AIR through the horn.
5. Always LISTEN carefully.



Harmony*

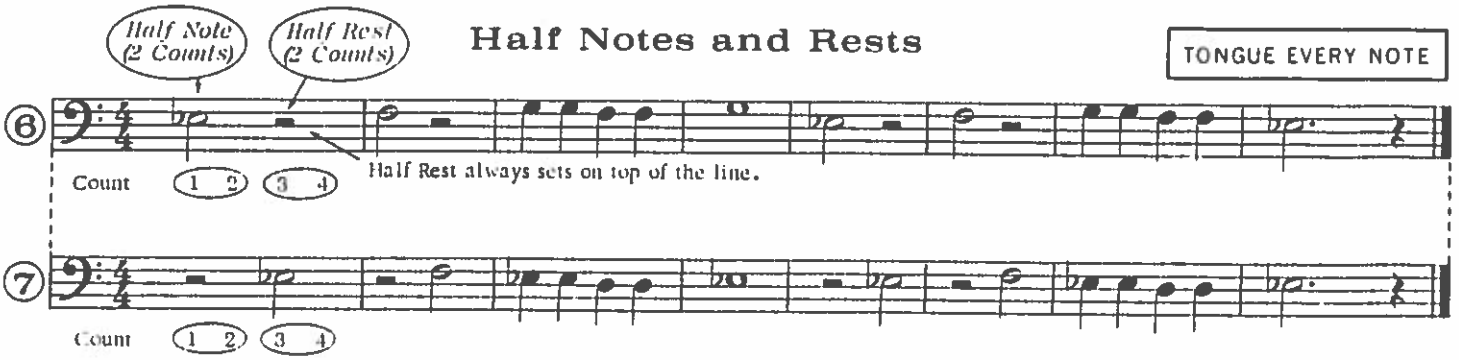


*See Note below Ⓕ on Page 7.

Mary's Little Lamb

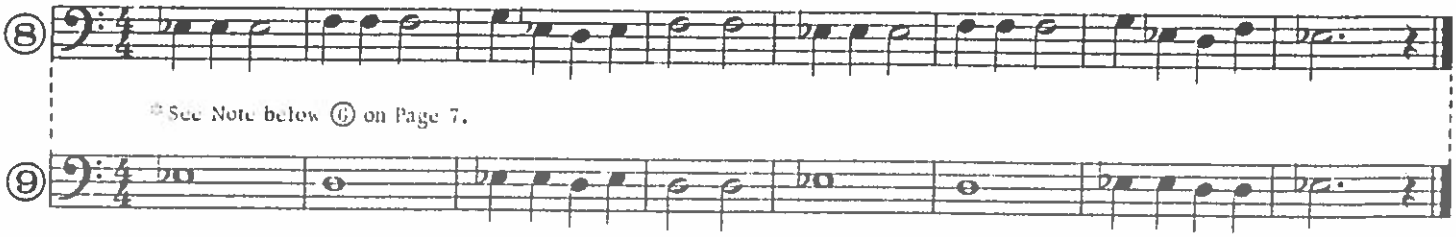
Half Notes and Rests

TONGUE EVERY NOTE



ALWAYS LOOK AHEAD

Holiday In Paris (Duet)

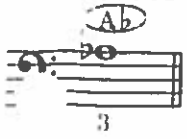


*See Note below Ⓖ on Page 7.

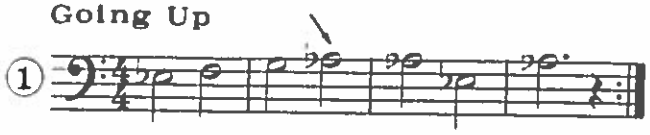
Trombone Extra

*HARMONY - Two or more Tones played at the same time that have a pleasing sound.

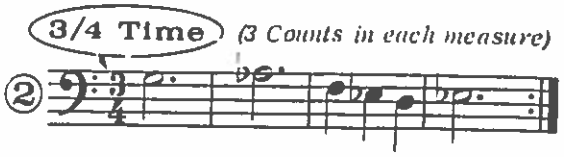
New Note



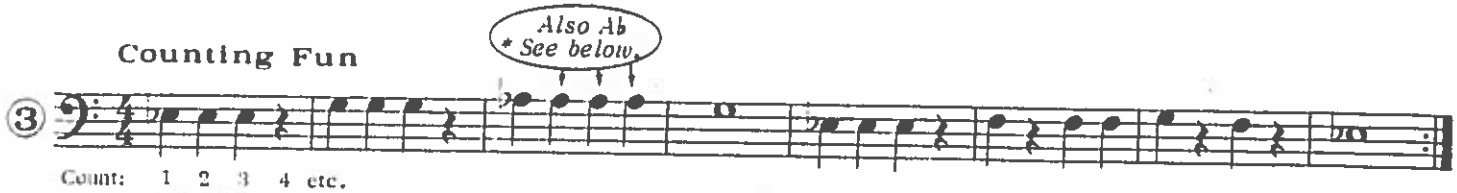
Going Up



3/4 Time (3 Counts in each measure)



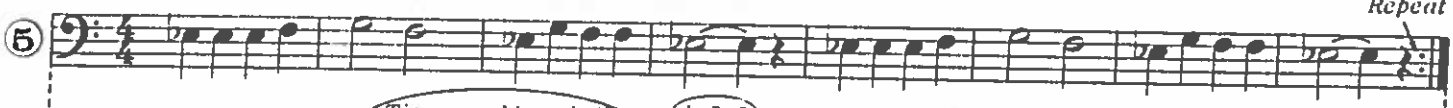
Counting Fun



Count: 1 2 3 4 etc.
Write Counting under notes, then play.

MELODY

Famous Melody

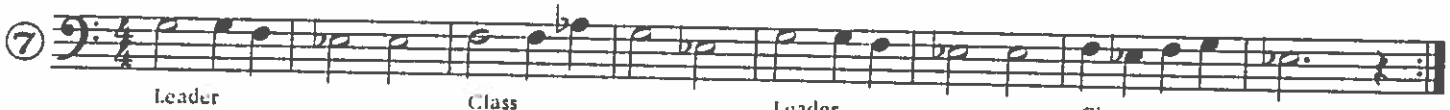


HARMONY

Tie - combines both notes into one tone.

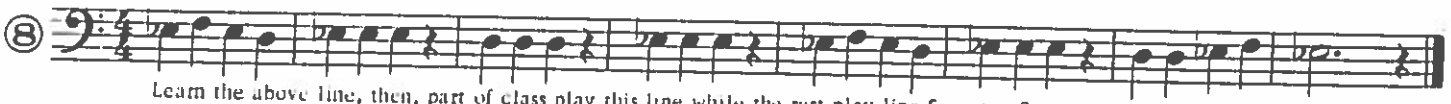
1 2 3 4

Go Tell Aunt Rhodie



Leader ALL play on repeat. Class Leader Class

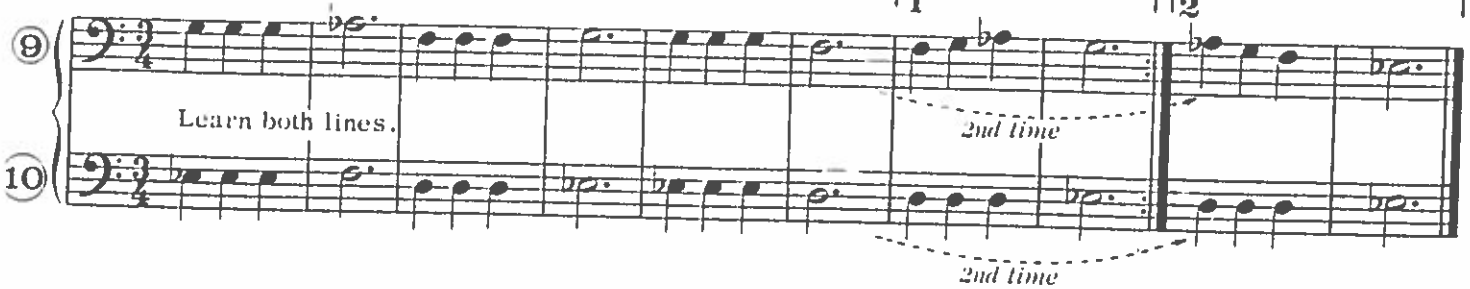
The Little Lamb's Brother



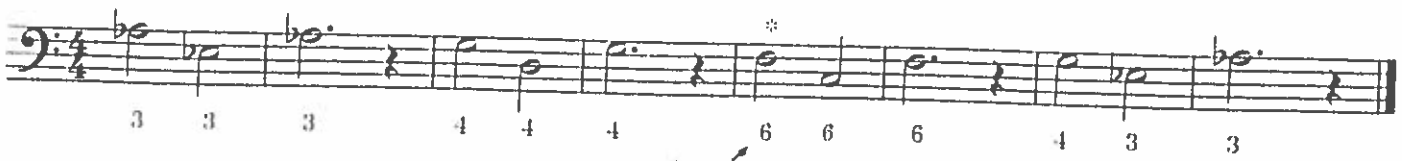
Learn the above line, then, part of class play this line while the rest play line 5 - page 8.

Duet

Play 1st time only. Play 2nd time only.



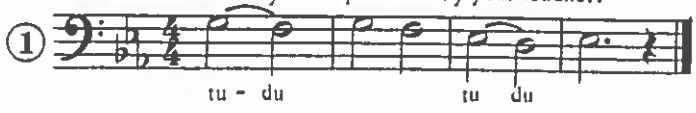
rombone Extra



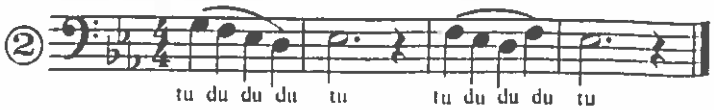
*F may also be played 6th Position.

* A Flat or Sharp remains in effect throughout the measure.

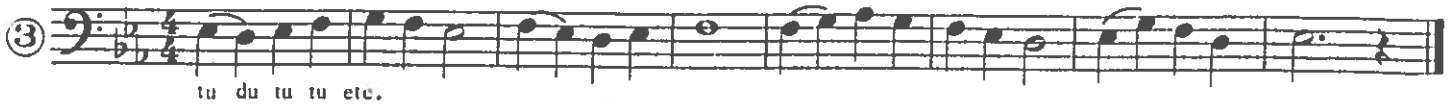
Slurs Use syllable preferred by your teacher.



Tongue only the 1st note of each slur.



What is the difference between a tie and a slur?



1st SOLOIST — ALL play on Repeat | 2nd SOLOIST | 3rd SOLOIST | ALL

A Musical Game

Different instruments play the various notes of the Tune below. If everyone plays their note on the correct count you can easily name the tune. Who will be the first to name this tune?

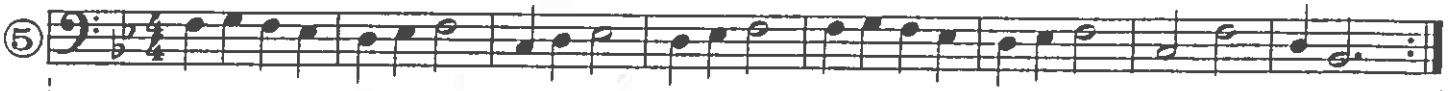
Group 4

Figure out in advance which Counts you play on.

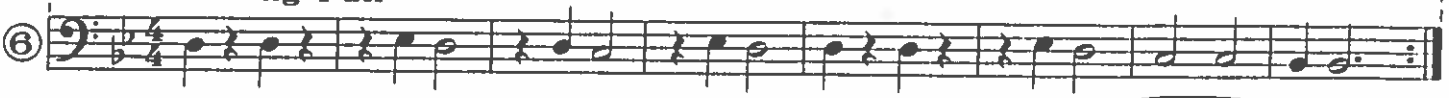
Means Finish or end — *Fine*

Means go back to beginning and play to Fine. — *D.C. al Fine*

London's Crazy Bridge

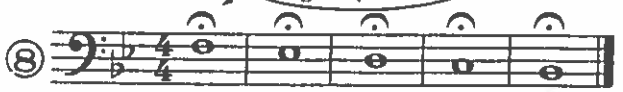


Counting Fun



Work out carefully, then try for speed.

Hold each note as long as possible

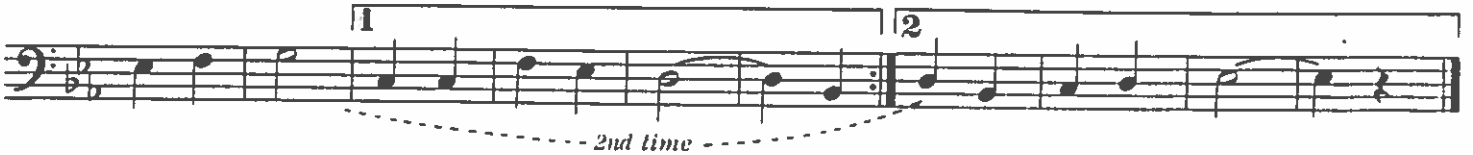


Also practice the above line slurred.

2 Counts in each measure

The Two Tune March

Tune II



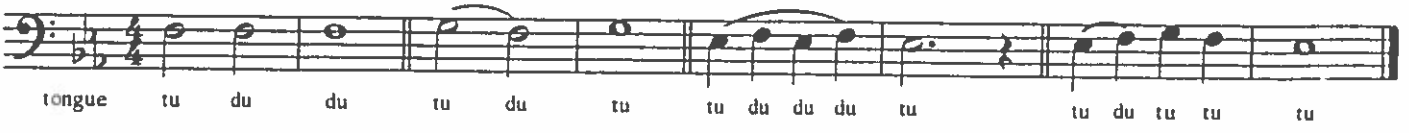
Scale Fun (Review of Notes Learned)

Trombone Extra

Work out carefully, then try for speed.

SLURRING: In the beginning, slurring on the Trombone is somewhat different than on the other instruments. For other instruments a slur means - don't tongue. For the Trombone player it is best, when slurring is indicated, to use a soft tongue stroke such as Du, instead of the usual Tu, otherwise the slide is apt to cause a "smear" between the tones. A soft and smooth tongue stroke is called a legato tongue stroke.

Practice the line below, as indicated, before trying to play this page with the other instruments. Play each slur in one breath and move the slide rapidly to avoid a "smear" when going from one note to another.



New Note

Low A

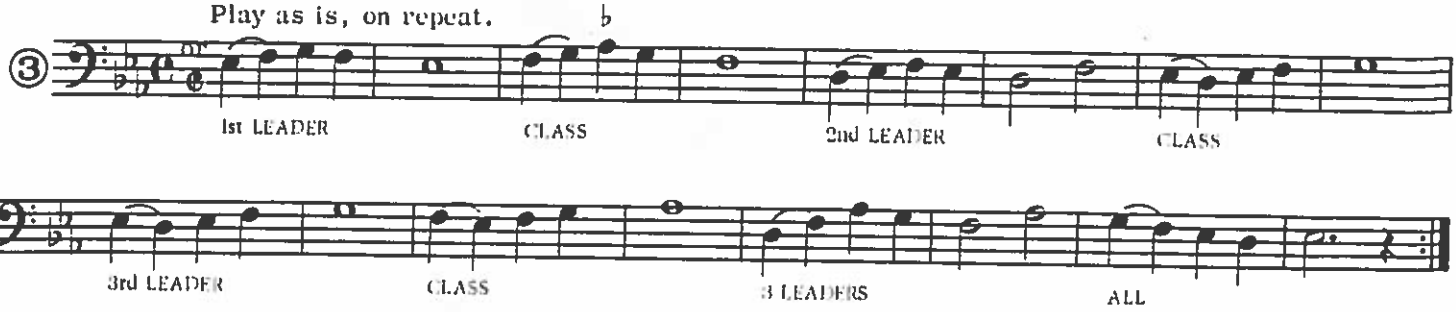
2

Work out carefully, then try for speed.

(Also slur.)

Follow The Leader

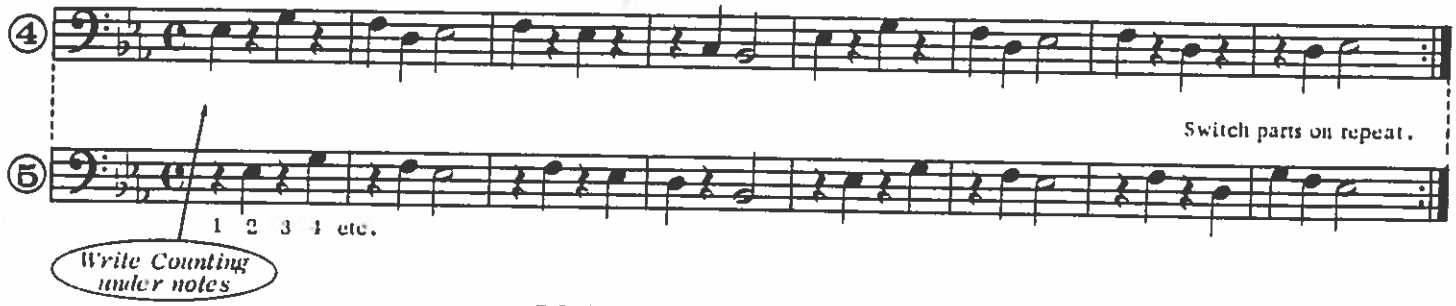
Play as is, on repeat.



Who Will Play on the Wrong Count?

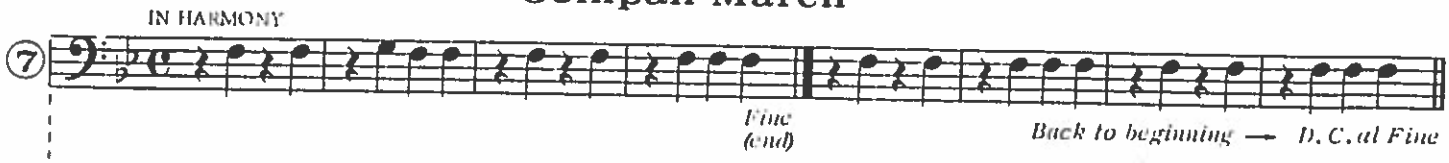
(A Counting Game)

LOOK AHEAD

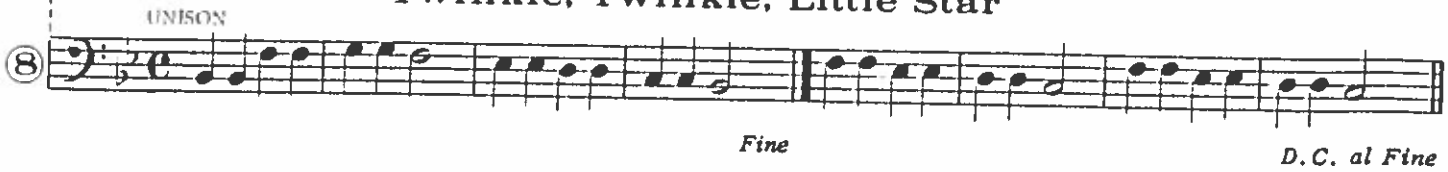


Old MacDonald

Oompah March

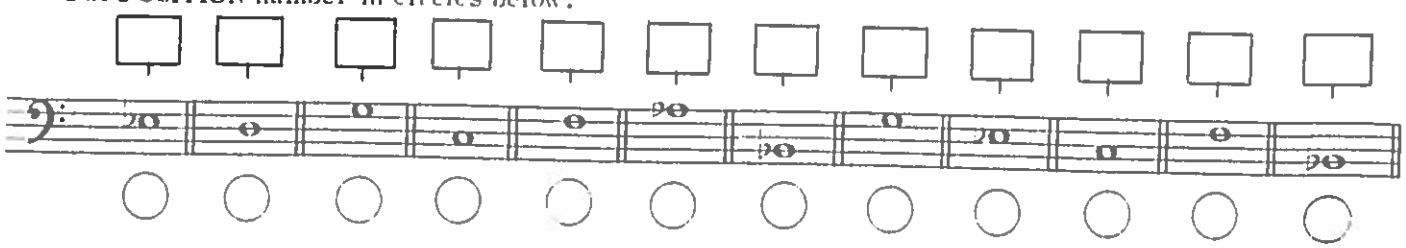


Twinkle, Twinkle, Little Star

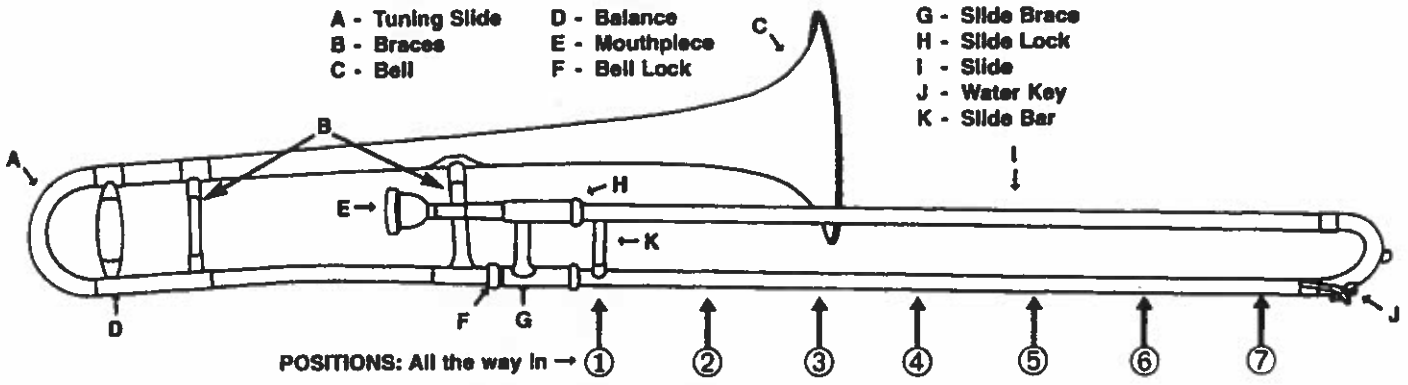


A - Put Names of notes in squares above the staff.

B - Put POSITION number in circles below.

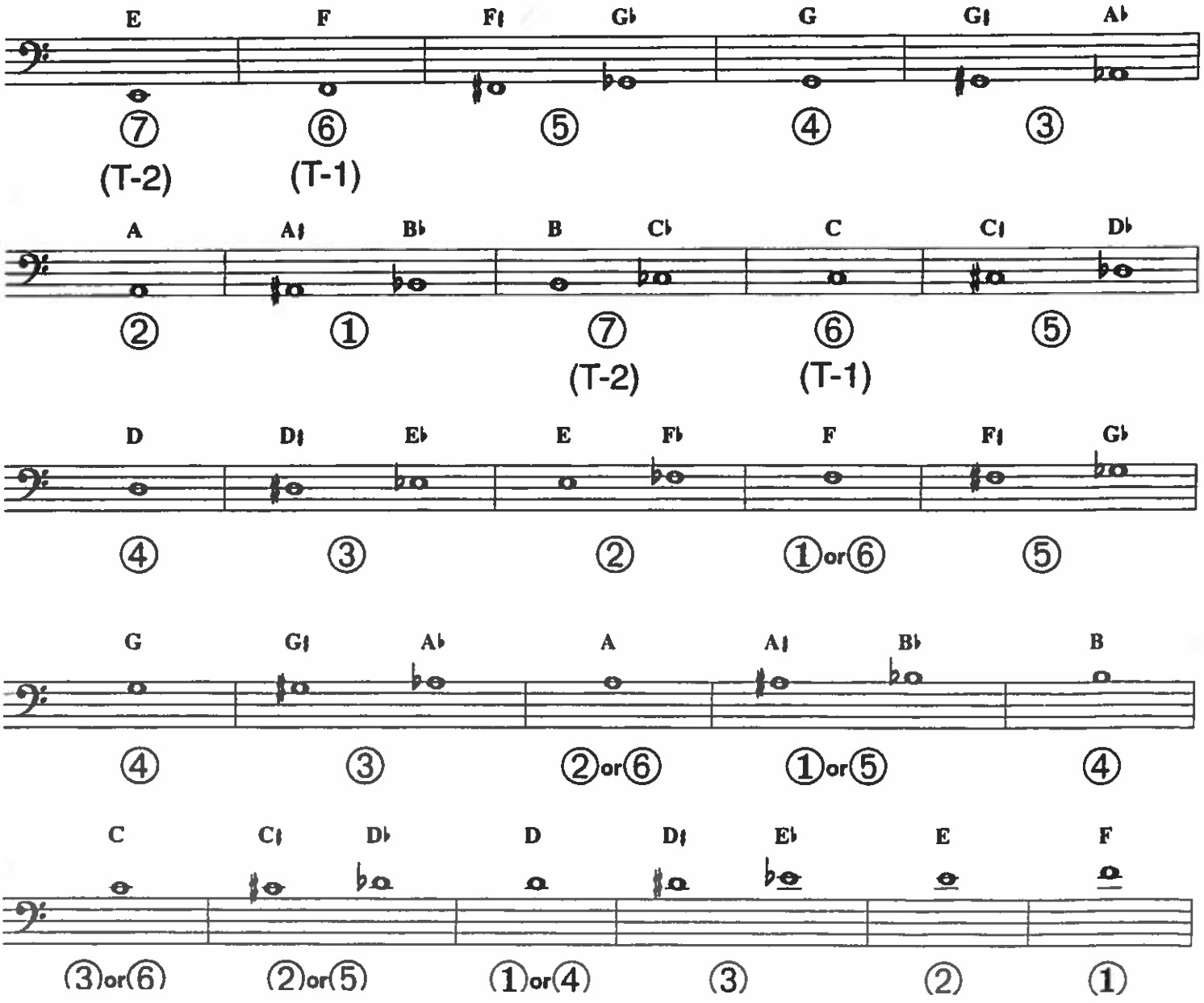


PARTS OF A TROMBONE AND POSITION CHART



How To Read The Chart

The number of the position for each note is given in the chart below. See the picture above for the location of the slide bar for each position. When two enharmonic tones are given on the chart (F# and G♭ as an example), they sound the same and are played with the same position. Alternate positions are shown underneath for trombones with a trigger (T=thumb trigger).

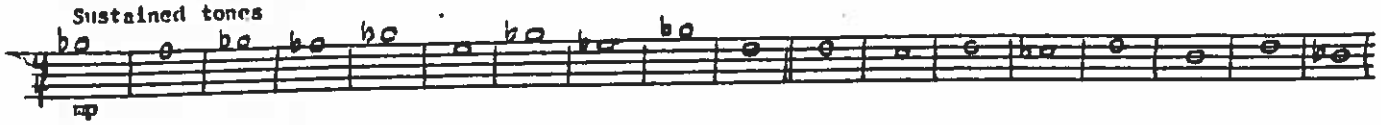


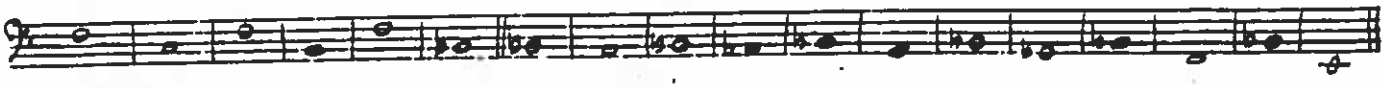
WARM-UP EXERCISES

Trombone and Euphonium

Remington, et al.

Sustained tones

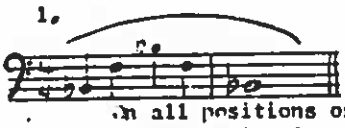




Legato scales

Flexibility

1.



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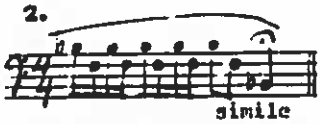

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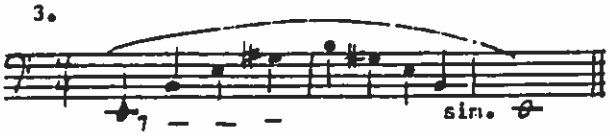

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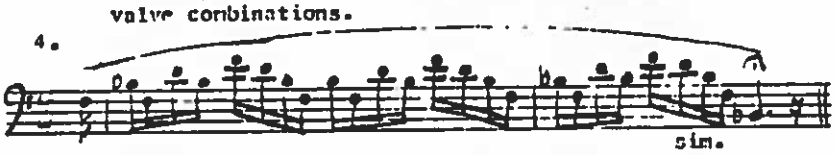

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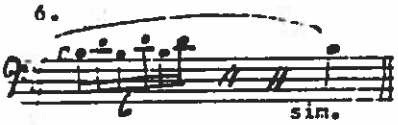
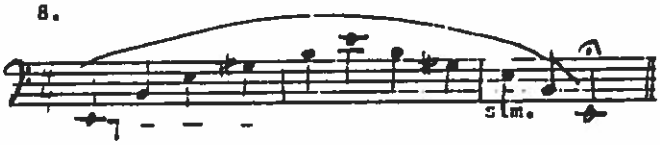
6.



7.

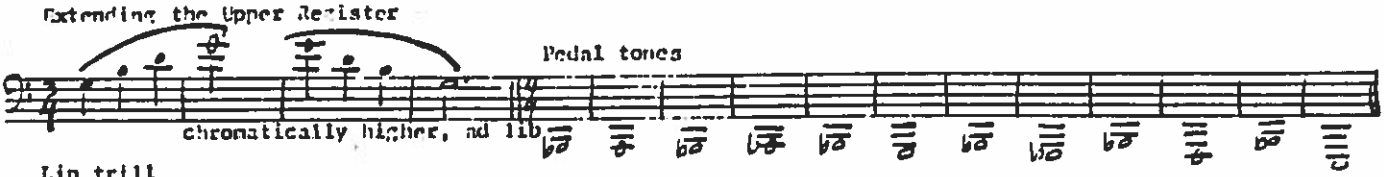
8.



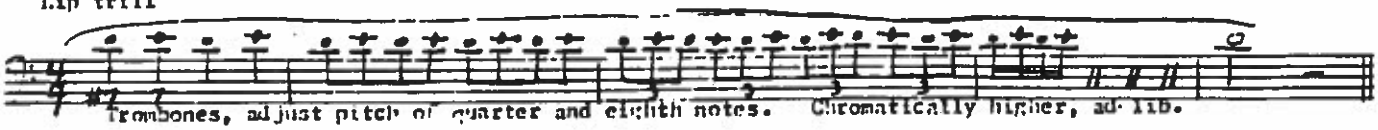
9.

10.

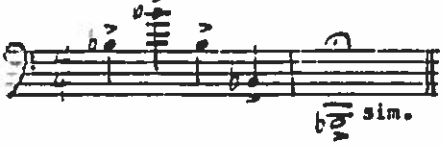
Extending the Upper Register



Lip trill



Octave attacks



Natural diatonic glissando
Trombones, only

Single tonguing

Continue chromatically upward to high "F", if possible

A metronome is a necessity. Begin 4 metronomic markings below your top speed and play the exercise at all the successive tempi gradually developing facility to at least ♩ = 132

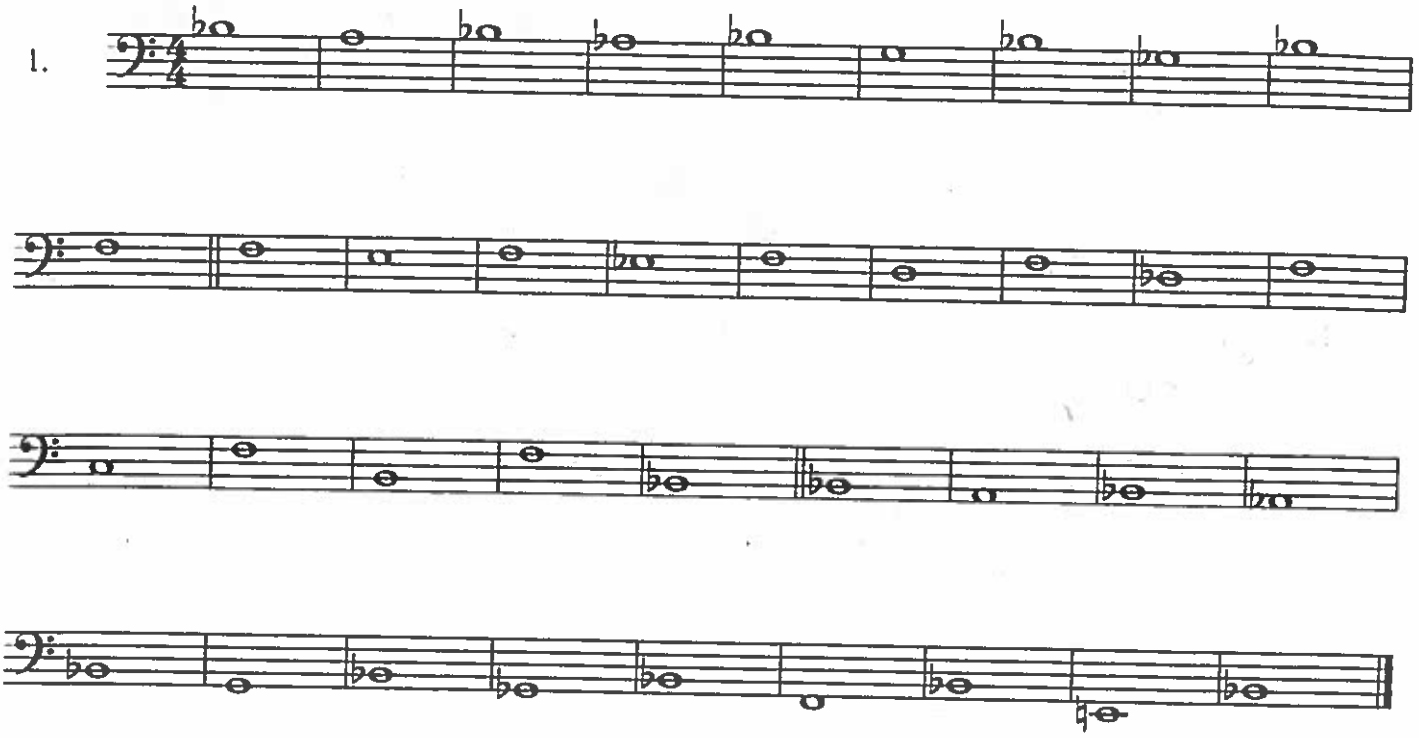
For further materials see, Schlossberg's Daily Drills and Technical Studies

Daily Routines for Trombone by Emory Remington

Long Tone

Transcribed by Jimmy Clark

1.

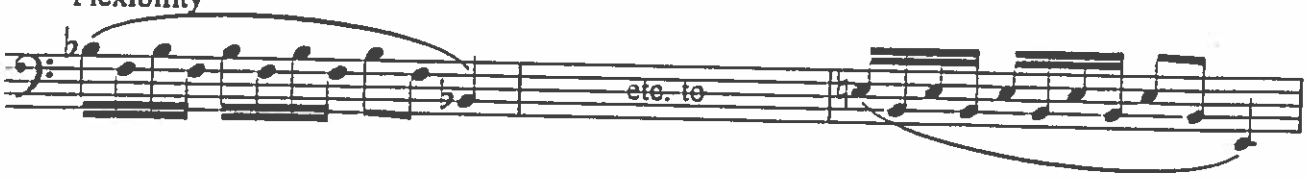


3 Note Slurs

2.

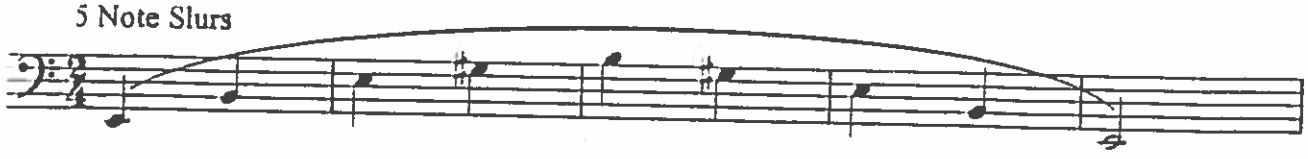
Flexibility

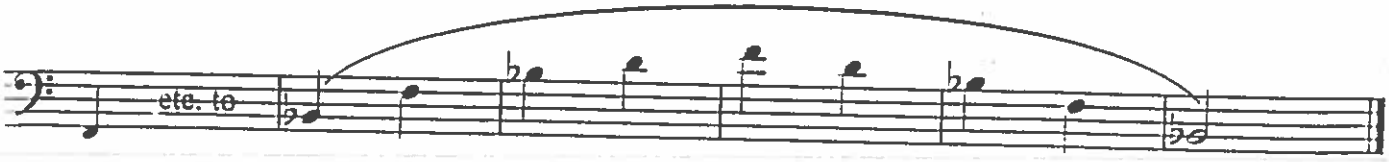
3.



5 Note Slurs

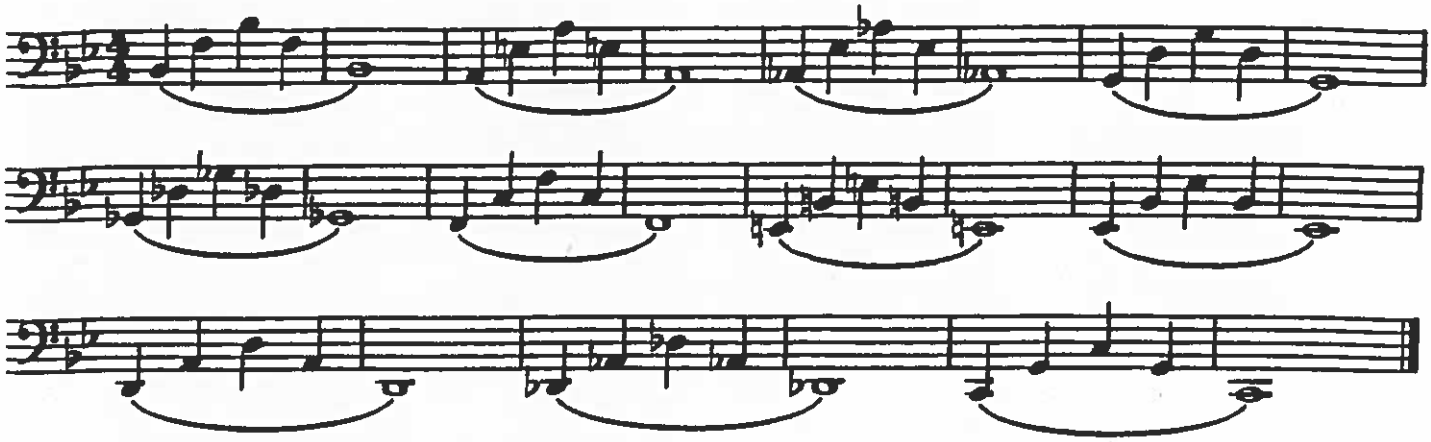
4.



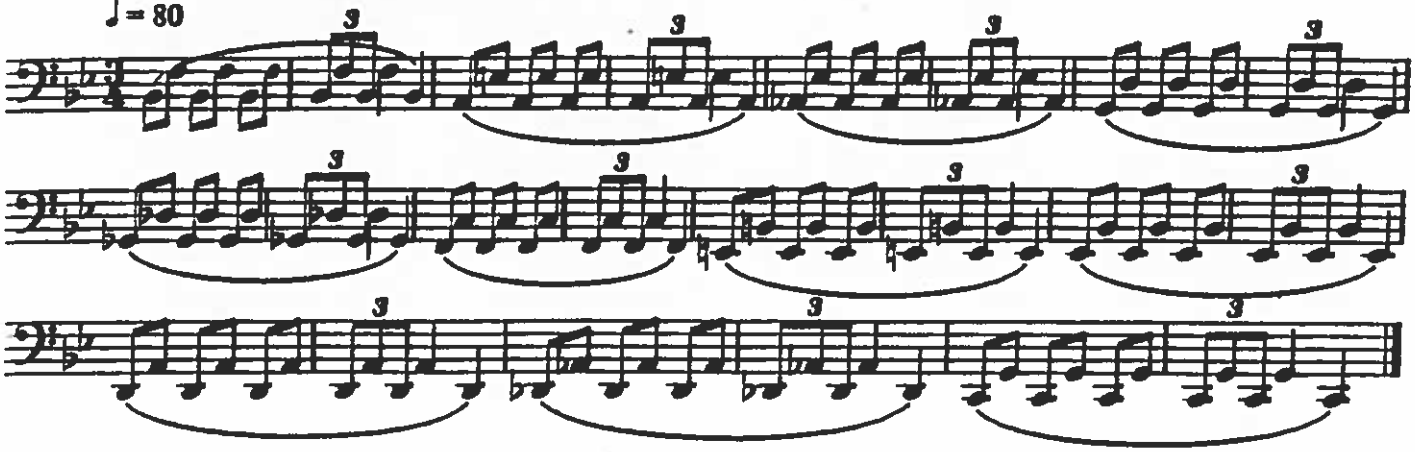


Lip Slurs are very important to sound and embouchure development. While playing these and other lip slurs, remember the sound that you established in the earlier section and apply it to these exercises.

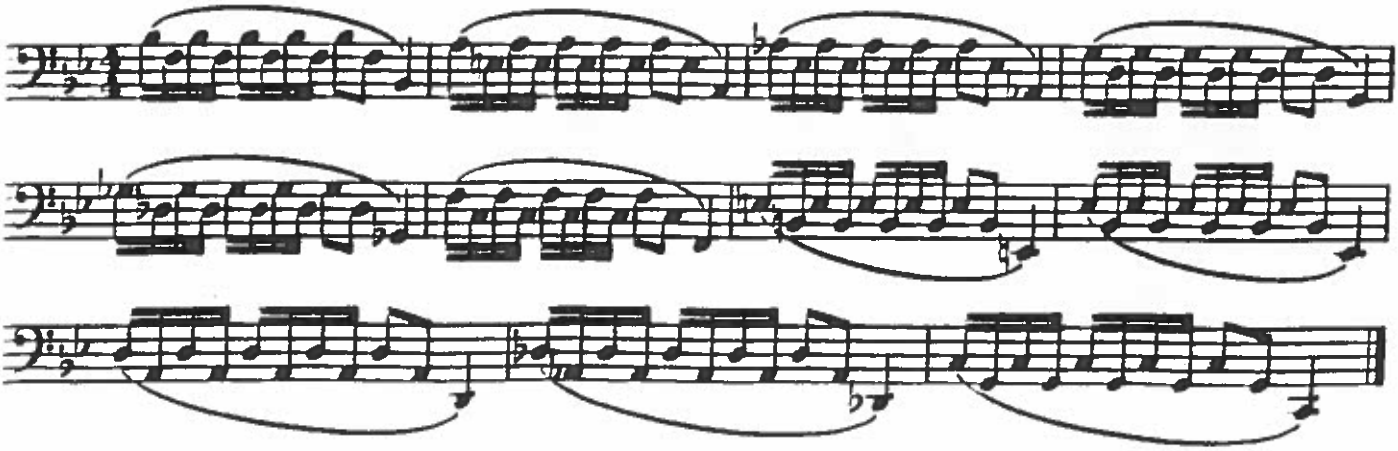
3 NOTE SLUR (Remington)
Play slowly to focus on seamless connections. Keep the lips vibrating.
♩ = 40



2 NOTE FLEXIBILITY (Blokker)
This pattern can be played starting on any partial and going either direction.
♩ = 80



3 NOTE FLEXIBILITY (Remington)
♩ = 96



TROMBONE SLIDE MAINTENANCE

Assuming that the slide is free of dents, is straight, and in alignment, the key to a good slide is keeping it clean. Many people who think that they have a bad slide would be surprised at how well their slides could work if they were cleaned and lubricated properly. The buildup of old slide cream and years of dirt and grease can make the slide action sluggish and uneven. The first step is cleaning.

Use a flexible brush (sometimes called a snake) and dish soap to clean the slide bow and the inside of the inner slides. I really suggest getting a vinyl-covered flexible brush to avoid scratching the metal. To clean the inside of the outer slide use a cleaning rod. If you don't have one, get one! Tear four-inch by six-foot strips of cotton flannel or old cotton sheet. Feed the cloth through the slot in the rod so half is on each side. Loop the cloth over the end of the rod, and wrap the cloth around the length of the rod (you want the entire rod covered) so you can hold onto both ends along with the handle. Use the cleaning rod like a plunger and work it back and forth in the slide, changing the end several times to expose clean cloth each time. Repeat for the other side.

You'll be surprised at how well slide cream works as a cleaner, so we will now apply that and then clean again.

I prefer Trombotine, but Superslick also works pretty well. Wipe all the old cream off, and apply a small amount of cream to the stockings of the inner slides (the slightly larger part of the slide at the far end). Spray with water, put the outer slide on and work the slide back and forth for a few minutes.

Now clean the outer slide again just as before using a clean cloth (you will need several strips of cloth, but you can wash and reuse them). Wipe the old cream off the inner slide and apply fresh again. Spray with water, reassemble and work the slide up and down again.

The slide should work much better now. Some slides will work even better using Superslick Plus in addition to slide cream. To try this, wipe off the inner slides again. There will still be cream on the inside of the outer slide. Apply a drop of Superslick Plus to each stocking and rub it in, then spray with water again.

If you can see a lot of the cream on the slide, and the slide is gummy, you are using too much cream. This is a very common problem. If you have followed these cleaning instructions and the slide still doesn't work (gravity should easily pull the outer slide off without any help), it is time to visit the repair shop.

You should probably clean your slide about once a week, or more often if you play a lot and especially if you play outdoors.

Band Director Discussion

THIS MESSAGE BOARD IS NOT UNCENSORED. You may post anonymously (or not, your choice) under the following guidelines: 1. No profanity. 2. Do not post hateful comments about anyone. 3. Always keep responses to any post or poster respectful. No name-calling. 4. Do not post false or misleading information regarding an individual or group of individuals. 5. Since this is a site for adult band directors and college music majors, high school student posts are NOT encouraged. 6. The boardhost reserves the right to (and will) remove posts and/or ban individual posters. Please keep all posts friendly, civil, and respectful. LINKS TO COMMERICAL OR OTHER REVENUE GENERATING SITES AND TO OTHER CHAT BOARDS ARE NOT ALLOWED AND CAN LEAD TO POST REMOVAL AND USE DENIAL. PLEASE DO NOT POST URL ADDRESSES.

Re: Trombone tone

Posted by NO to BUZZING at first on 2/7/2003, 12:40 pm, in reply to "Re: Trombone tone"

damn, I keep pressing the enter button and the posts sens off....
here we go again the third time.

1. Start the students by teaching them how to breathe correctly. THE TONE is a MIRROR image of their breath.
2. Have them blow air through the shank of the mouthpiece (monitor the teeth - no biting the metal - creates tension) I also have the students put the entire mouthpiece in their mouth and then I have them blow air forward. This creates the feeling of a free air flow with no tension on the face or neck in addition to emphasizing the fact that the teeth need to be APART!.
3. TENSION is the ENEMY. Do as many tension free exercises as possible.
4. Students are ready to create a sound when they can blow free air through the horn without tension in the face or neck.
5. The first sound should be produced on the entire horn - NOT BUZZING. Buzzing creates tension in 99% of beginners. If you started off immediately buzzing from the get go - I bet you are not very happy with your trombone sounds. Unmonitored buzzing (happens at home when they practice) will be your thorn forever. Buzzing as loud as possible will create tension - kids will press their lips tightly together to create volume - BIG NO NO!!!!!
I start the students by forming an embouchure with the aperture apart. Then they blow smooth, steady air through the mouthpiece. I then ask them to gradually bring their lips together while they blow air forward.... BOOM an instant open sound. There are numerous other methods that I have to get the right embouchure and sound from beginners. Too many to write down in this email.
6. One other thing to remember - The more long tones you do - the better they will get. The more long tones you do on lower notes - the more open they will be become. Their upper range is a reflection of their lower range.

I have had alot of success with all brass with these methods. Blowing loud is not necessarily the answer - you might increase your problems tenfold. Be patient - and teach it the right way.

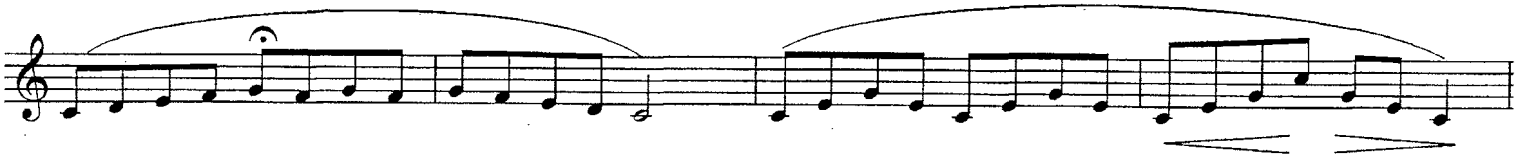
Good Luck - hope I helped

WARM-UP EXERCISES

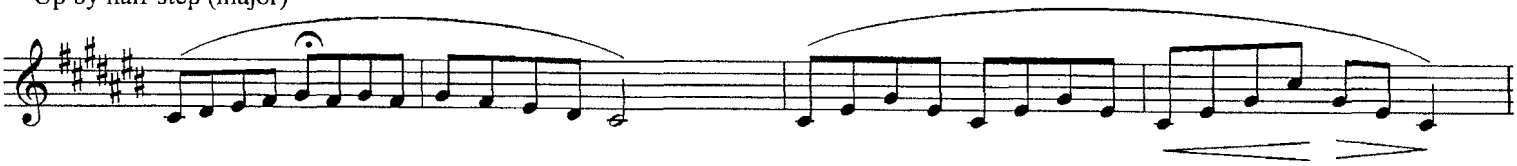
Adapted from James Stamp's
"Warm-Ups and Studies"

Mouthpiece Buzzing

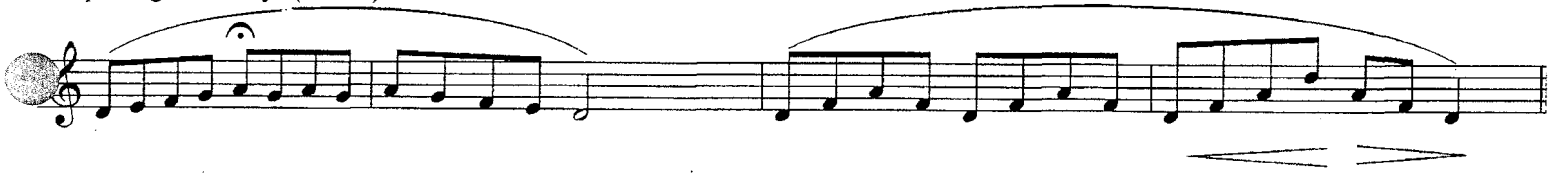
Perform at the piano and keep intonation true.
Hold the mouthpiece with two fingers and near the end of the shank using as little pressure as possible!
Play at a tempo and dynamic that will allow you to center every pitch.
Continue the pattern up by half-steps (major) or just use the white keys (modal).
Proceed up only as high as you can with a good buzz and intonation.



Up by half-step (major)



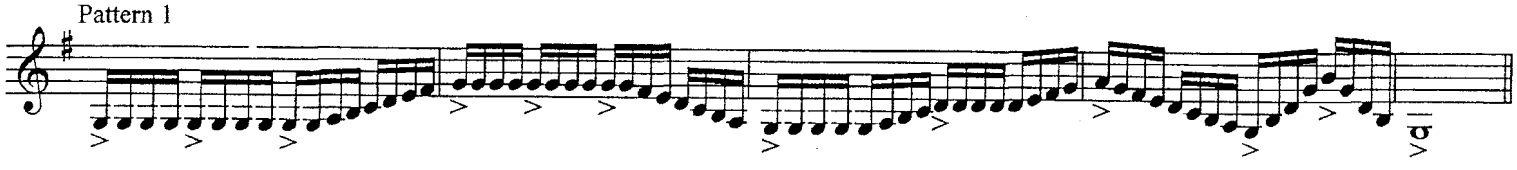
Up using white keys (modes)



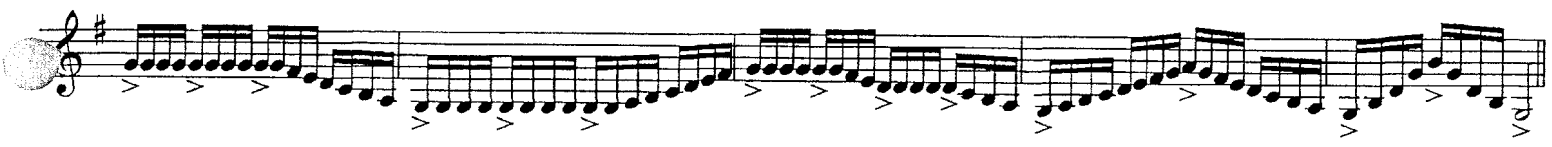
Scale Studies

Keep articulation centered and full of bounce (like repeatedly striking a drum).
Play at a tempo and dynamic that will allow you to center every pitch and coordinate the fingers and tongue.
Maintain a solid, focused sound and good intonation - upper pitches should have the same quality of sound and response as lower pitches.
Apply this pattern to higher keys (major, minor, modes, etc.) but only as high as you can while maintaining good sound and articulation.

Pattern 1



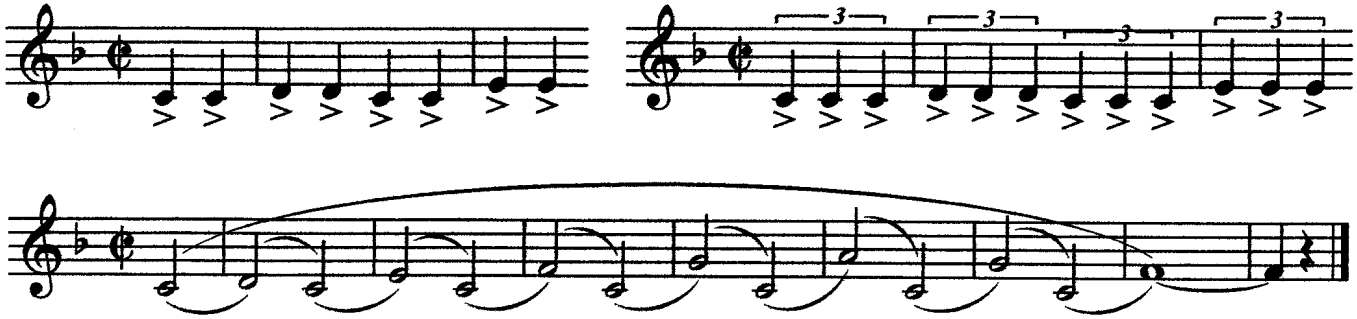
Pattern 2



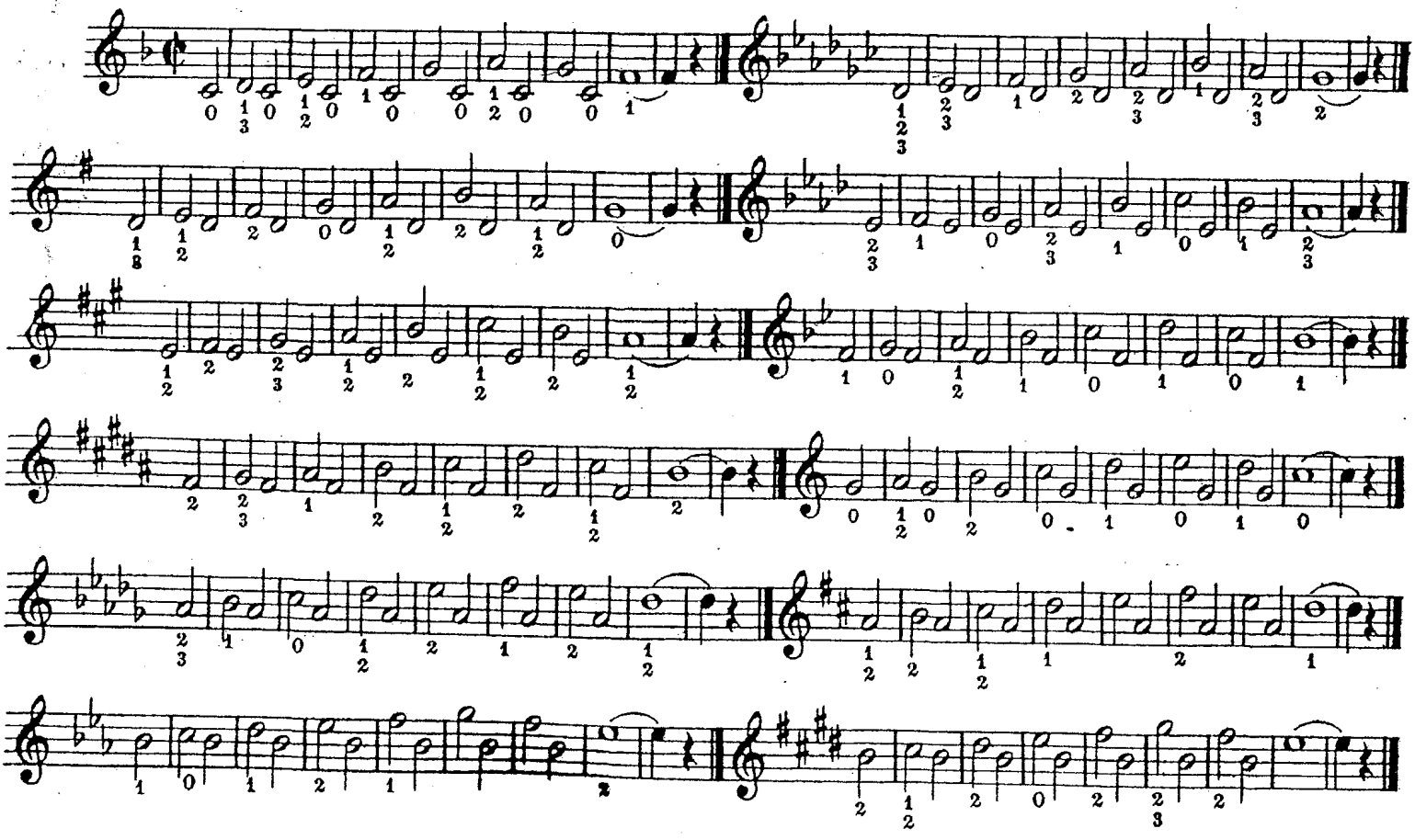
Warm-up Studies

From Arban's
"Complete Conservatory Method"

Maintain accurate intonation and a full, centered sound.
Use a moderate cut-time (*alla breve*) feel and play each exercise in one breath.
Perform as written and with the following rhythms and articulations:



Set 1



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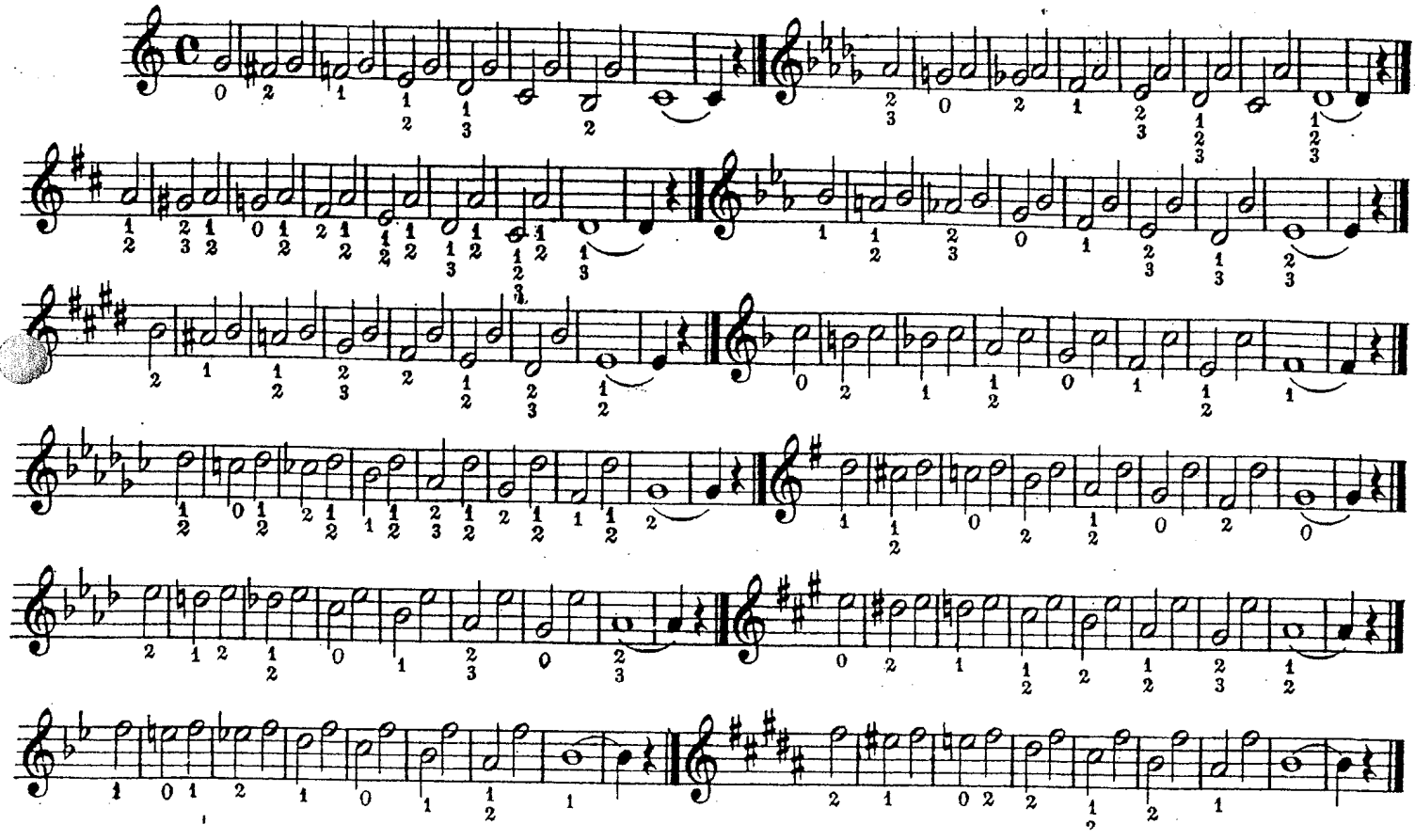
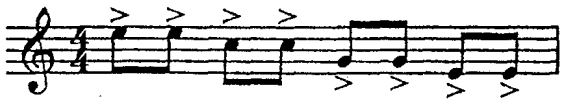


Interval & Articulation Studies

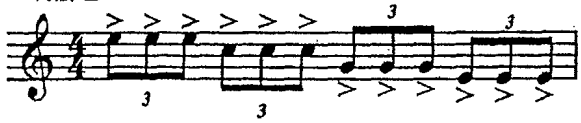
From Max Schlossberg's
"Daily Drills and Technical Studies"

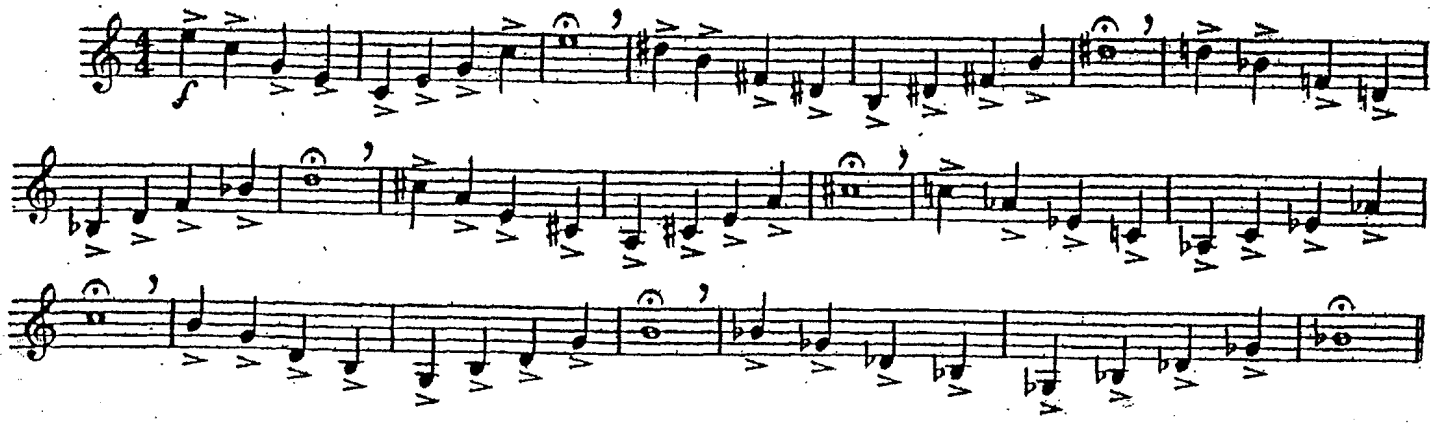
Play as written and with variations A & B at a brisk single-tongue tempo.
Keep articulation "bouncy" and strive to find the center of each pitch automatically.
Use standard fingerings throughout.

Var. A



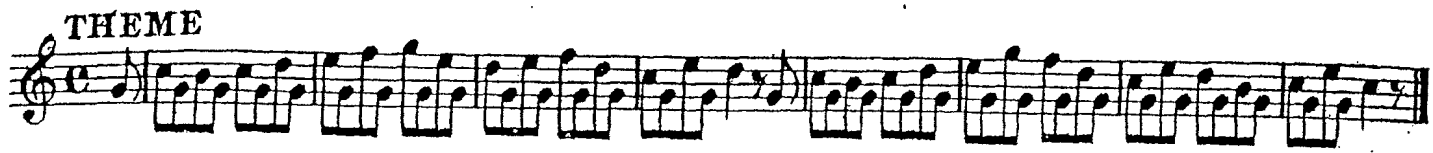
Var. B

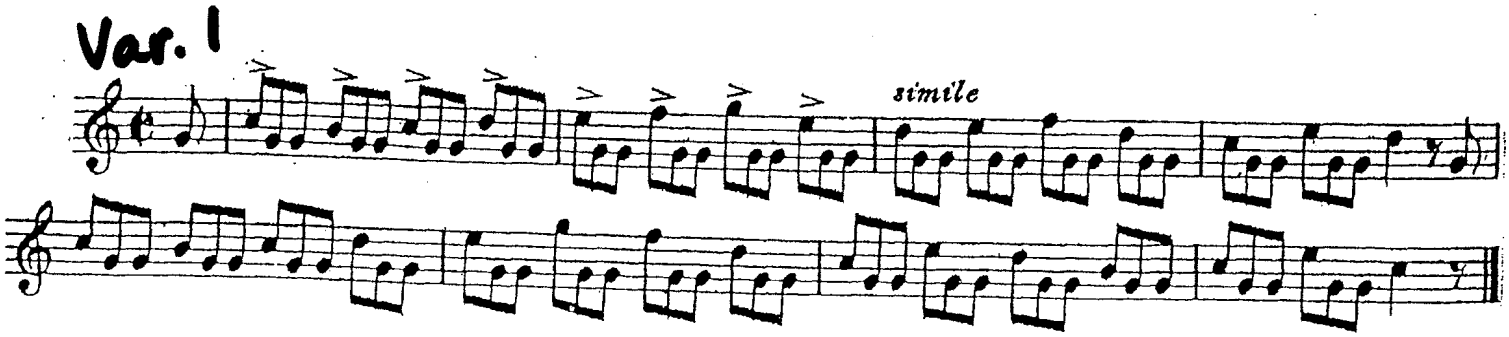




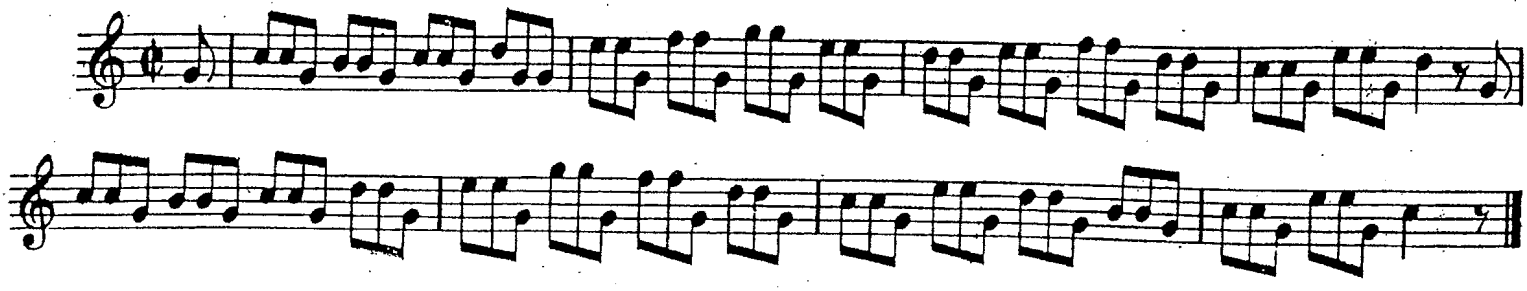
From Arban's
"Complete Conservatory Method"

To be single-tongued.
Keep focused sound/intonation and "bouncy" articulation.

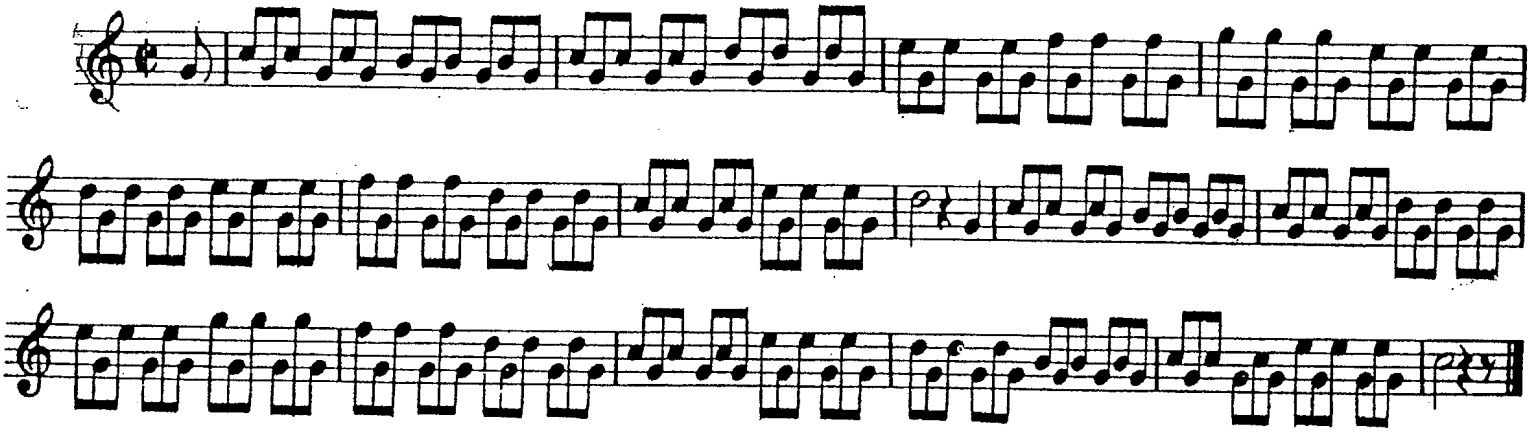




Var. 2



Var. 3

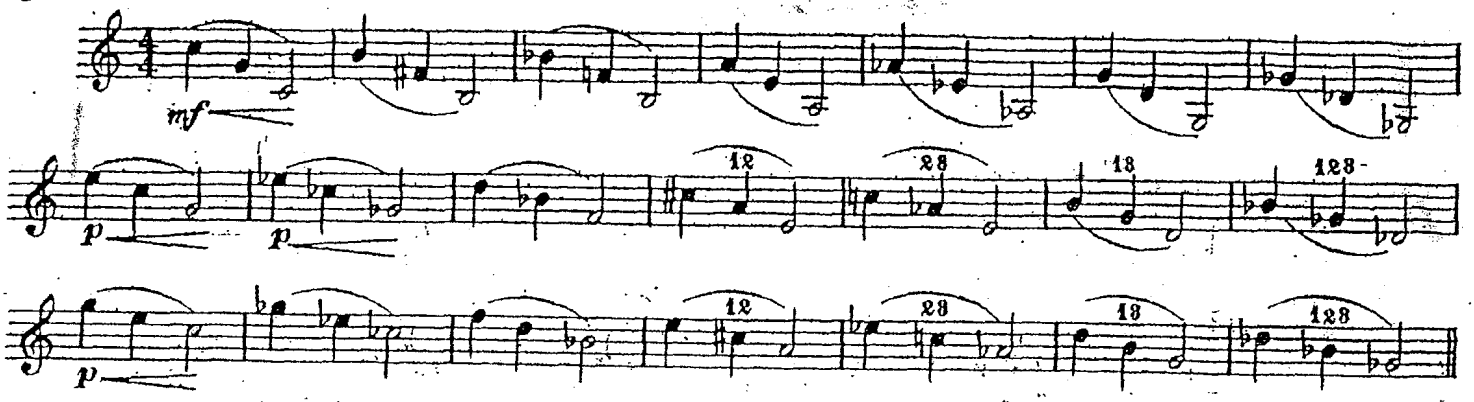


Flexibility Studies I

From Max Schlossberg's
"Daily Drills and Technical Studies"

Should be played with a steady pulse.
Find the center of each pitch - always play with a pure sound!

Set 1



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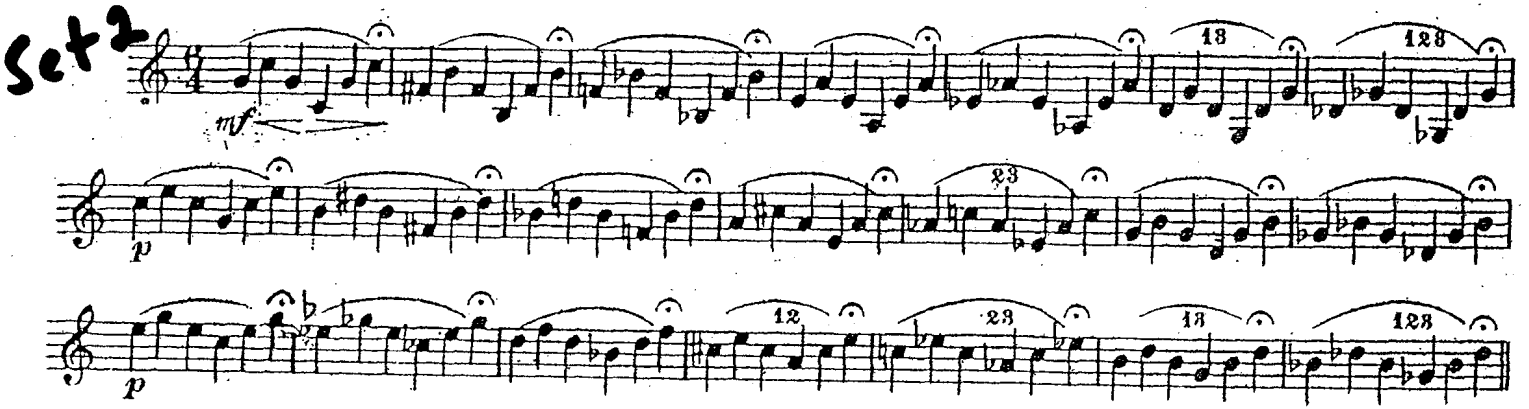

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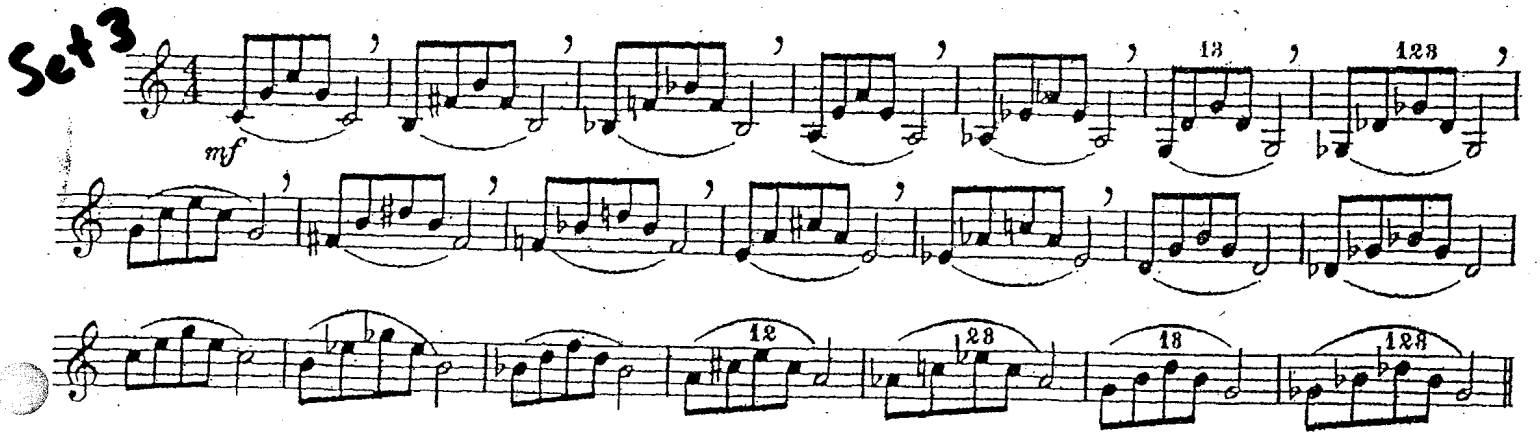
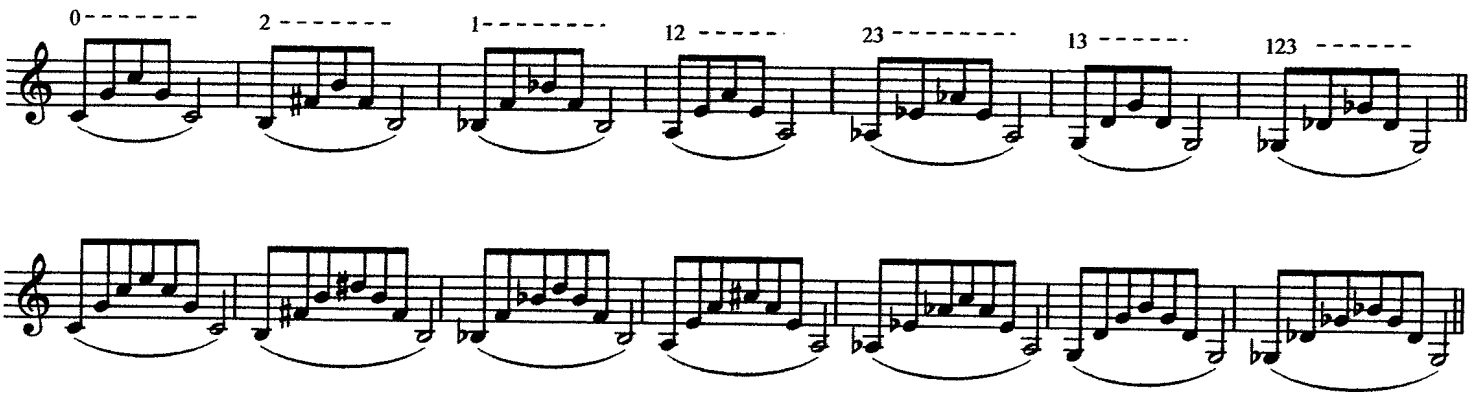


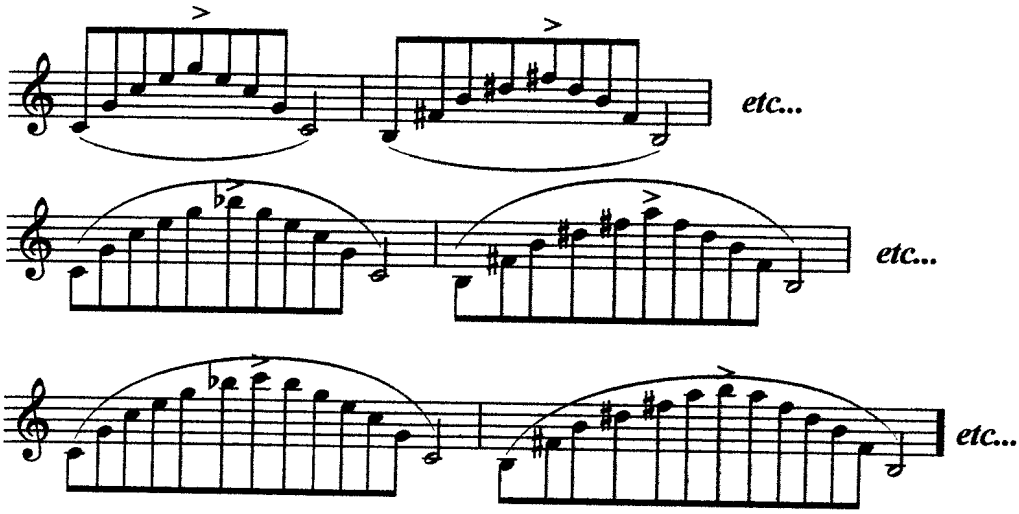
Range & Flexibility Study

Adapted from Max Schlossberg's
"Daily Drills and Technical Studies"

Should be played with a steady pulse and full tone.
Do not "skip" notes while descending. Center every pitch, regardless of tempo.
SLUR each measure.



Continue pattern, adding a note each time.
Crescendo as you go up, descrescendo as you come back down.
Continue slurring but use the wind to accent the top pitch slightly.
As you try for higher notes you may find it helpful to start with the lower exercise (123) and work your way up.



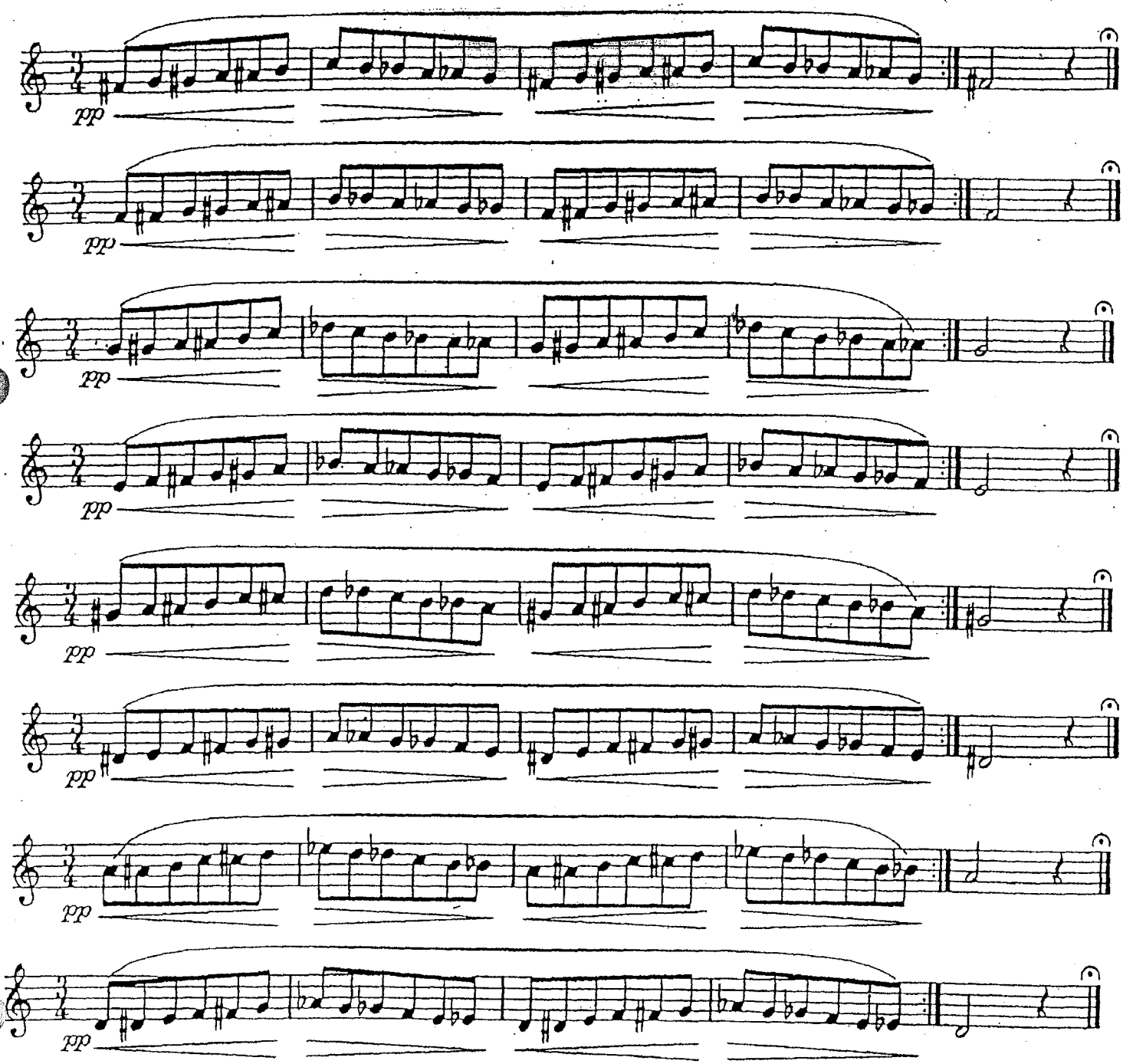
Continue as high as possible ... and good luck!!!

Clarke Studies

Selections from H.L. Clarke's
"Techinical Studies"

First Study

Using your metronome, play each exercise as follows: 2 notes per beat, 3 notes per beat, 4 notes per beat, and 6 notes per beat. Use the SAME tempo for each version.
Evenness of finger technique and sound are most important - establish this in the "slower" versions.



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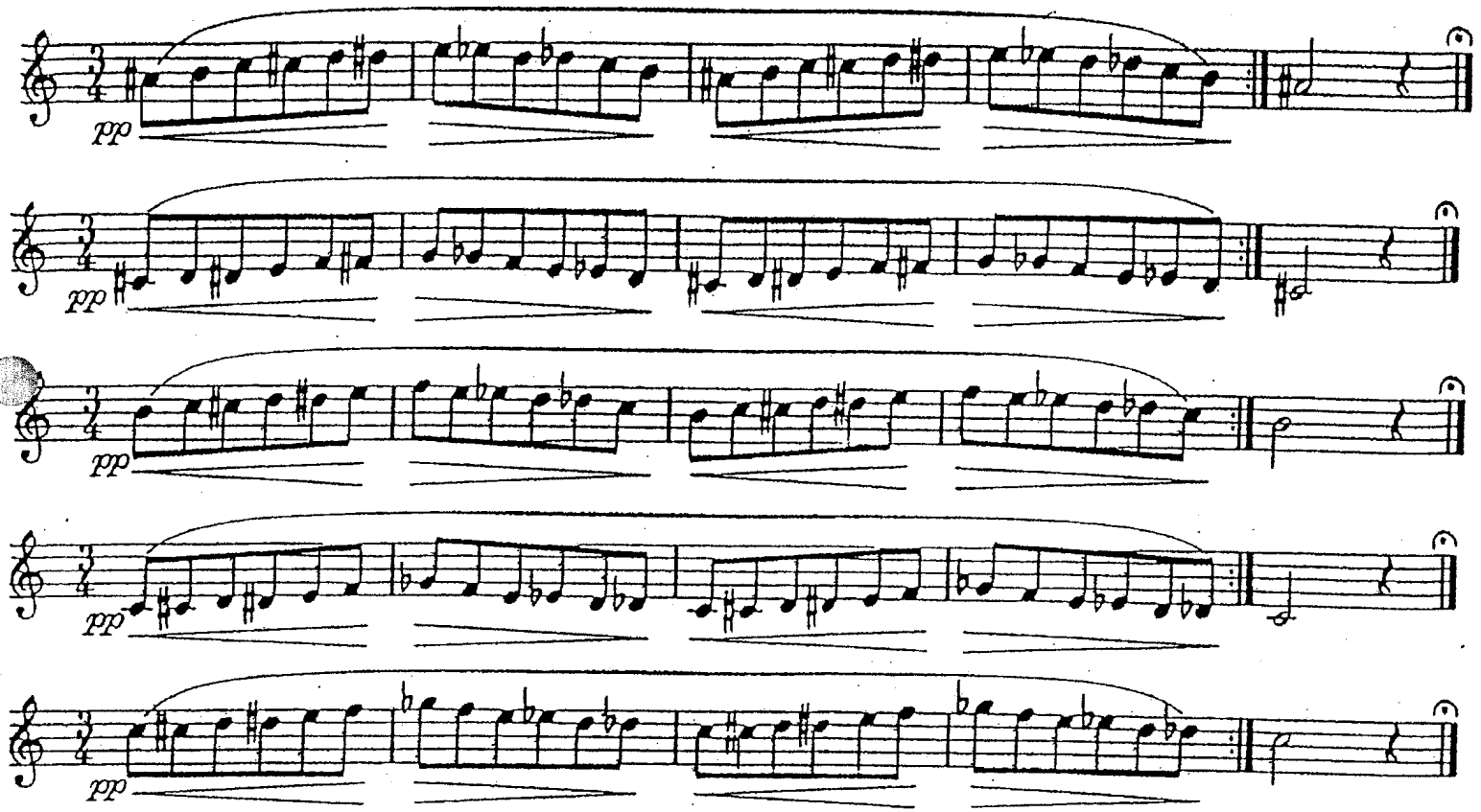
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pp
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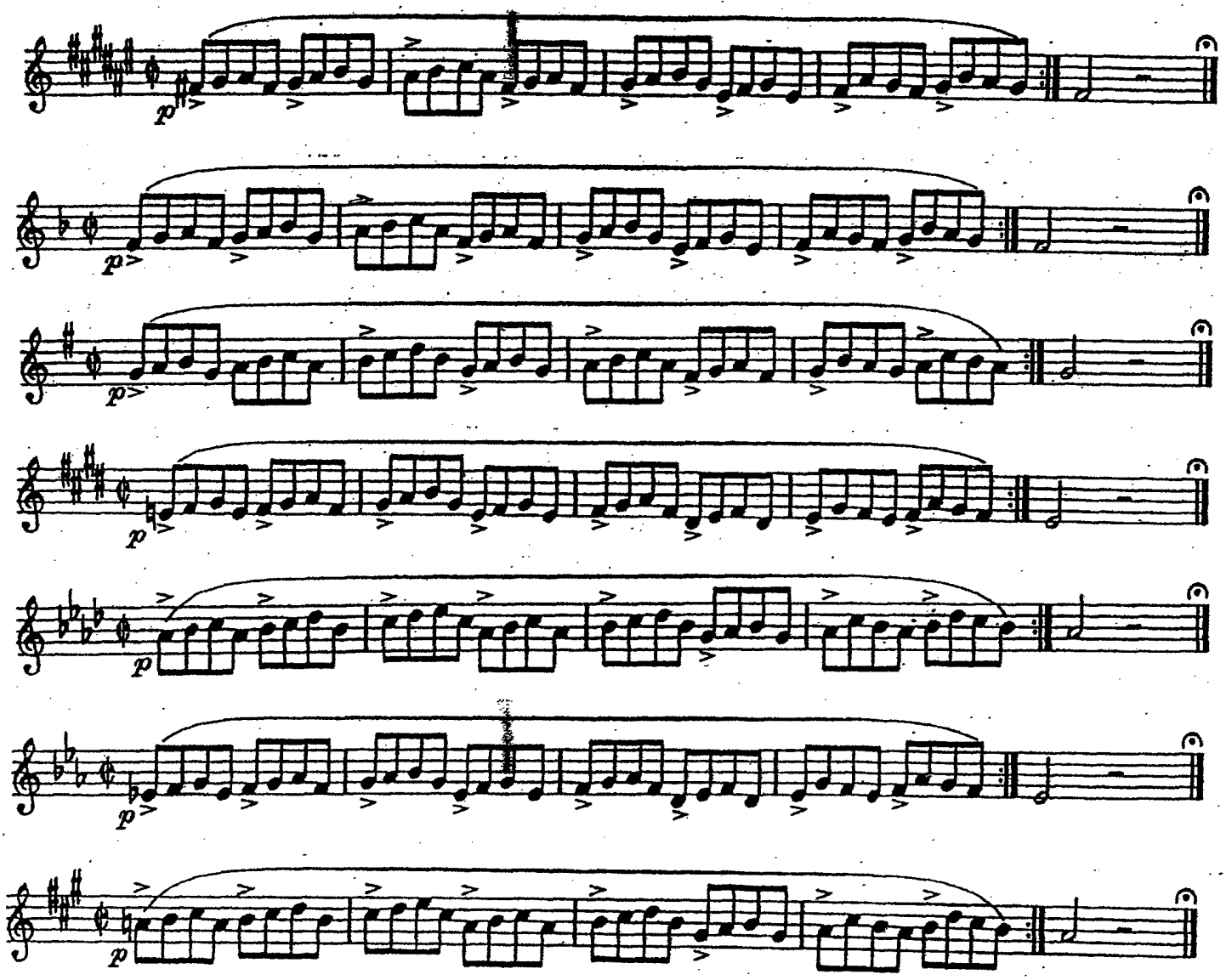
Clarke Studies

Selections from H.L. Clarke's
"Techinical Studies"

Second Study

Evenness of finger technique and a good sound are most important- keep pattern rhythmically even and hit the center of each pitch at all times.
Apply various articlulation patterns.
Work for speed and smoothness, like a good clarinetist or pianist.



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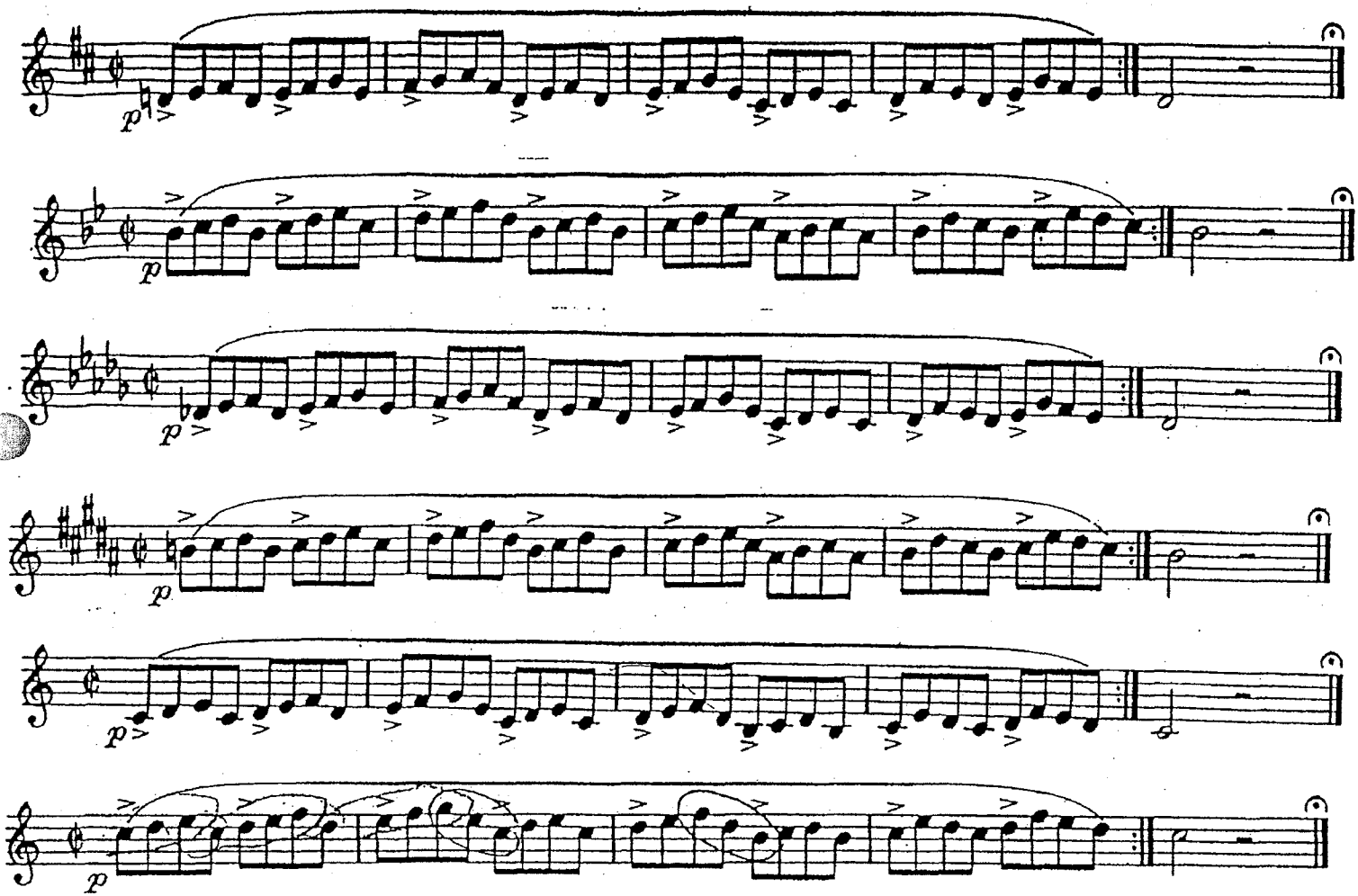
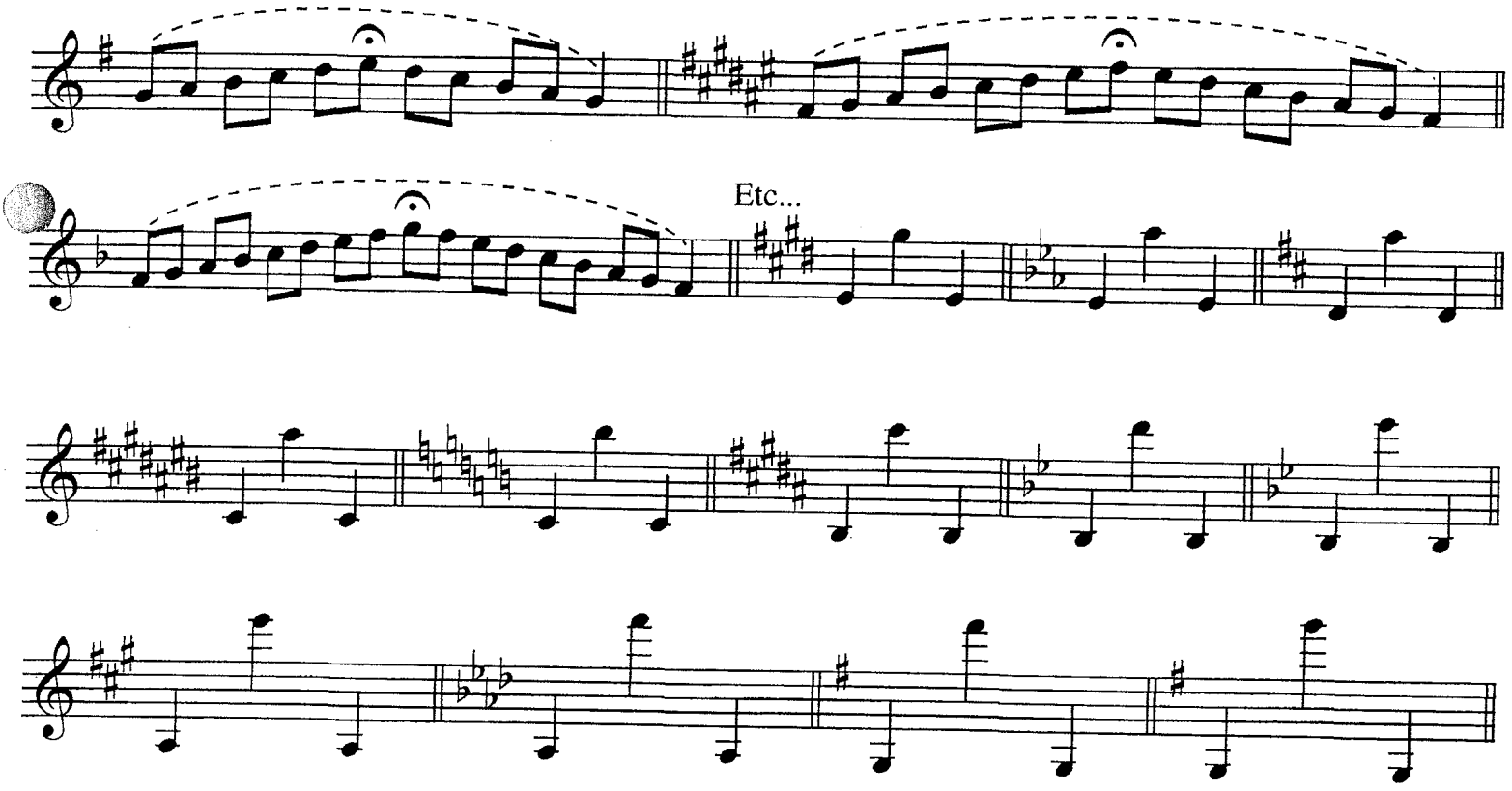


Expanding Scale Study

Using the major key of the lower note, play to the top note and back down.
Start at a moderate volume and crescendo slightly as you go up.
Slur or tongue at your discretion.

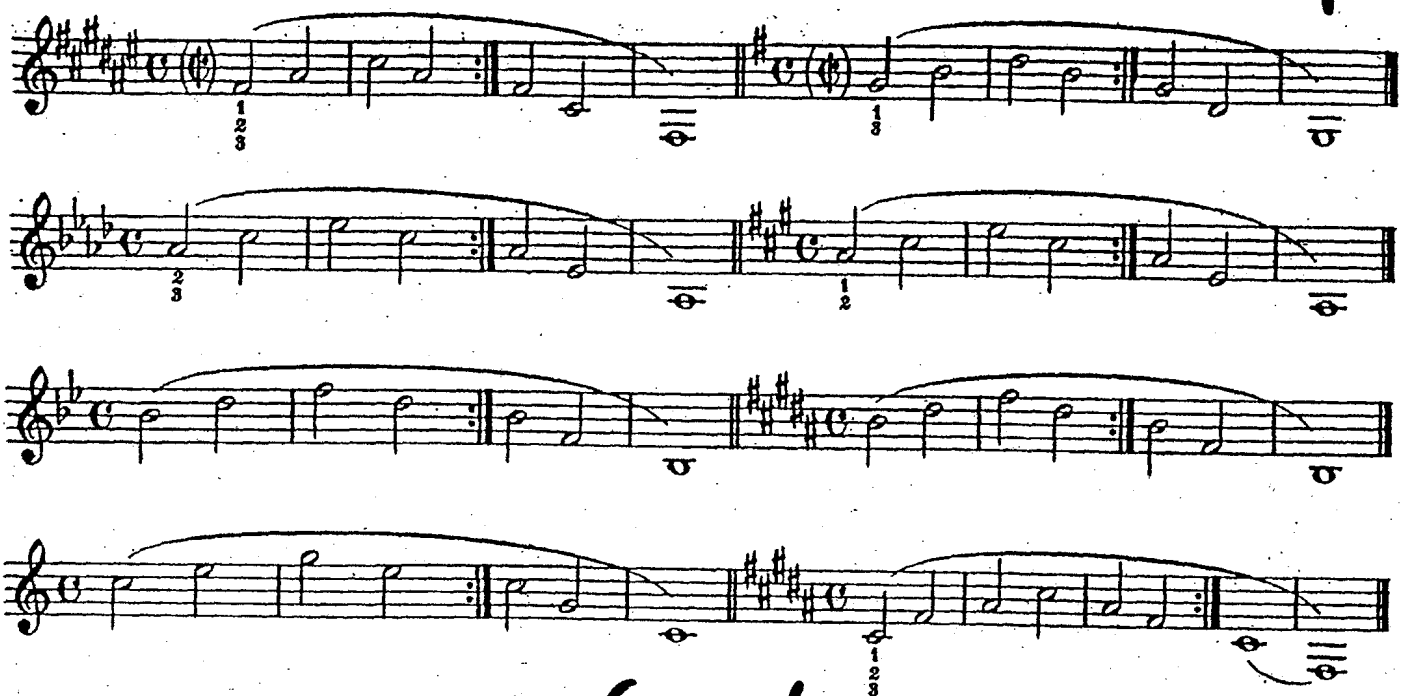


Flexibility Studies II

Selections from Earl Irons'
"Twenty-Seven Groups of Exercises"

Should be played with a steady pulse and as many times in one breath as possbile.
Find the center of each pitch- don't allow yourself to cheat notes for the sake of speed.

Group 5



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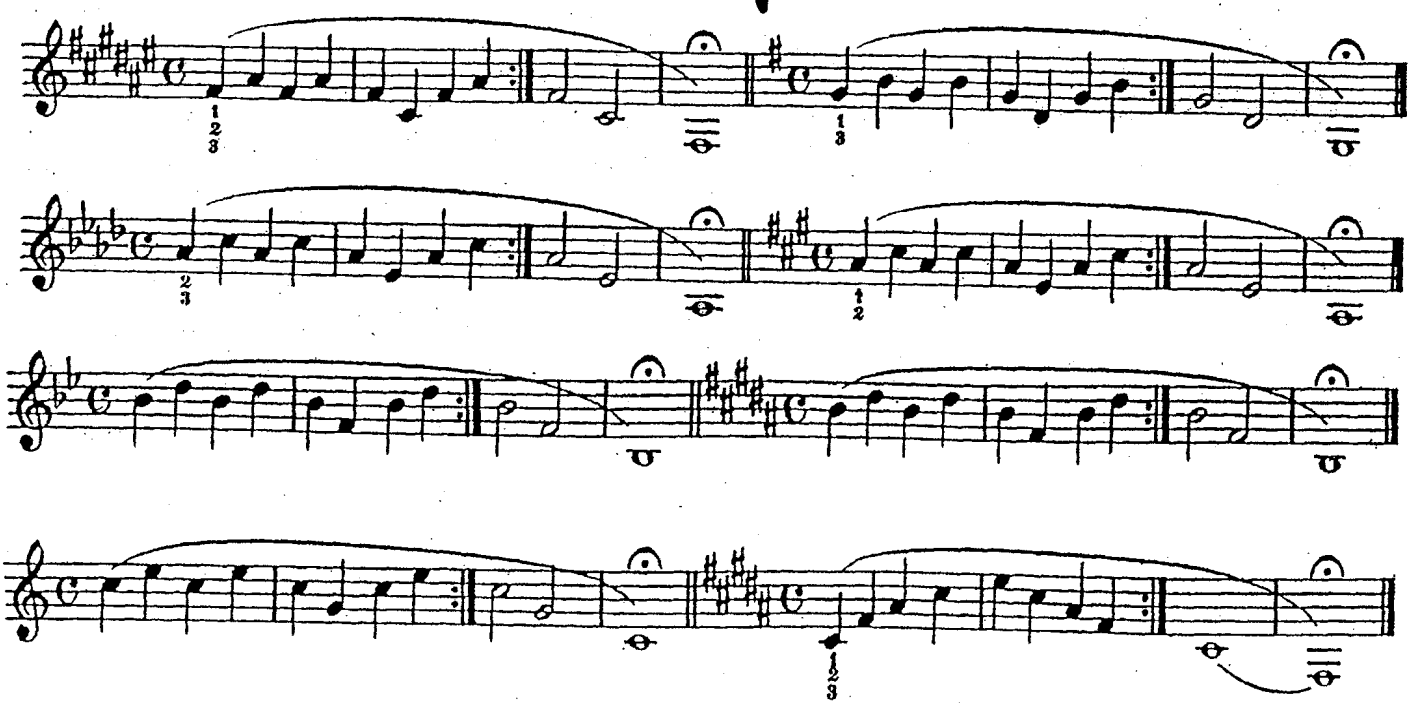
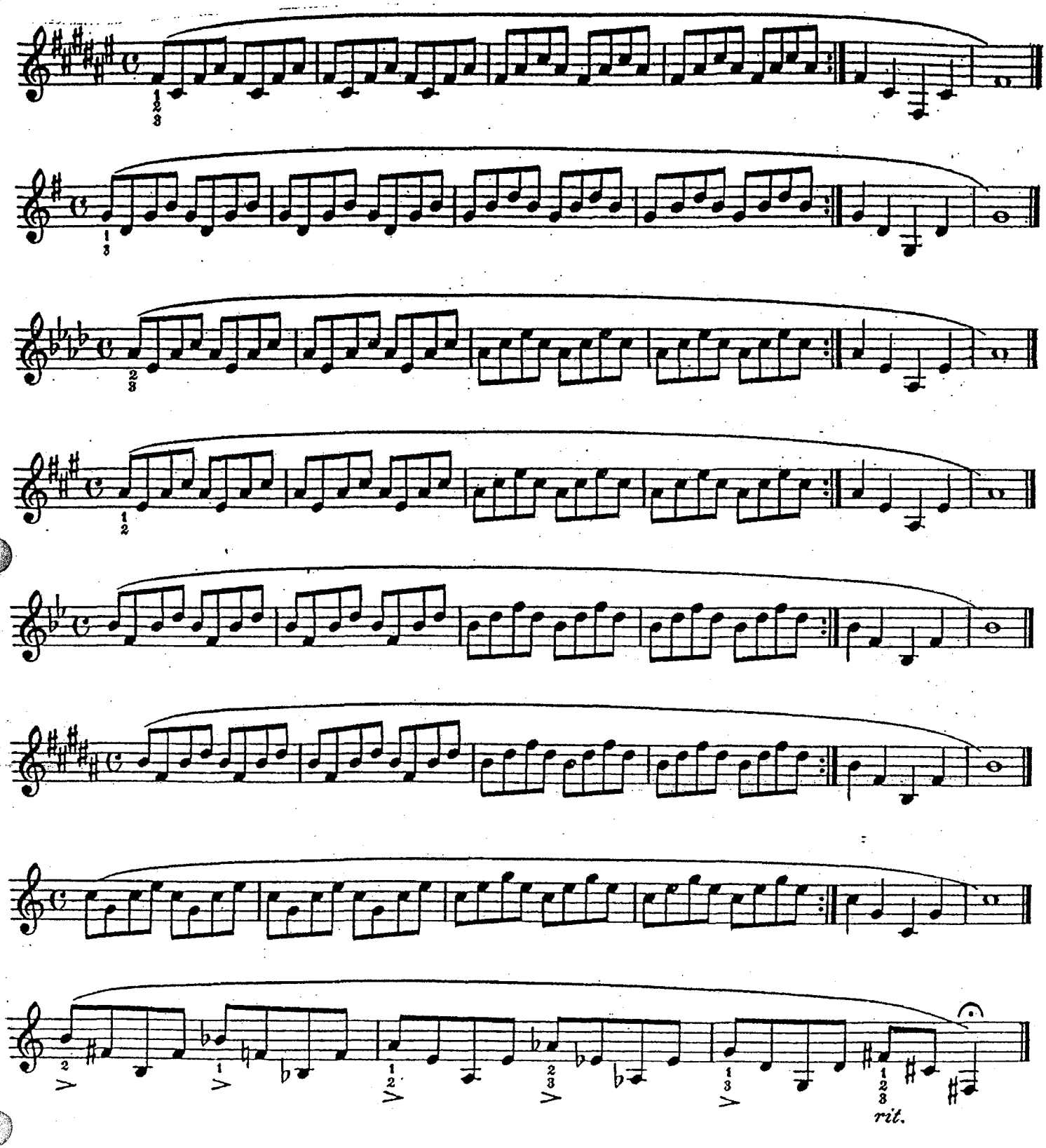
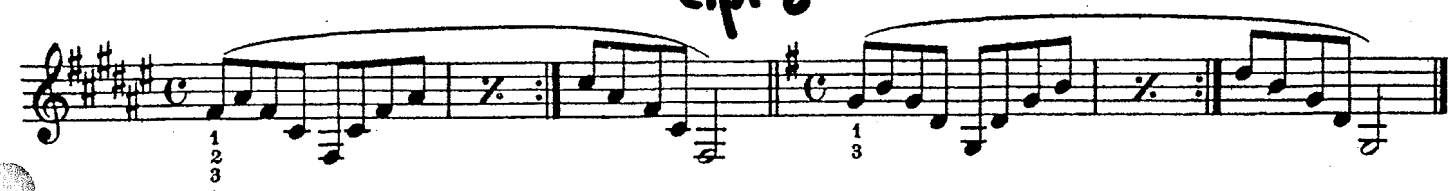


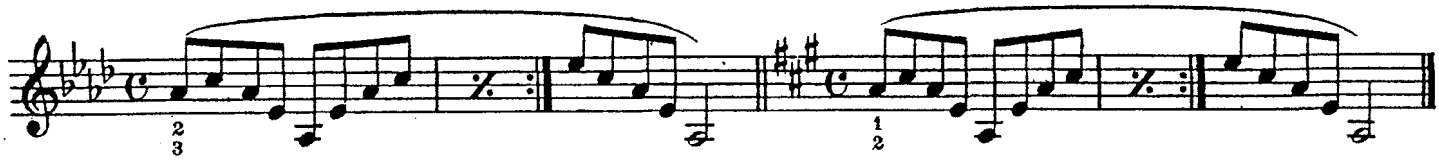
OVER

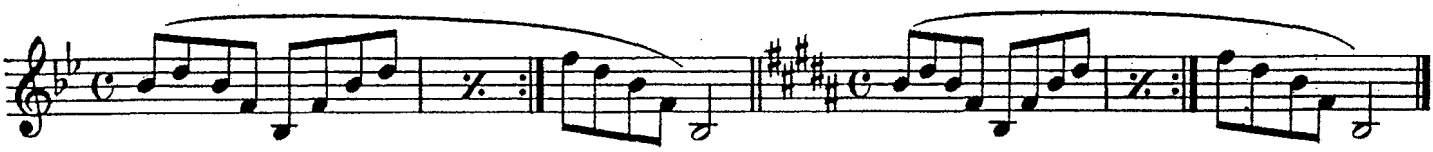
Group 7

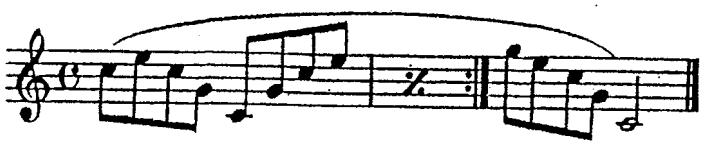


Gp. 8









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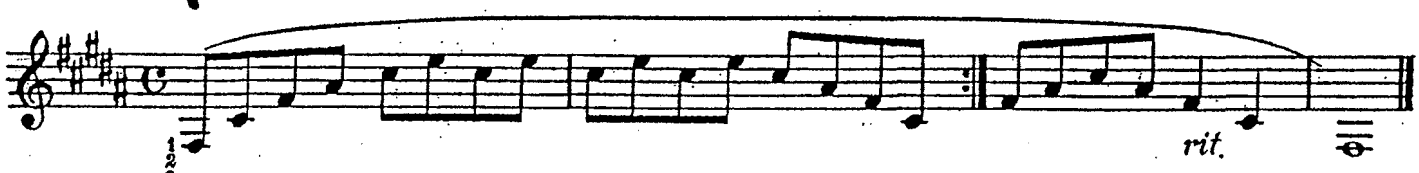

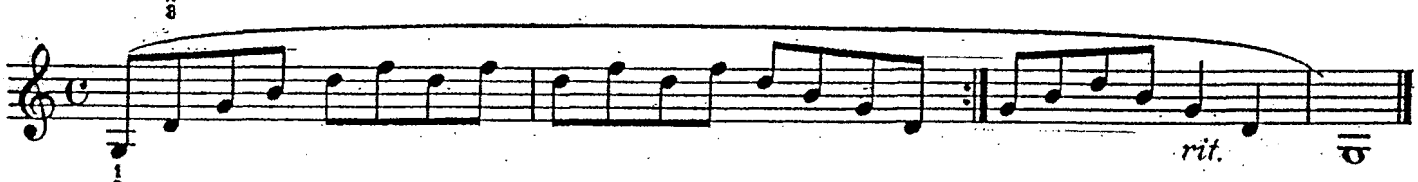

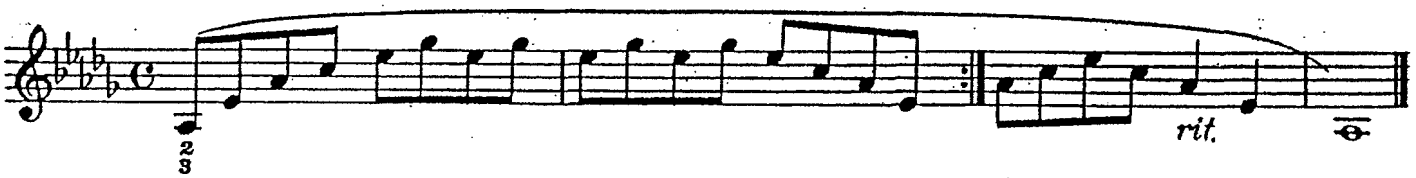

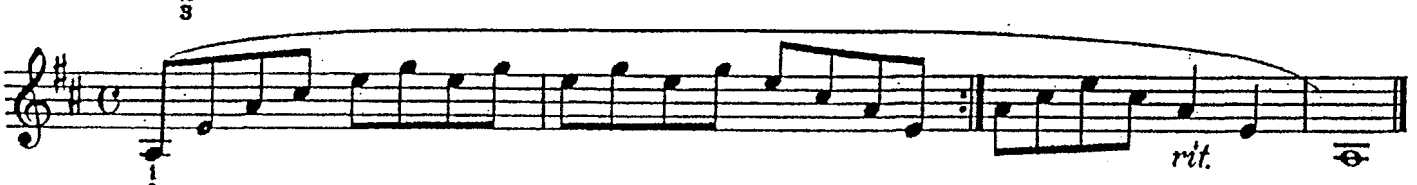

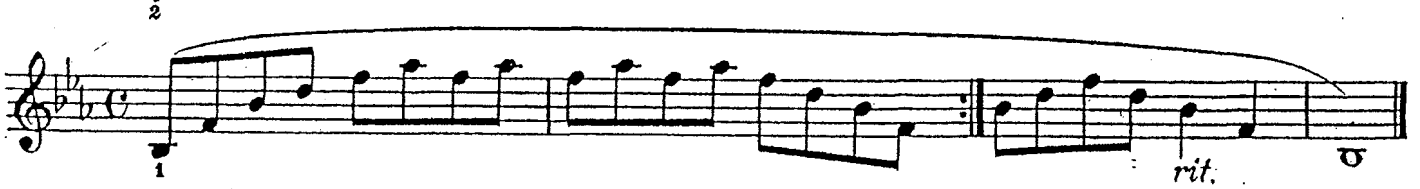

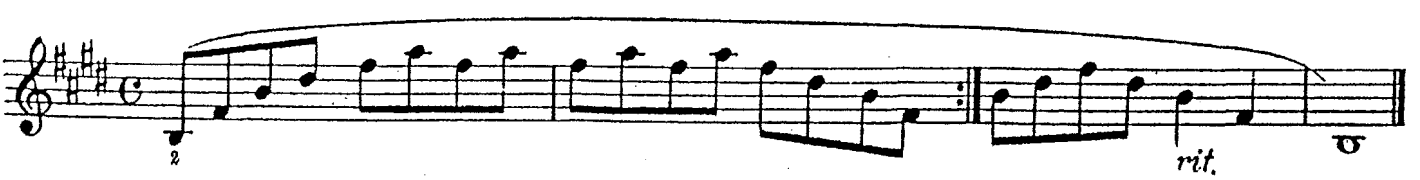

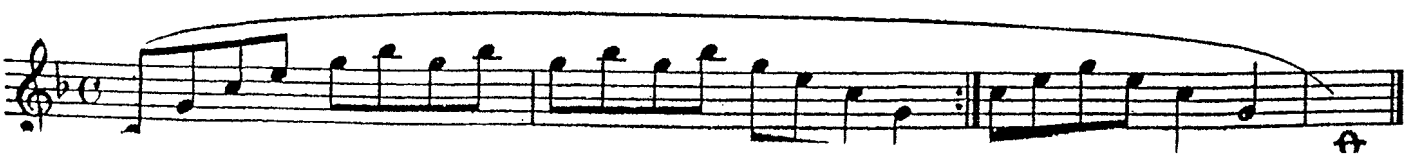

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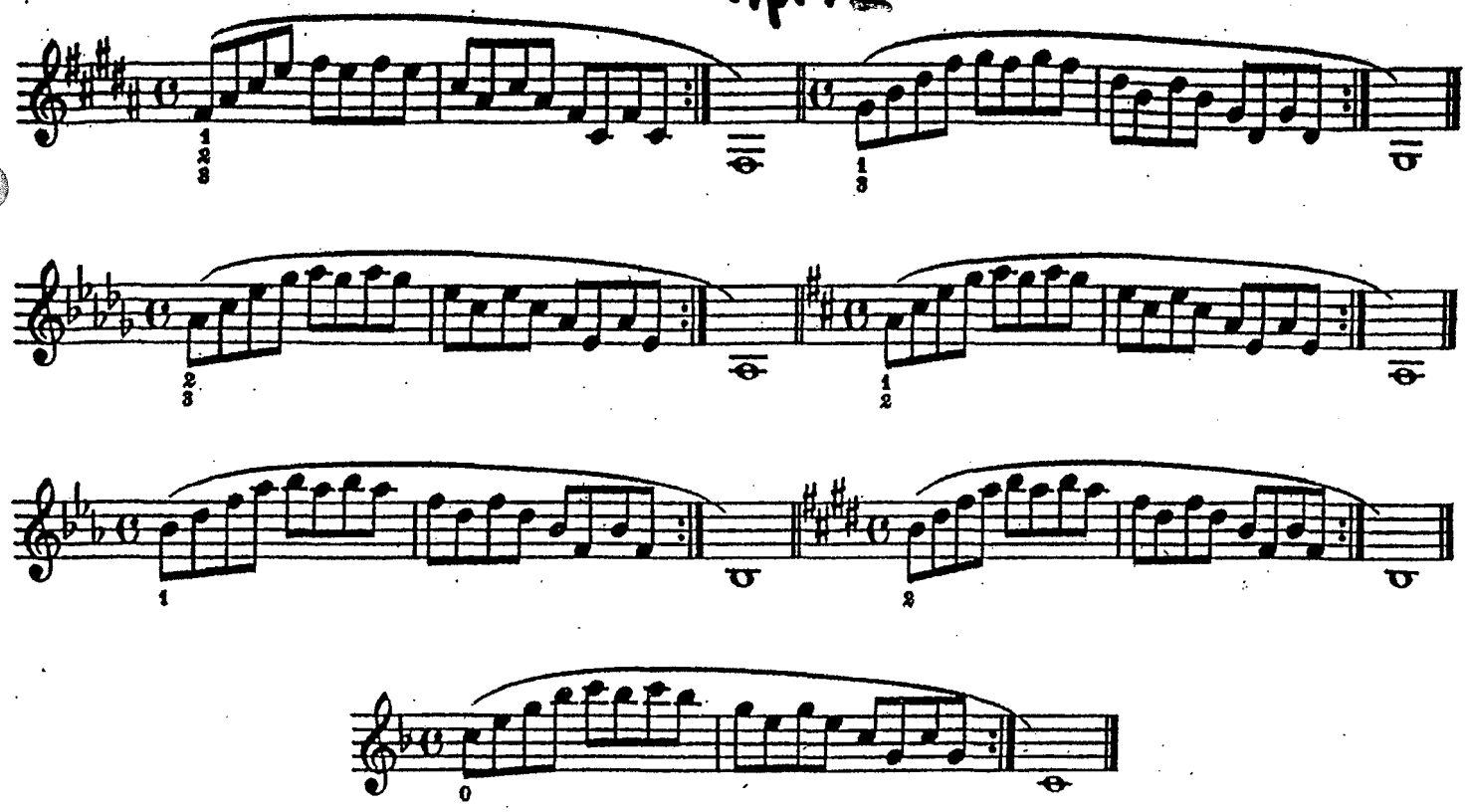
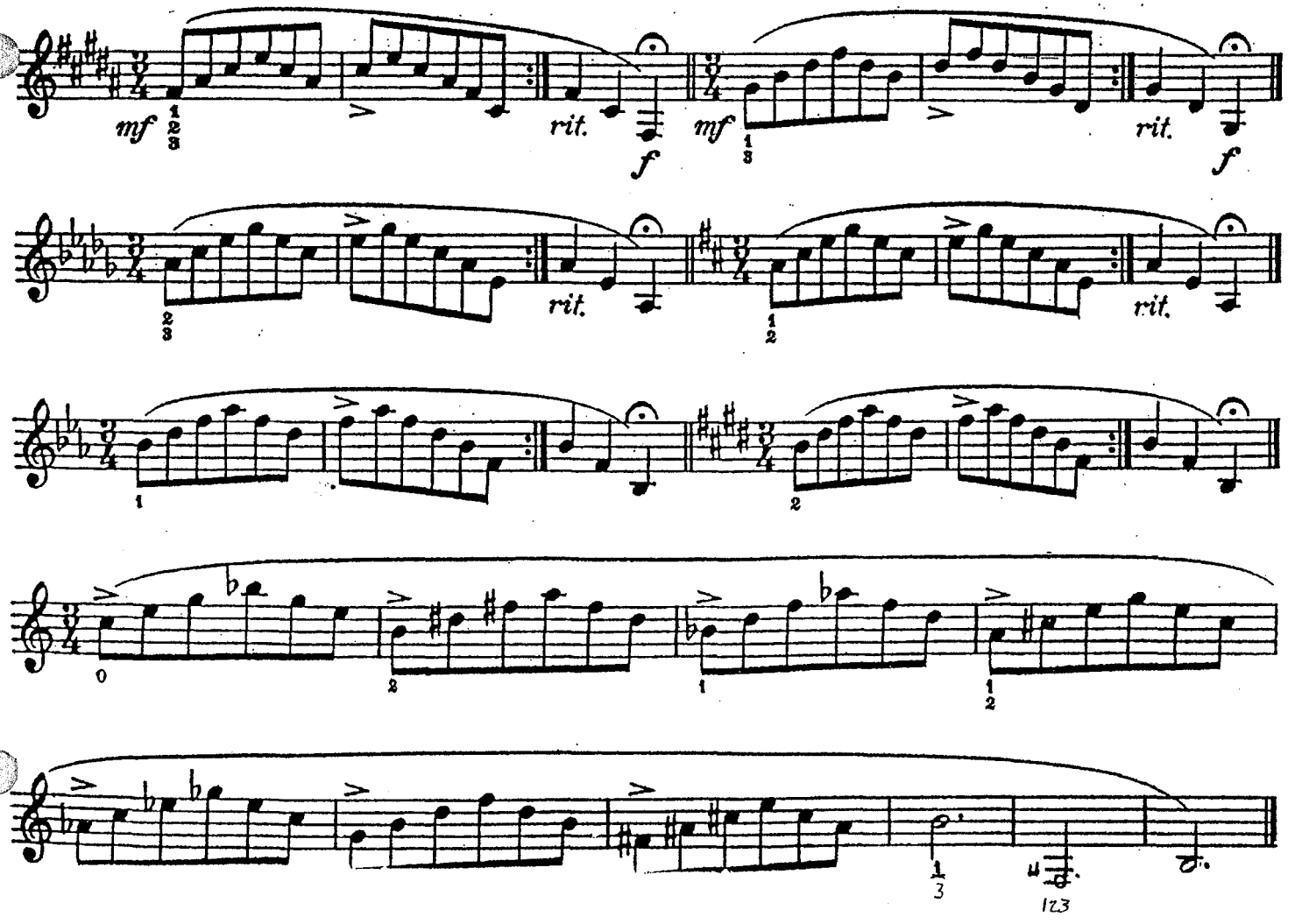


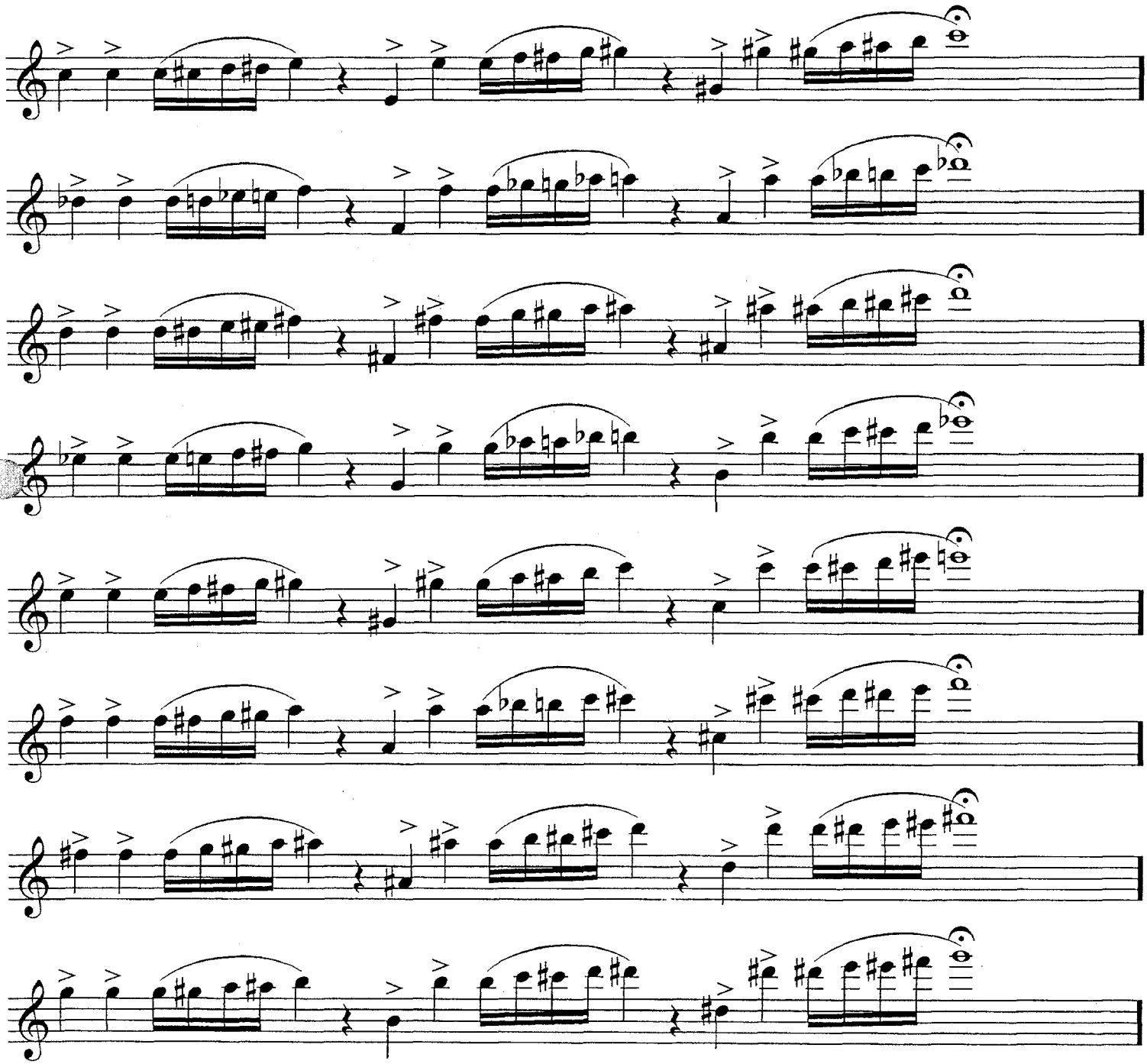
Group 13



OVER

Range Study

Use a firm attack on the quarter-notes and crescendo slightly through the sixteenths.
Variation - try a glissando on the octave leap to "rip" up to the second quarter-note.

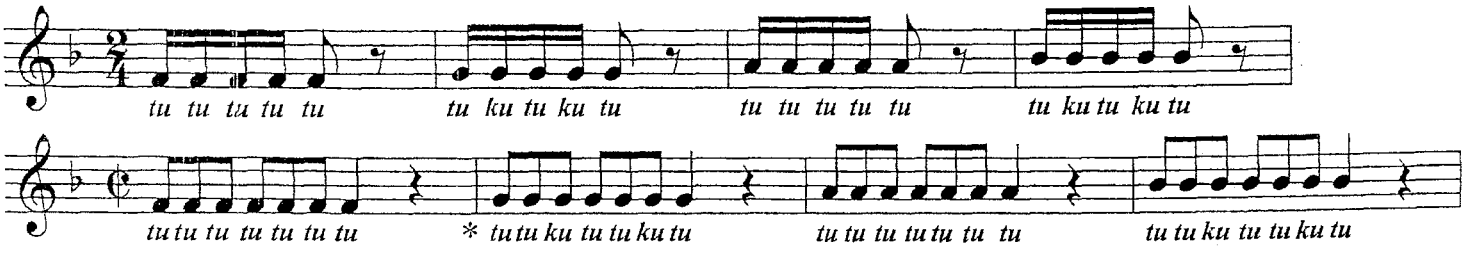


Continue as high as possible.

Multiple Tonquing

From Arban's
"Complete Conservatory Method"

Your double- and triple-tonguing should sound like a fast single-tongue - all attacks must be crisp and even. At a moderate tempo, play the first measure single-tongued, the next multiple-tongued, and alternate:

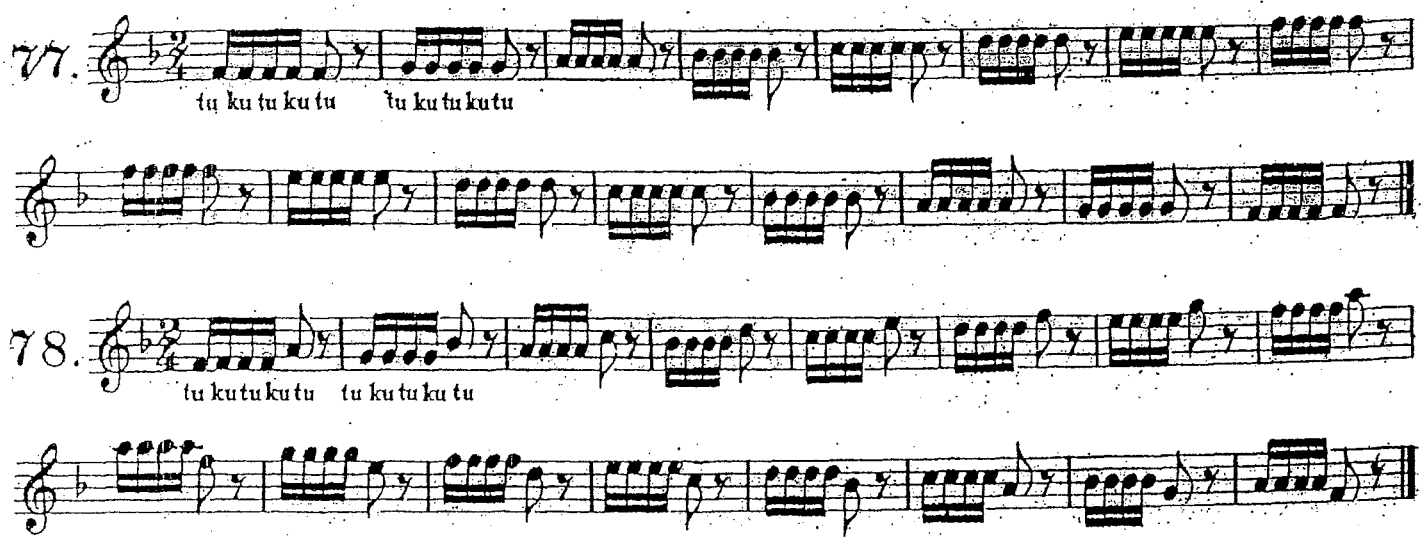


Apply this articulation practice to the first three or four exercises in the double- and triple-tongue studies that follow. Work to add speed only after your "k" becomes *similar* to your "t." Practicing this way in the beginning will ensure a proper attack and airflow, and also eliminate the gap between your fastest single-tonguing and your slowest double- or triple-tonguing.

There are differing opinions on which syllable is best: tu, du, tah, dah, tee, etc. However, I feel "tu" keeps the attack crisp and suits the shape of the embouchure and oral cavity best while playing. Your goal is even, secure, and crisp articulation, regardless of which syllable you prefer.

* There are two common types of triple-tonguing- "tu tu ku" and "tu ku tu." While most players find one easier than the other, each is useful in certain passages and so *both should be mastered equally.* A third type (essentially a double-tongue with an accent on the second "ku"- "TU ku tu, KU tu ku") is seldom taught today but can be an excellent practice technique for securing control of the tongue.

Double Tonguing



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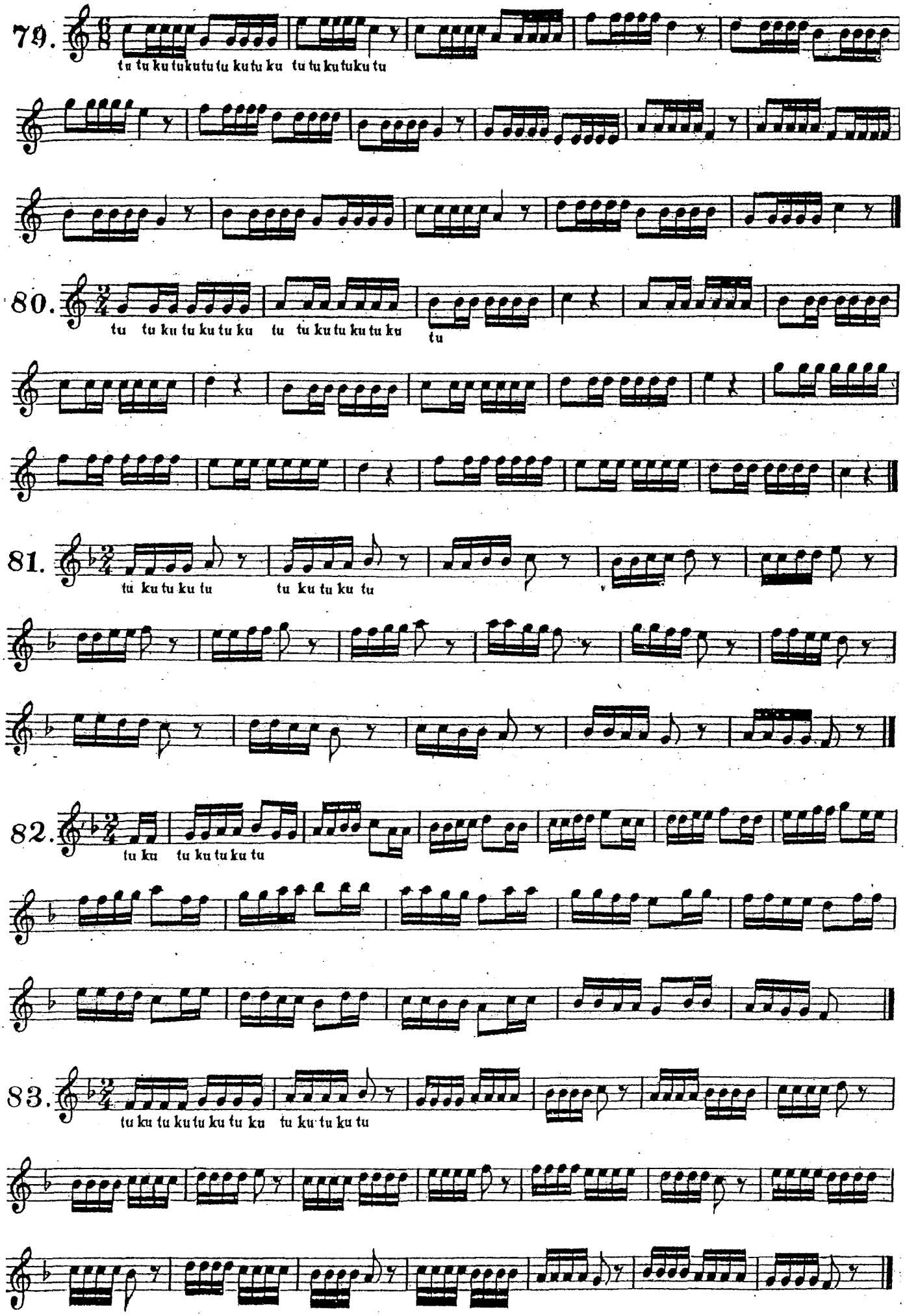
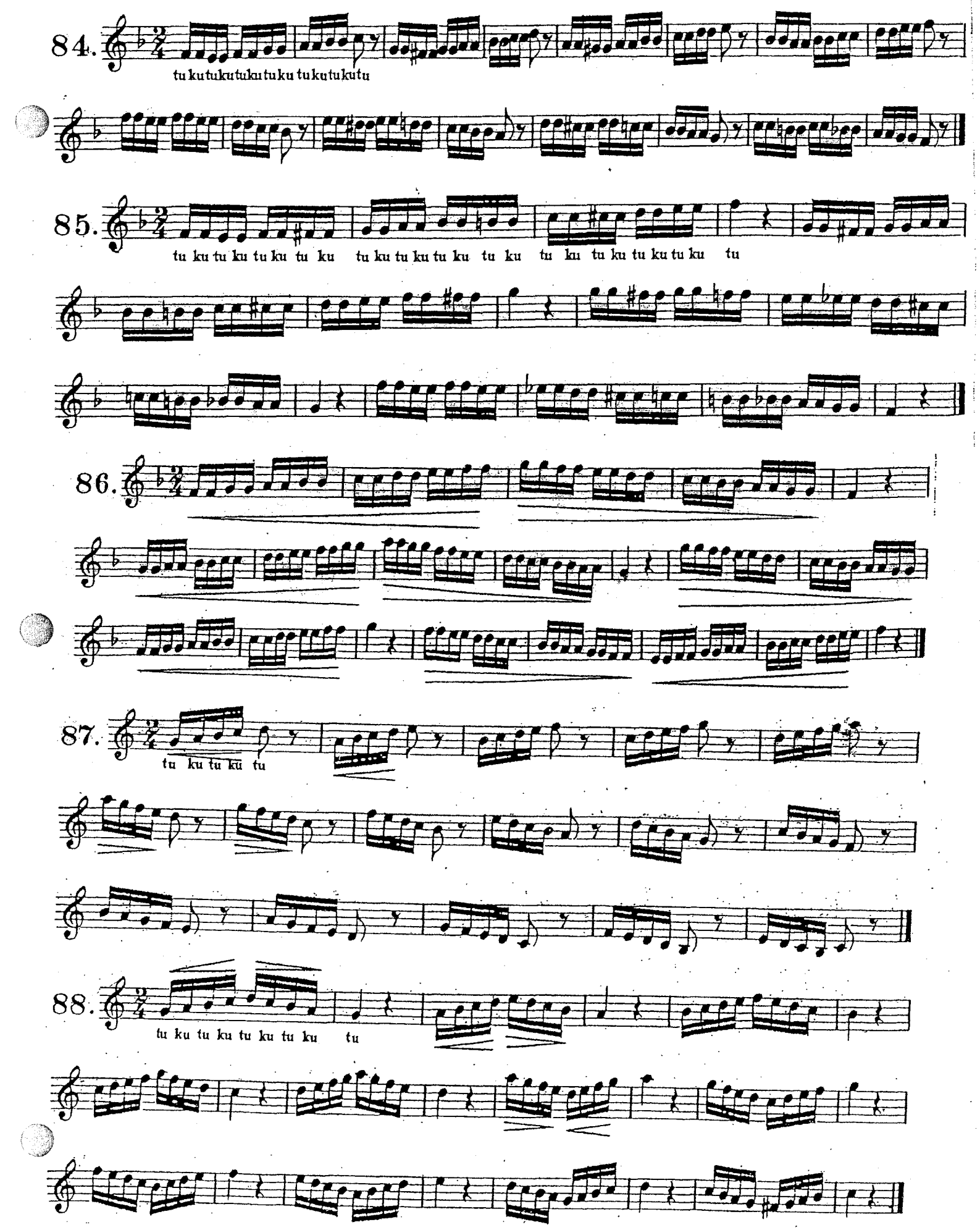
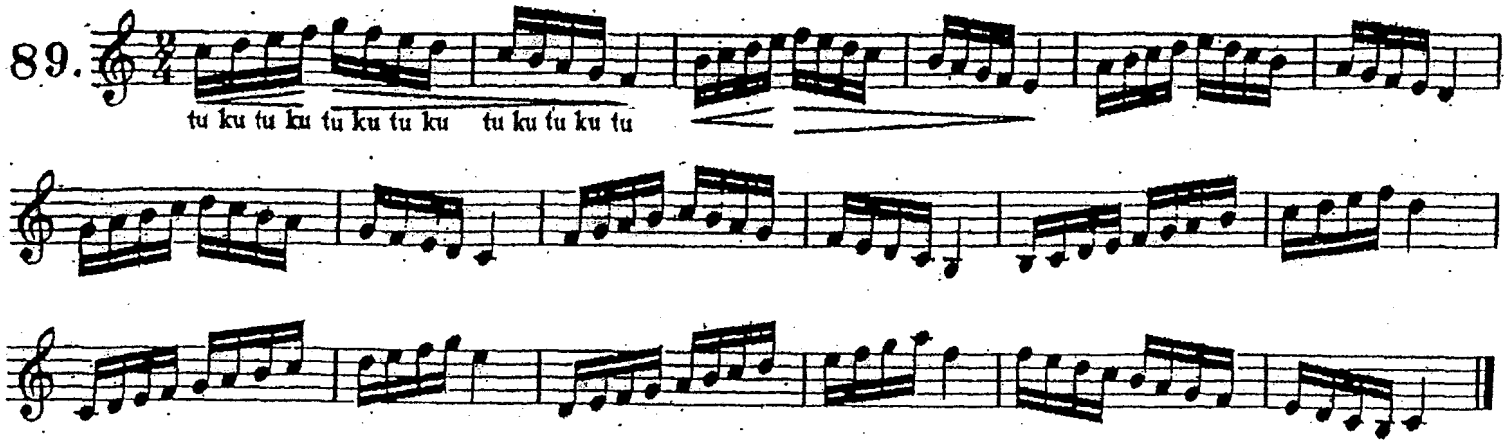

79.
tu tu ku tu ku tu tu ku tu ku tu tu ku tu ku tu
80.
tu tu ku tu ku tu ku tu tu ku tu ku tu ku tu
81.
tu ku tu ku tu tu ku tu ku tu
82.
tu ku tu ku tu ku tu
83.
tu ku tu ku tu ku tu ku tu ku tu ku tu

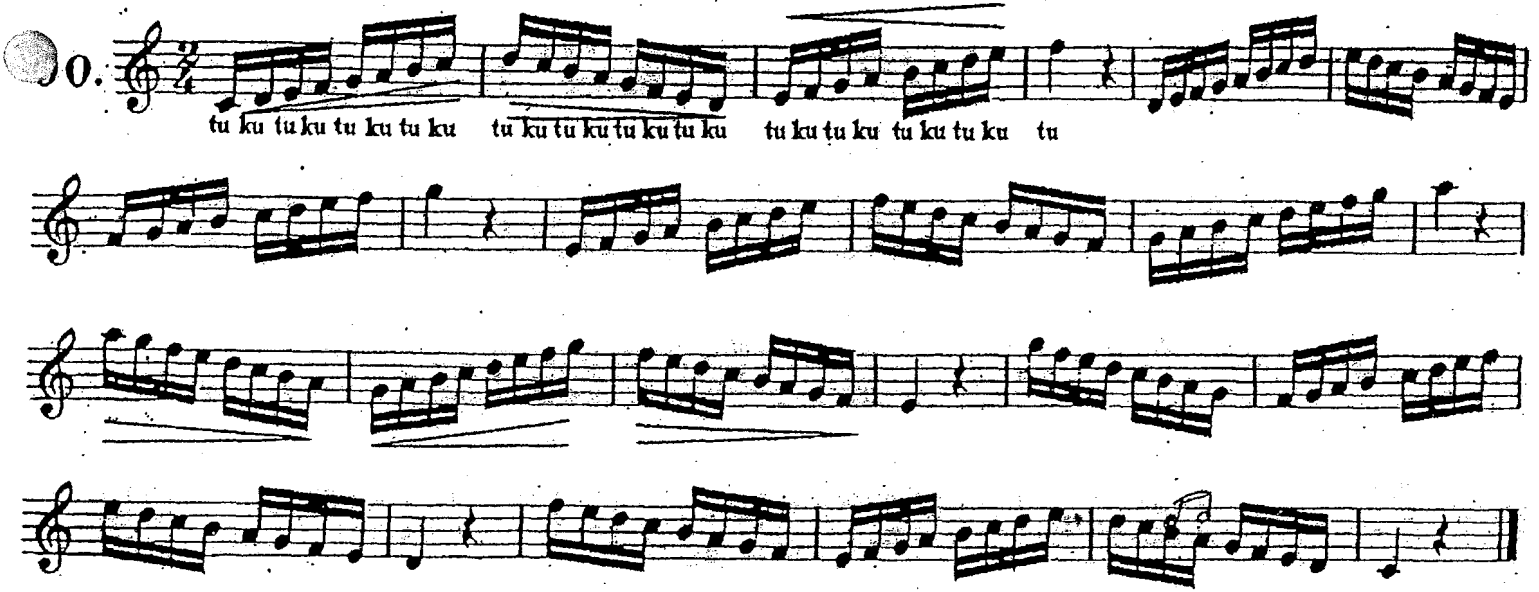

84.
tu ku tu ku tu ku tu ku tu ku tu ku tu
85.
tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu
86.
87.
tu ku tu ku tu
88.
tu ku tu ku tu ku tu ku tu

OVER

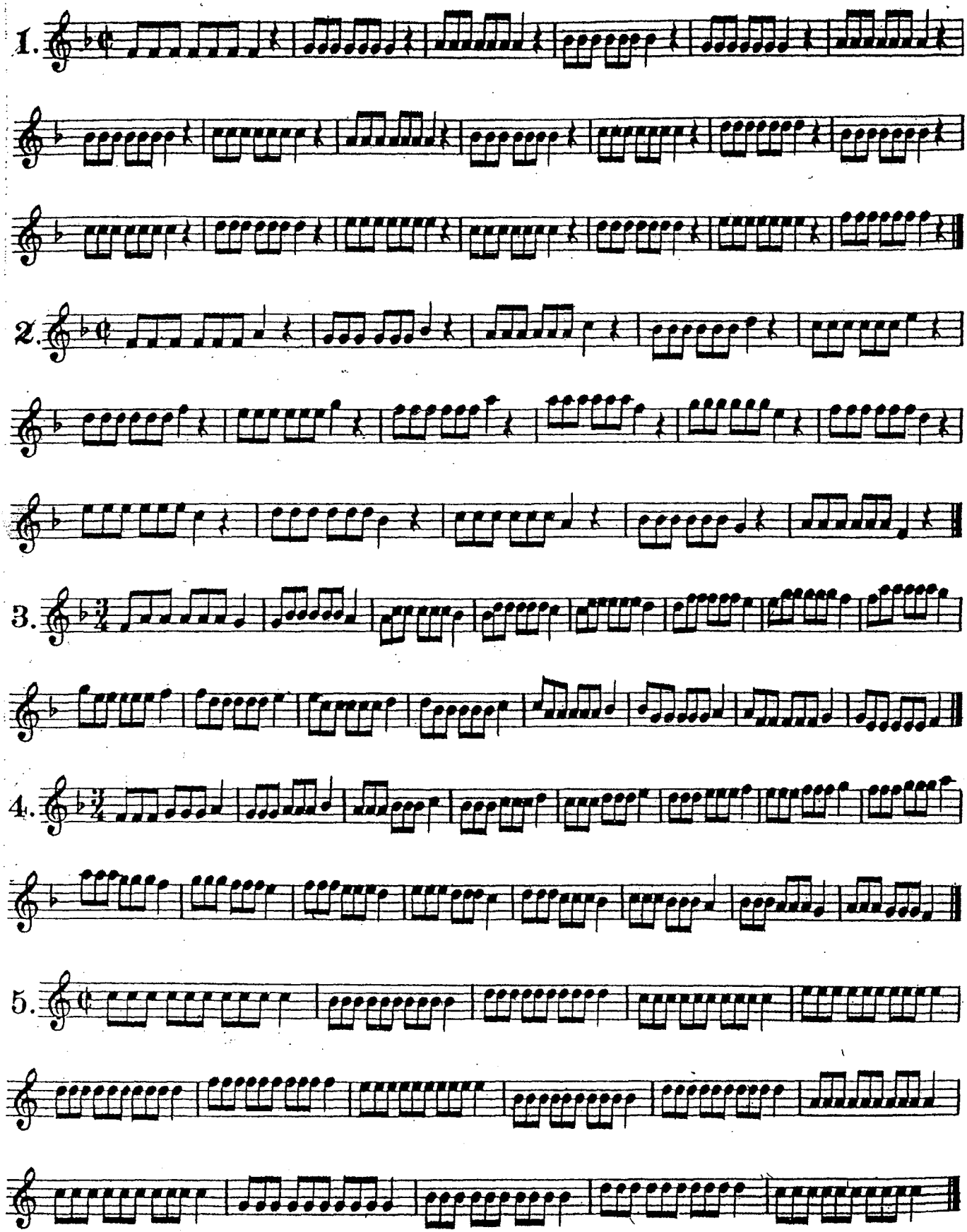
89.


tu ku tu ku tu ku tu ku tu ku tu ku tu

90.


tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu ku tu

Triple Tonguing



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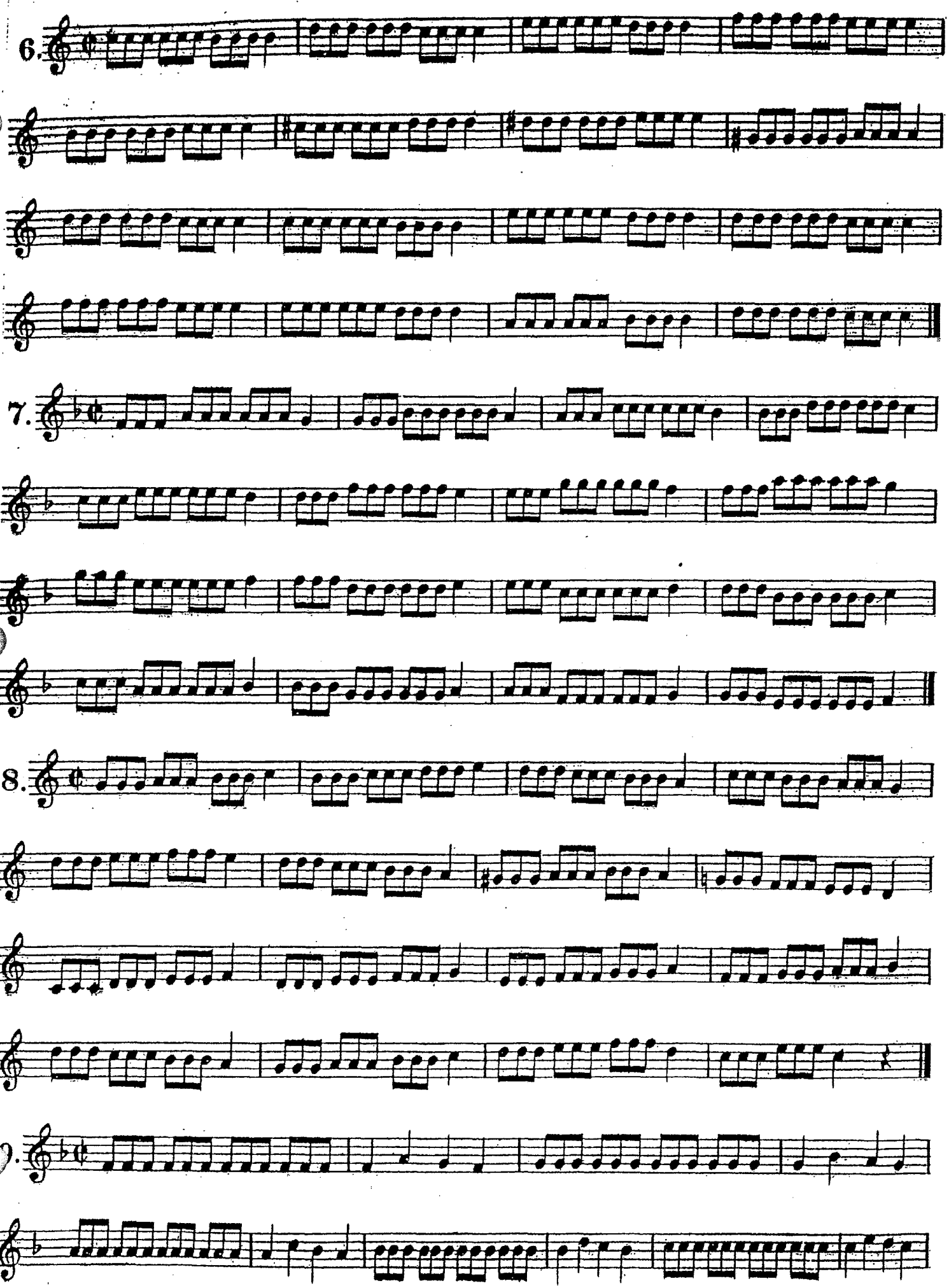
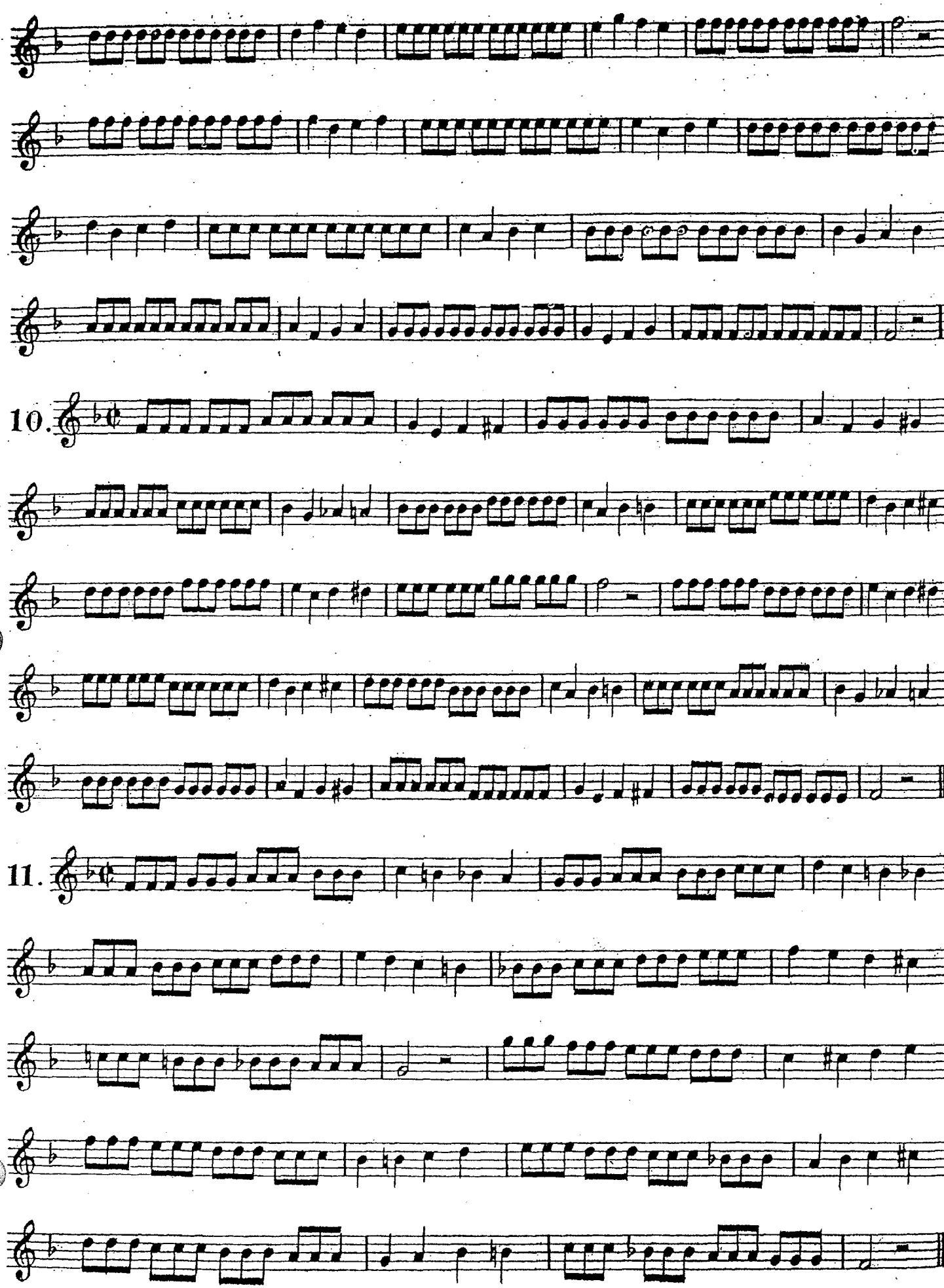
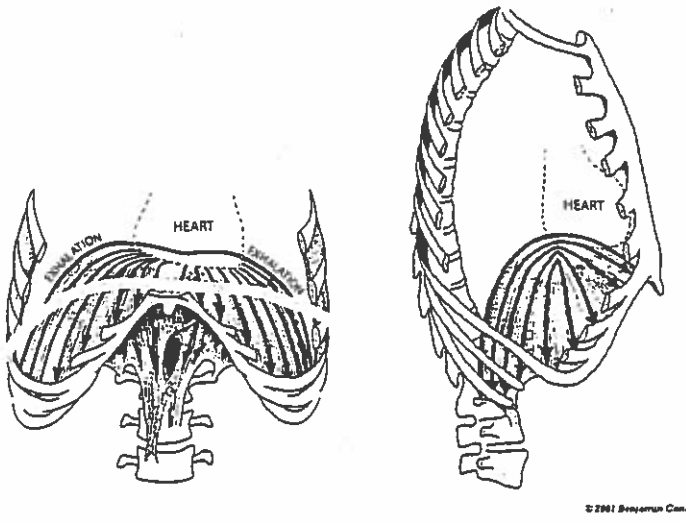

6.
7.
8.
9.


10.
11.

Truth About the Diaphragm

The diaphragm and lungs are two of the most often mismapped structures of breathing. The most common fantasy about the diaphragm is that it is one and the same as the front abdominal wall. Sometimes the instruction, "breathe from your belly" is used interchangeably with, "breathe from your diaphragm." Both comments usually include a hand gesture pat to the belly. Though there will be consequential and supportive movement of the abdominal muscle cylinder in free breathing, the diaphragm itself is higher in the body than most players realize, and independent. The diaphragm is active on inhalation. Support from the abdominal cylinder is felt on exhalation.

The diaphragm is a thin, dome shaped muscle that lies horizontally in the body. It attaches all around the base of the ribs and has connections down the front of the lumbar spine. The diaphragm separates the thoracic cavity above from the abdominal and pelvic regions below.



During inhalation the diaphragm contracts moving down in the torso. It is important that the abdominal muscles not be tight so the abdominal viscera such as the stomach, liver, and intestines, can slip and slide out of the way of the descending diaphragm. This downward movement of the diaphragm helps the ribs outward on their widening excursion creating a greater thoracic circumference. On exhalation the diaphragm relaxes, rising back up in the thoracic area regaining its dome shape, assisting the expiration of air from the lungs.

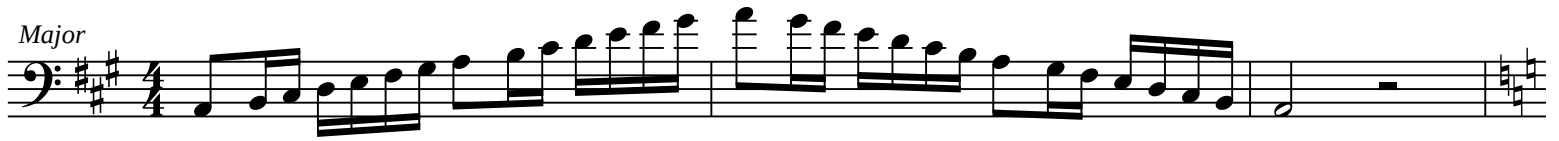
Just as we don't directly perceive the heart pumping, we won't feel the diaphragm contracting. If we were able to do so, we might be overwhelmed with sensation. However, we do notice the consequential movement throughout the torso in the abdomen and ribs as well as in the tactile sensation of air moving in and out of our nose and mouth. A lot of horn players' tension comes from trying to feel the diaphragm's contraction. That tension can be released by giving up that illusion and feeling what can be felt.

In the illustration above, notice the part of the diaphragm down on the front of the lumbar spine. This proximity of diaphragm to lumbar spine shows us why balance on the lumbar spine is especially important. An adequate, accurate map of the diaphragm's role in inhalation is essential for free and efficient breathing.

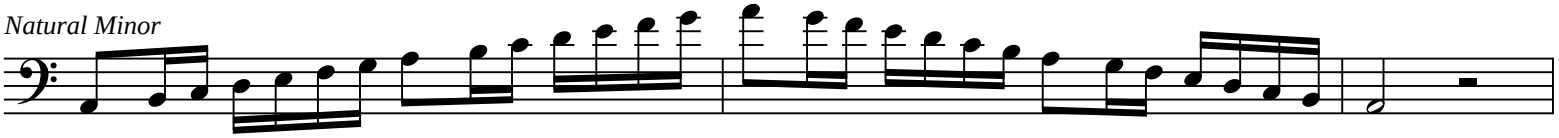
Major/Minor Scale Routine

A maximum of THREE mistakes are allowed for the entire routine
All Scales must be performed at one tempo with the metronome

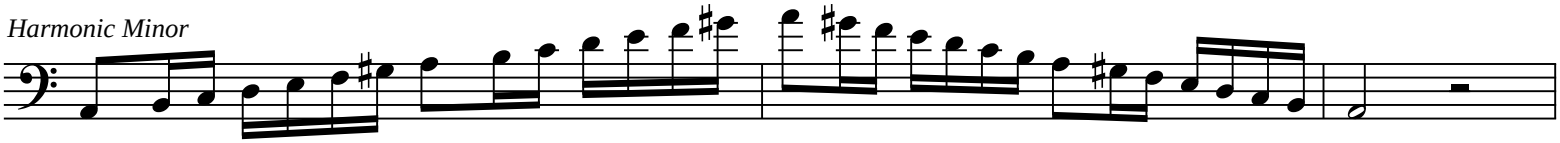
Major



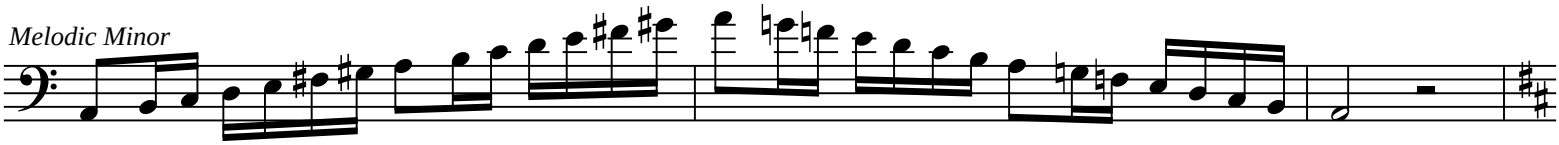
Natural Minor

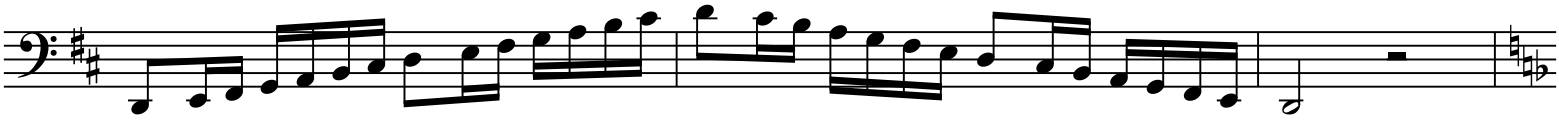


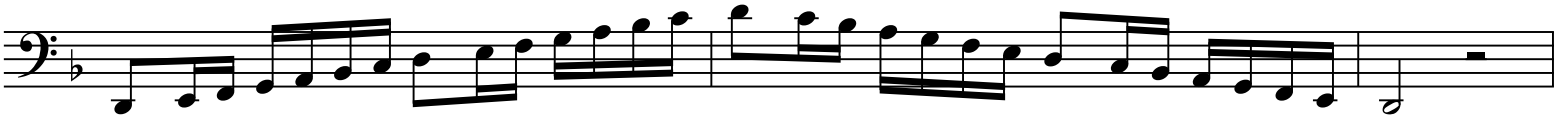
Harmonic Minor

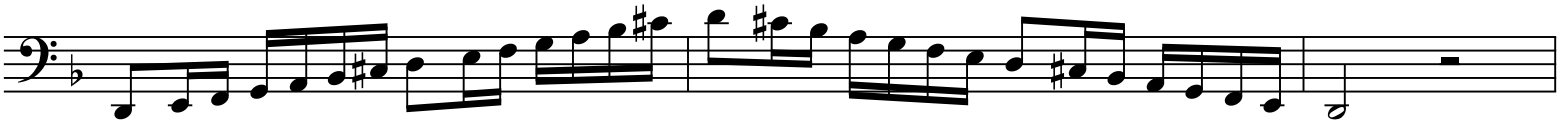


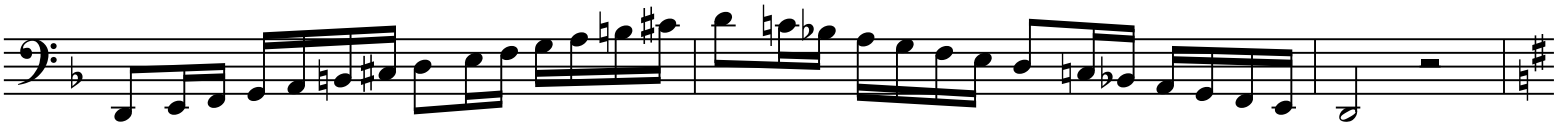
Melodic Minor

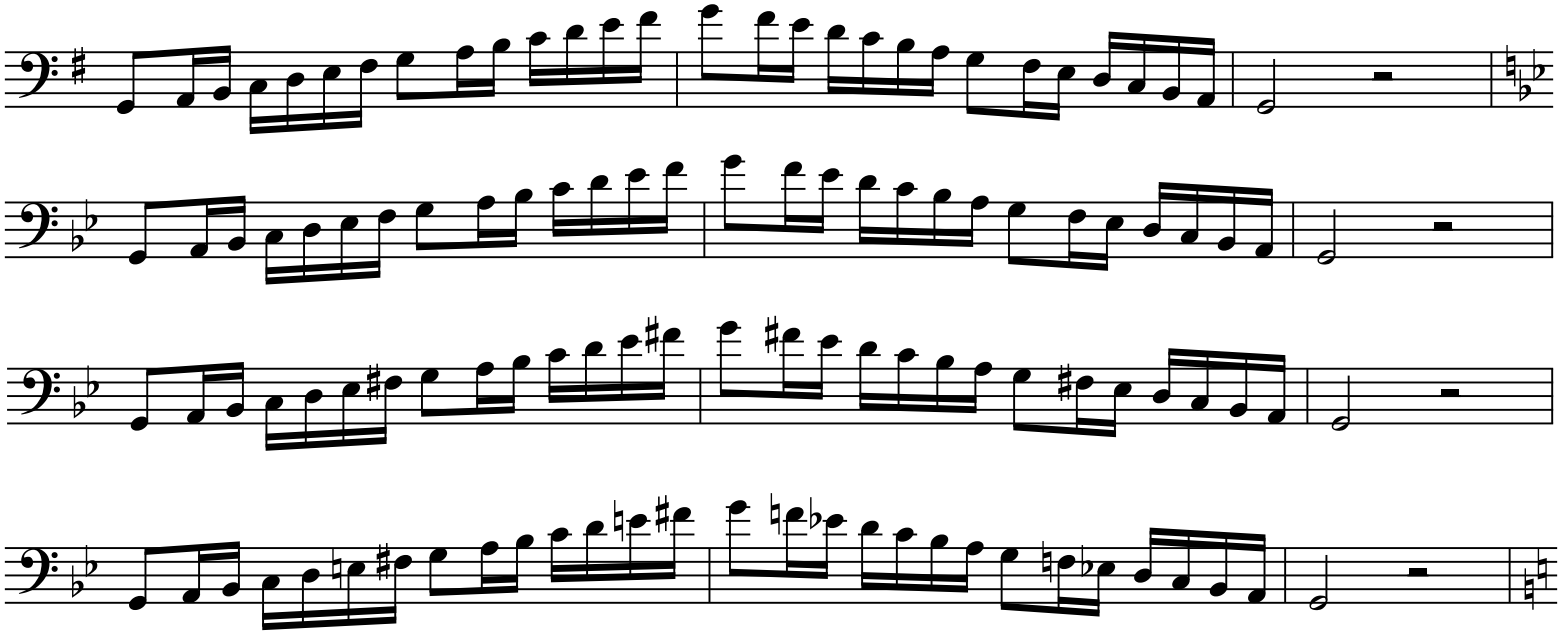


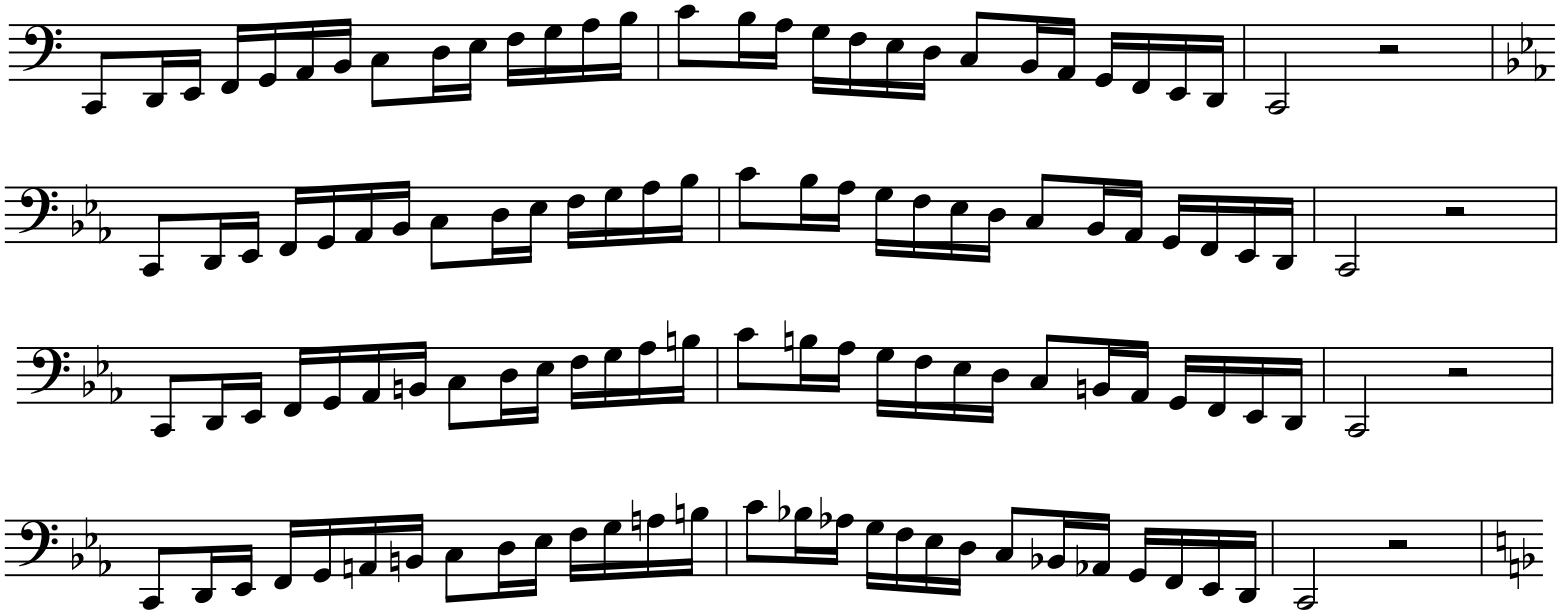


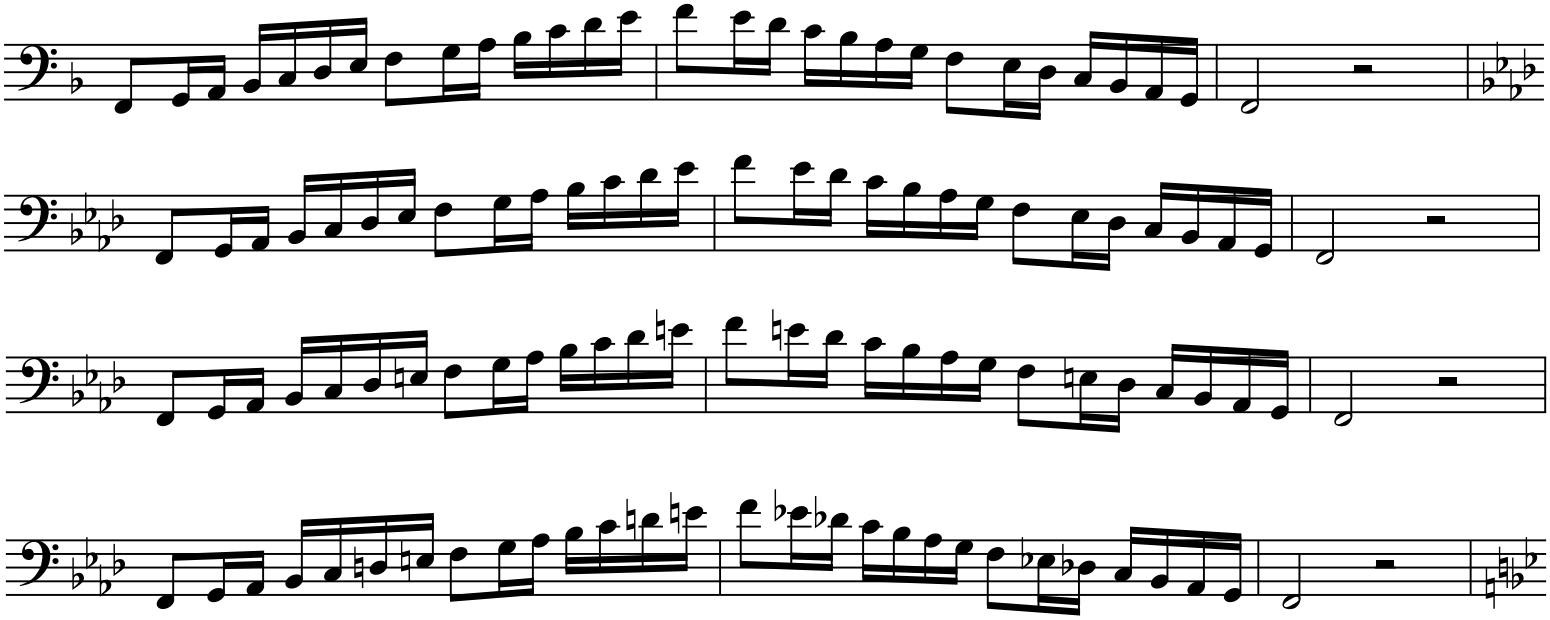


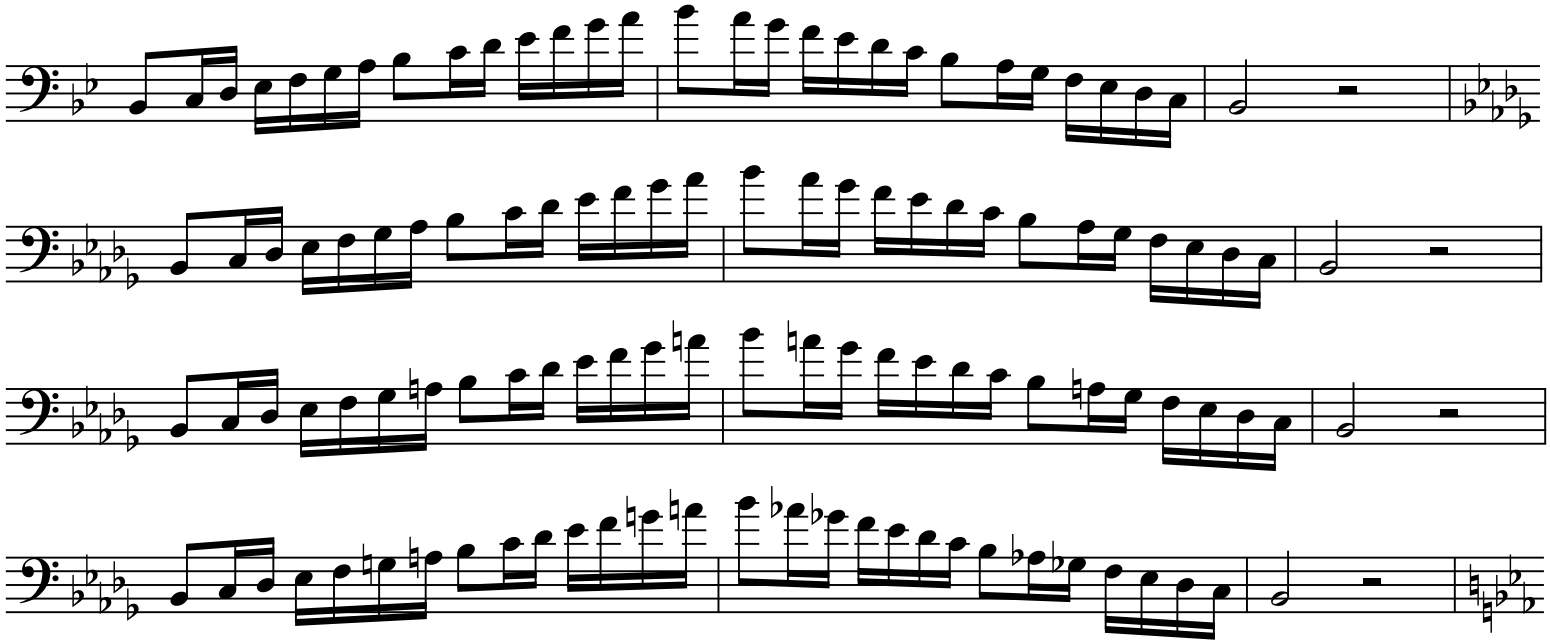


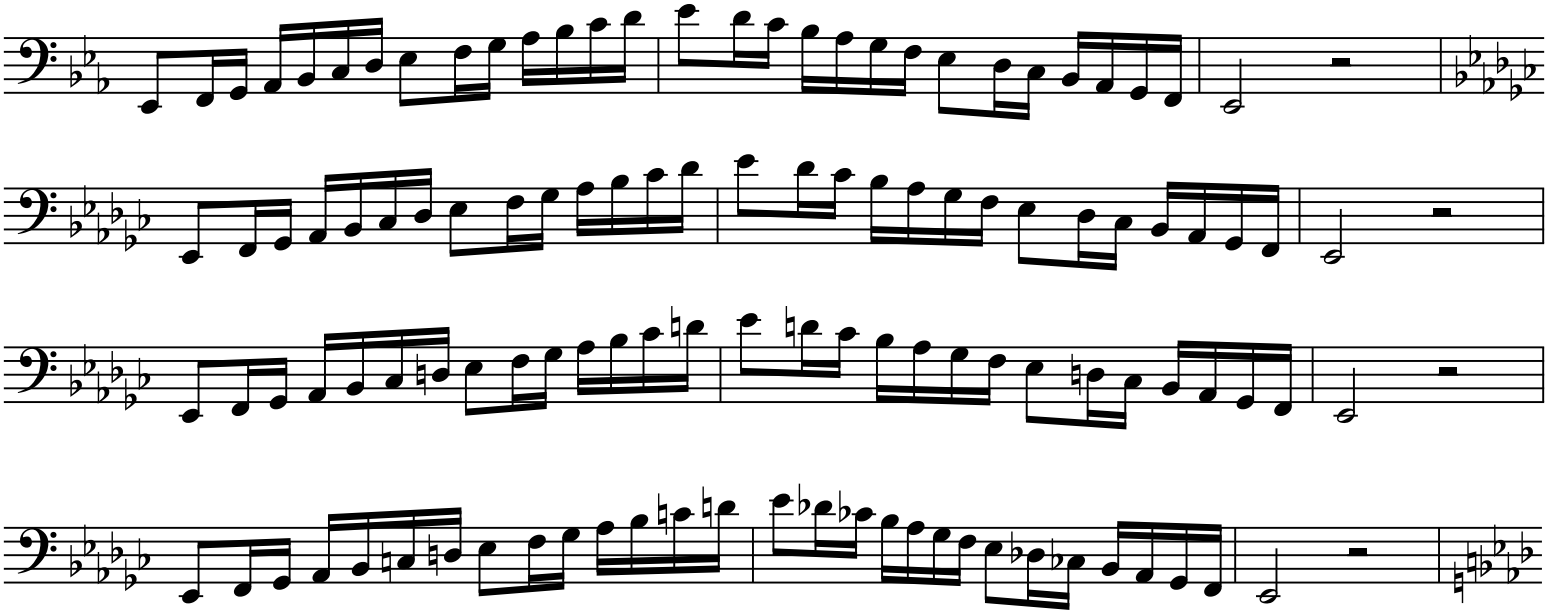


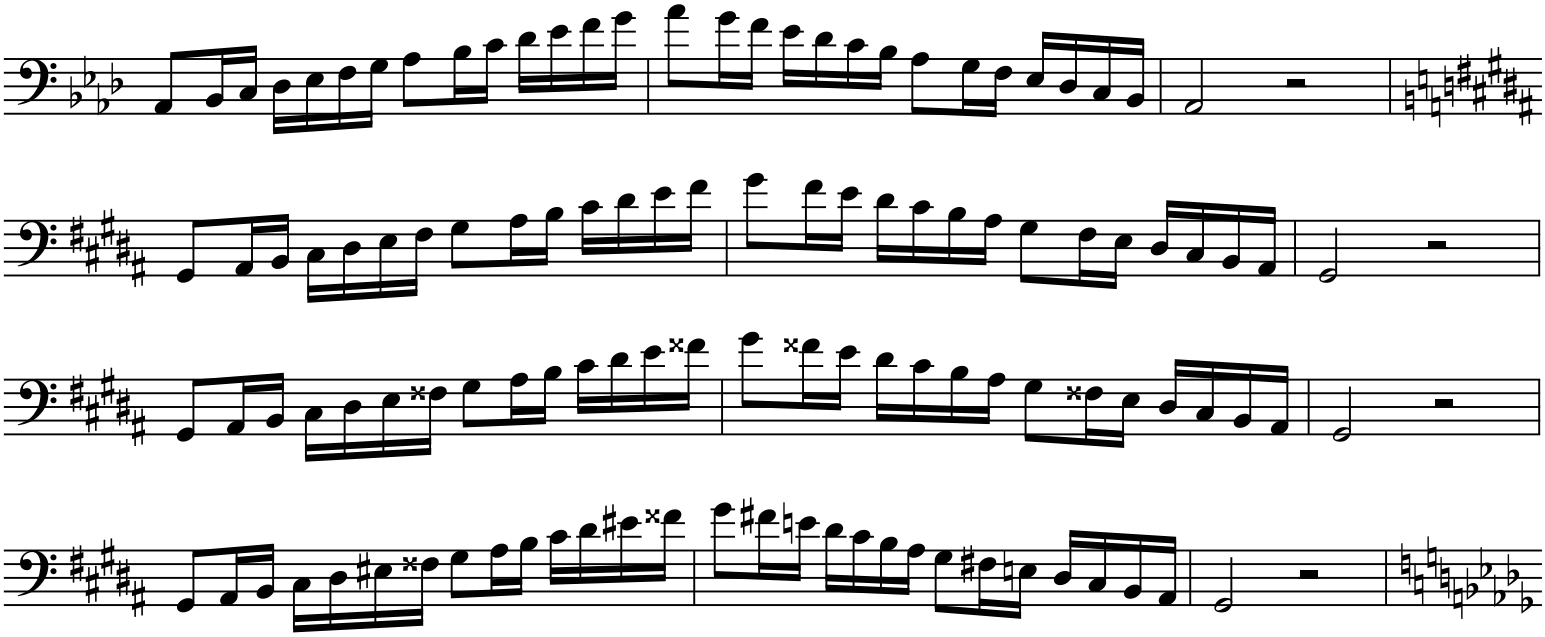


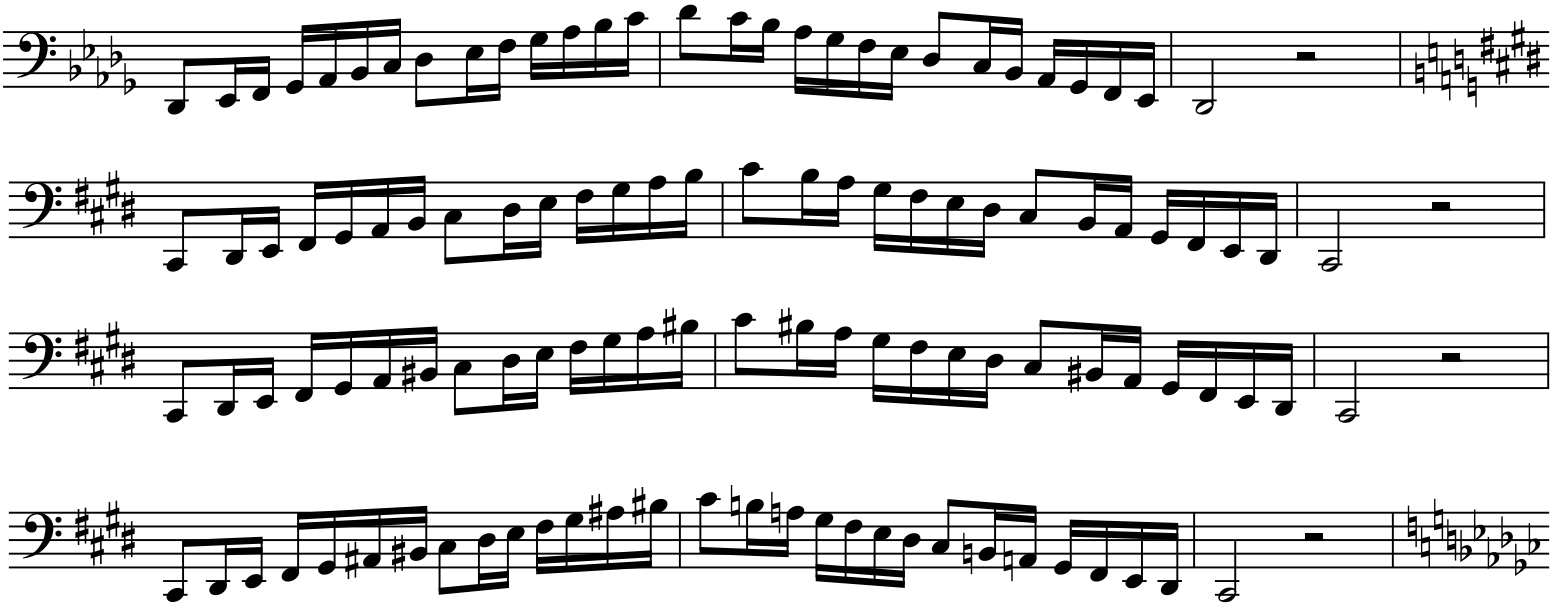


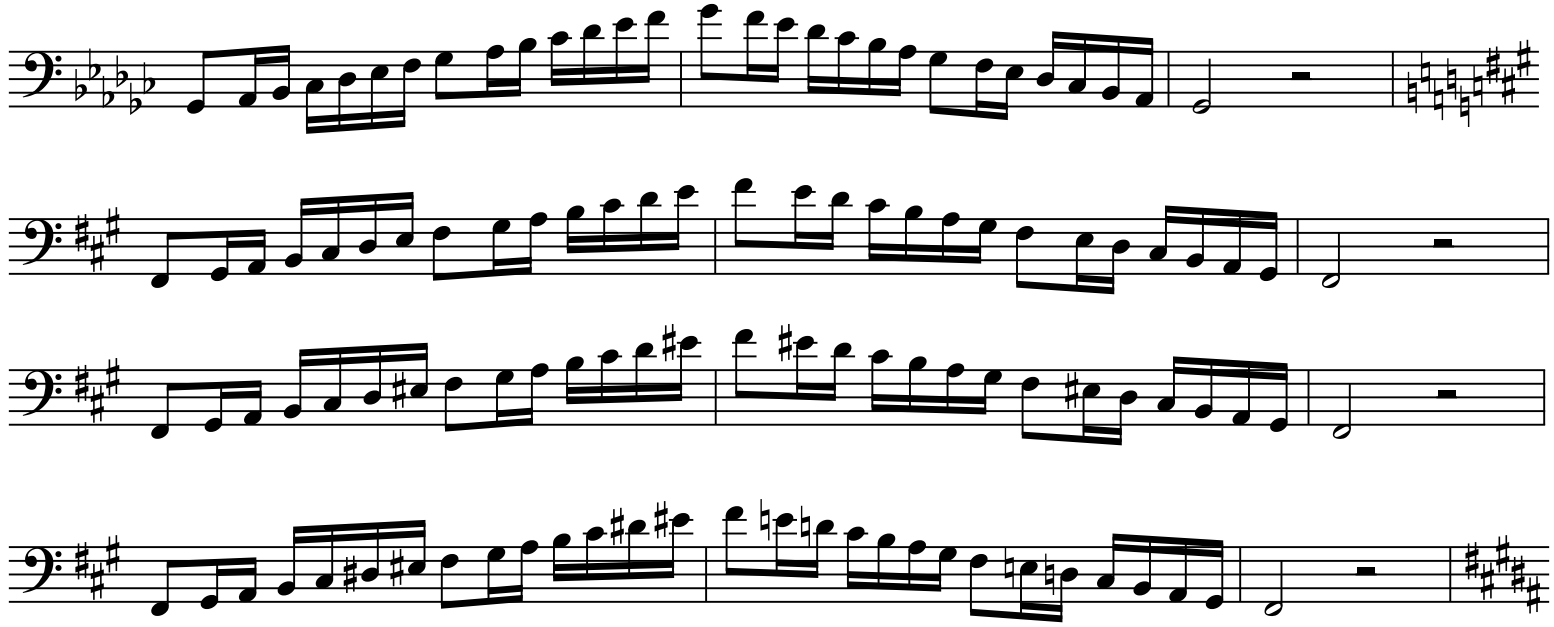


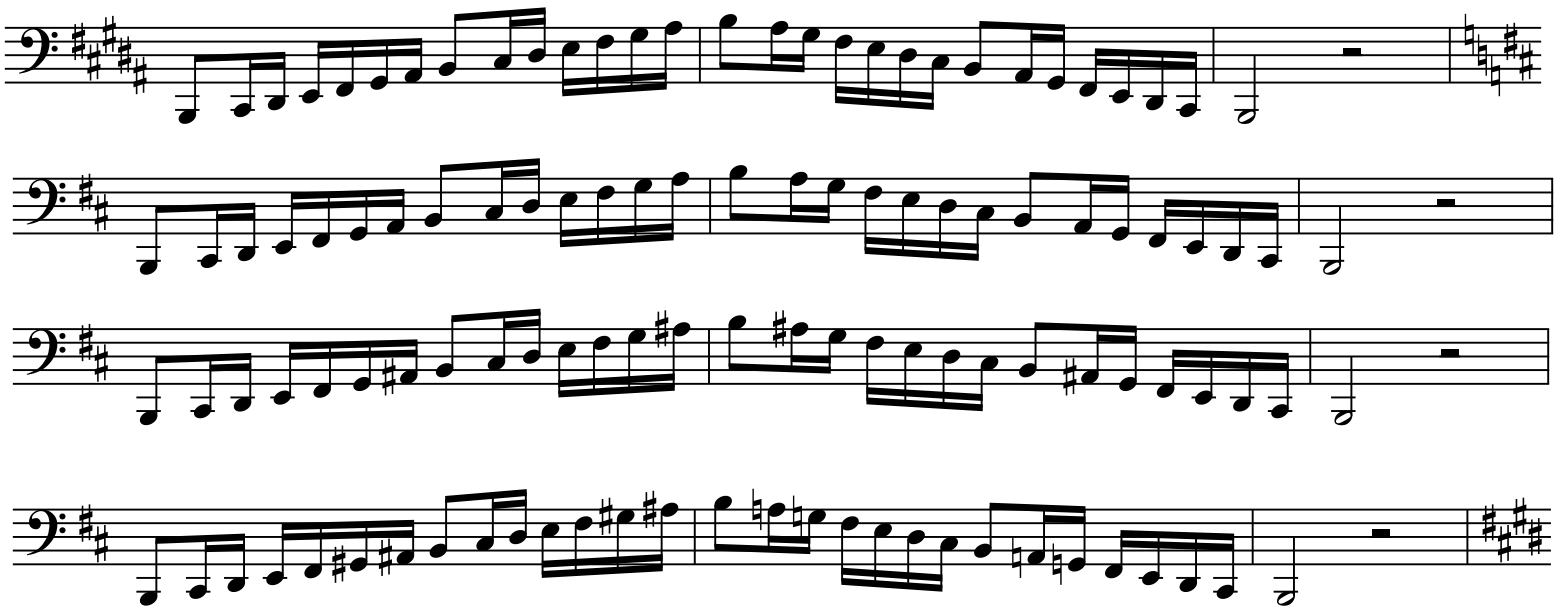


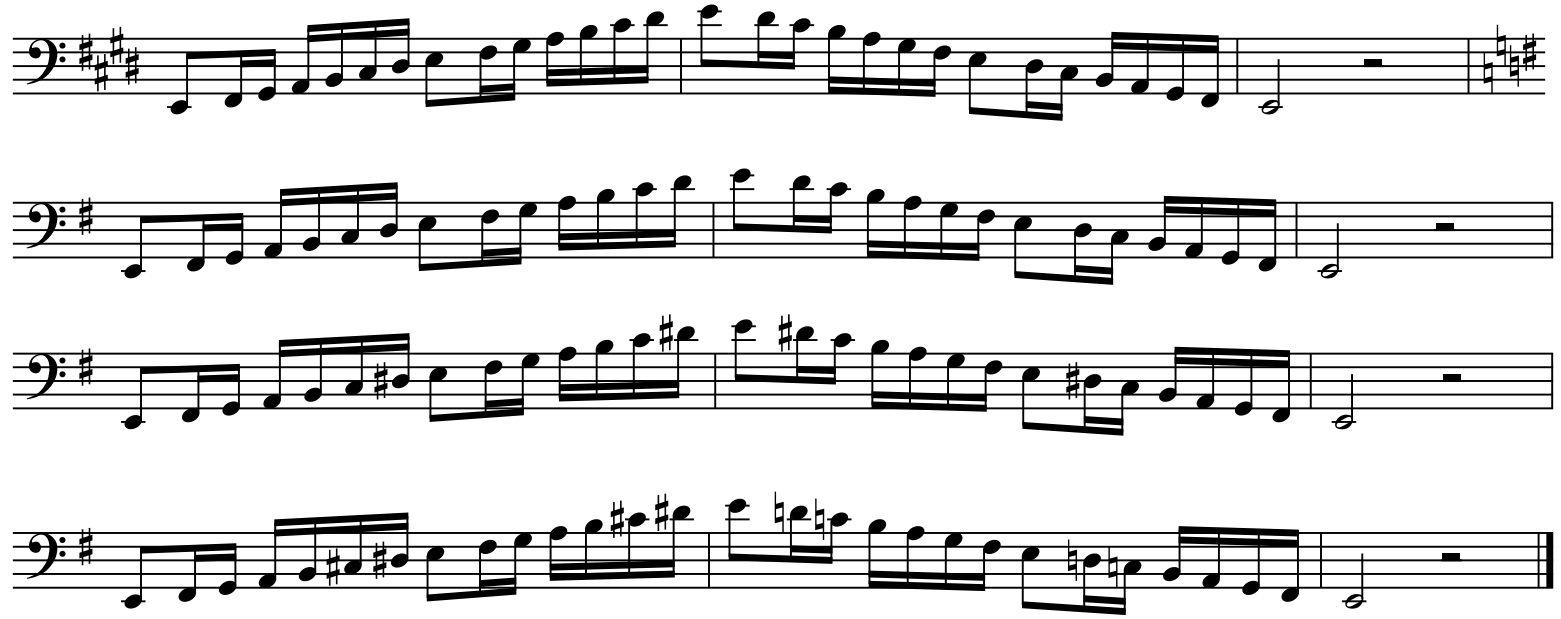








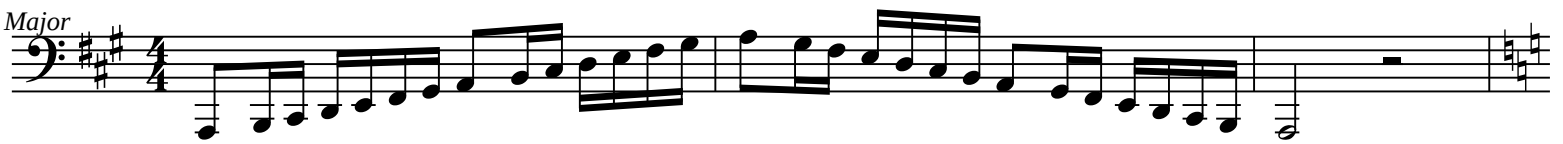




Major/Minor Scale Routine

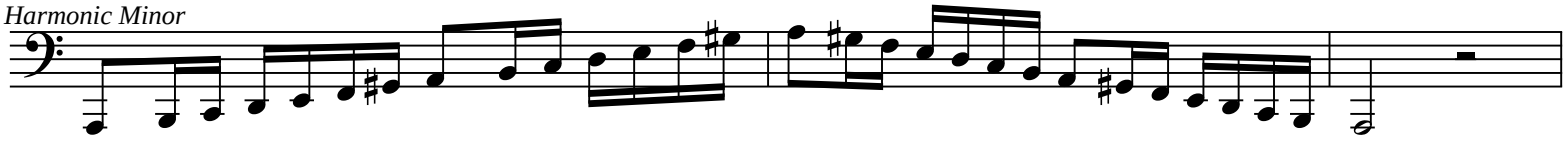
A maximum of THREE mistakes are allowed for the entire routine
All Scales must be performed at one tempo with the metronome

Major

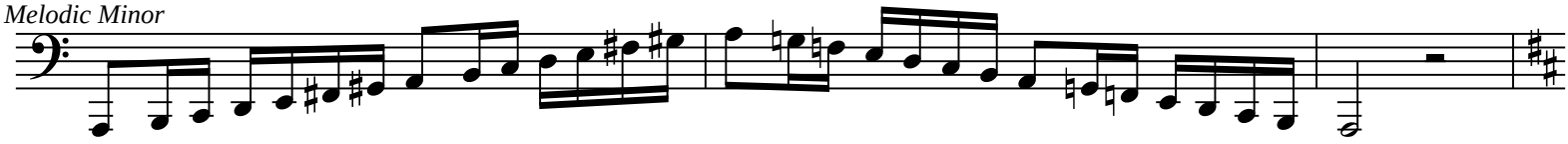


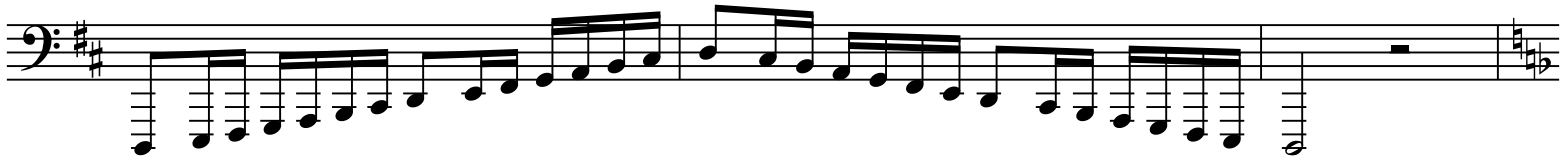
Natural Minor

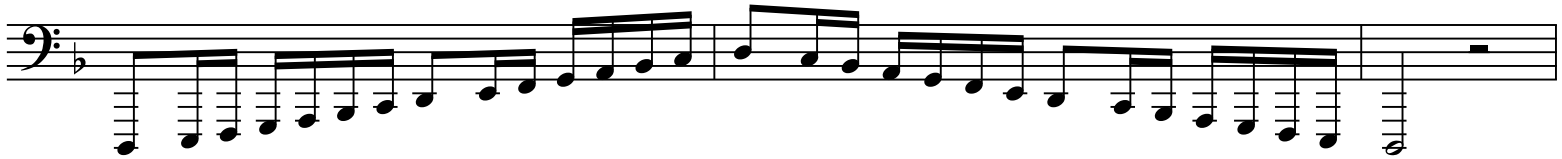
Harmonic Minor

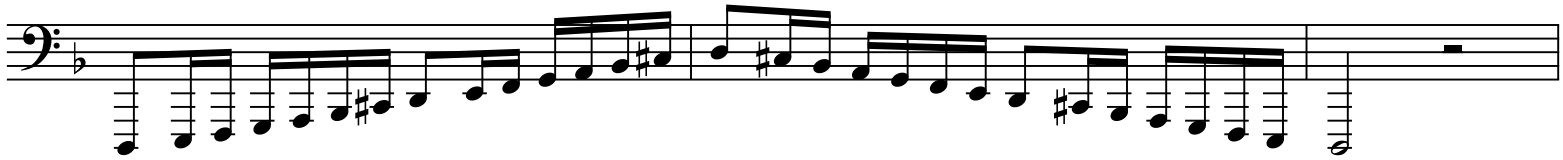


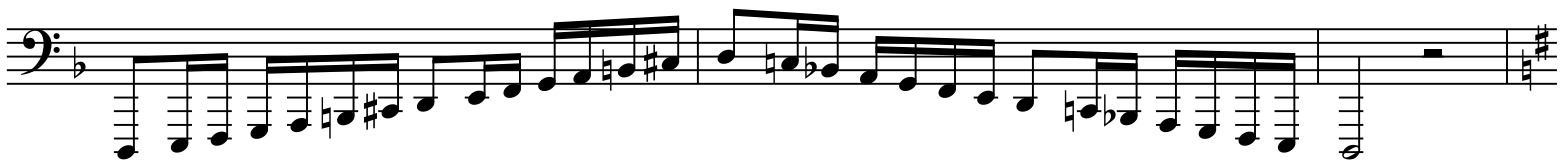
Melodic Minor

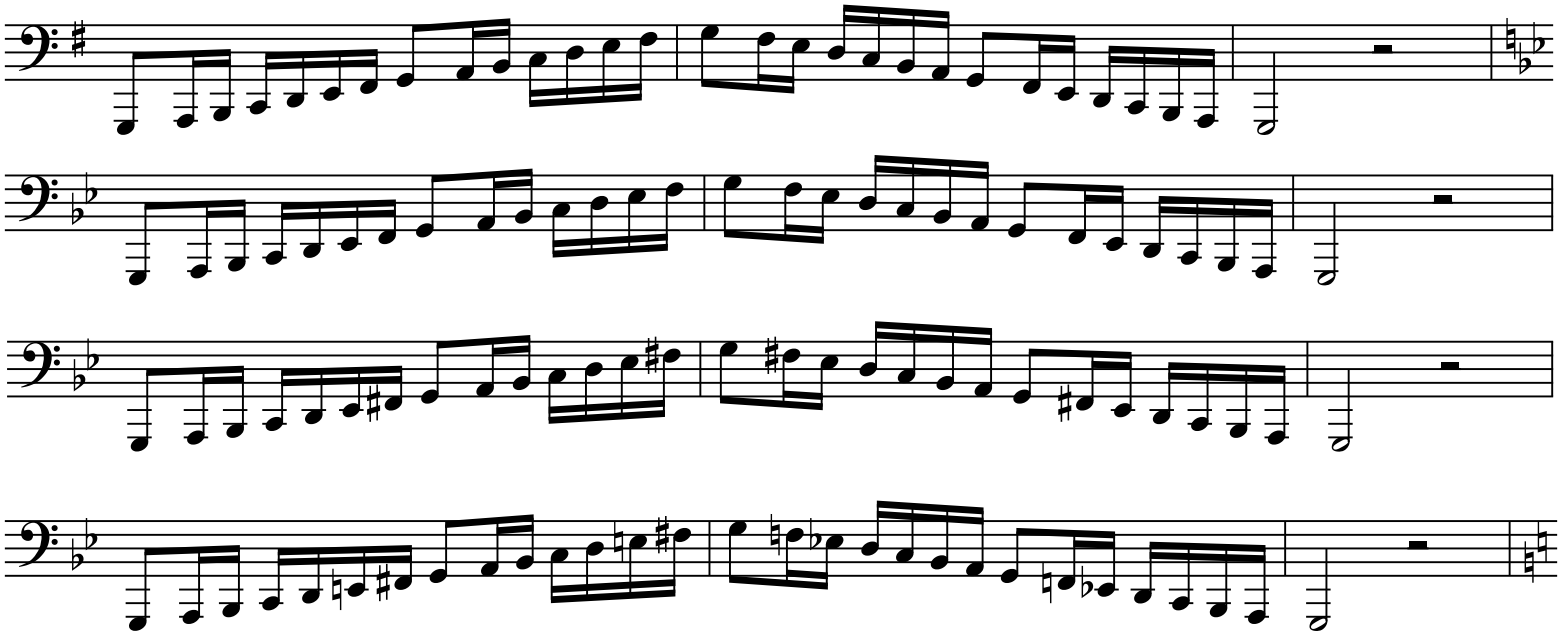


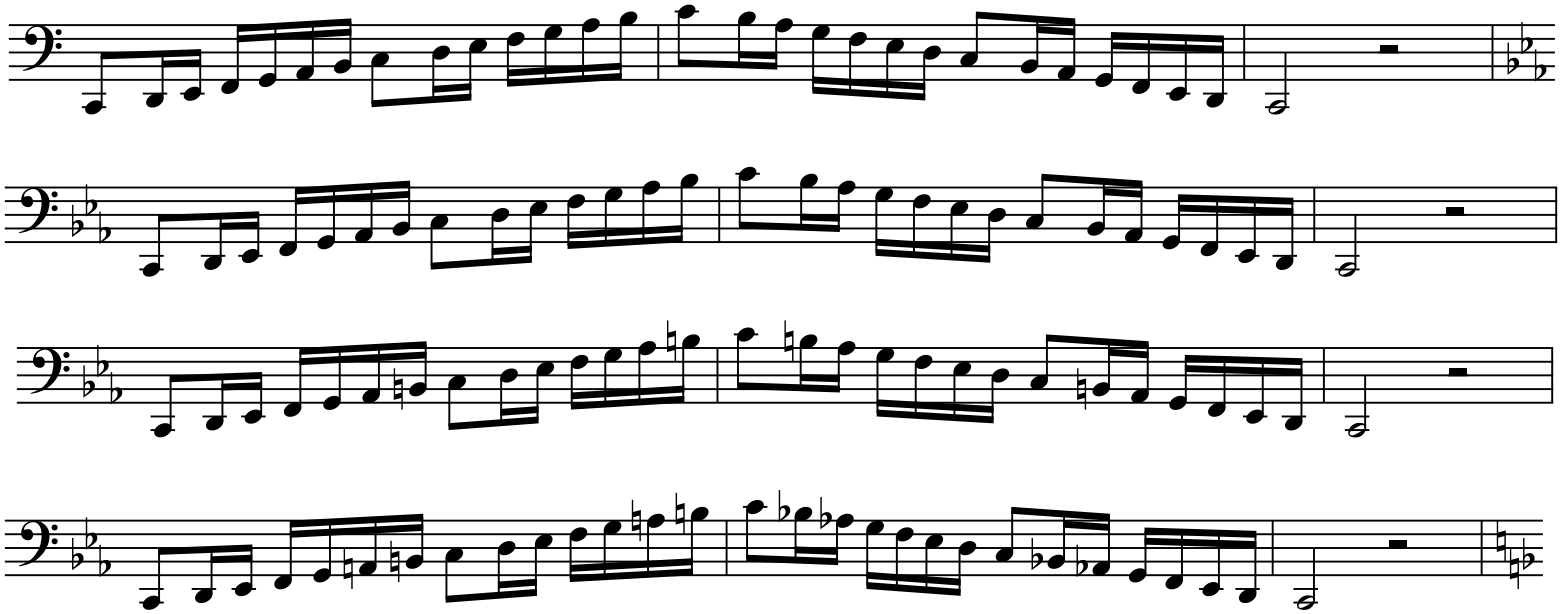


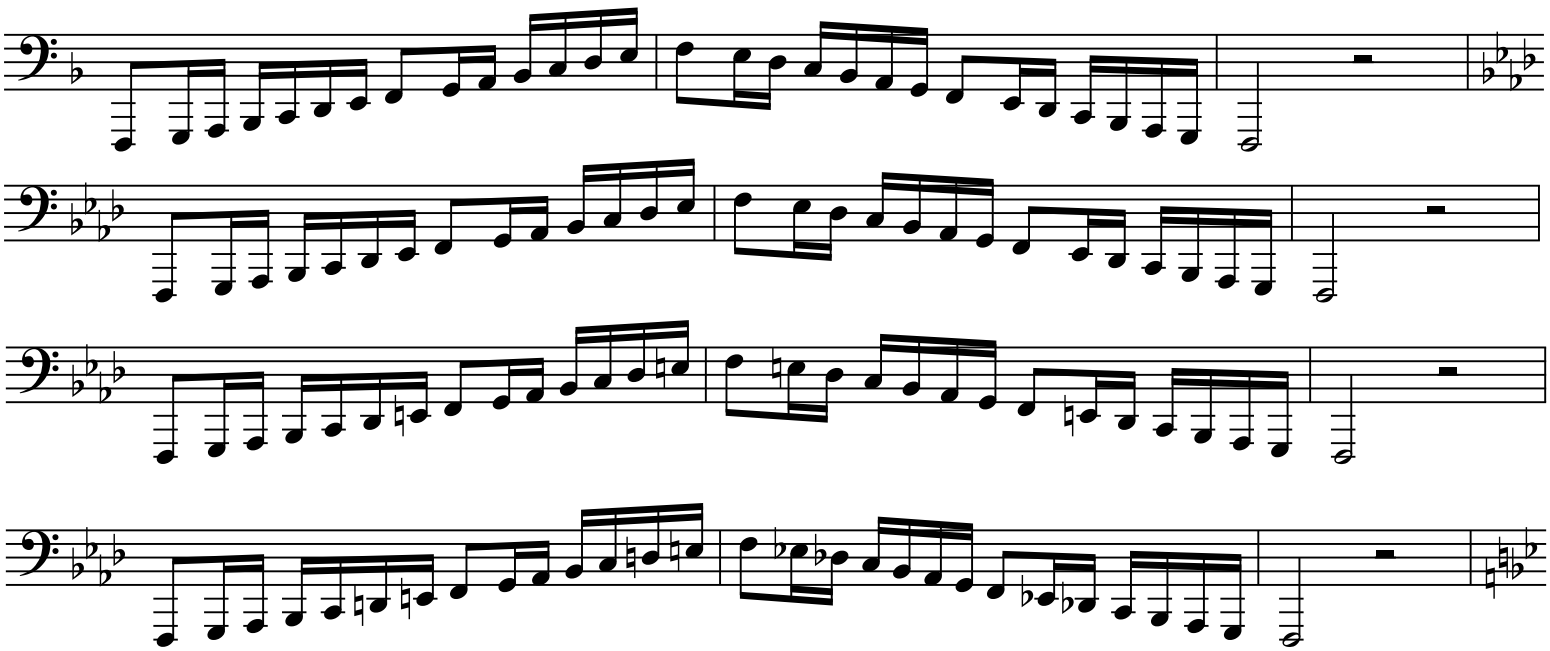


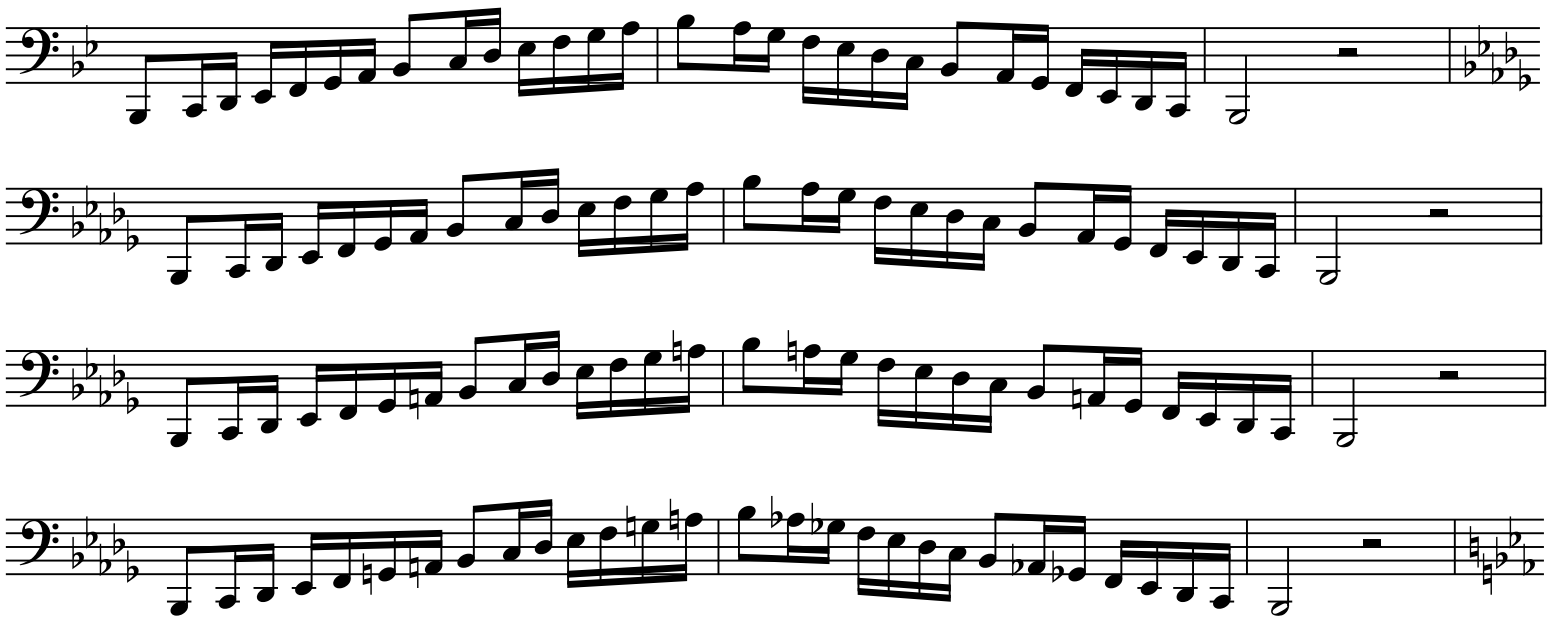


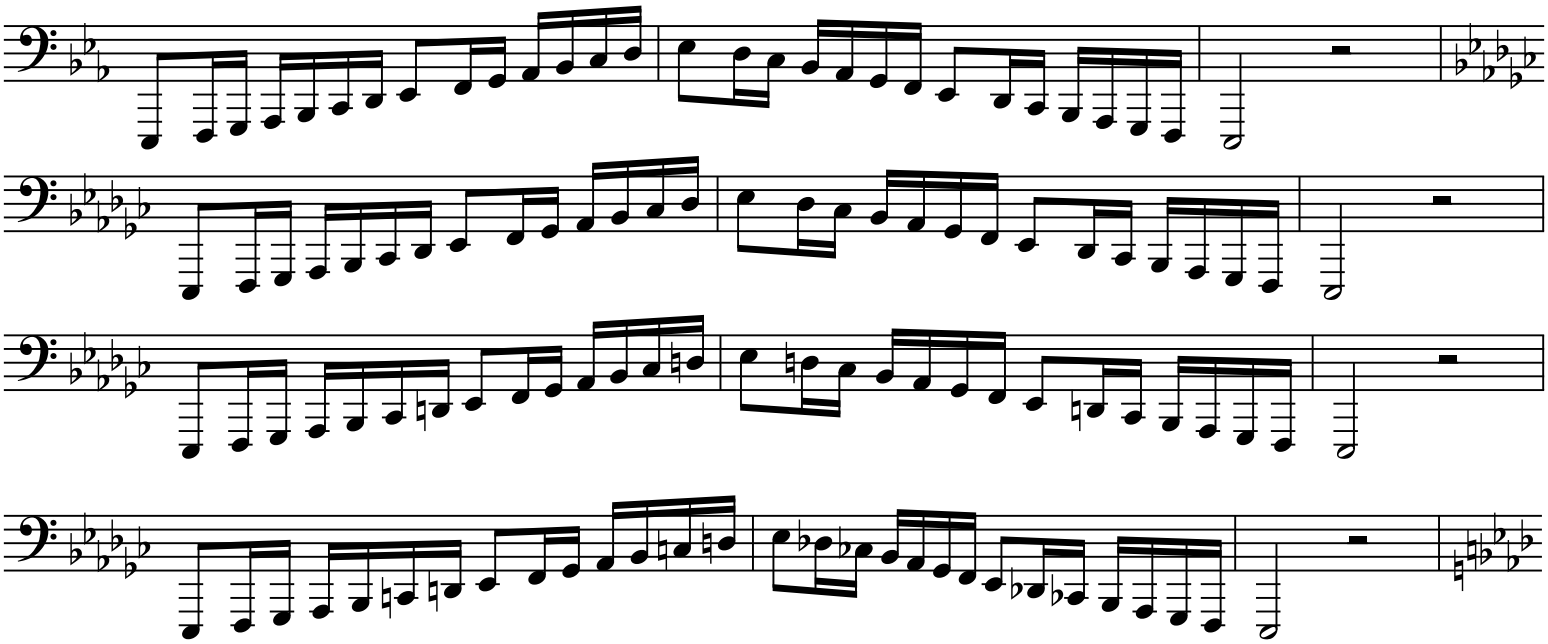


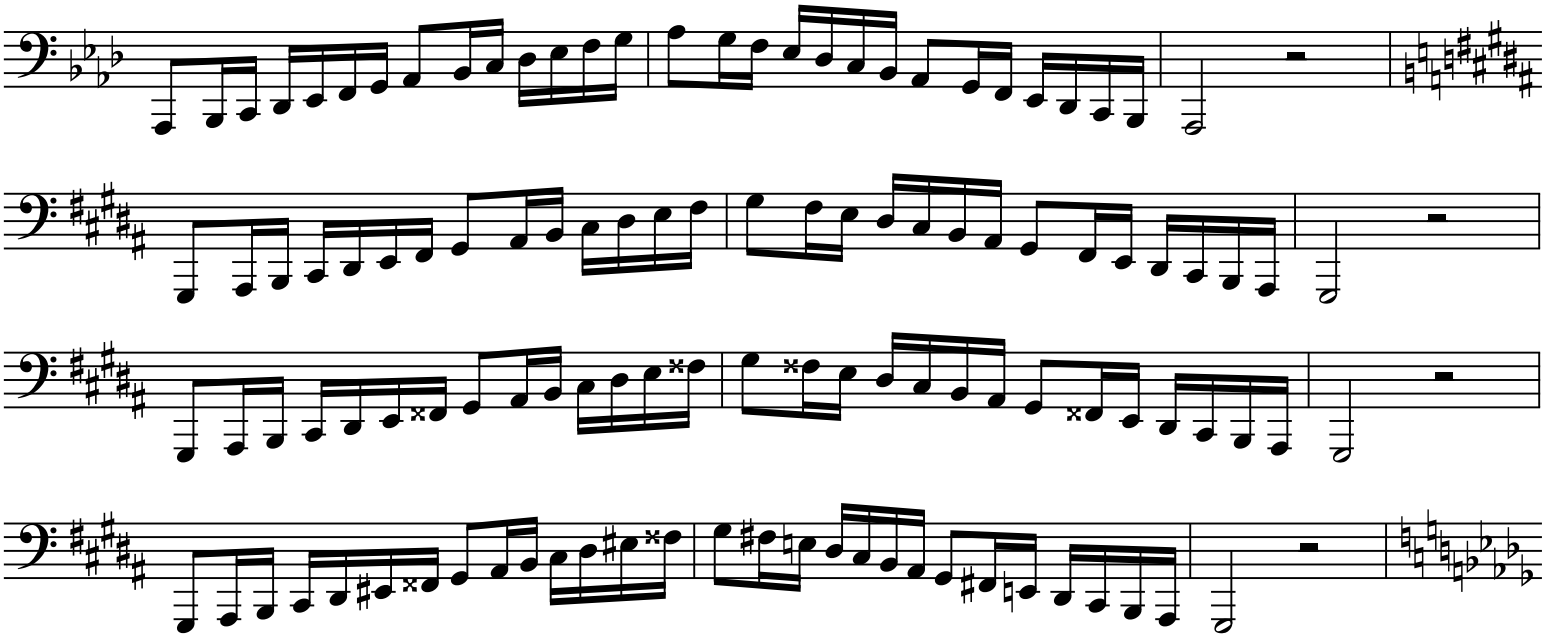


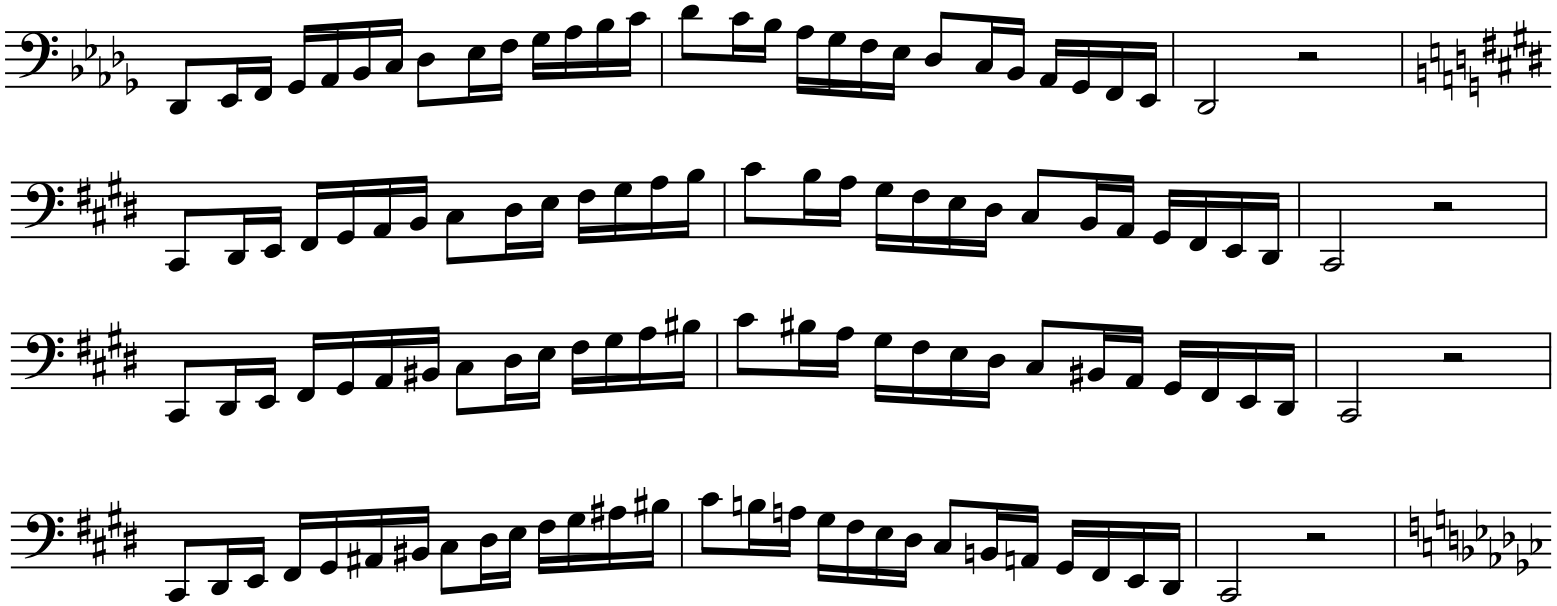


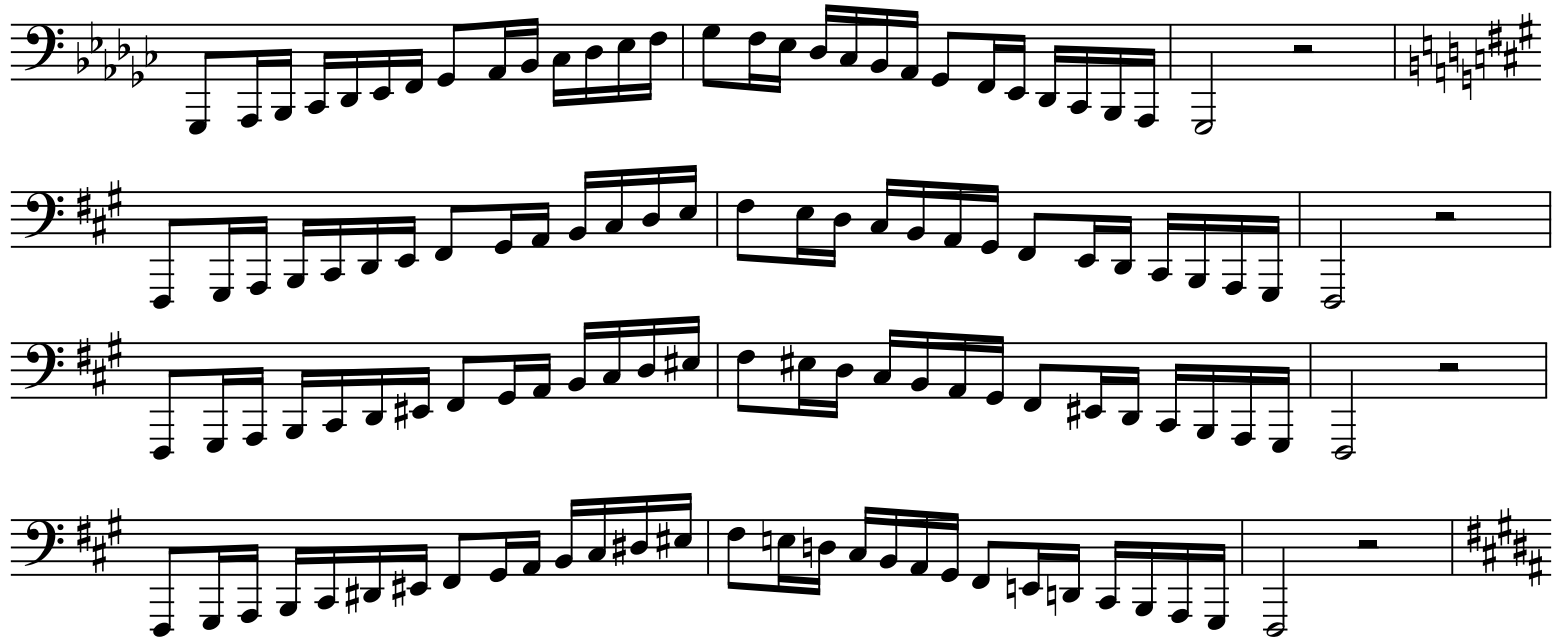


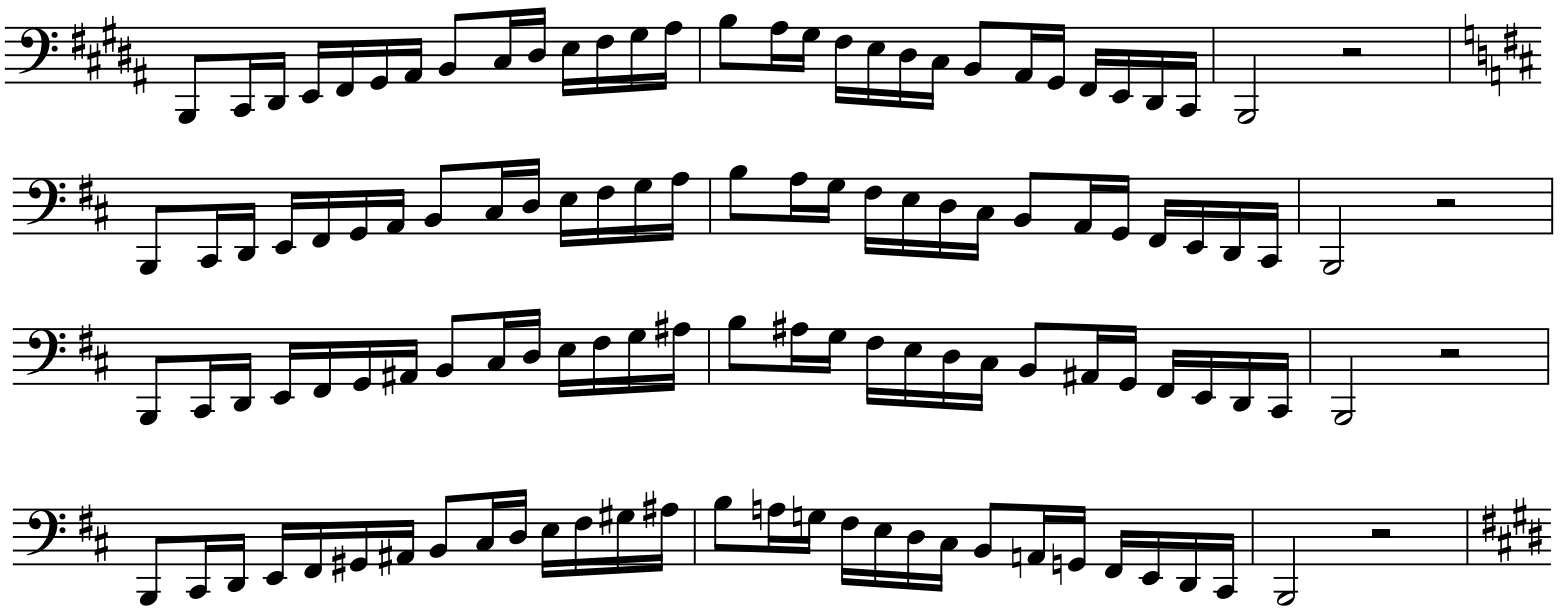


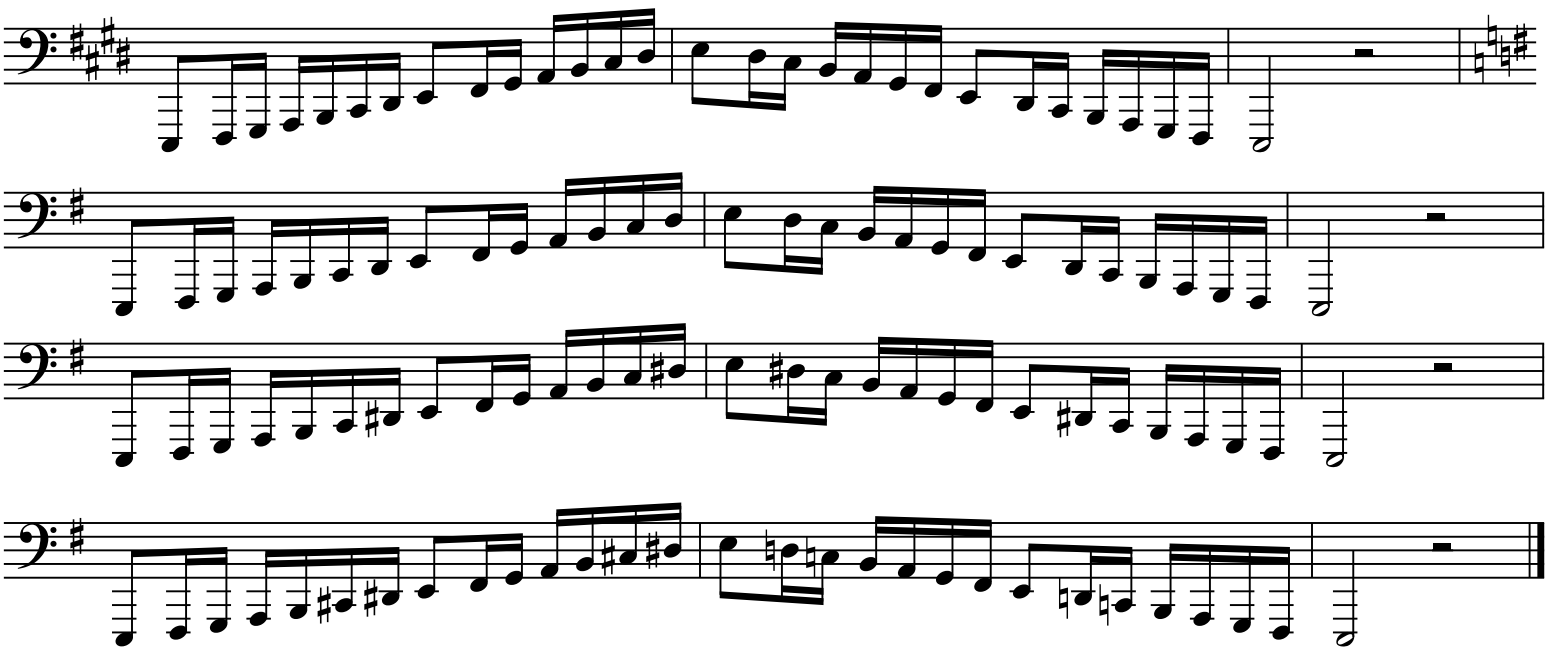












Euphonium Notes

Dr. Jeff Baker
Assistant Professor of Tuba and Euphonium, Texas A&M University-Commerce

What to Look for in Beginners

- Ears: Can they sing and match pitch?
- Facial Structure: Larger faces, specifically around the mouth
- Air: Can they move enough?
- Trumpet players who struggle with the high register make excellent euphonium candidates
    - Most euphonium parts are available in a Bb Treble Clef version

Equipment

- Mouthpieces (Deeper cups than Trombones)
    - Beginner: Bach 6-1/2 AL, Schilke 48
    - Intermediate: Schilke 51D, Schilke 52E2
    - Advanced: Wick SM4, BB1, Schilke 51D, Schilke 52E2
    - Make sure to get the proper shank size.
- Instruments
    - Beginner: .571 bore, small shank, 4 valve, non-compensating
      (Yamaha YEP-321 or YEP-621, Besson BE1065)
    - Intermediate: .591 bore, large shank, 4 valve compensating
      (Yamaha YEP-642, Besson Sovereign)
    - Advanced: .591 bore, large shank, 4 valve compensating
      (Willson 2900S (European shank), Besson Prestige, Yamaha YEP-842S)

Stick to name brand instruments (Yamaha, Besson, Willson, Hirsbrunner).
You get what you pay for.

Method Books

- Beginner
    - Beeler, Walter. *Method for Trombone*
    - Bordner, Gerald. *First Book of Practical Studies for Trombone*
    - Remington/Hunsberger. *The Remington Warm-Up Studies*
- Intermediate
    - Bordner, Gerald. *Second Book of Practical Studies for Trombone*
    - Arban, J.B.L. *Complete Method for Trombone/Euphonium*
    - Voxman, *Selected Studies for Baritone*
    - Rochut, Johannes. *Melodious Etudes for Trombone Book 1*
- Advanced
    - Tyrell, H. *40 Progressive Studies*
    - Kopprasch, C. *Sixty Selected Studies for Trombone*
    - Rochut, Johannes. *Melodious Etudes for Trombone Book 2*
    - Fink, Reginald. *Introducing the Tenor Clef*
    - Clarke, H. *Technical Studies for the Cornet (Treble Clef)*

Solos

- Beginner
  - Vandercook, *Trombone Gems*
  - Voxman, *Concert and Contest*
  - Bach, *Minuet in G*
- Intermediate
  - Handel, *Arm, Arm, Ye Brave*
  - Handel, *Honor and Arms*
  - Mozart, *Mozart Sonatina*
  - Hutchison, *Sonatina*
  - Bach, *Arioso*
- Advanced
  - Barat, *Introduction and Dance*
  - Telemann, *Sonata in F-minor for Bassoon*
  - Guilmant, *Moreceau Symphonique*
  - Arban, *The Carnival of Venice*

Recommended Listening

- Bowman, Brian. *The Sacred Euphonium*
- Mead, Steve. *The World of Euphonium, Vol. 1*
- Behrend, Roger. *Elegance*
- Childs, David. *Metamorphosis*
- Fisher, Mark. *Eufish*

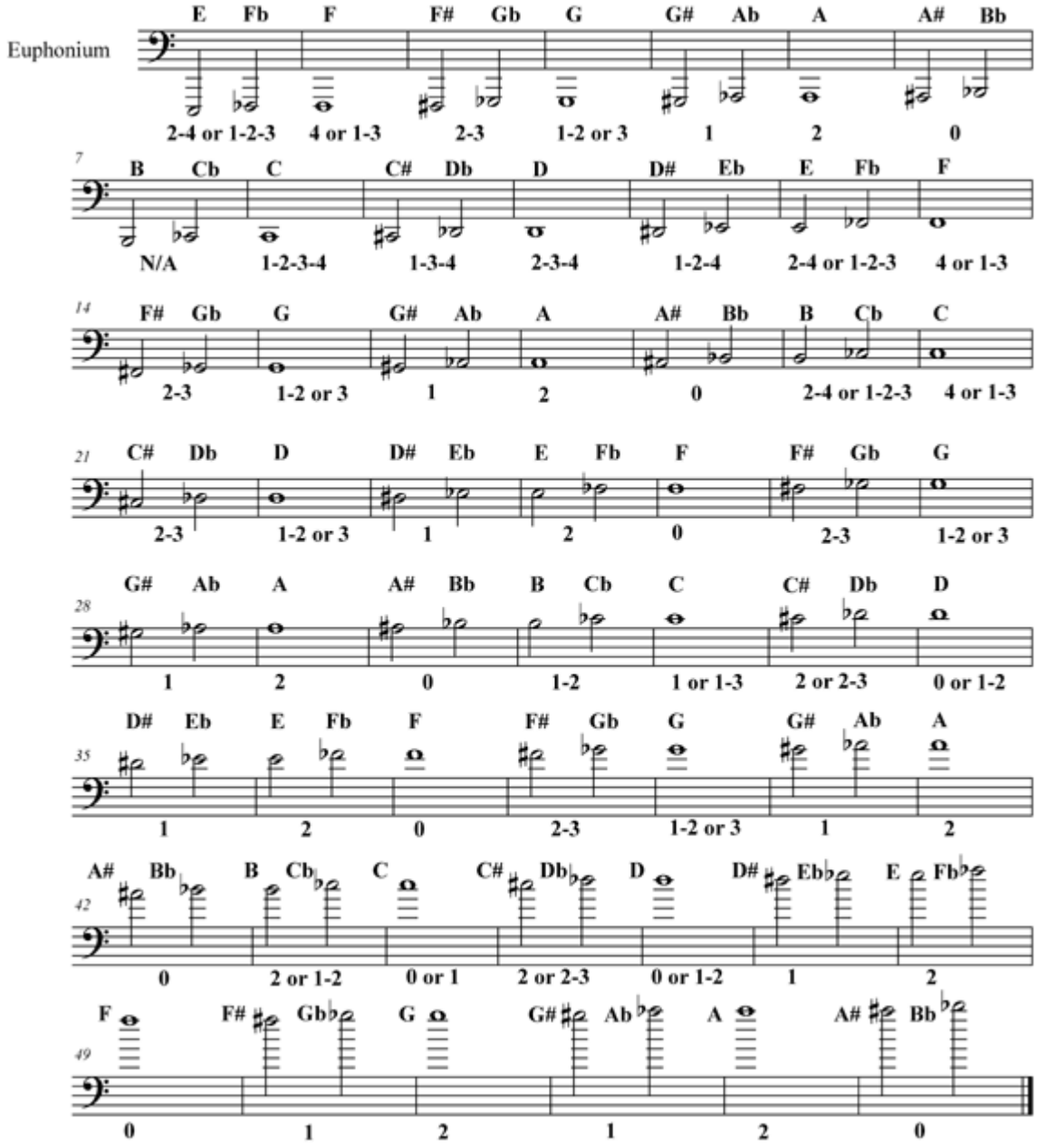
Recommended Teaching Resources

- Bowman, Brian. *Practical Hints on Playing the Baritone*
- Bone, Paul, and Morris. *Guide to the Euphonium Repertoire*
- Bevan, Clifford. *The Tuba Family*
- Phillips, Harvey. *The Art of Tuba and Euphonium*
- Frederickson, Brian. *Arnold Jacobs: Song and Wind*

Keys to Success

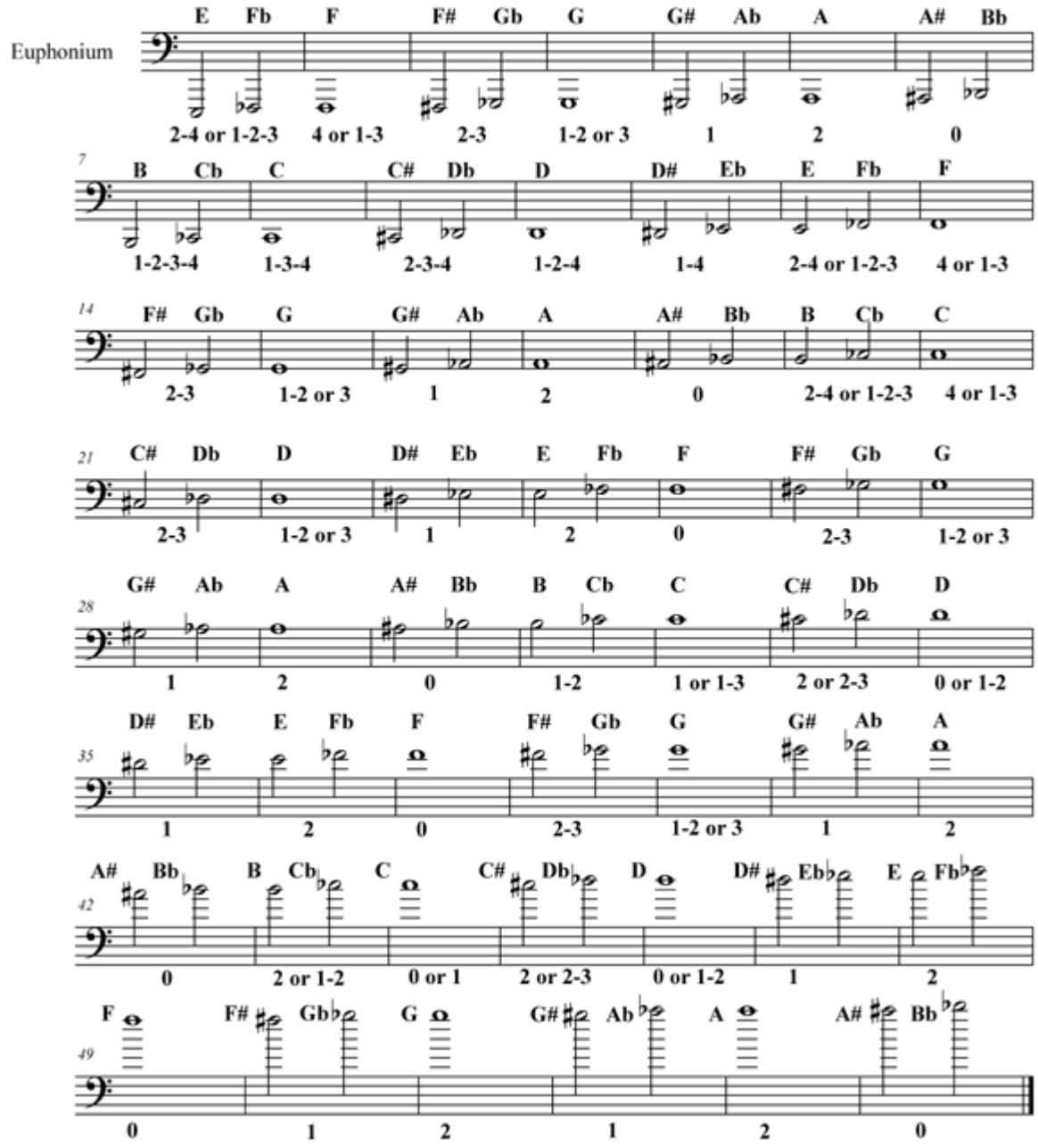
- Provide a positive sound model when teaching beginners either through playing or recordings.
- Buzzing and singing will improve the students ears.
- Consider using a towel to prop the instrument up on your lap.
- Demand proper hand posture (keep the fingers on the valves and the hand curled at all times).
- Encourage all of your students to take private lessons.

Bass Clef, Non-compensating Fourth valve



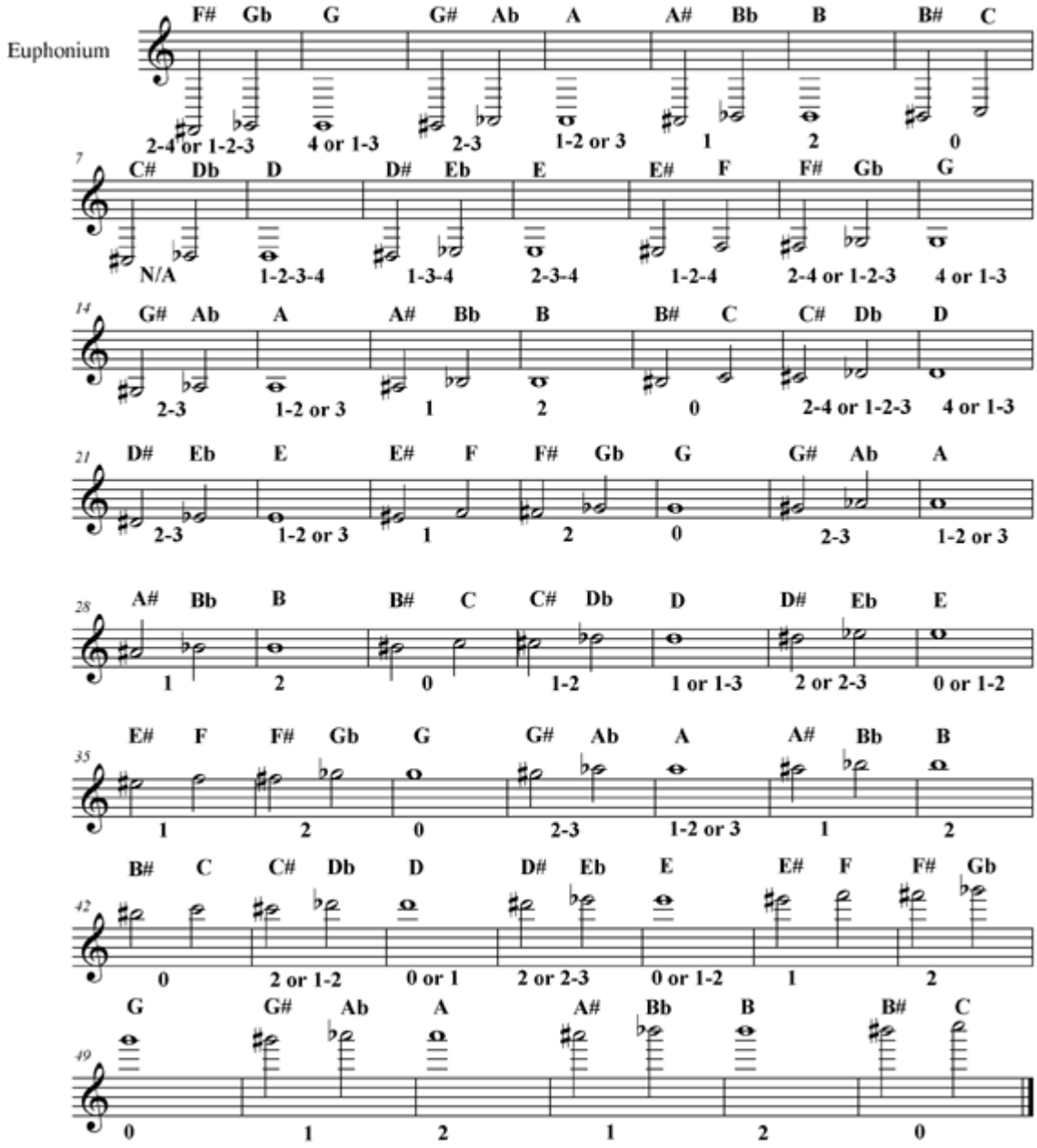
Fingering Charts Available at www.norlanbewley.com

Bass Clef, Compensating Fourth Valve



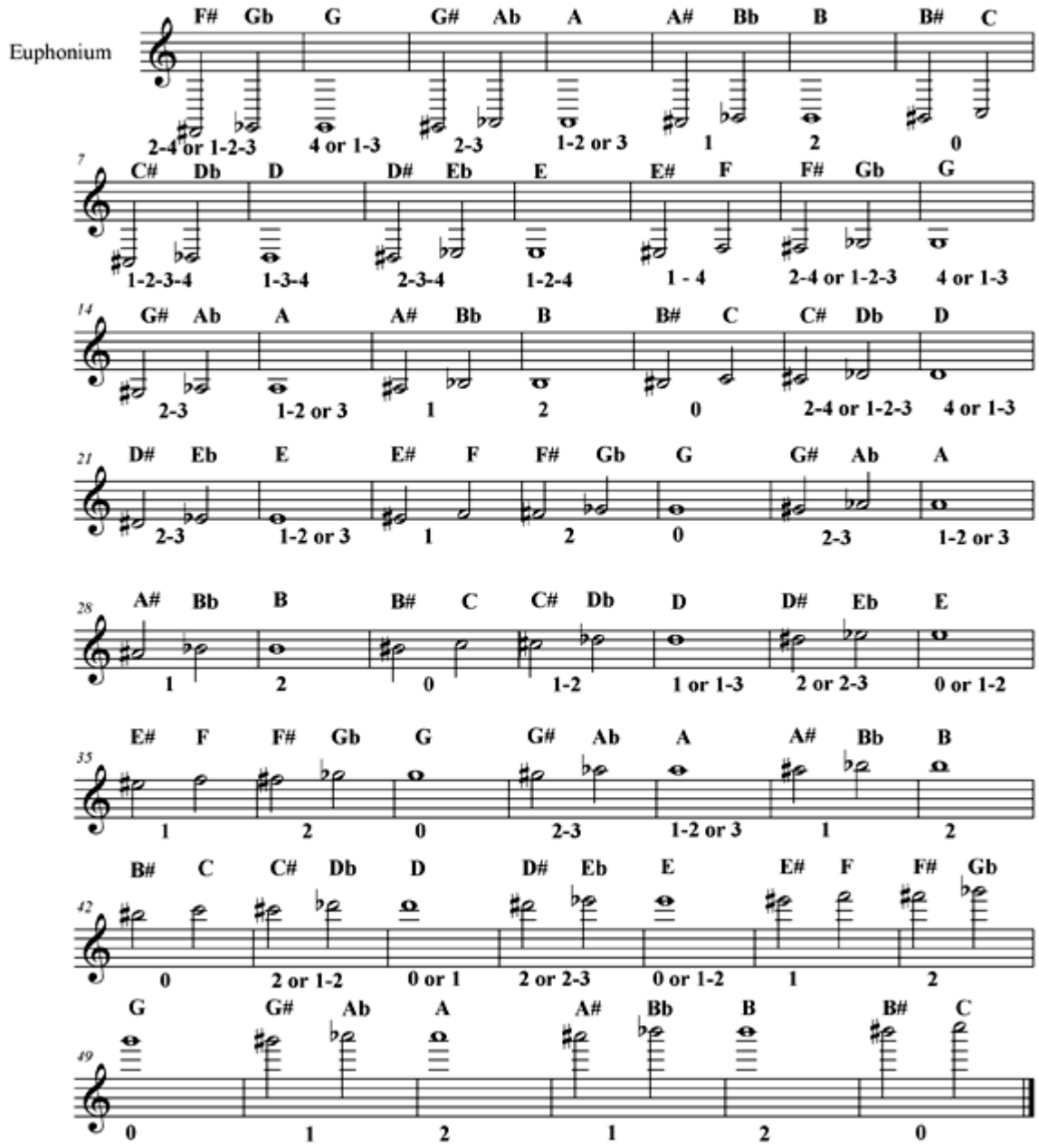
Fingering Charts Available at www.norlanbewley.com

Treble Clef, Non-Compensating



Fingering Charts Available at www.norlanbewley.com

Treble Clef, Compensating



Fingering Charts Available at www.norlanbewley.com

Tuba Notes

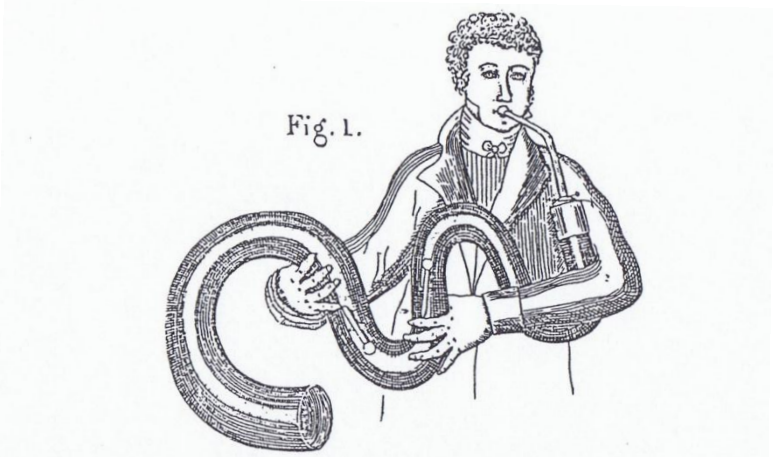
Dr. Jeff Baker
Assistant Professor of Tuba and Euphonium, Texas A&M University-Commerce

What is a Tuba?

- The largest of the valved bugle-horns
- Conical profile through regular expansion of the bore over the length of the instrument
- Range of the modern tuba is at least four octaves.

Predecessors to the Modern Tuba

- **Serpent**
  - Wooden bugle-horn with finger holes (usually six) and a cupped mouthpiece
  - Conical, approximately 7 feet in length
  - Two halves carved out separately, glued together and bound with leather



g. 2.3 (a) Method of holding the serpent recommended by Hermenge, c. 1817.

Fig. 2.3 (b) Alternative method which allows rational fingering to be used. Hermenge comments that this approach requires 'Key No. 12' (the C♯ key) to be repositioned.

- **Ophicleide**
    - Originally had nine keys and a cupped mouthpiece and eventually was known as the Alto Ophicleide
    - Unreliable intonation
    - Limited dyanmic range
    - Berlioz used the ophicleide in numerous works and helped encourage its use
        - *Requiem, Symphonie Funebre et Triomphale*

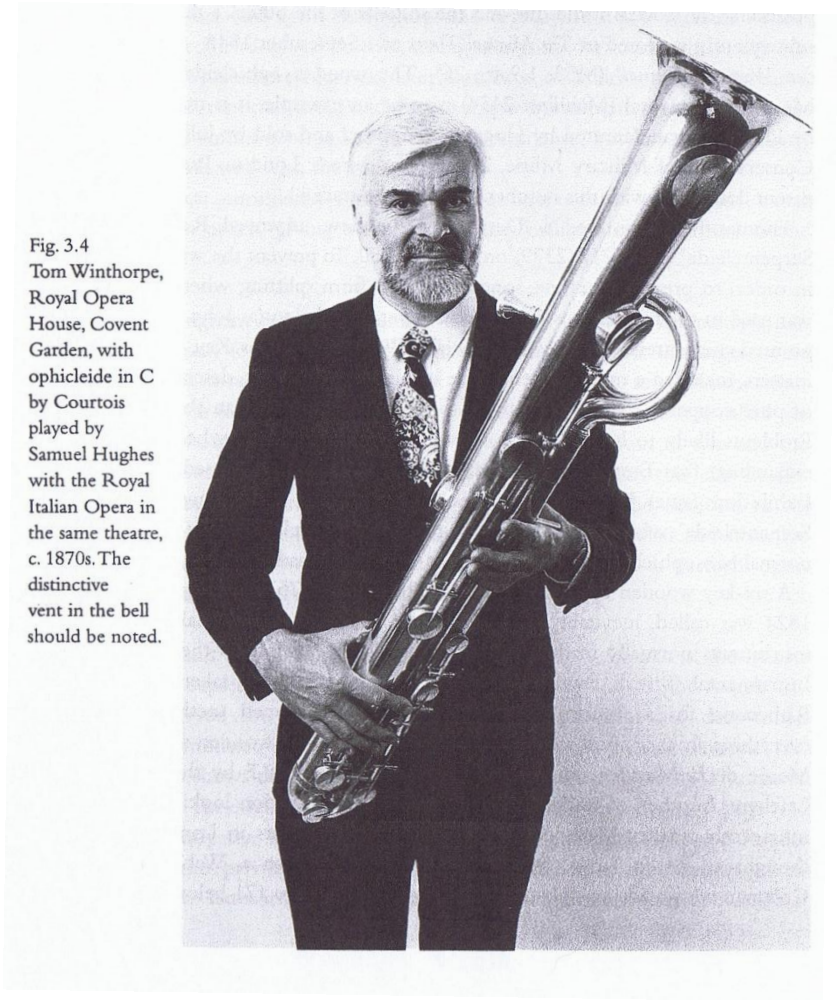


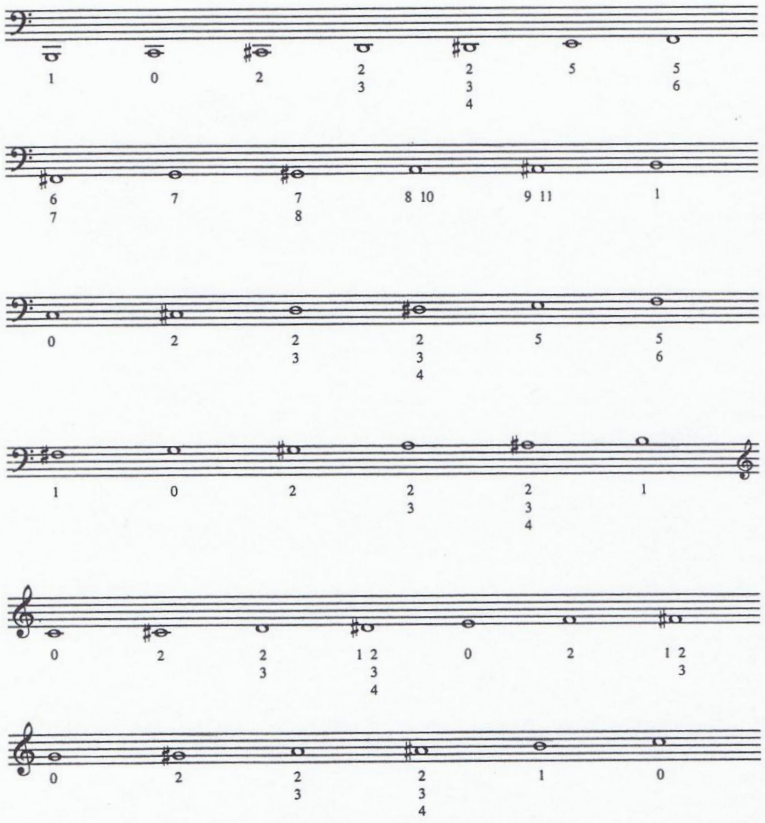
Fig. 3.4
Tom Winthorpe, Royal Opera House, Covent Garden, with ophicleide in C by Courtois played by Samuel Hughes with the Royal Italian Opera in the same theatre, c. 1870s. The distinctive vent in the bell should be noted.

Technological Advancements

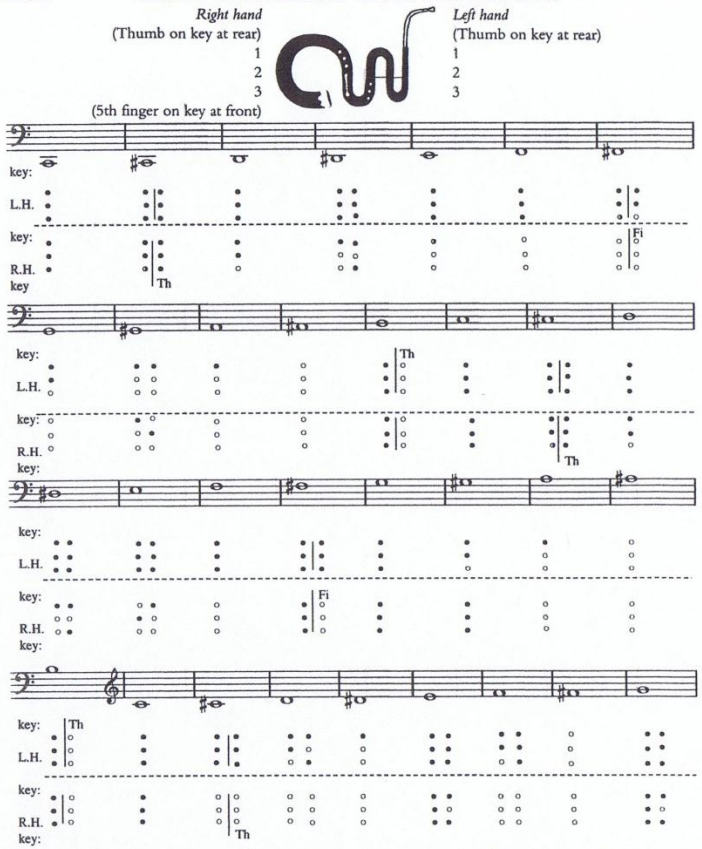
- 1818: Valve patented by Blühmel and Stölzel, enabling chromatic brass instruments
- Wilhelm Wieprecht, director of bands of the Royal Prussian Guard Regiments is noted as one of the fathers of the modern tuba (1830). The bass tuba provided more power and a larger range.
- Berlioz used one ophicleide and one serpent in his 1830 version of *Symphonie Fantastique*. The first major work to incorporate tuba, Berlioz rewrote both parts for the bass tuba in his 1845 version.

Ex. 3.2. FINGERING-CHART FOR OPHICLEIDE IN C (BASED ON HÉRAL)

The keys are numbered along the tubing from 1, closest to the bell. 10 is an additional key above 7; 11 additional between 6 and 7



Ex. 2.1 PRACTICAL FINGERING-CHART FOR SERPENTS



Where there is only one fingering this is based on Hermenge, c. 1817. Note that the fingering for the right hand is reversed (see diagram). Alternative fingering, in a column to the right, may be found advantageous in certain circumstances; the player should experiment on the instrument concerned. Fingering to the right of the vertical line is that for three-keyed serpent. Some notes below C can be obtained by using the fingering for C and lipping down to the desired pitch.

The Modern Tuba

- **Contrabass Tuba**
  - CC 16 feet, .665-.905 bore
  - BBb 18 feet, .610-.866 bore
  - Most orchestral and band parts are written with the contrabass tuba in mind
  - CC is common in the US, however BBb is the most popular contrabass tuba in Europe
- **Bass Tuba**
  - F 11 feet, .689-.834 bore
  - Eb 13 feet, .560-.826 bore
  - Often used in Europe as the primary instrument
  - Considered a solo and chamber instrument
  - The F tuba is also a usable alternative to cimbasso in Italian works
- **Sousaphone**
  - BBb 18 feet, .560-.734 bore
  - Sousaphones need one neck and two bits

Sizes of Tubas

- Generally based on overall size as well as bore size
- The larger the bore, the larger the air requirements
- Larger instruments generally have the same pitch problems as smaller instruments, hoever the amount of adjustment required is much greater
- 3/4 is very small (.660 bore), usually has three valves, and is perfect for beginners (Yamaha YBB-105)
- 4/4 (.750 bore) is the most common size and usually has four to five valves (Miraphone 186, Conn 56J)
- 5/4 is the larger orchestral models, usually with five valves (B&S PT6, Miraphone 188, Meinl Weston 2155, Alexander 163)
- 6/4 is the largest orchestral models, always with five valves (York, Holton 345, Meinl Weston 2165, B&S PT7)

Mouthpieces

- Larger diameter mouthpieces are harder to control the pitch
- Deeper cup produces a fuller tone and raises pitch on all but the lowest notes
- Bowl Cup (German/Geib) mouthpieces are recommended on German tubas (Rotary)
- Funnel Cup (American/Helleberg) mouthpieces are recommended on American tubas (Piston)
- Cup volume is more important than cup shape
- Suggested Mouthpieces
  - Beginner: Conn Helleberg 7B, Bach 18
  - Intermediate: Helleberg, Perantucci PT-44, Laskey 28G/H
  - Advanced: Eb/F tuba PT-65; CC/BBb tuba Laskey 30G/H, PT-88/50

Stick to name brand instruments (Conn/King, Miraphone, Meinl Weston, Yamaha, Perantucci). You get what you pay for.

Routine Maintenance

- Piston Valve Maintenance
    - Required Materials
        - Clean rag with no lint
        - Valve Oil
    - Unscrew the top valve cap and remove the valve. Do no remove all valves at the same time, they are NOT interchangeable.
    - Wipe the valve off with a rag and inspect the valve casing for debris.
    - Coat the valve liberally with oil and place the valve back in the casing.
    - Put a drop of oil on the casing threads. Align the valve guide with the slot on the casing and push the valve in.
    - Tighten the top valve cap until it is snug. Do not over tighten the cap. Wipe off excess oil and repeat for the remaining valves.
- Rotary Valve Maintenance
    - Required Materials
        - Valve Oil
        - Key Oil
        - Screwdriver
    - While rapidly pressing and depressing the valves, pour valve oil down the tuning slide and/or leadpipe. You may have to rotate the horn to get the oil in the valves. This covers the surface of the valve, which dries out the fastest.
    - Remove the back rotor cap and add key oil to the center spindle.
    - Inspect springs and linkage. Oil as necessary.

Recommended Method Books

- Beginner
    - Getchell, Robert. *First Book of Practical Studies for Tuba*
    - Rubank, *Elementary and Intermediate Method for Tuba*
- Intermediate
    - Getchell, Robert. *Second Book of Practical Studies for Tuba*
    - Arban, J.B.L. *Complete Method for Tuba*
    - Tyrell, H. *40 Advanced Studies for BBb Bass*
    - Bordogni, Marco. *Complete Vocalises for Tuba*
    - VanderCook, H. *VanderCook Etudes for BBb Bass*
- Advanced
    - Kopprasch, C. *Sixty Selected Studies for BBb Tuba*
    - Blazhevich, V. *70 Studies for BBb Tuba*
    - Grigoriev, B. *78 Studies for Tuba*
    - Snedecor, P. *Low Etudes for Tuba*

Solos for All Levels

- Beginner
  - Bell, *The Spartan*
  - Voxman, *Concert and Contest*
  - Bach, *Minuet in G*
  - Grieg, *In the Hall of the Mountain King*
- Intermediate
  - Handel, *Sound and Alarm*
  - Handel, *Honor and Arms*
  - Marcello, *Sonata No. 5*
- Advanced
  - Bach/Bell, *Air and Bourree*
  - Barat, *Introduction and Dance*
  - Haddad, D. *Suite for Tuba*
  - Gregson, *Tuba Concerto*

Recommended Listening

- Lind, Michael. *The Virtuoso Tuba*
- Pilafian, Sam. *Travelin' Light*
- Baadsvik, Oystein. *Tuba Carnival*
- Sheridan, Patrick. *Lollipops*
- Cooley, Floyd. *The Romantic Tuba*
- Bobo, Roger. *Bobissimo!*
- Fletcher, John. *The Best of Fletch*

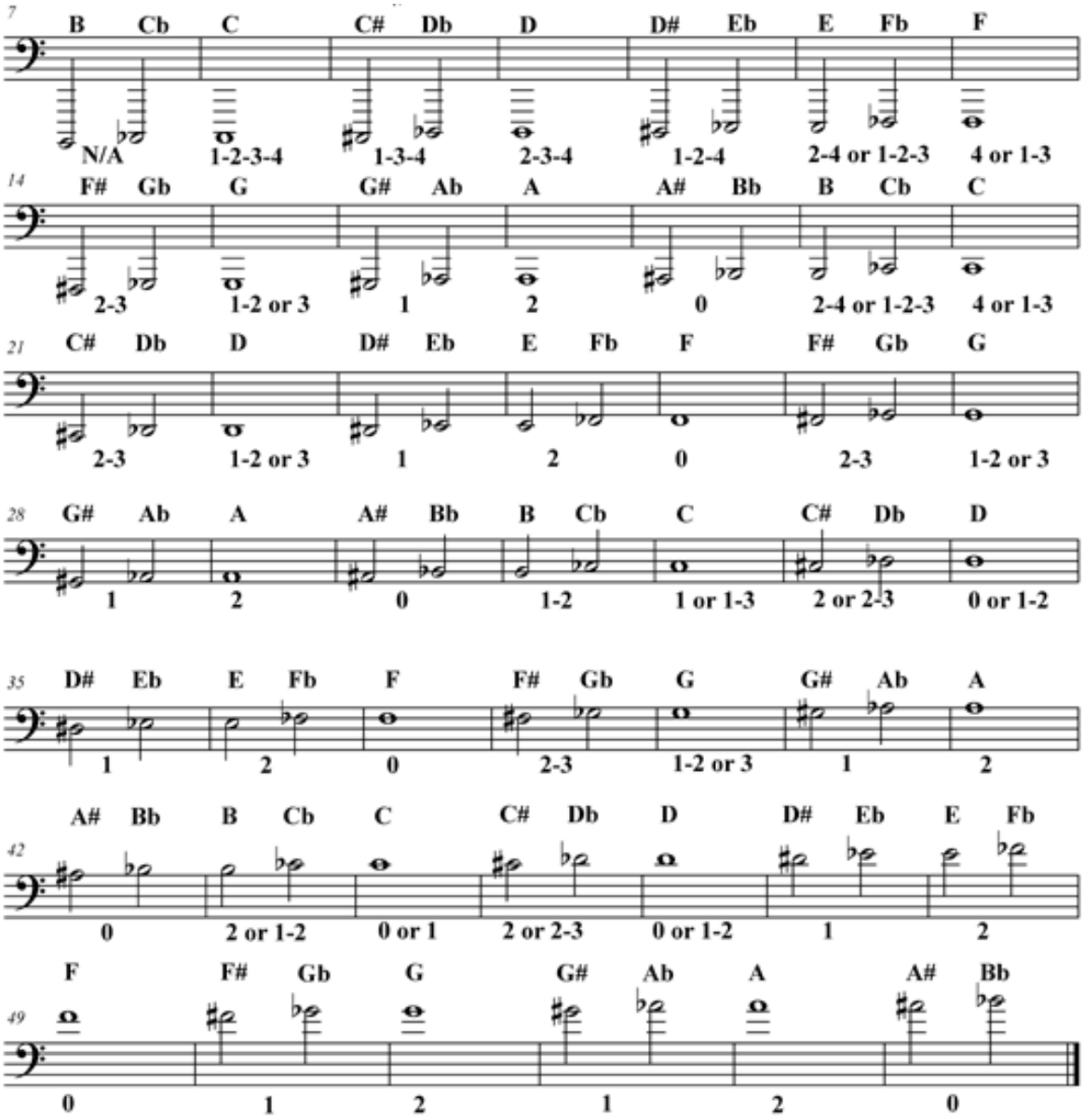
Keys to Success

- Provide a positive sound model when teaching either through playing or through recordings.
- Buzzing and singing will improve the students ears and embouchure efficiency.
- Demand proper finger technique (curl the fingers and keep them on the valves at all times).
- Encourage all of your students to take private lessons.
- Split parts need more support on the bottom and most top parts are doubled somewhere else.

Recommended Teaching Resources

- Little, Donald. *Practical Hints on Playing the Tuba*
- Bevan, Clifford. *The Tuba Family*
- Morris, Winston and Dan Perantoni. *Guide to the Tuba Repertoire*
- Frederickson, Brian. *Arnold Jacobs: Song and Wind*

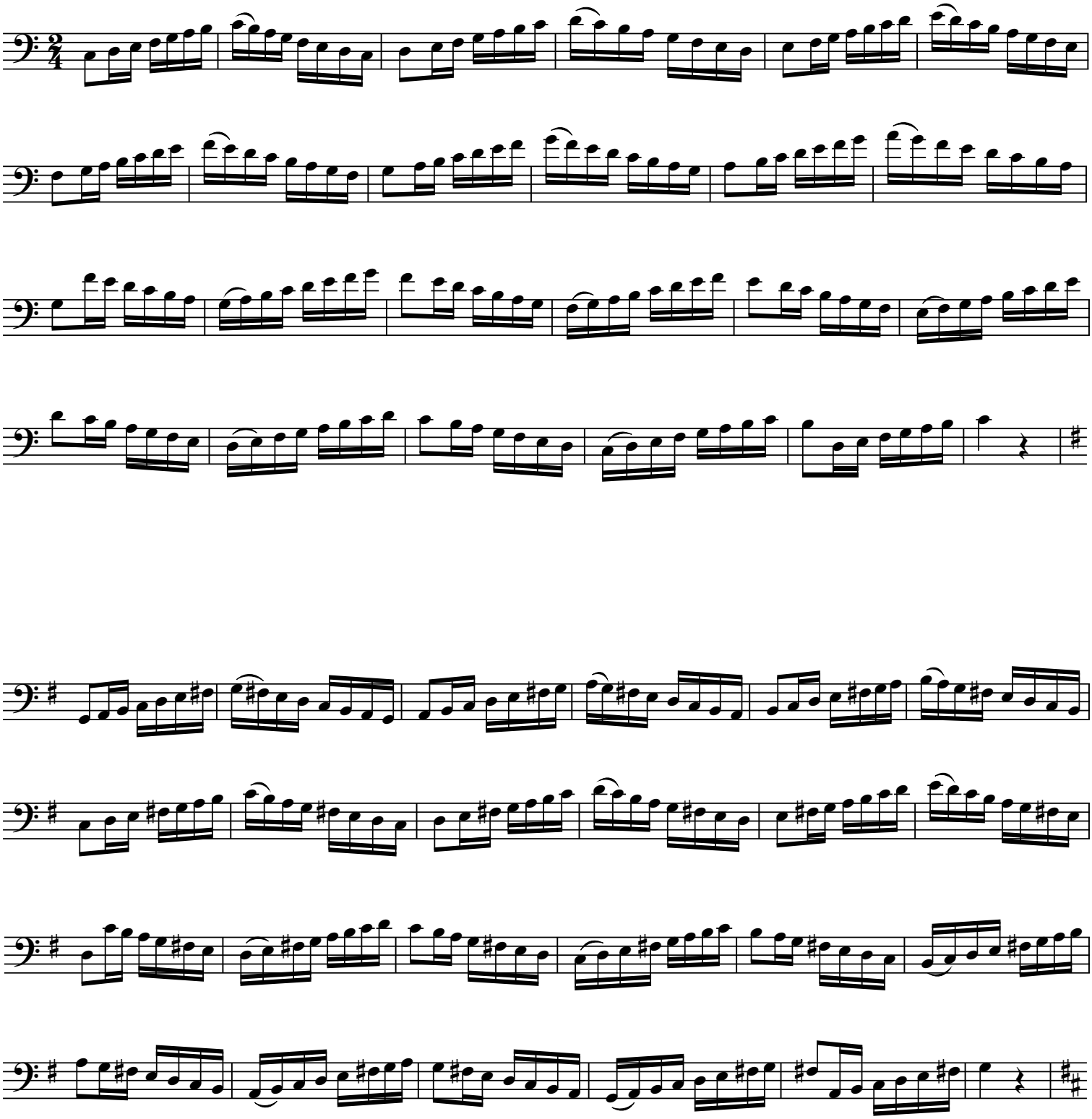
BBb Tuba Fingering Chart

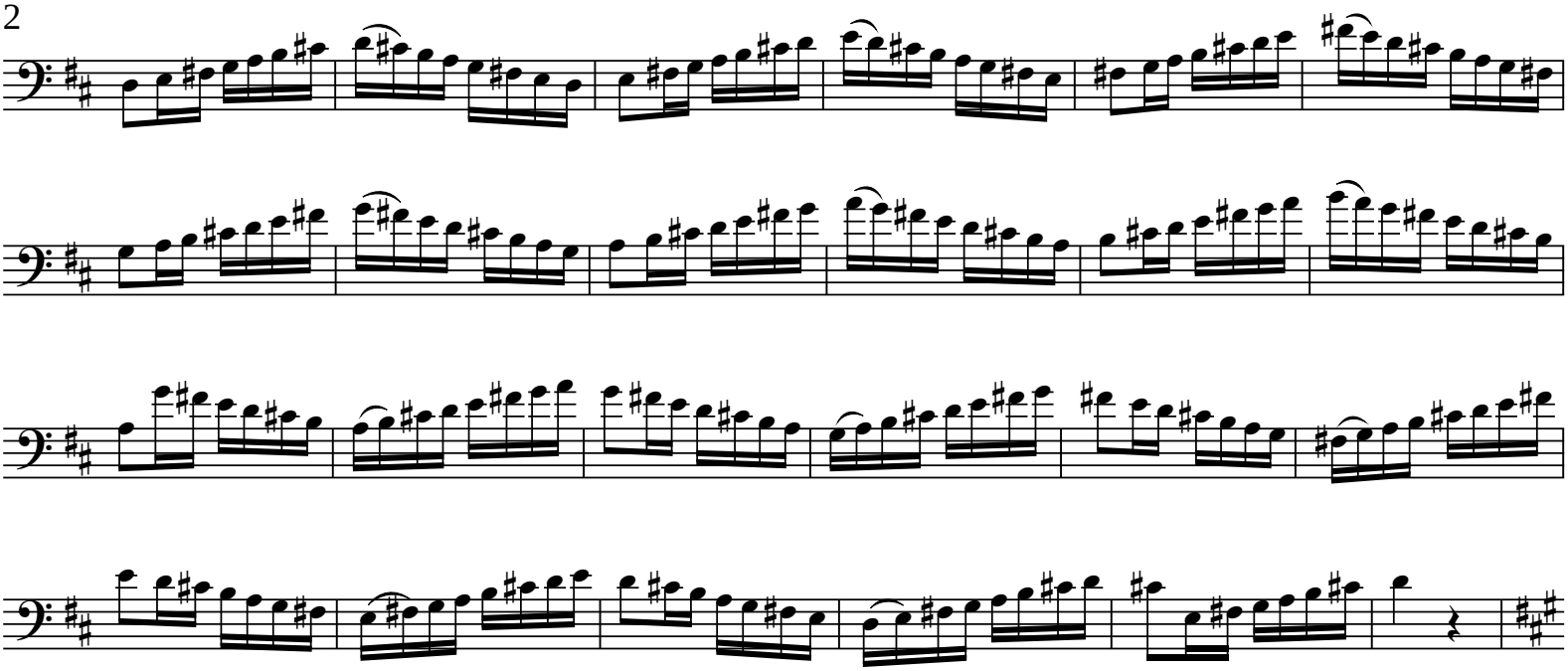


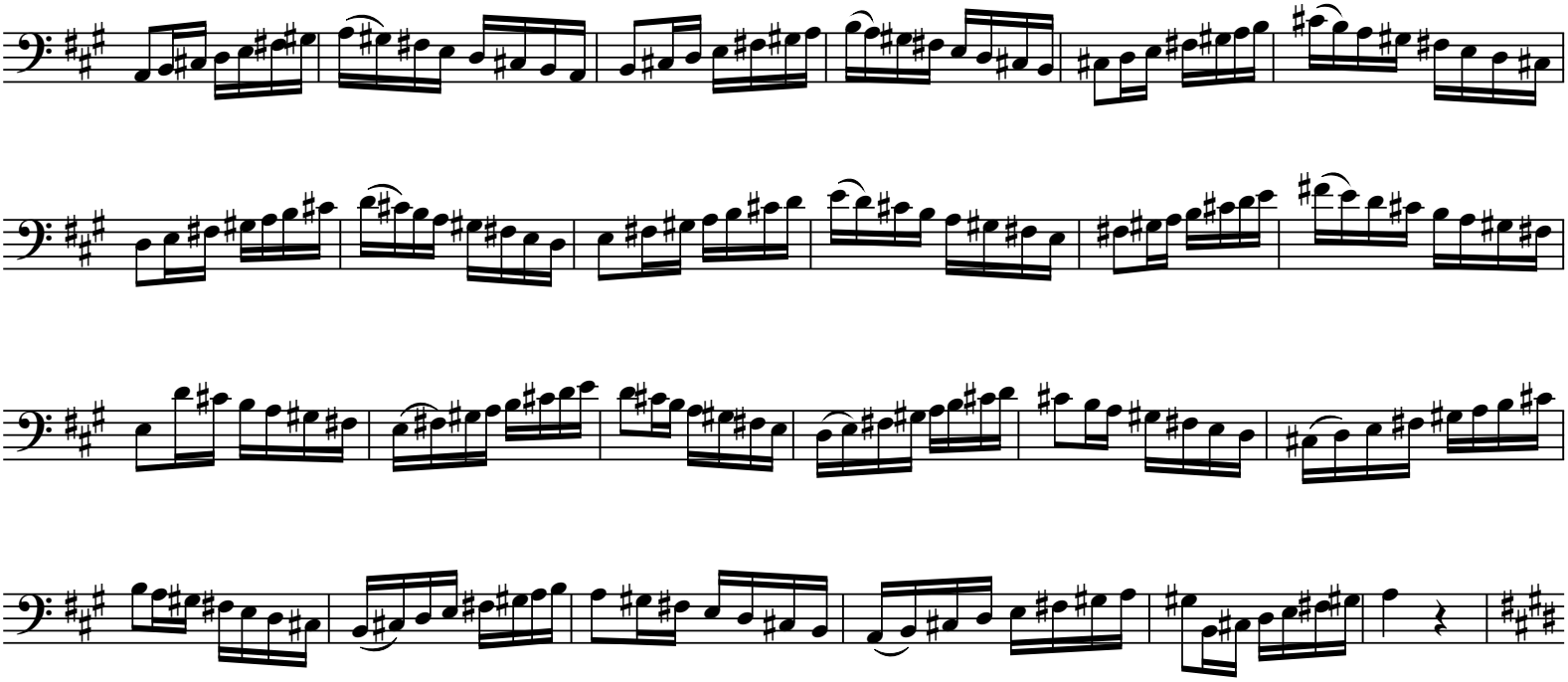
- False tones are available for the first two notes. B is 2-3 and C is 1-2.
- 4th valve is much more in tune than 1-3. B as 1-2-3 is too sharp to be usable. 2-4 is better but will still be sharp. Lipping down or pulling the 4th slide is necessary to play this combination in tune (low B-natural and E-natural).
- C and Db in the staff (1st and 2nd valve respectively) are flat. Lipping up or using the alternate fingerings should be encouraged by the students third year.
- Hand position is important, the left hand should rest on the first slide if possible. As the player develops, they will need to manipulate the first slide for pitch adjustments.

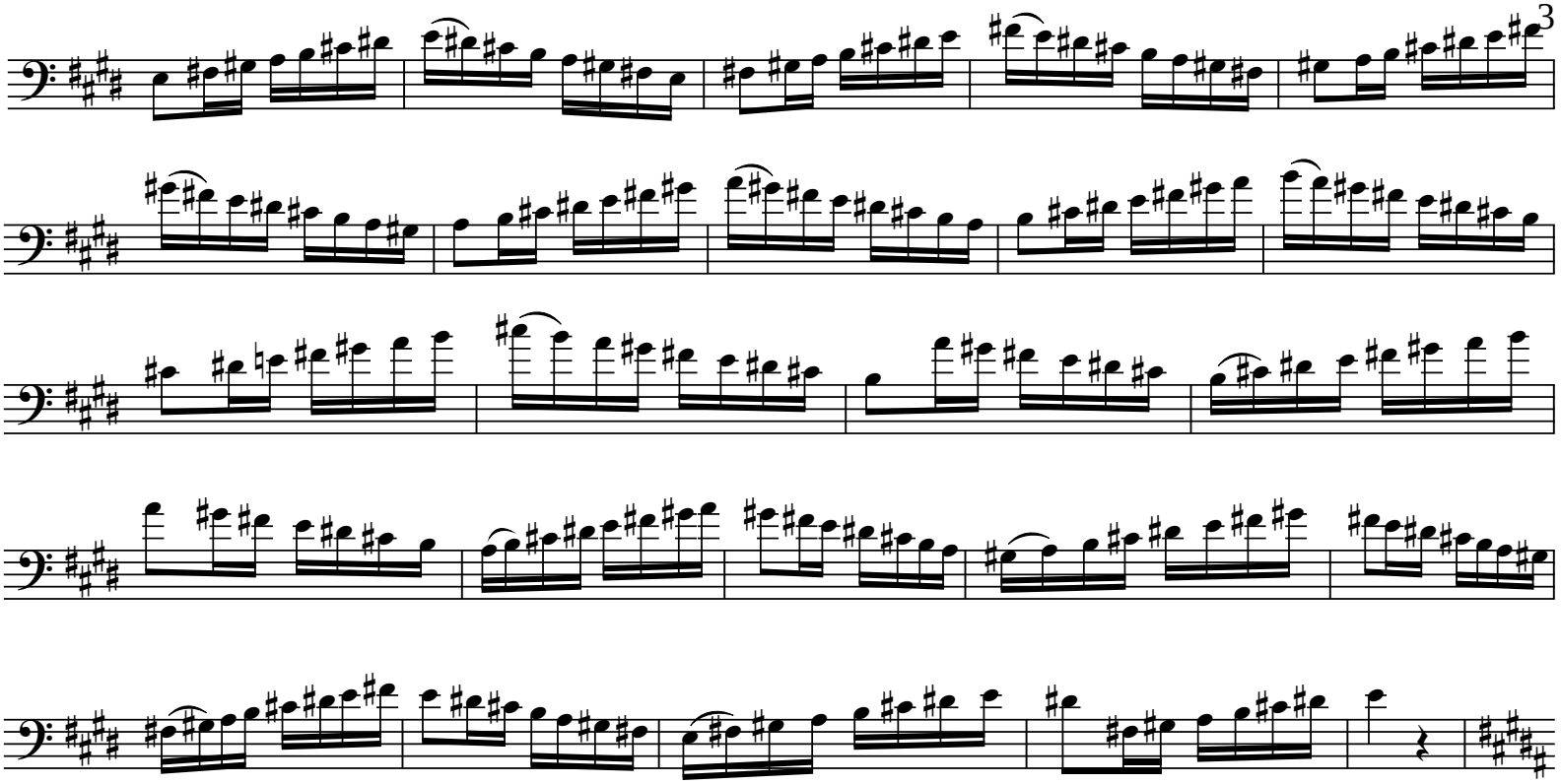
Arban Scale Pattern 4

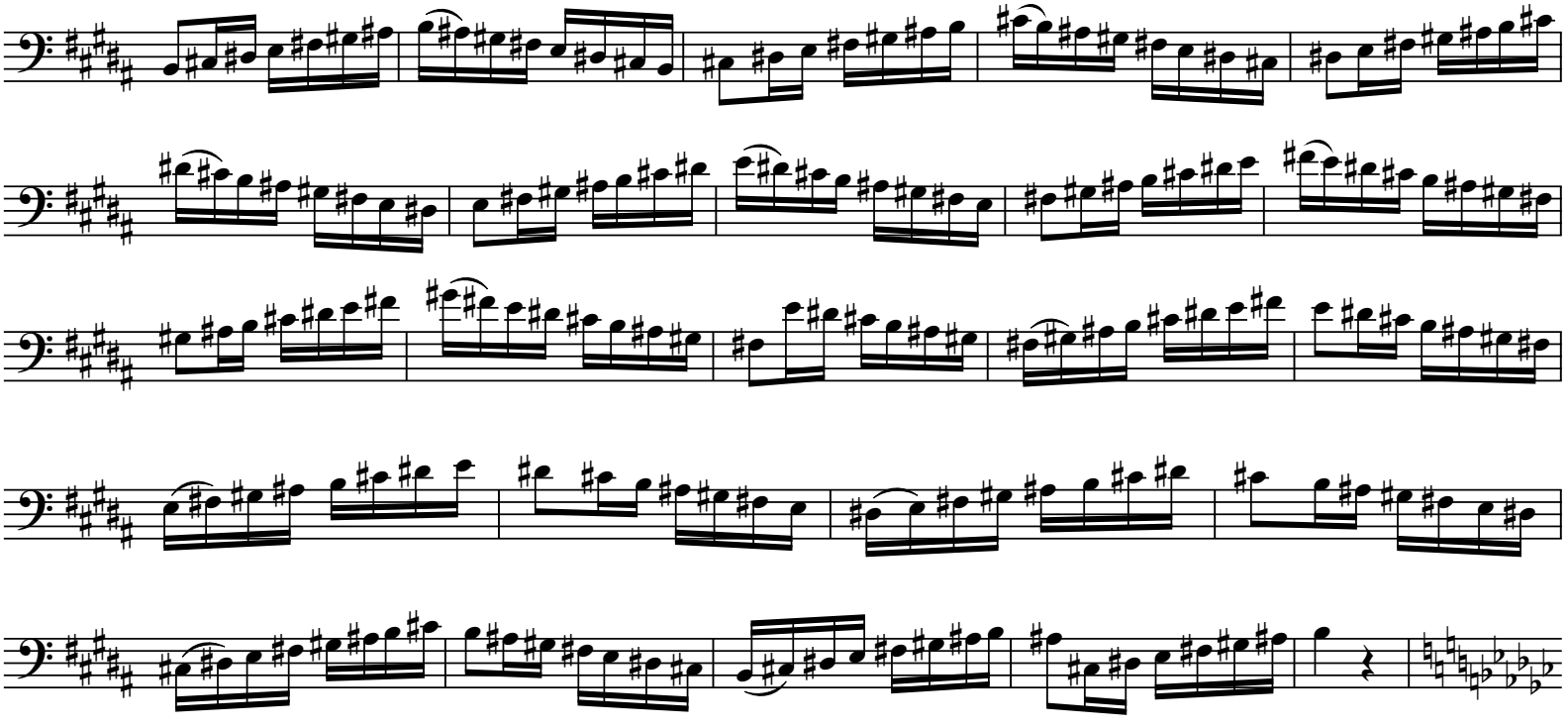
J.B. Arban, arr. Baker

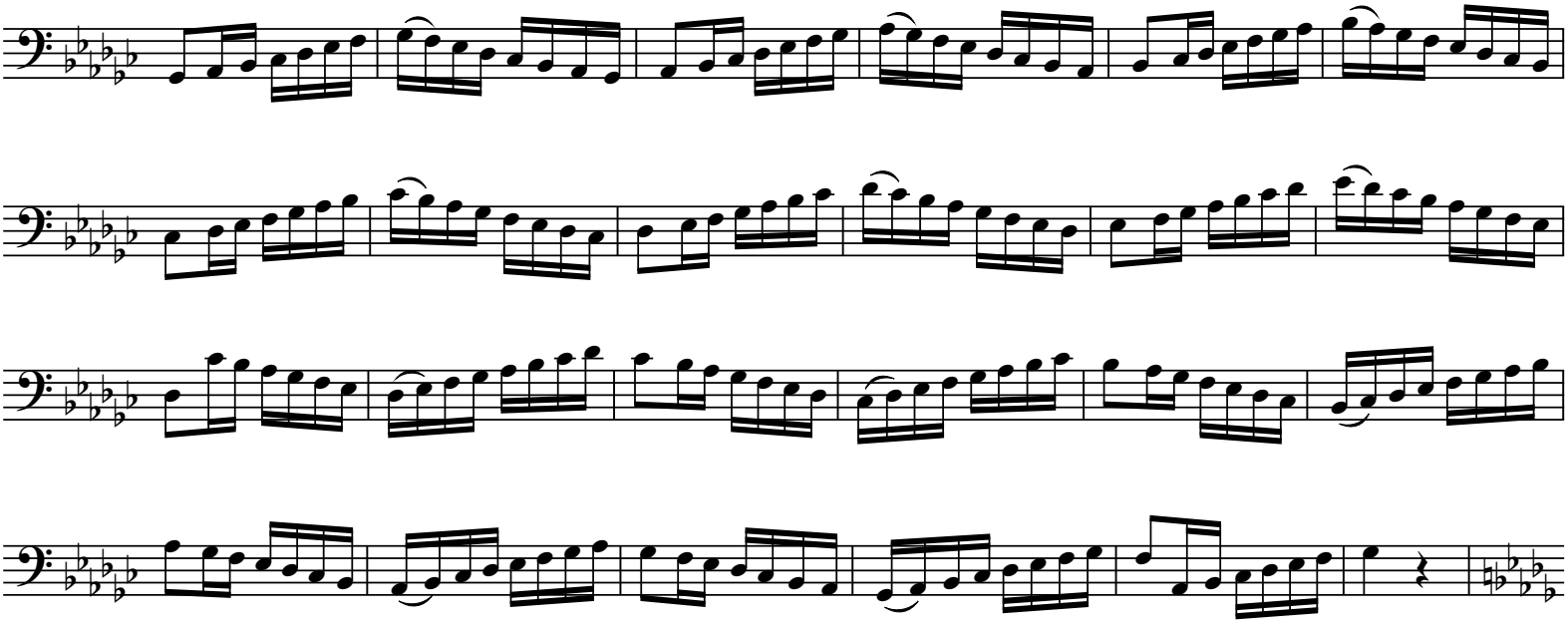


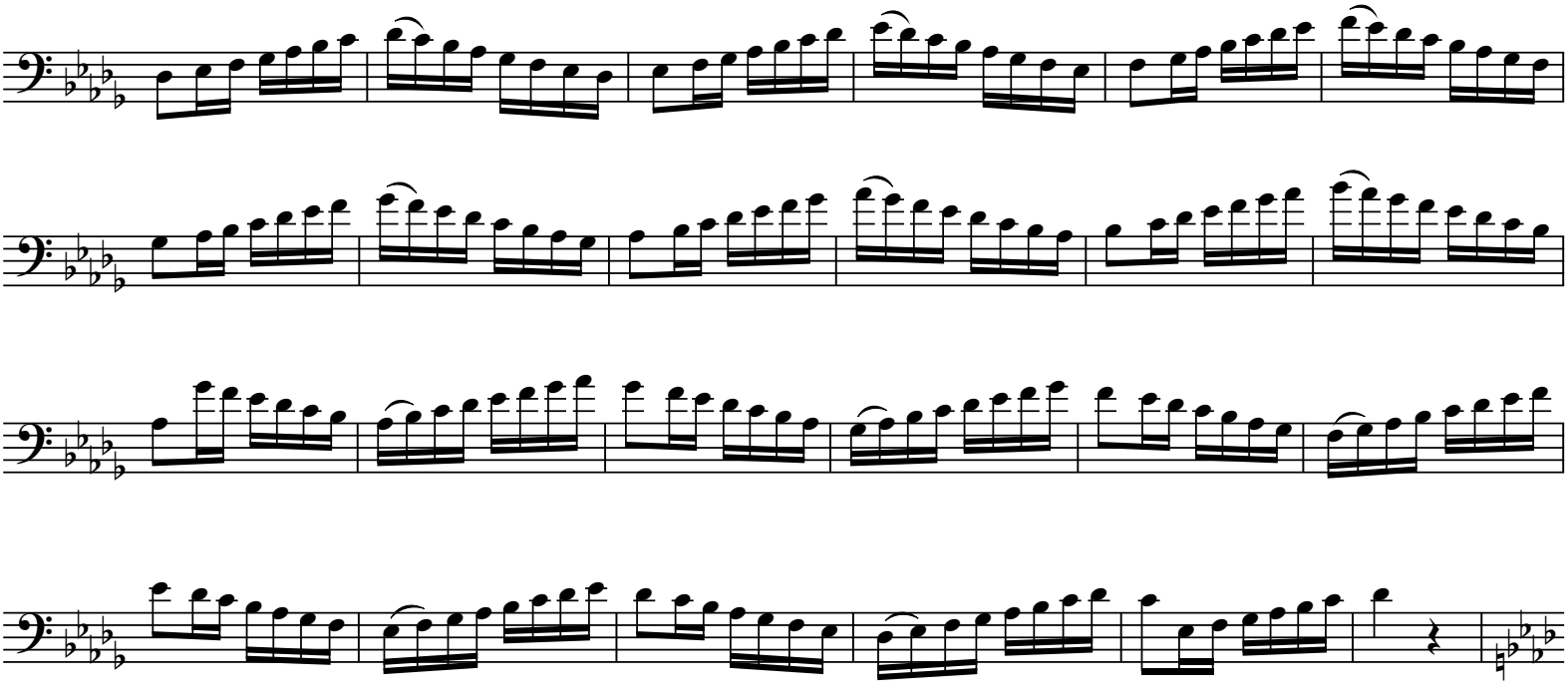


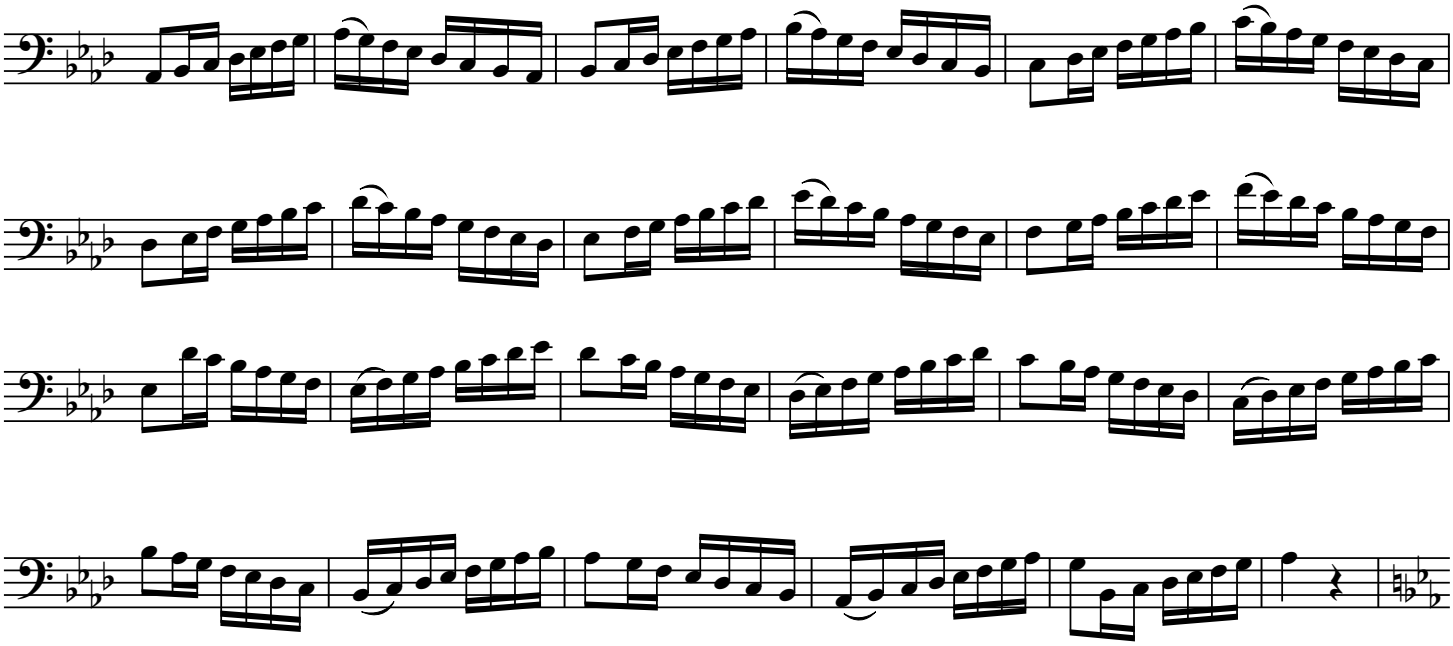


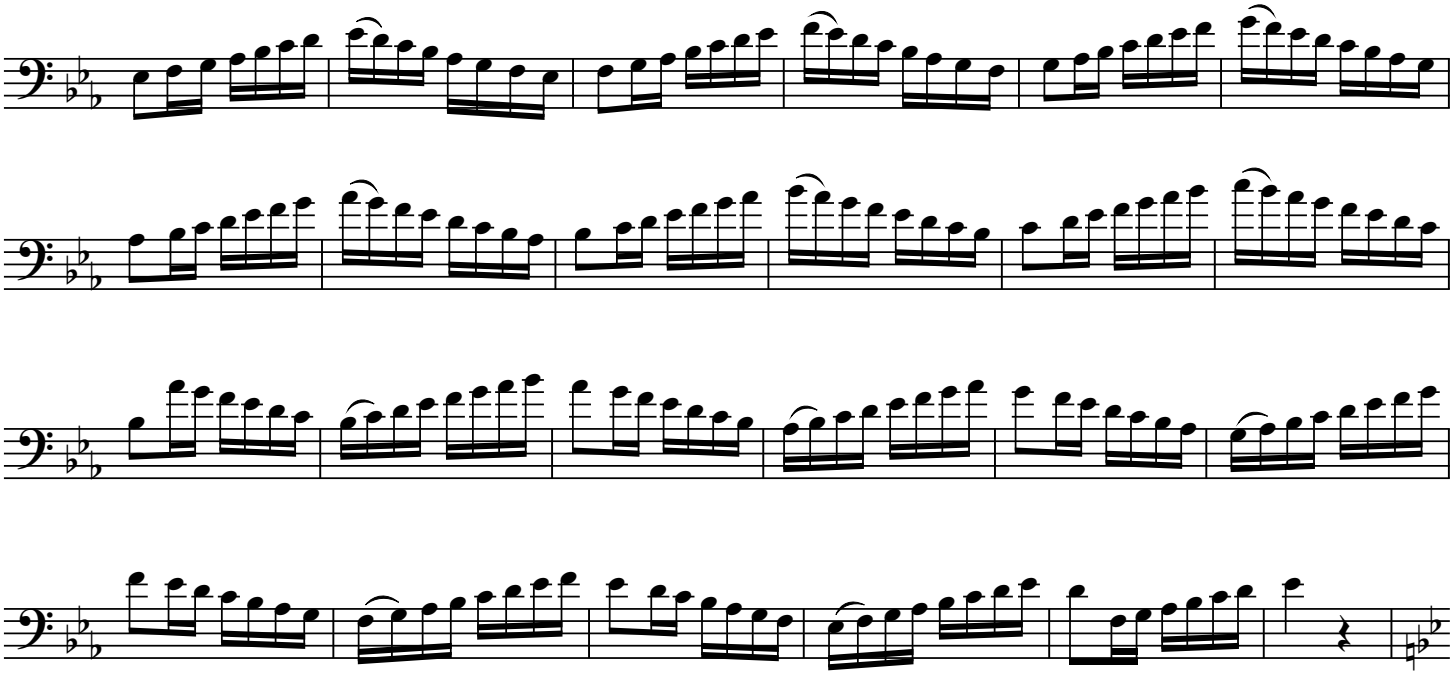


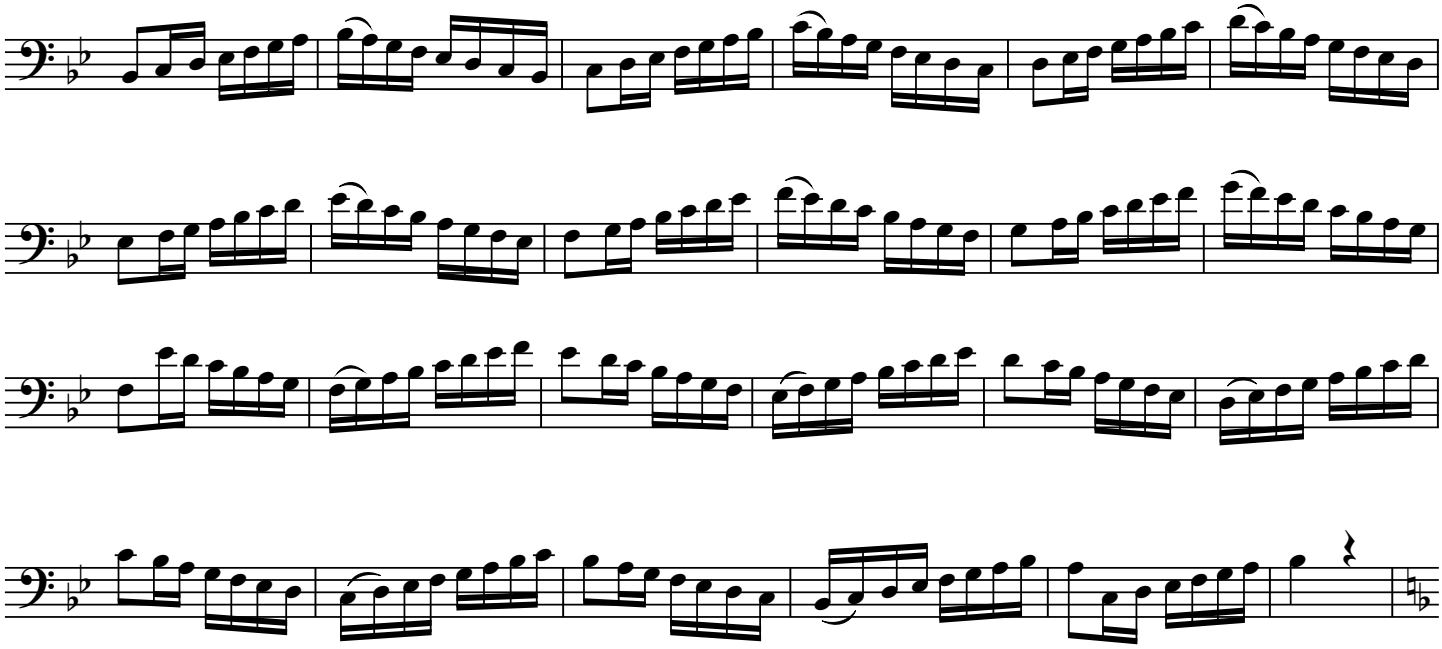


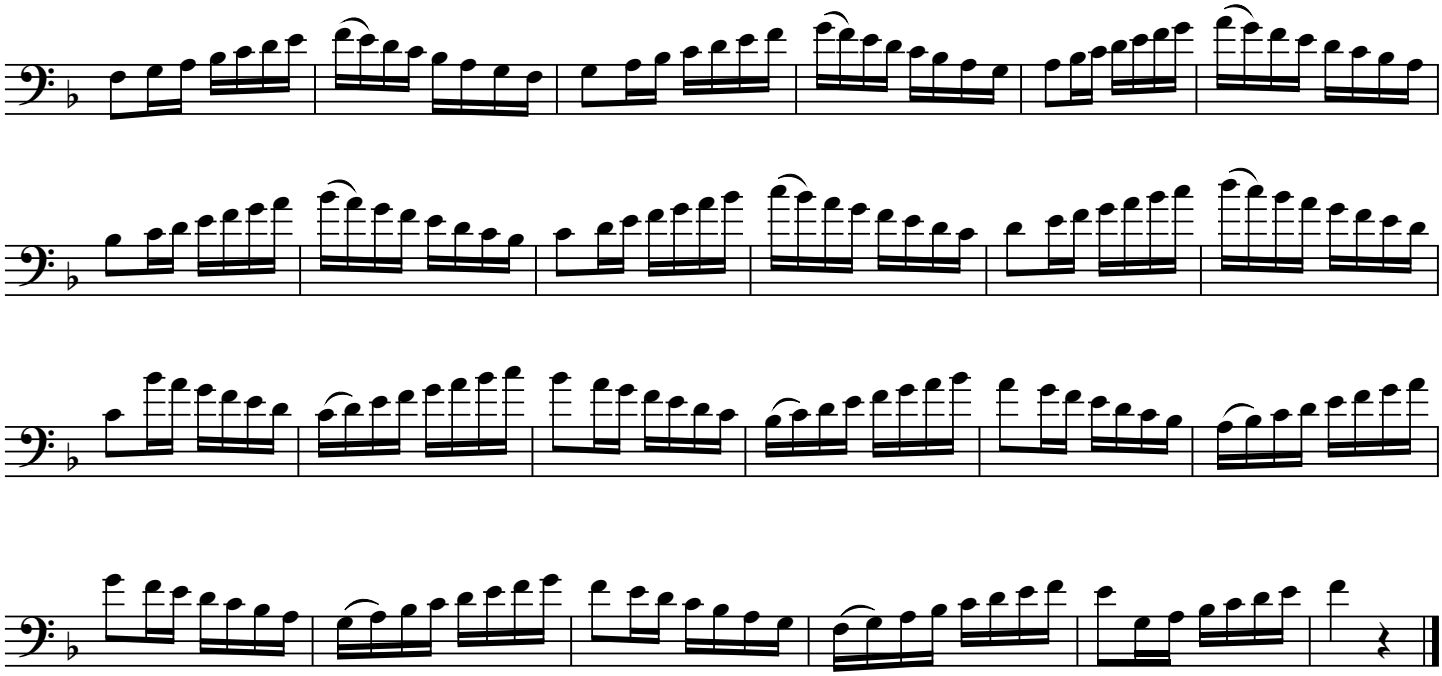






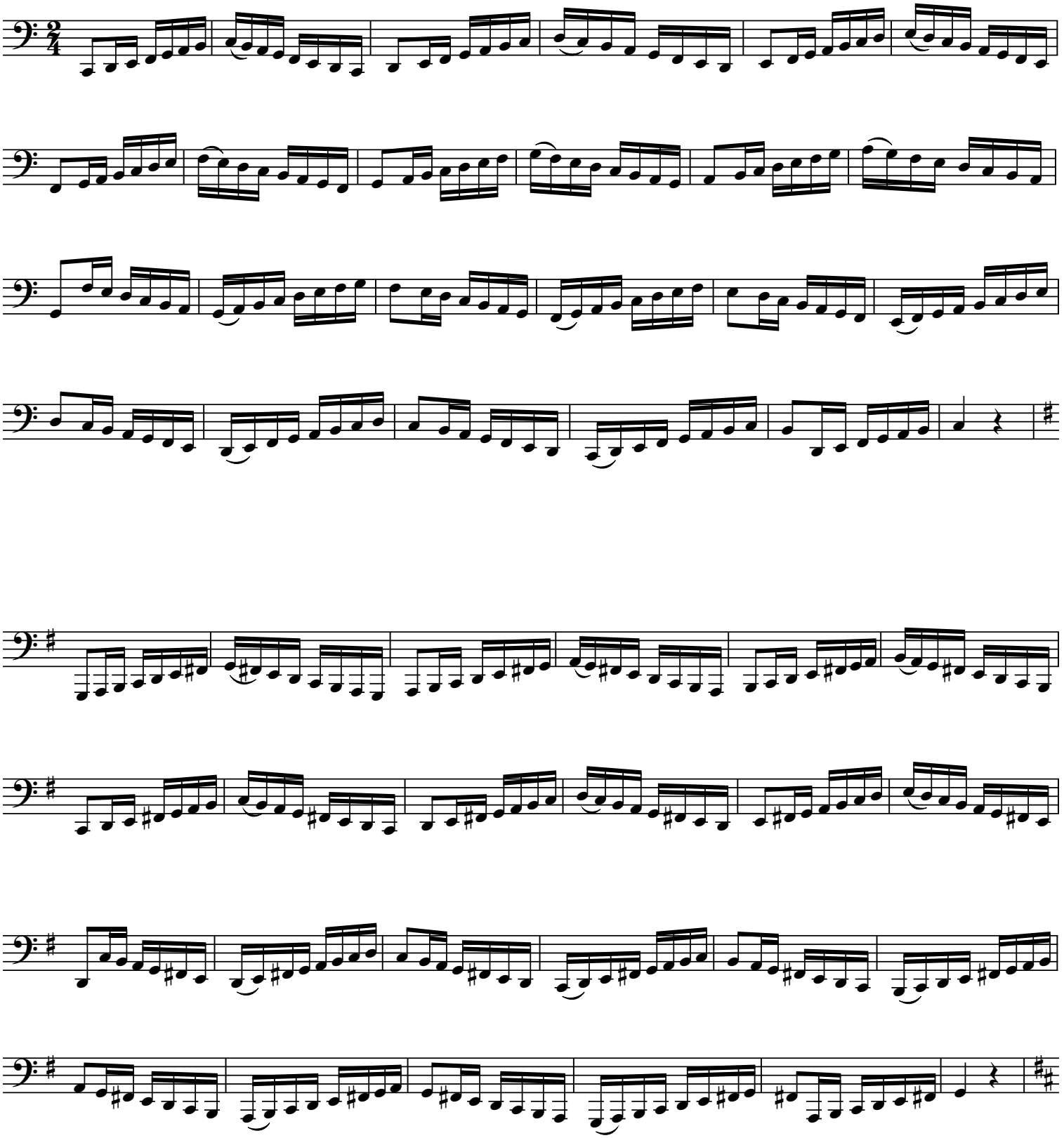


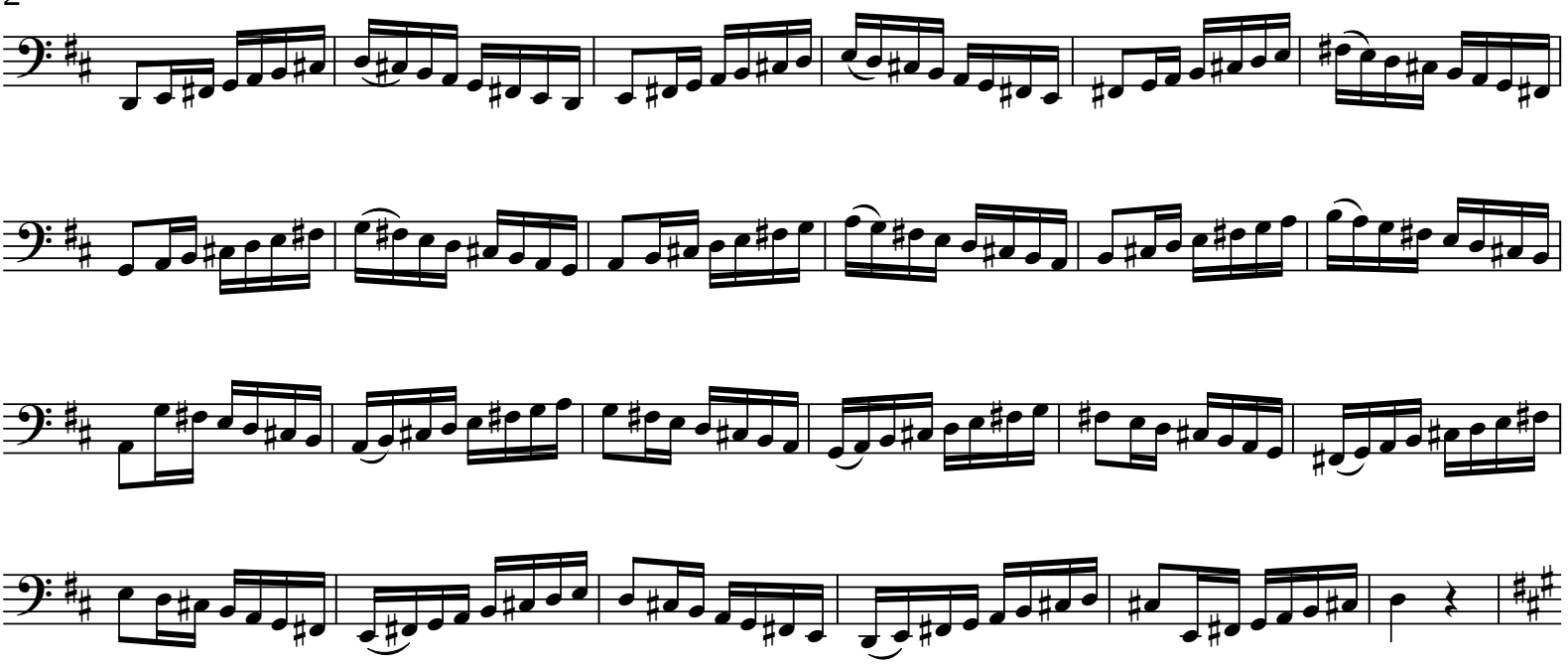


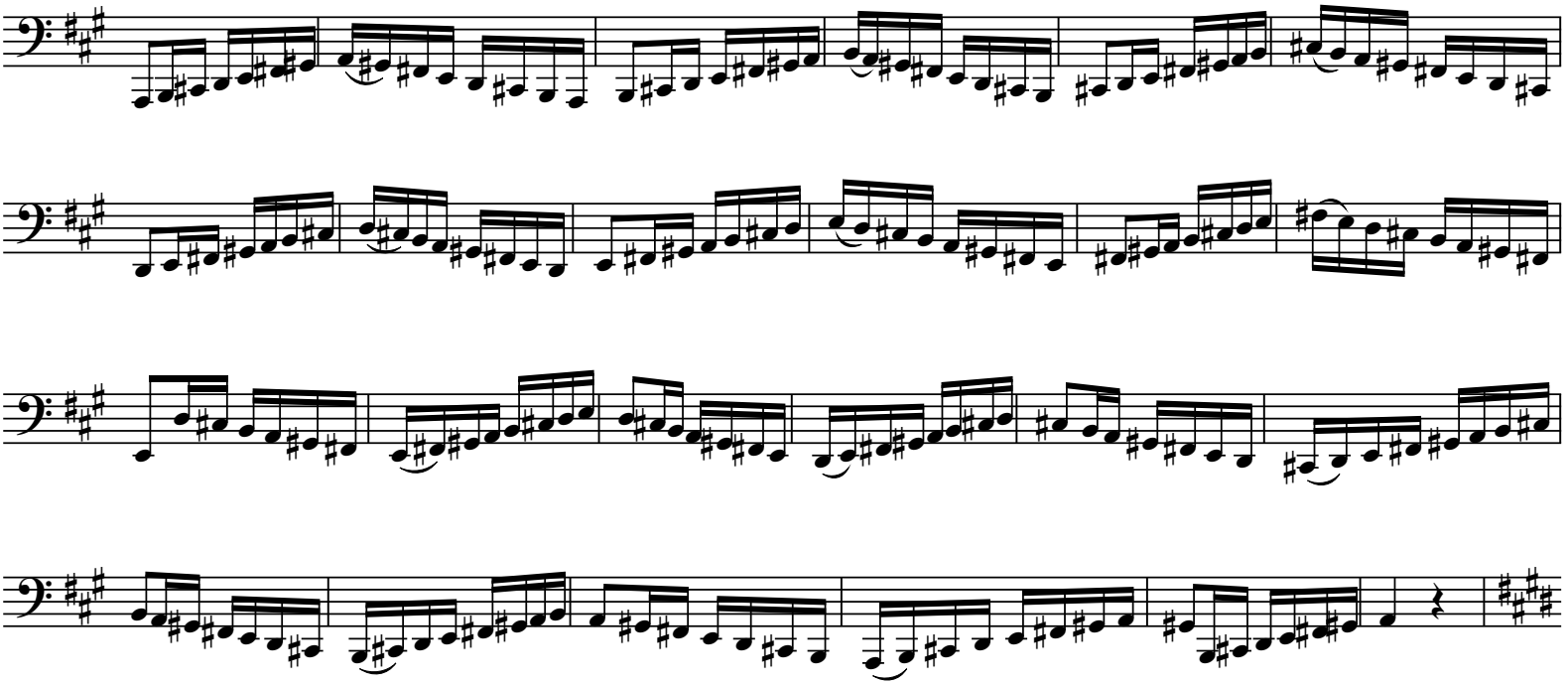


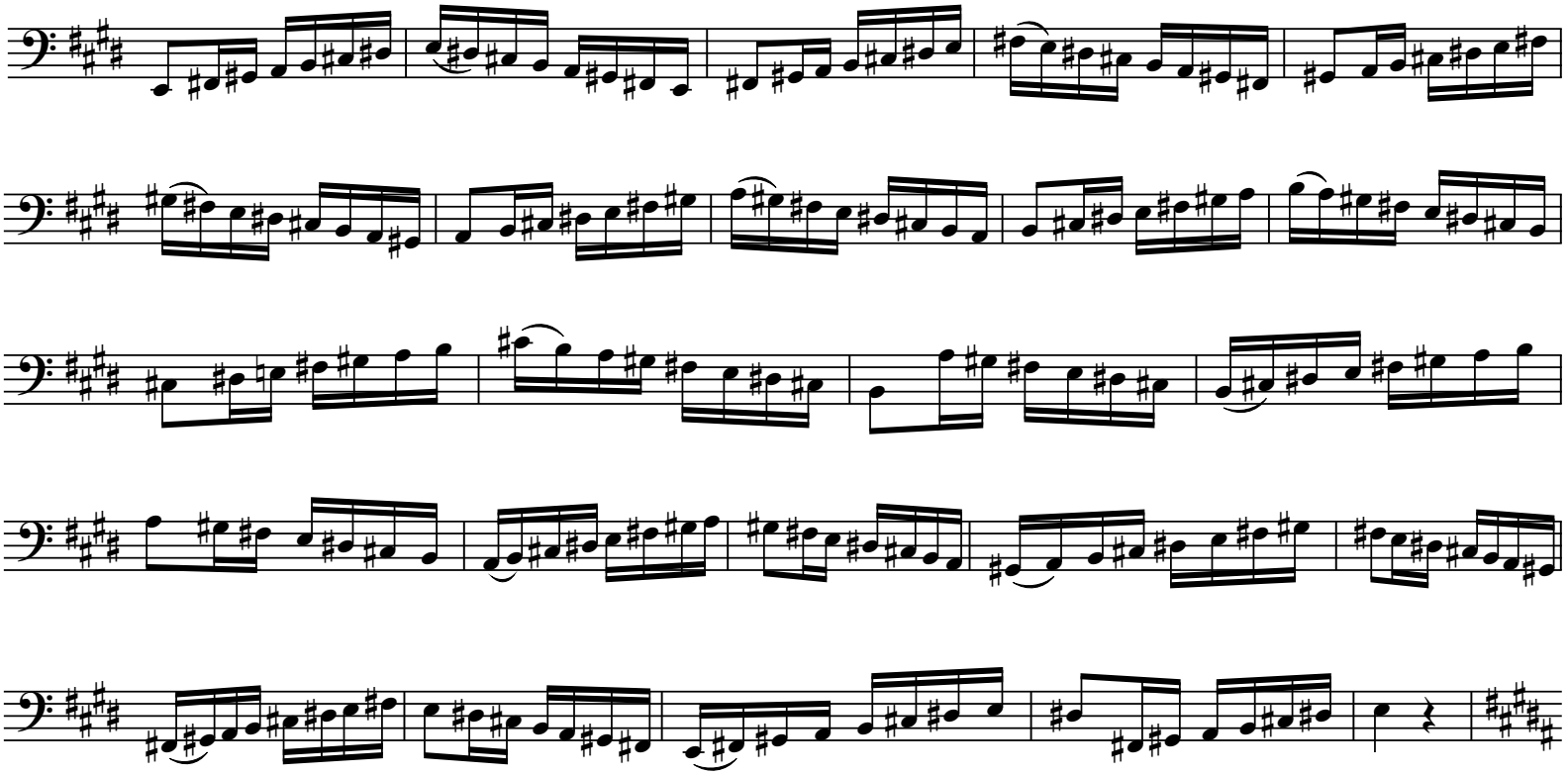
Arban Scale Pattern 4

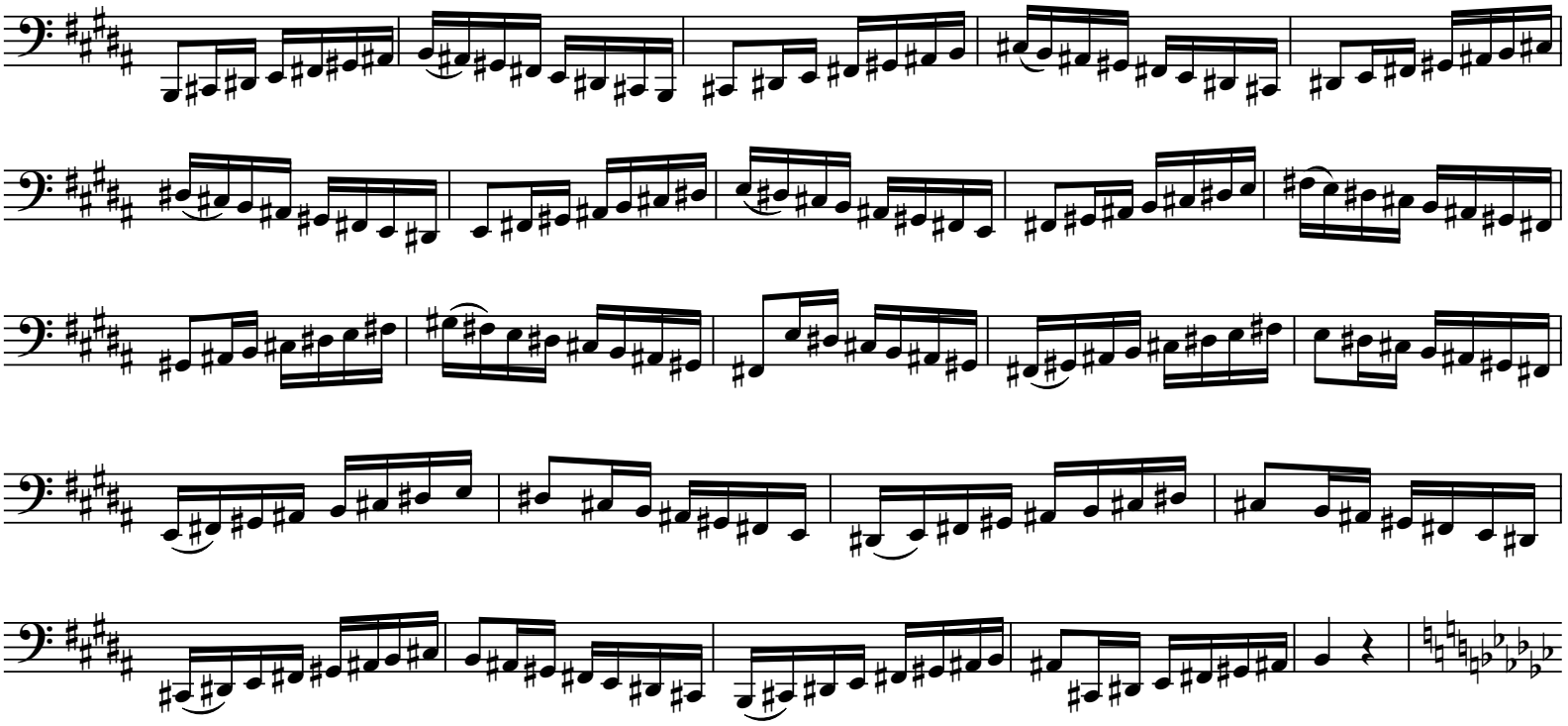
J.B. Arban, arr. Baker

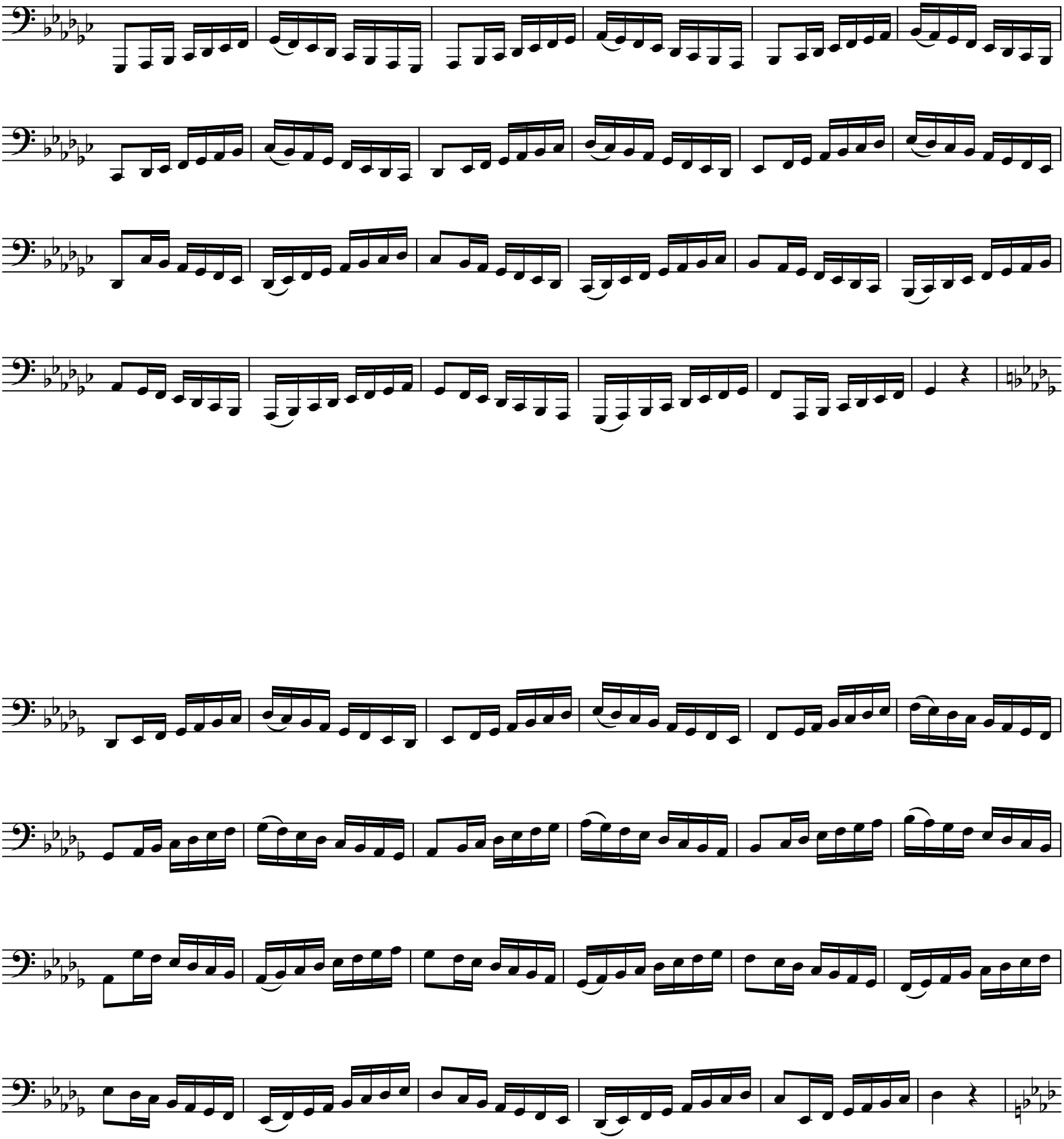


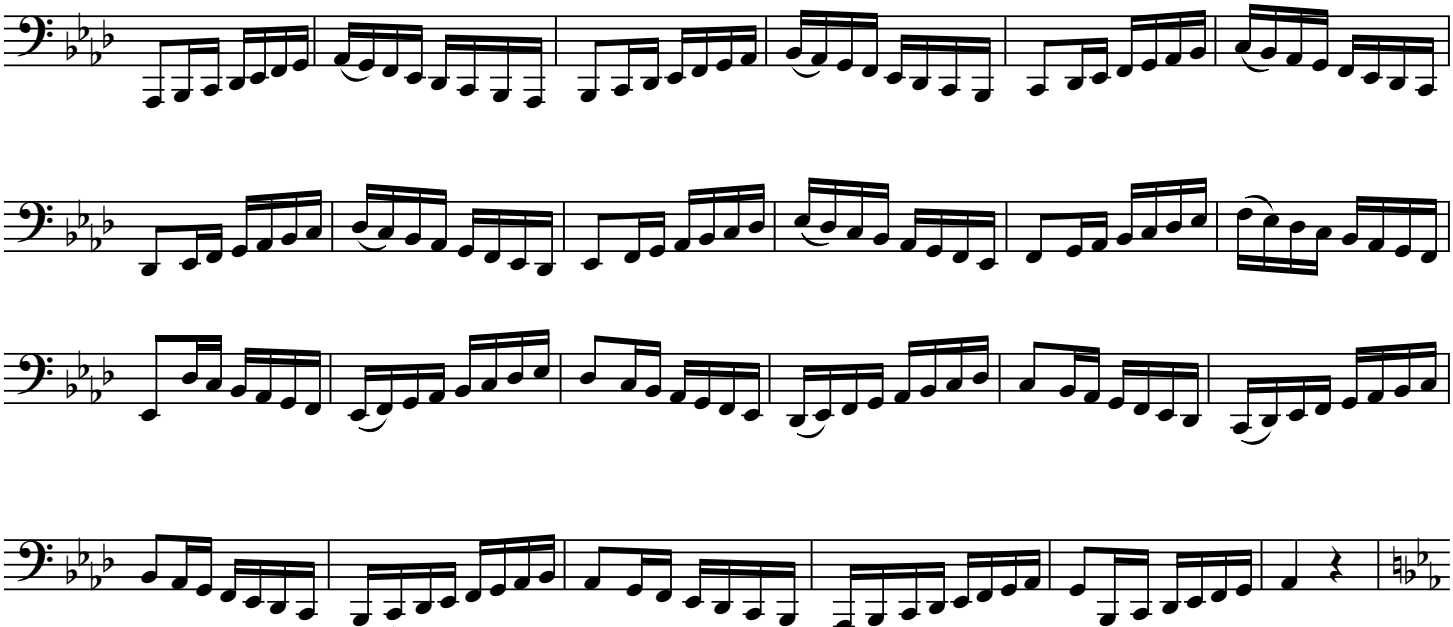


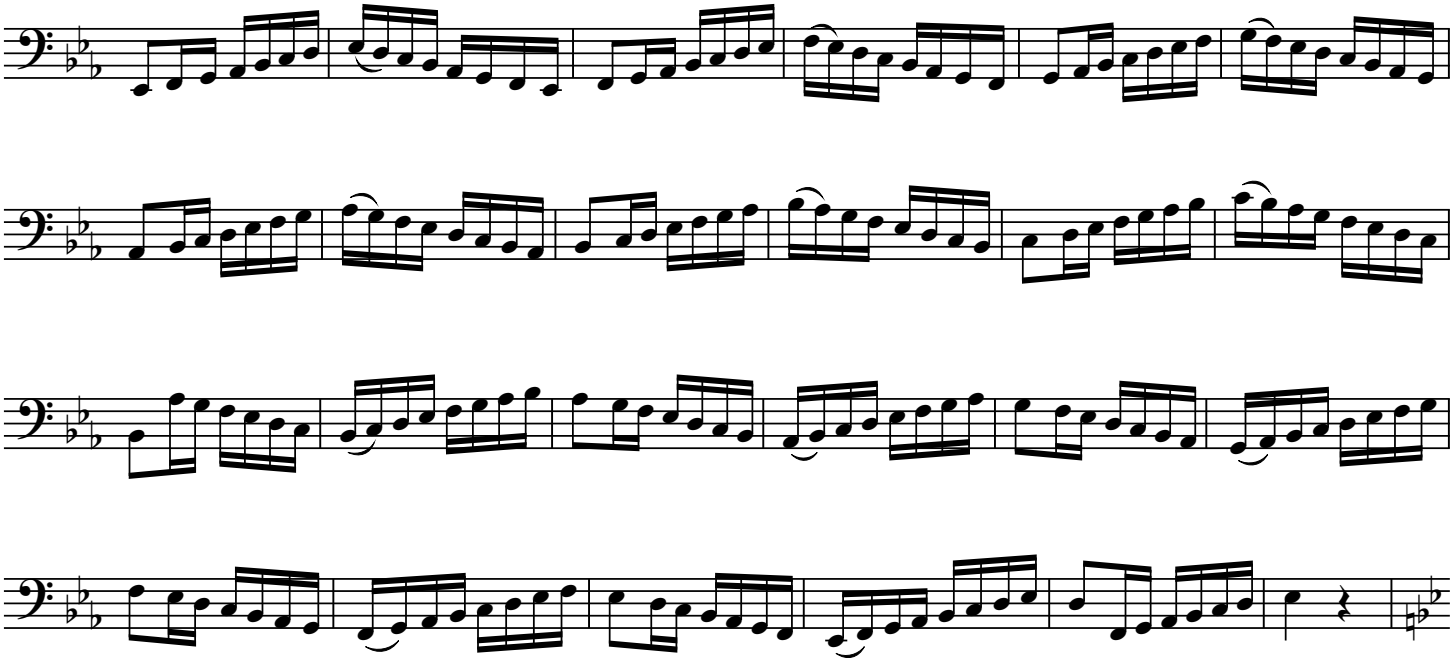


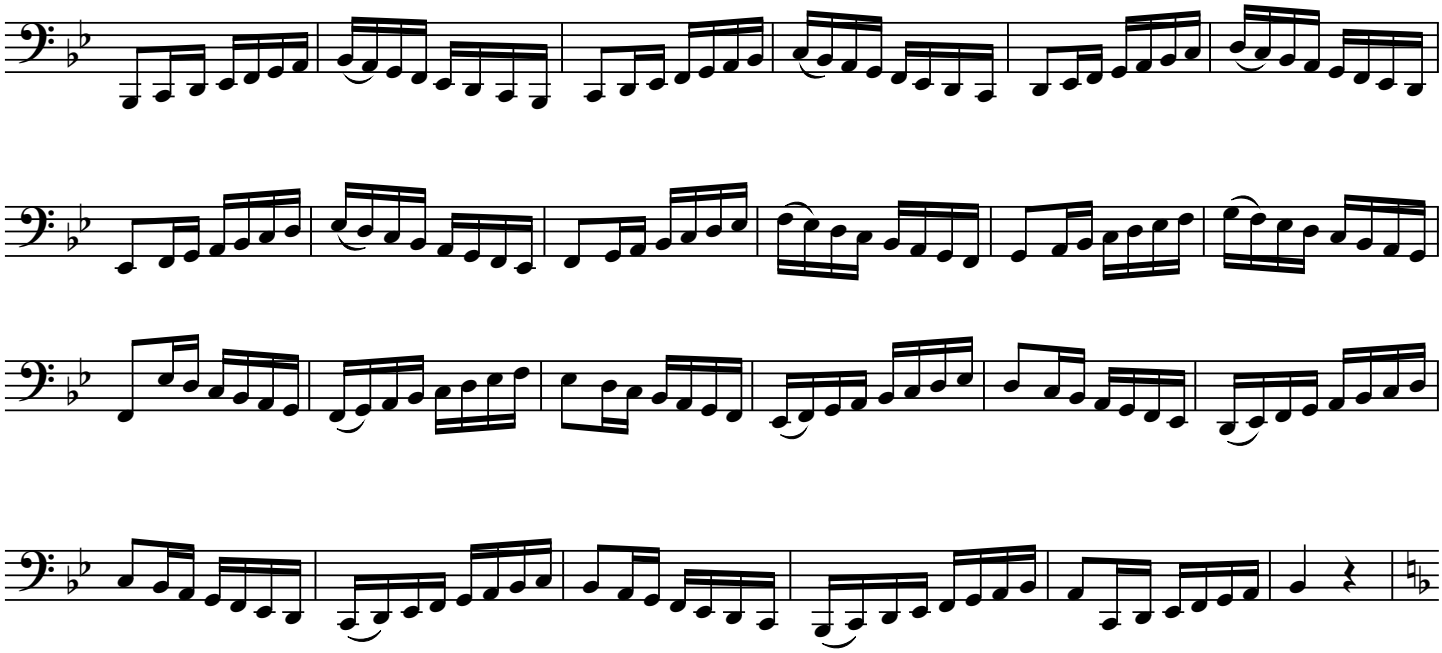


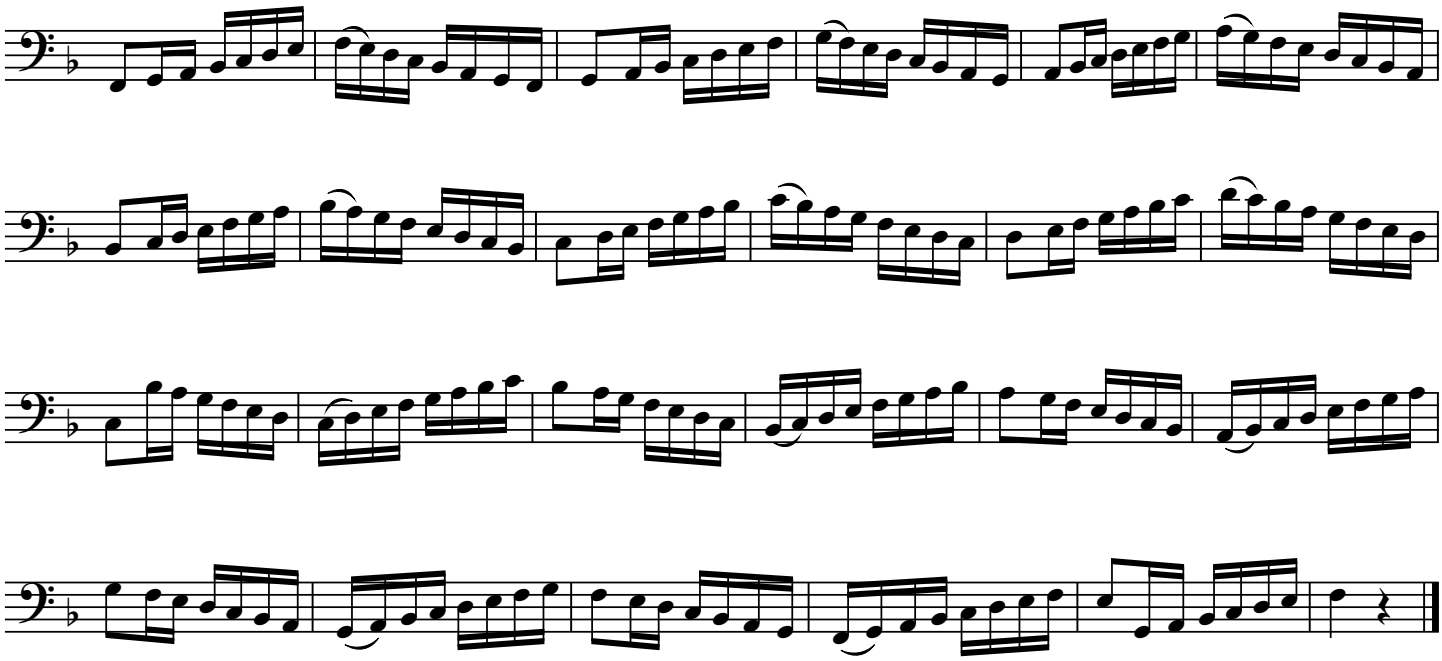






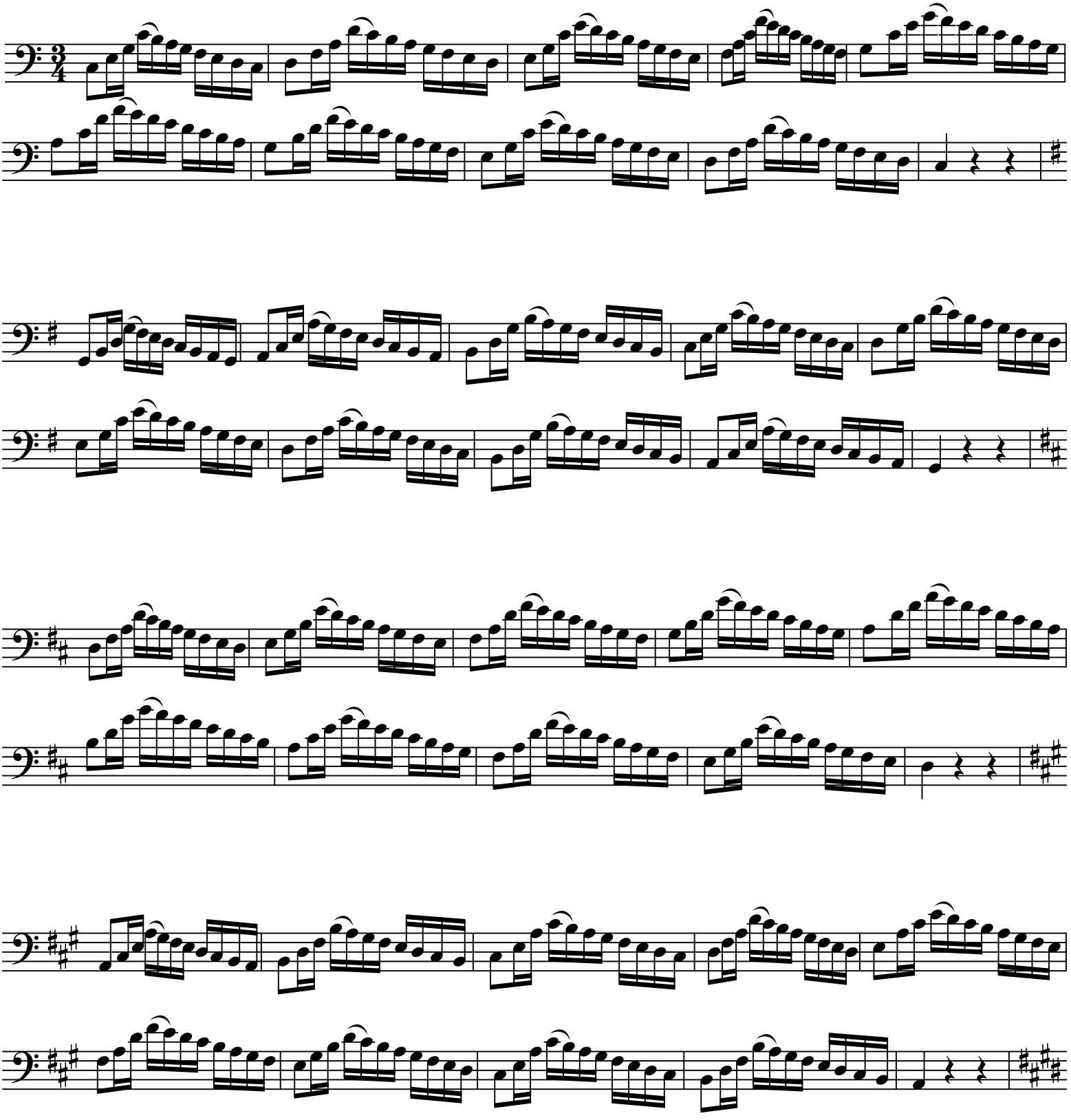


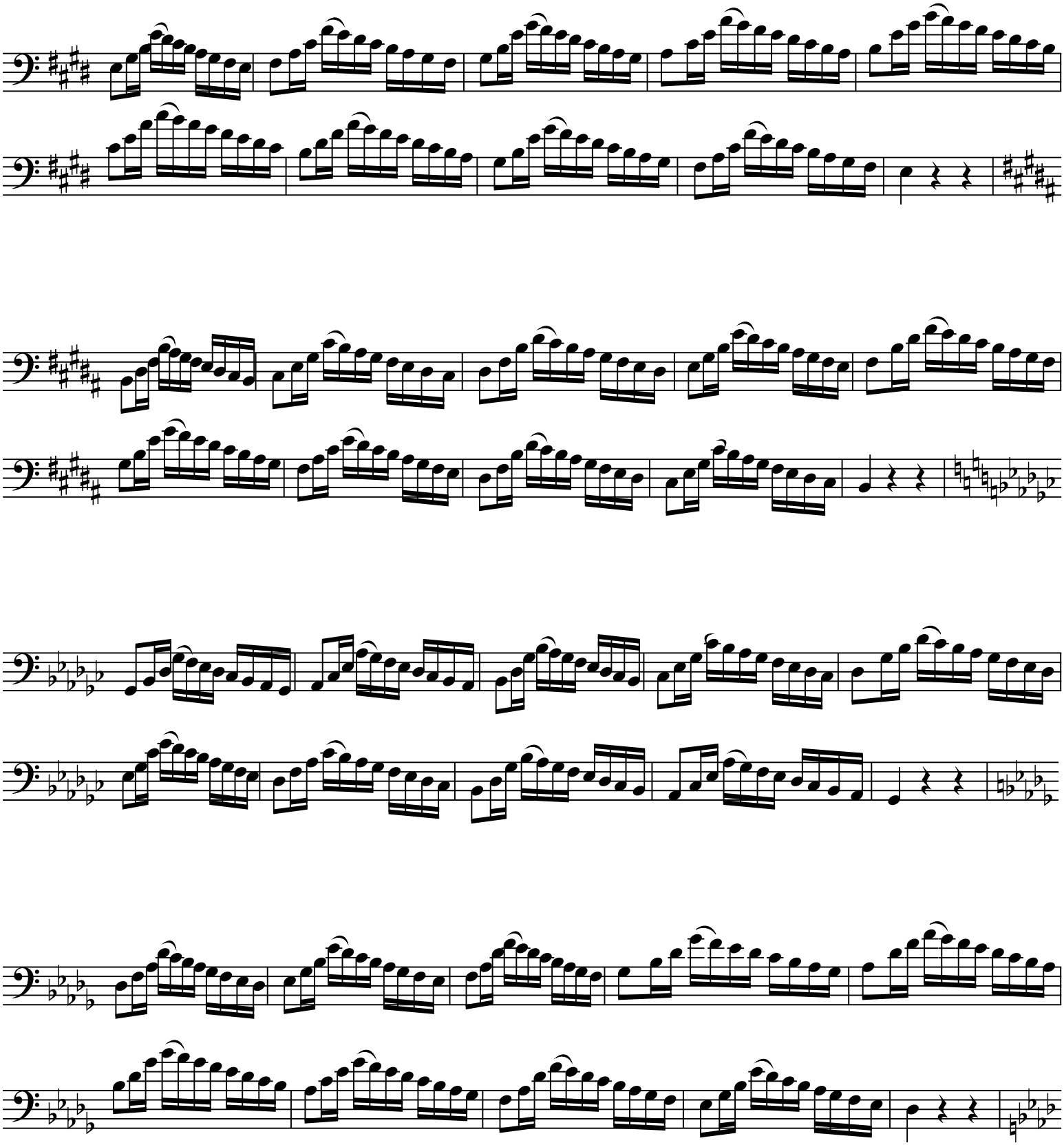


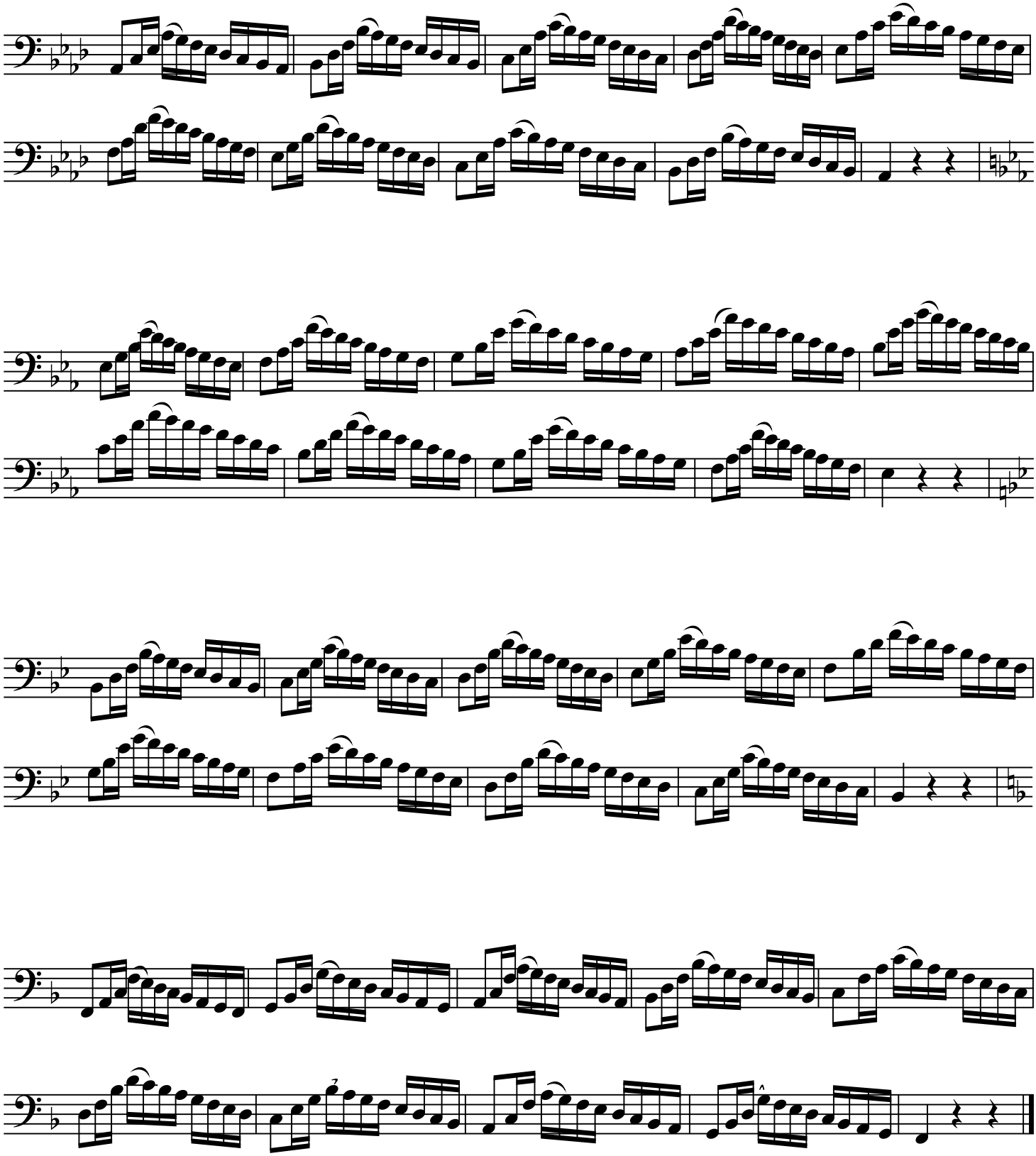


Arban Scale Pattern 6

J.B. Arban, arr Baker

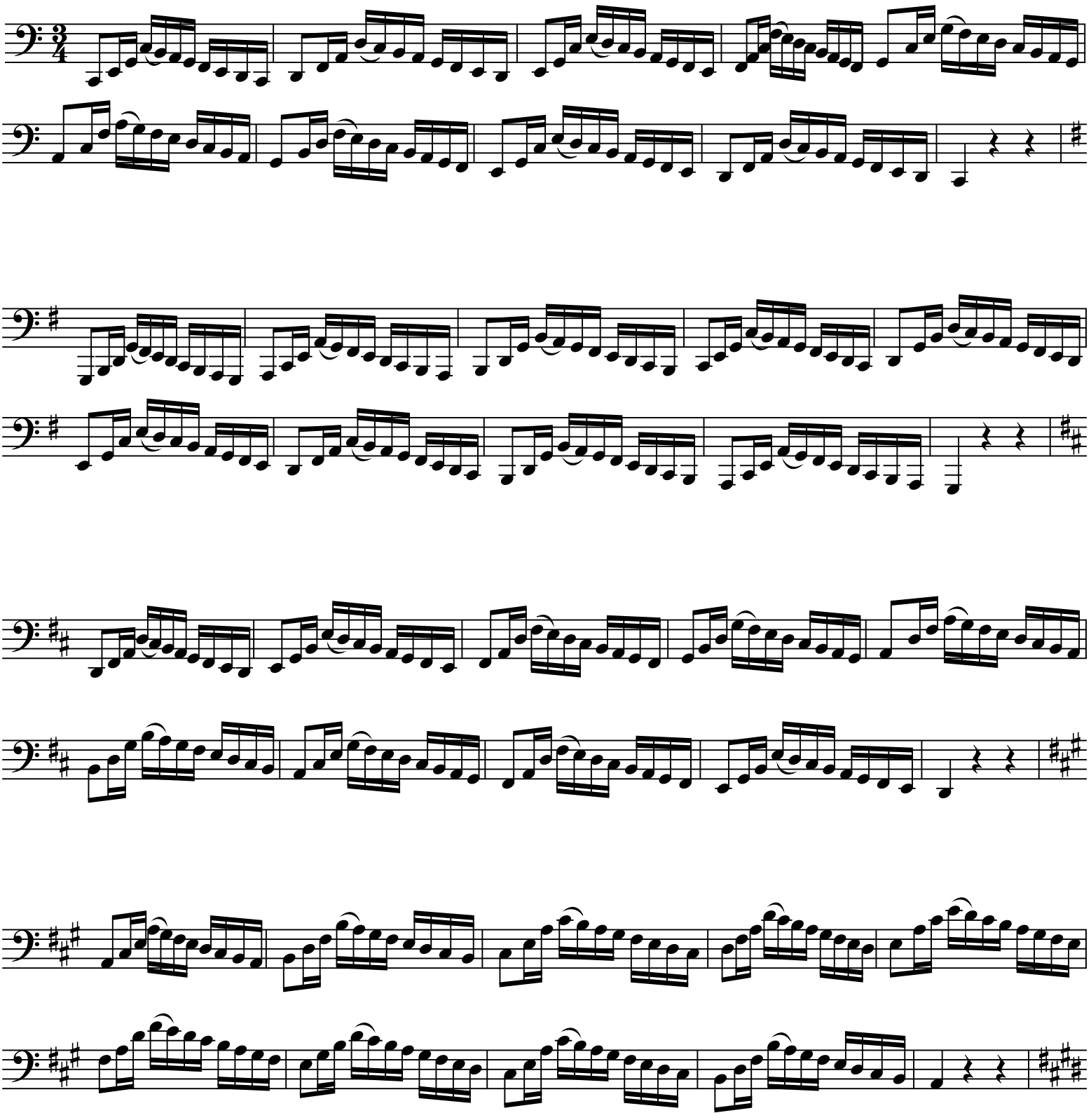


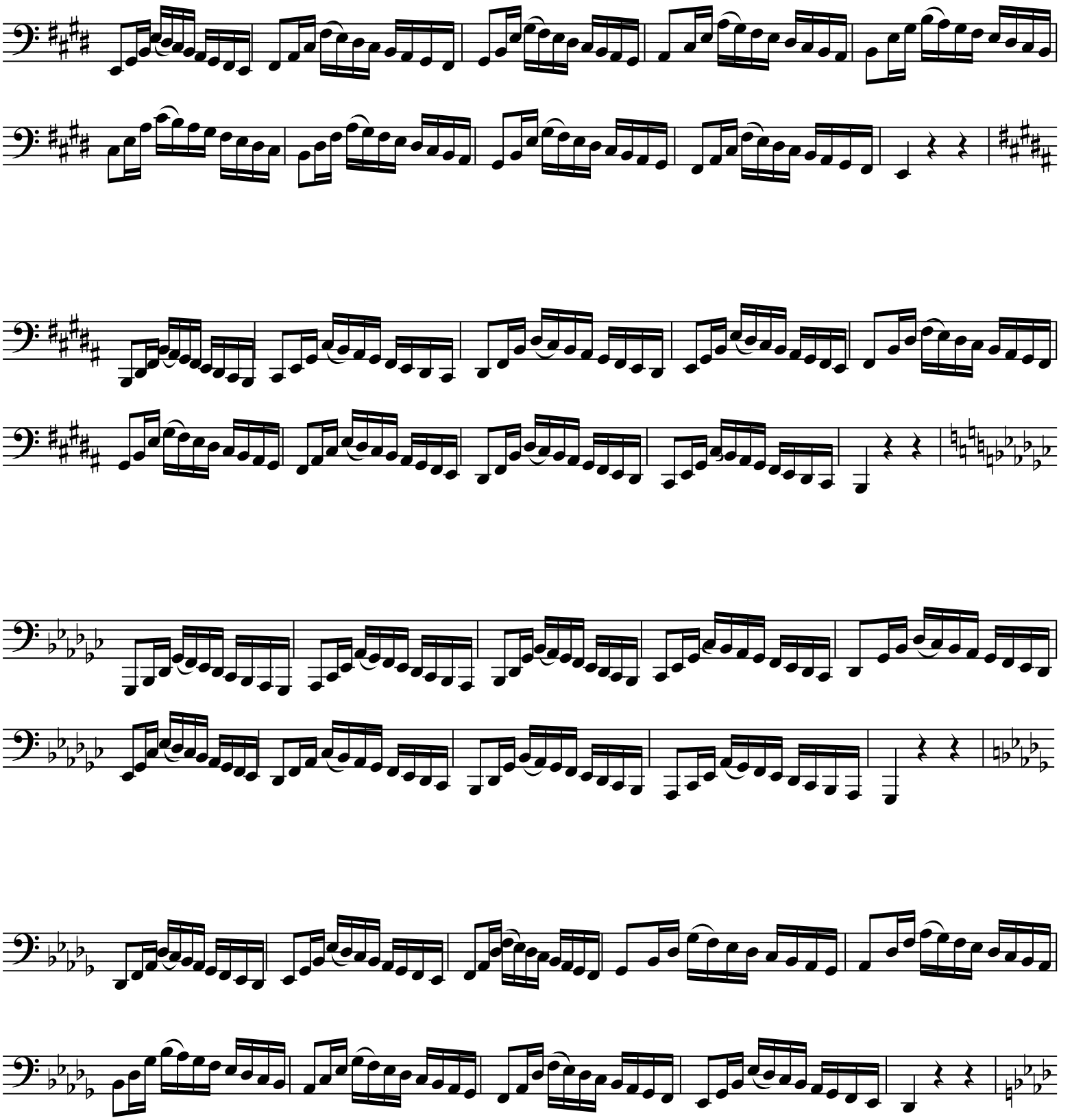


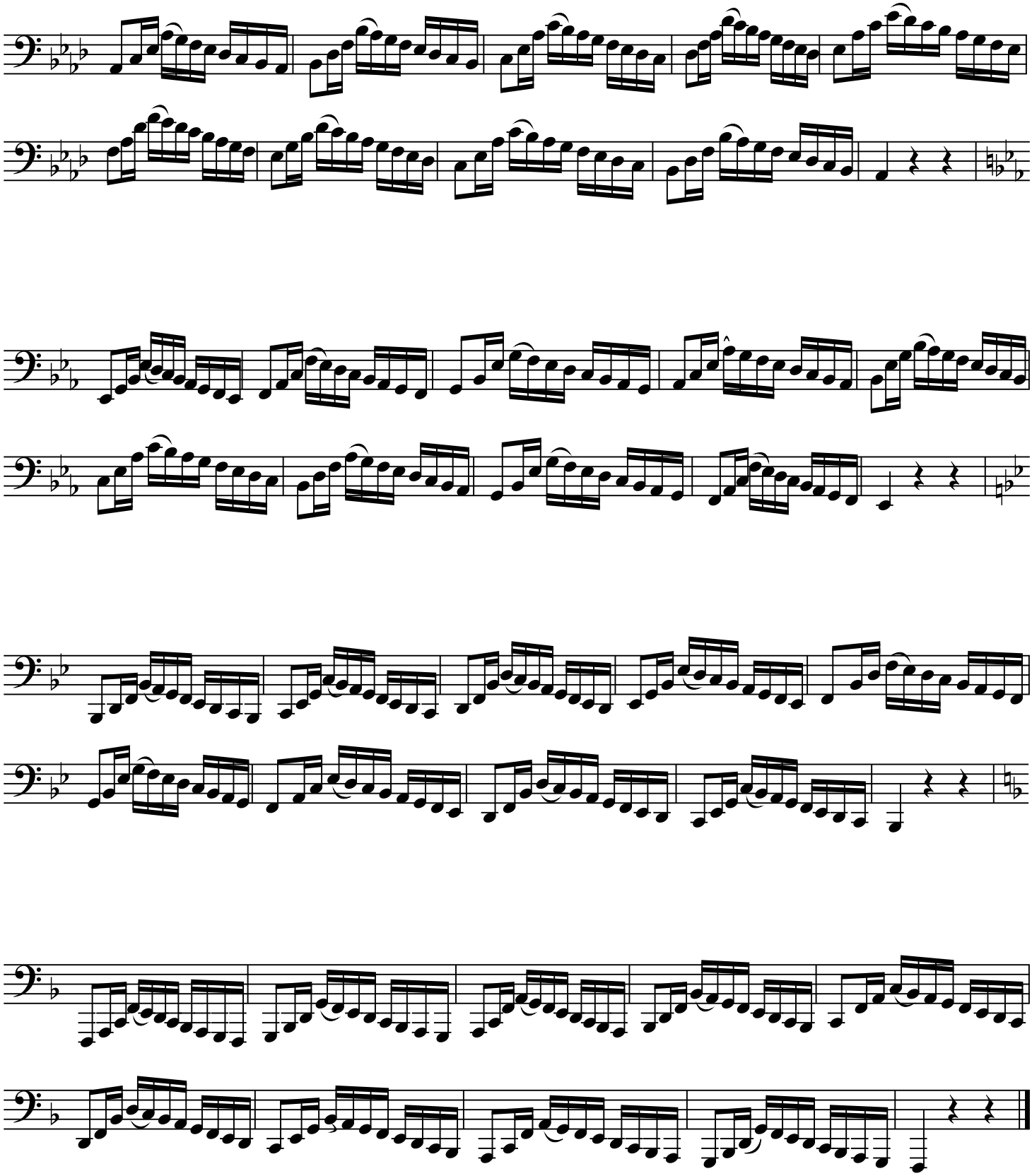


Arban Scale Pattern 6

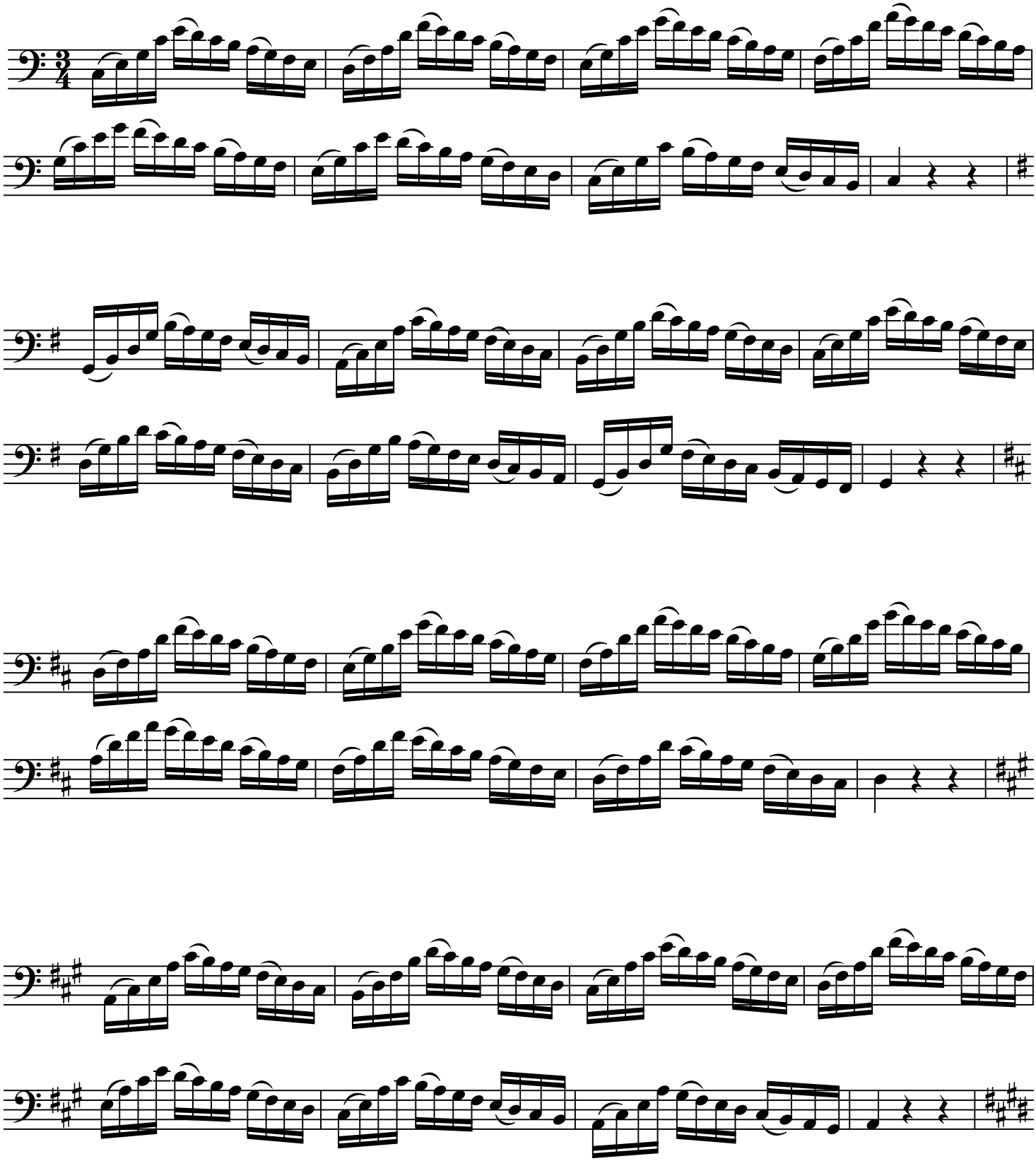
J.B. Arban, arr Baker

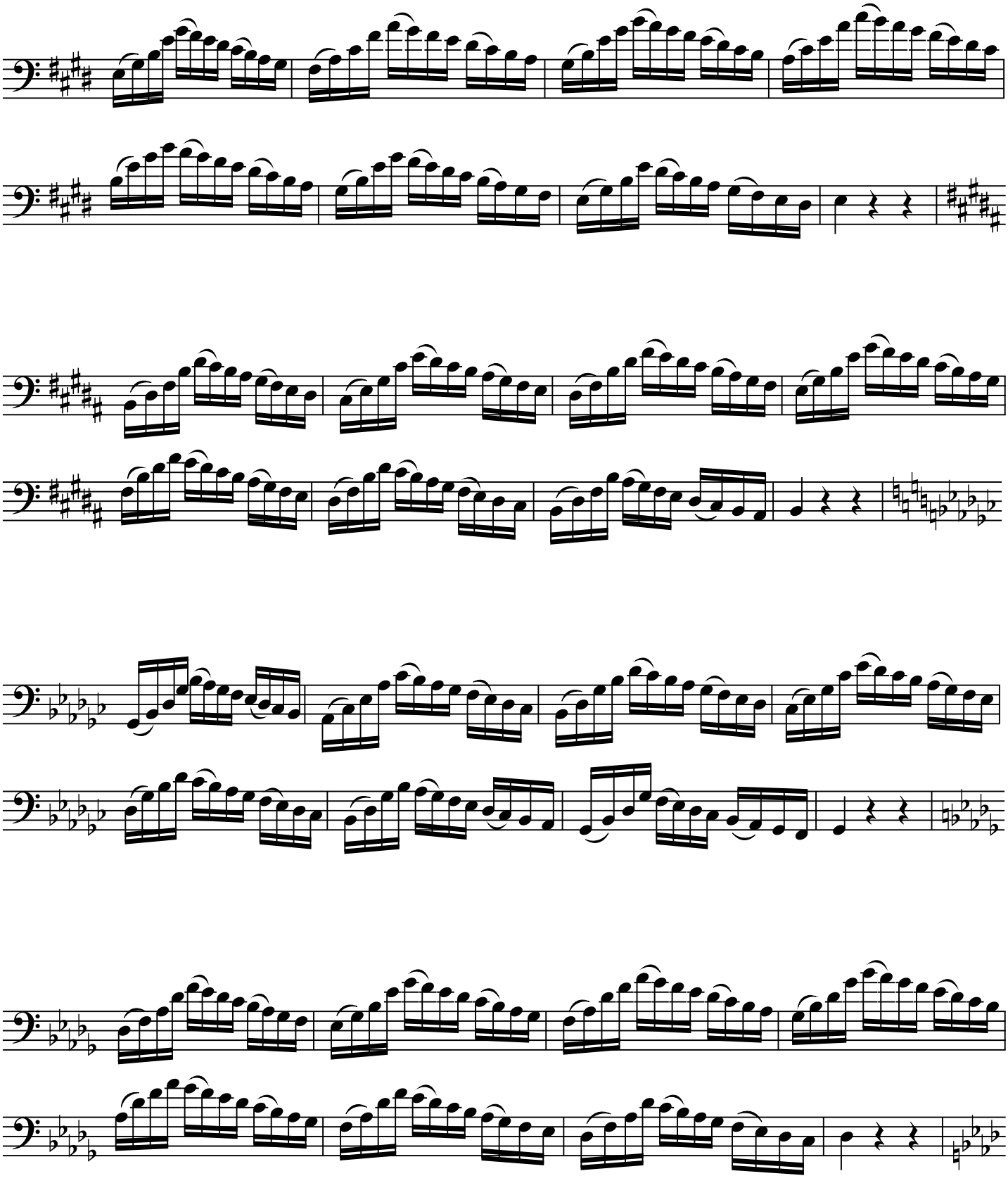


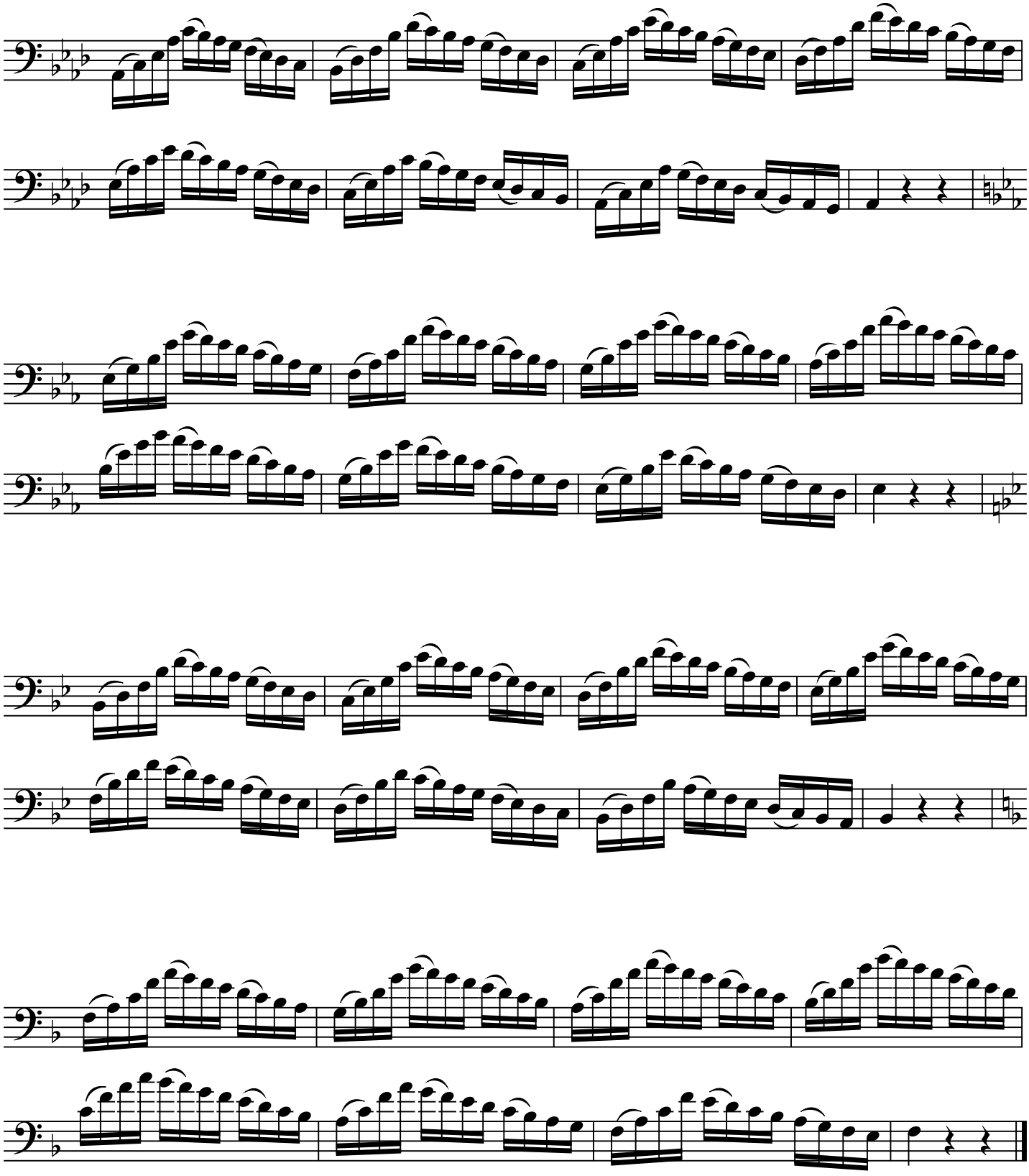




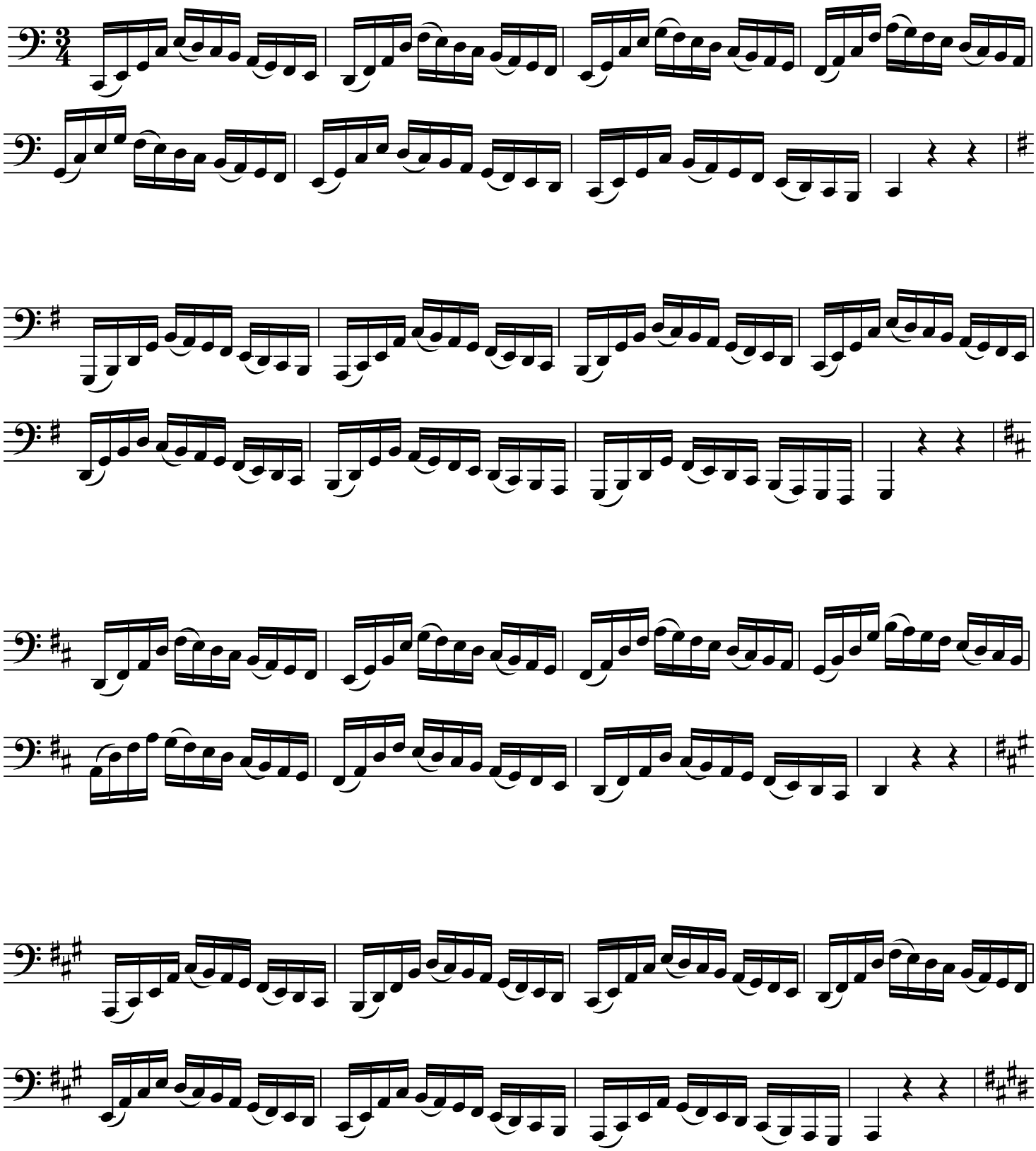
Arban Scale Pattern 7-Major

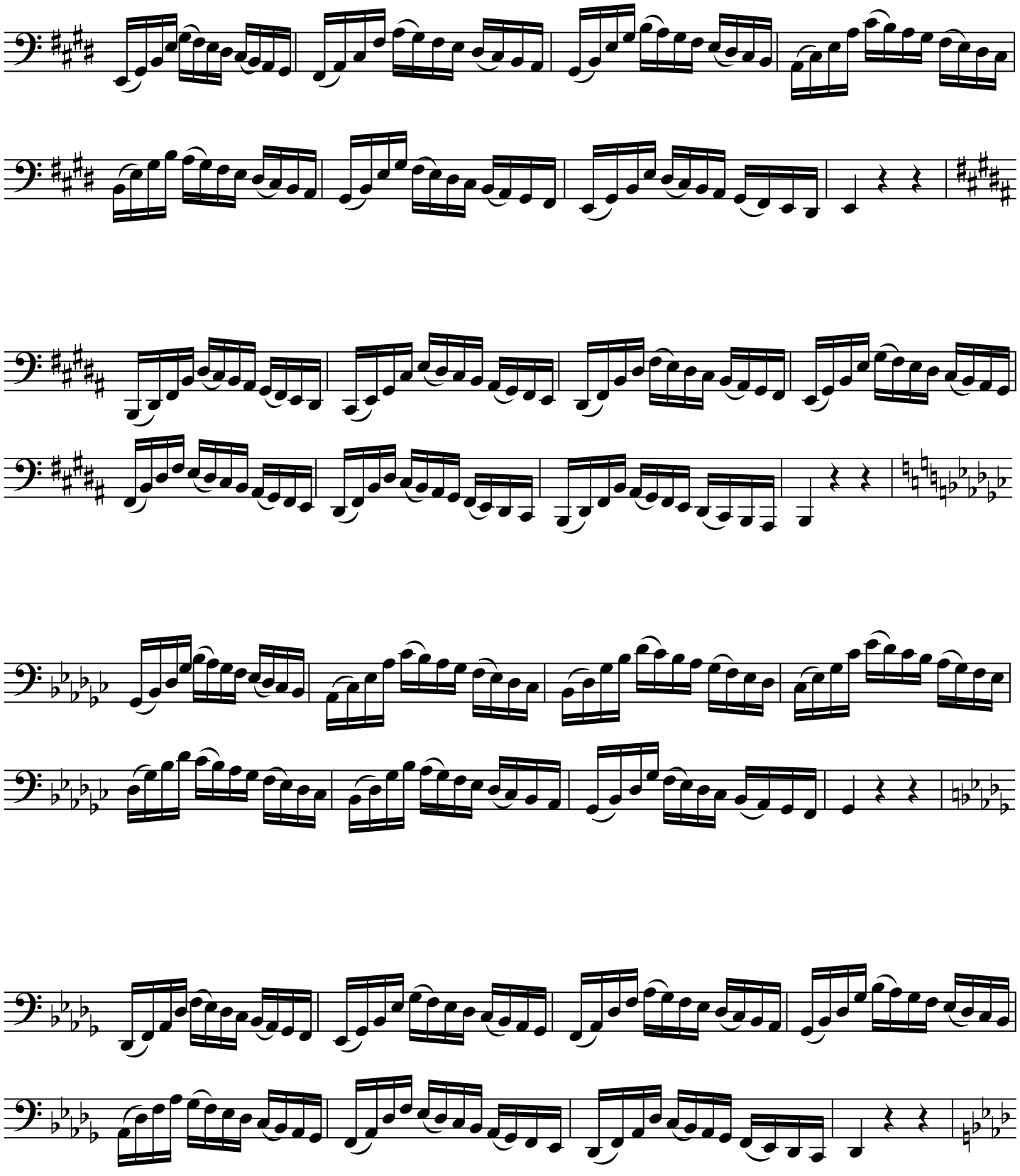


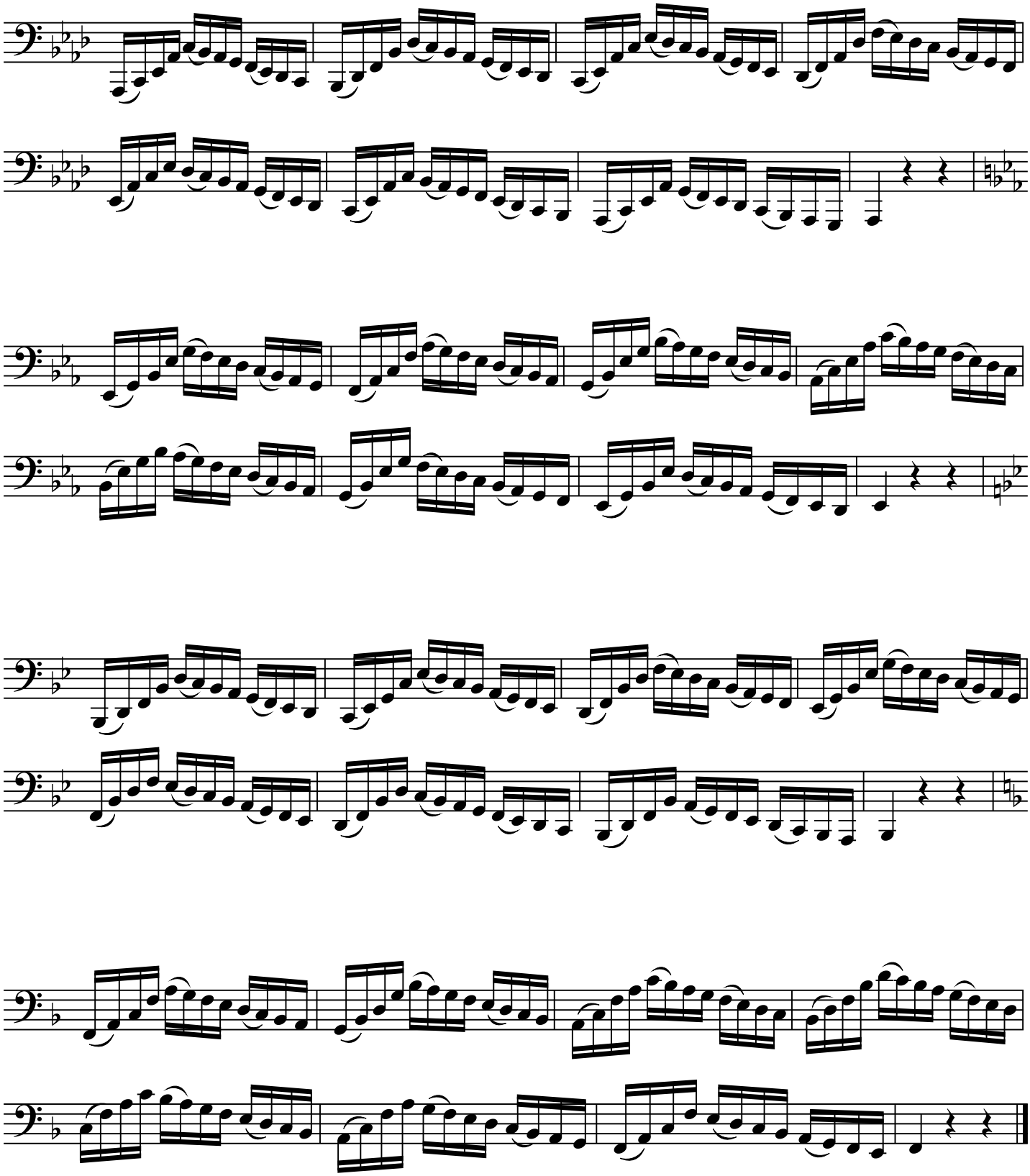




Arban Scale Pattern 7-Major



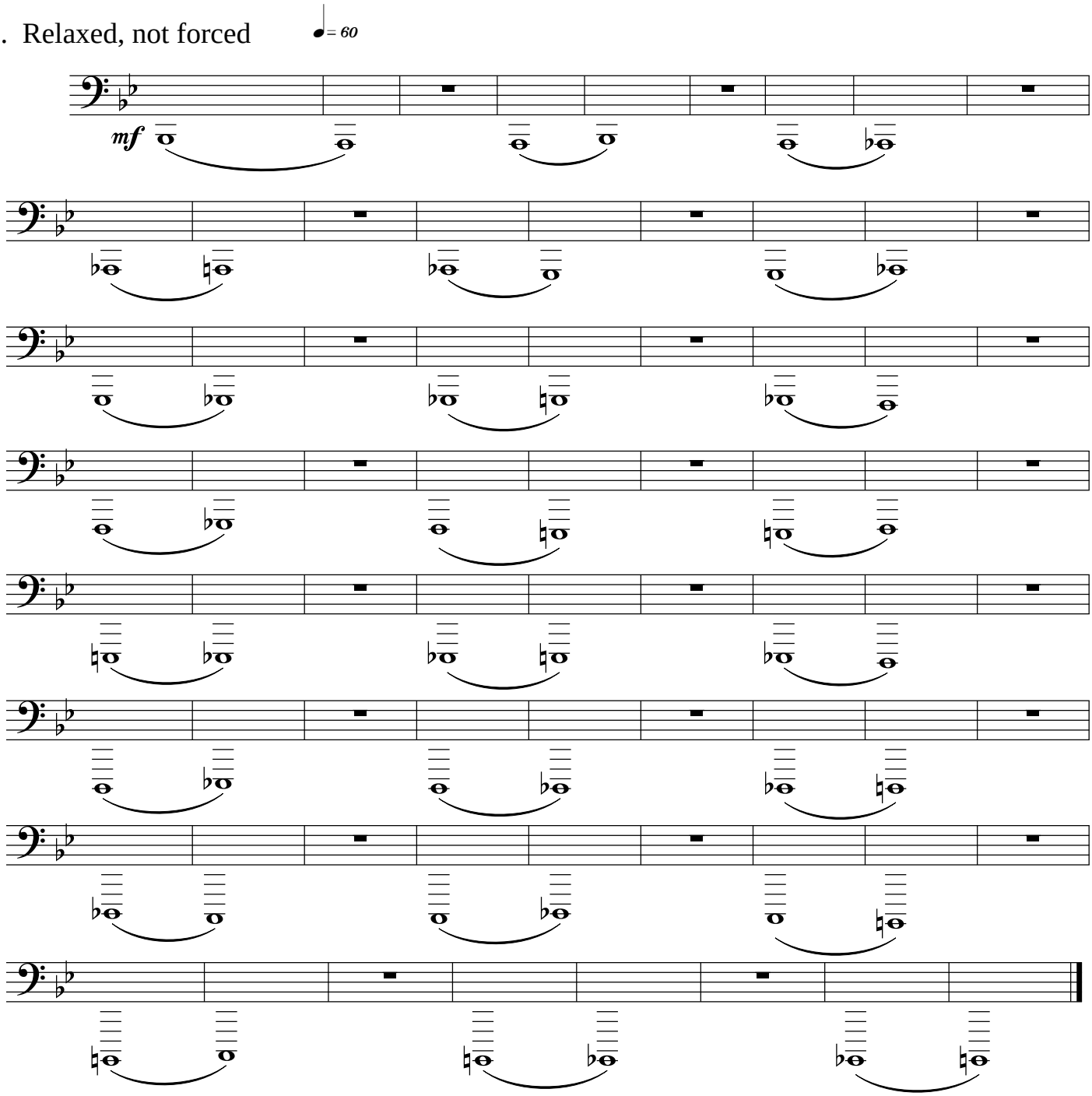




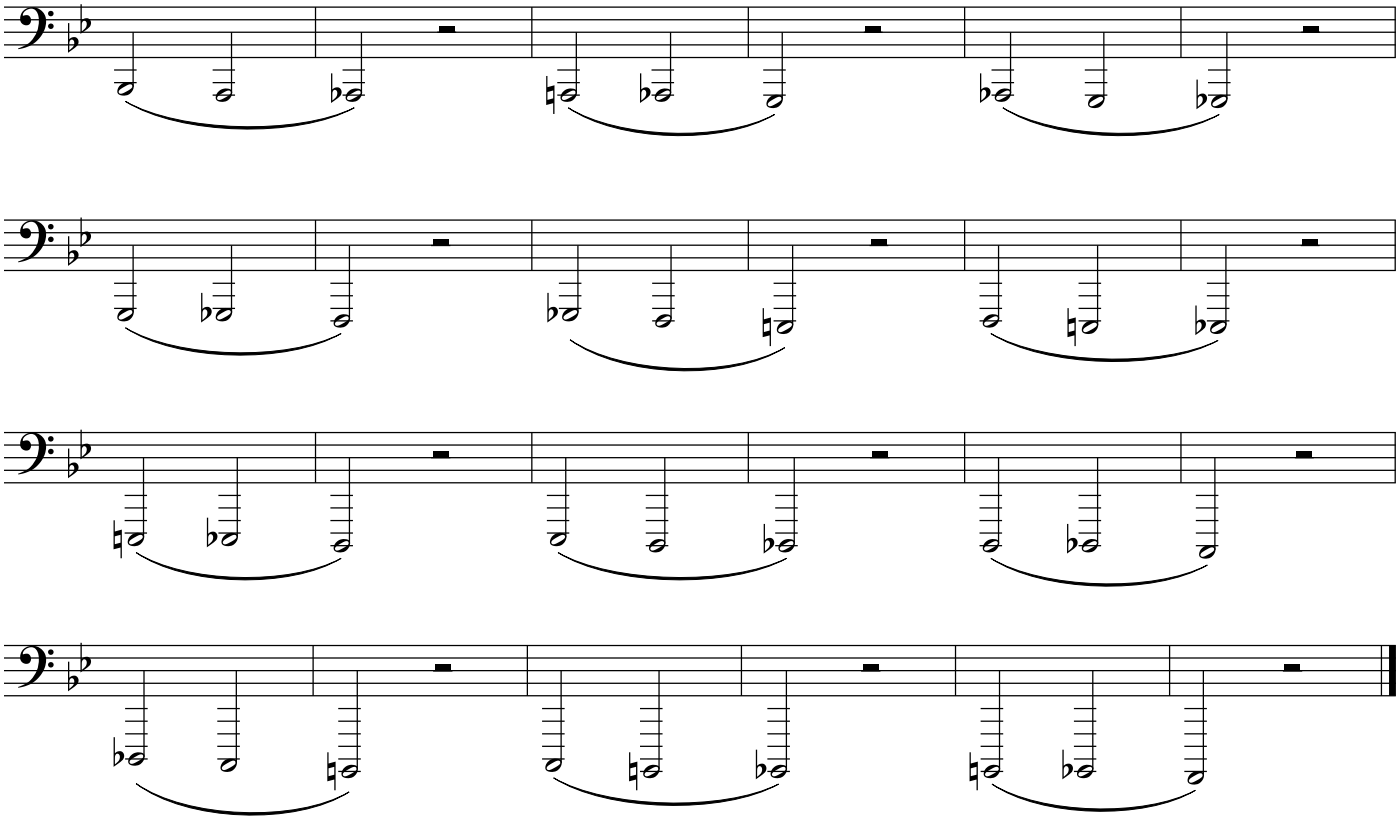
Warmup and Daily Routine for BBb Tuba

Compiled by Jeff Baker (2004)

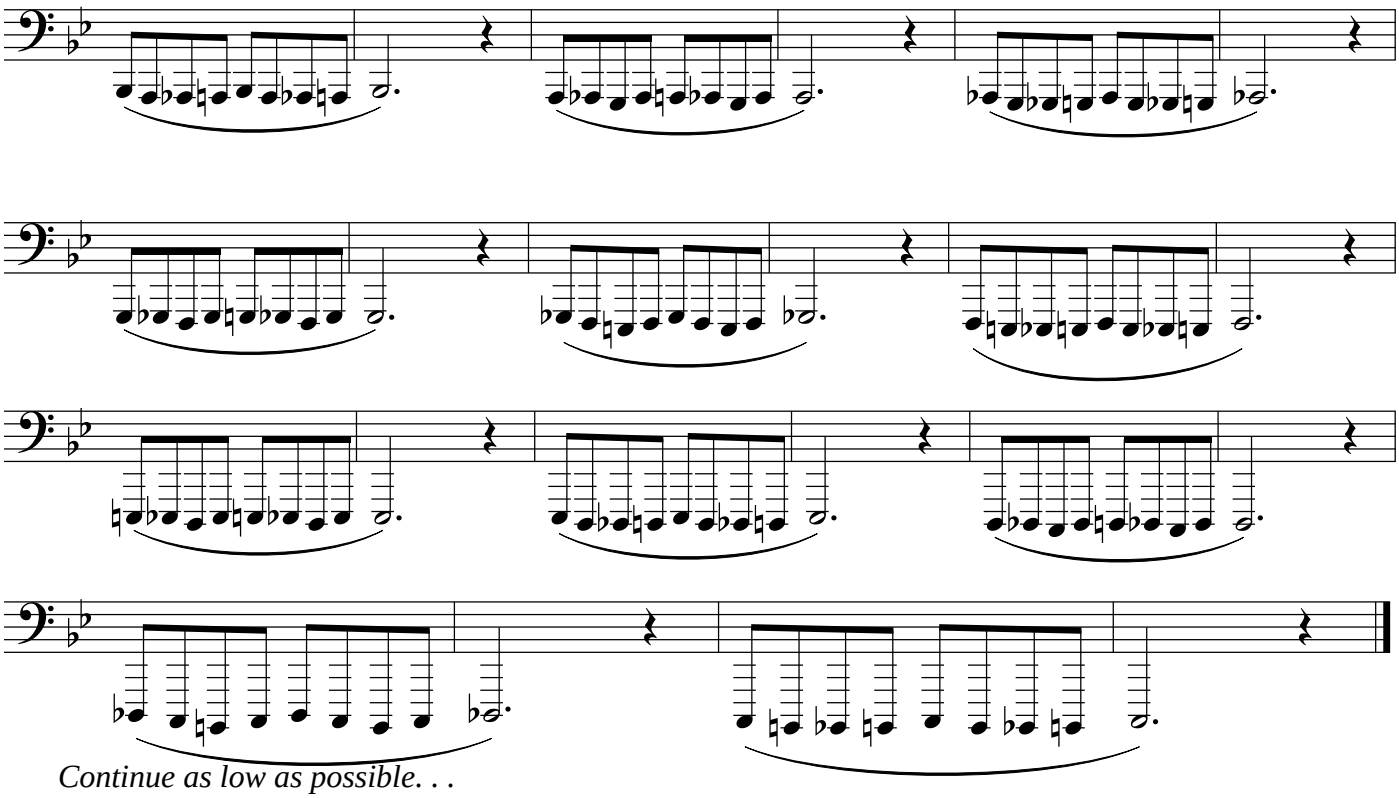
1. Relaxed, not forced



2. ♩ = 60

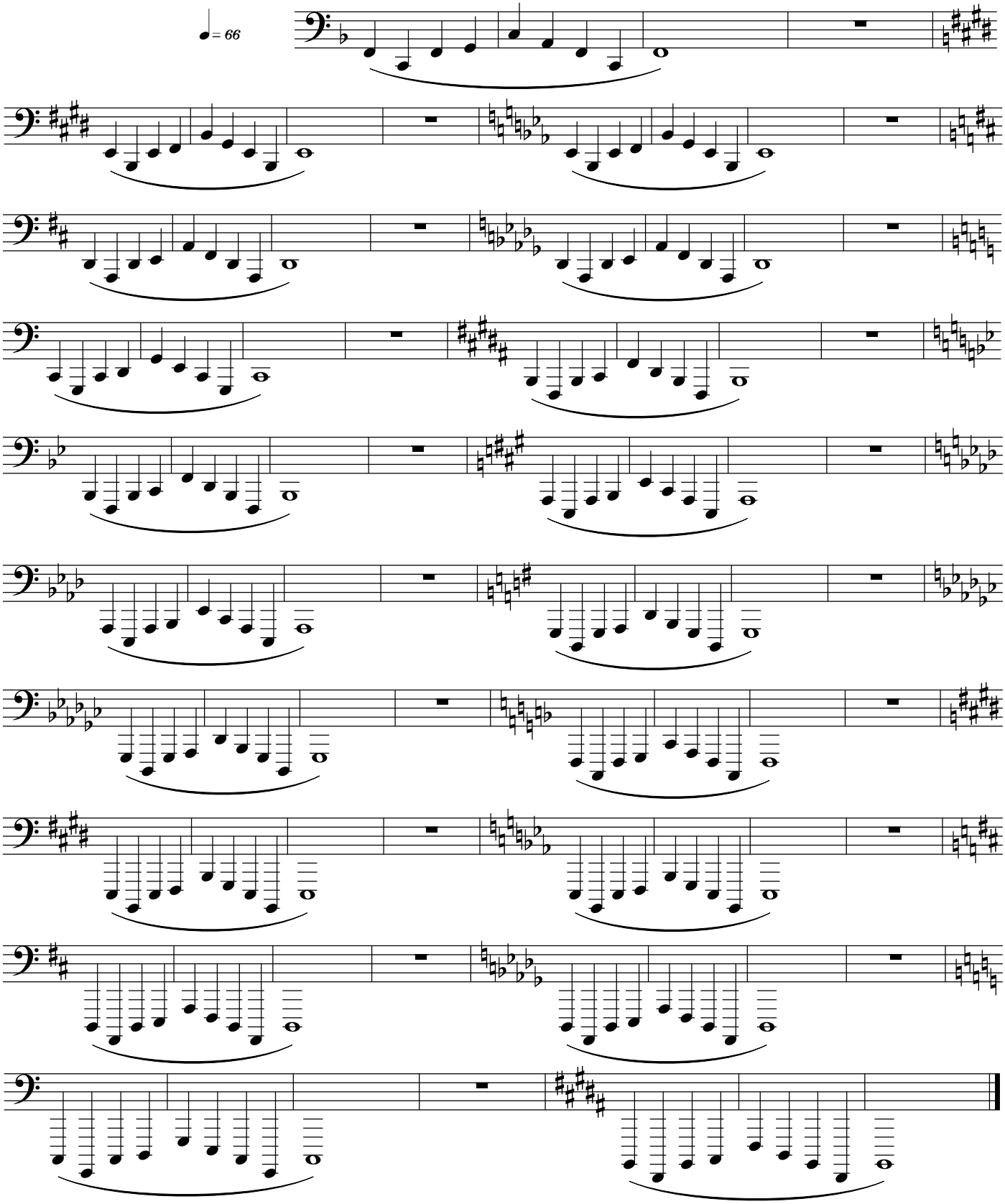


3. ♩ = 72



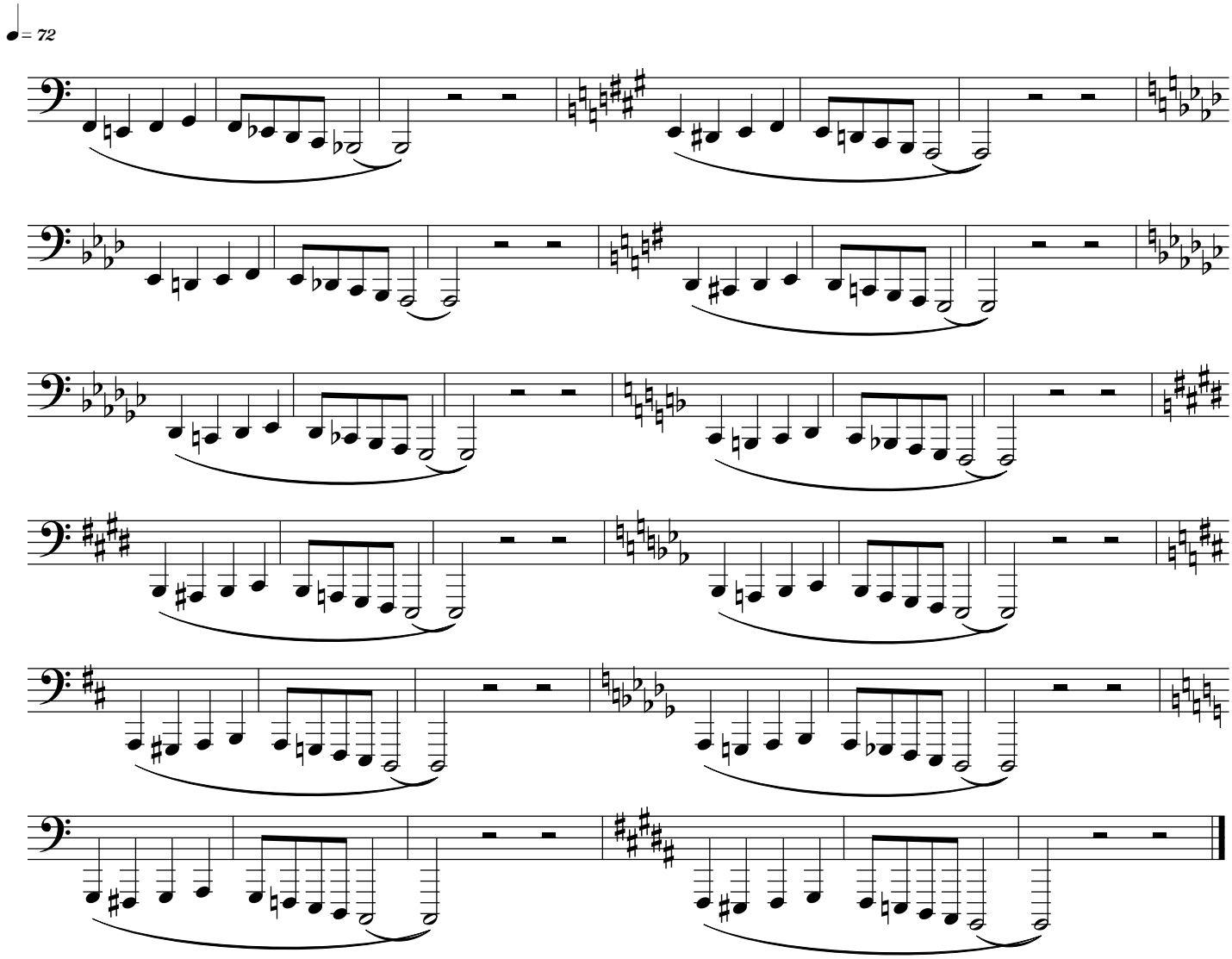
Continue as low as possible. . .

4. Smooth connections, no bumps in the sound



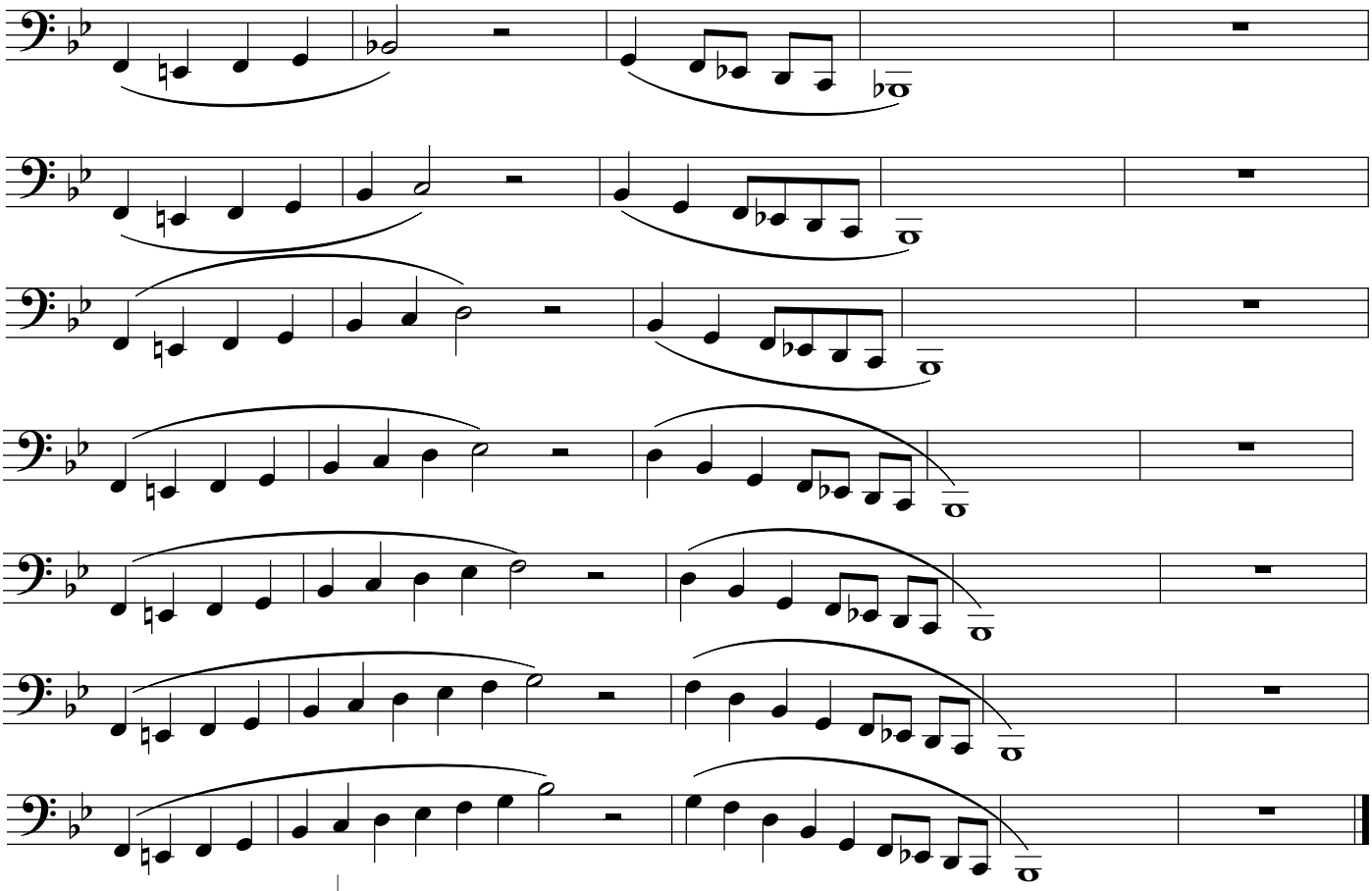
Continue as low as possible. . .

5. Cichowicz Routine

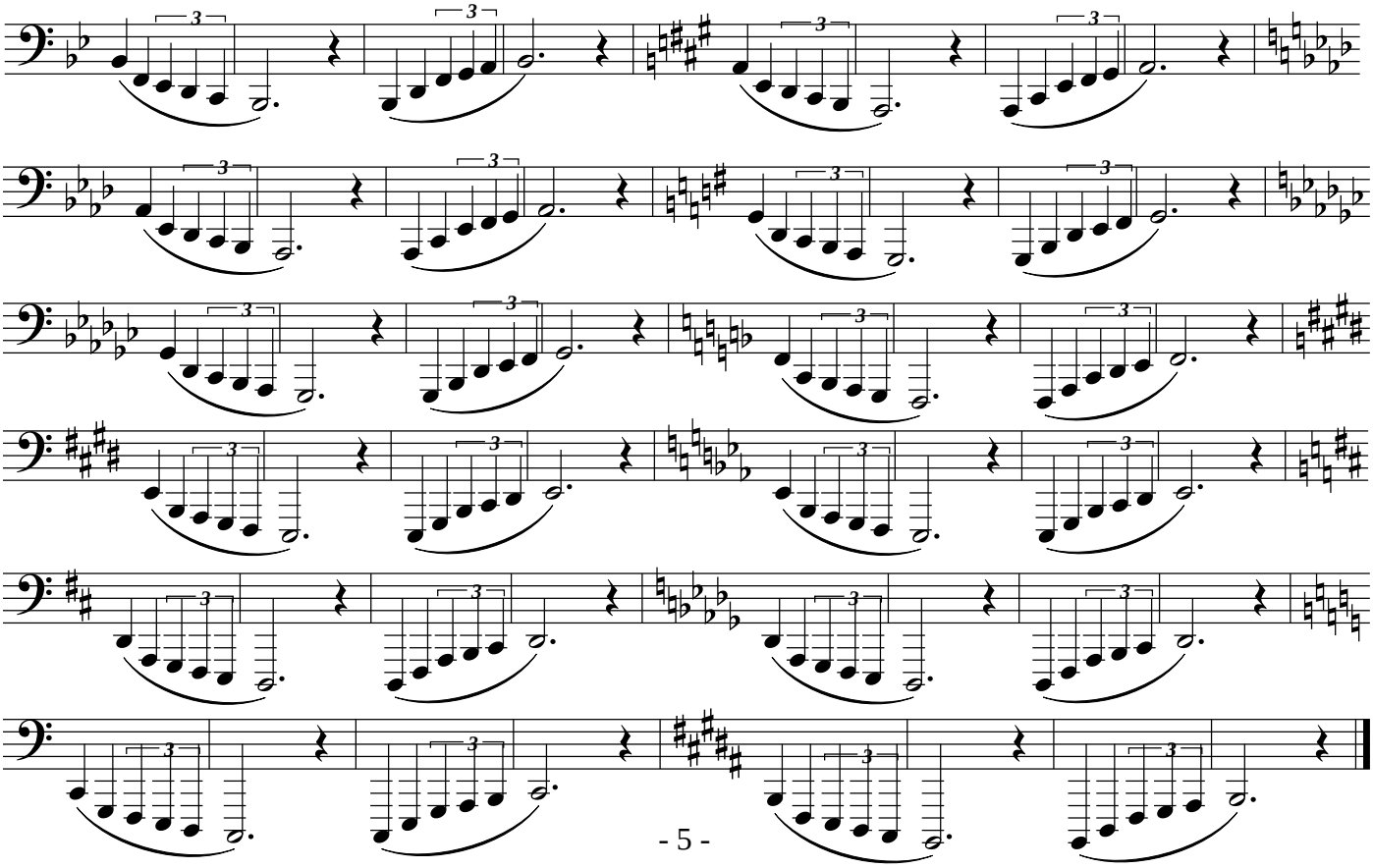


Continue as low as possible. . .

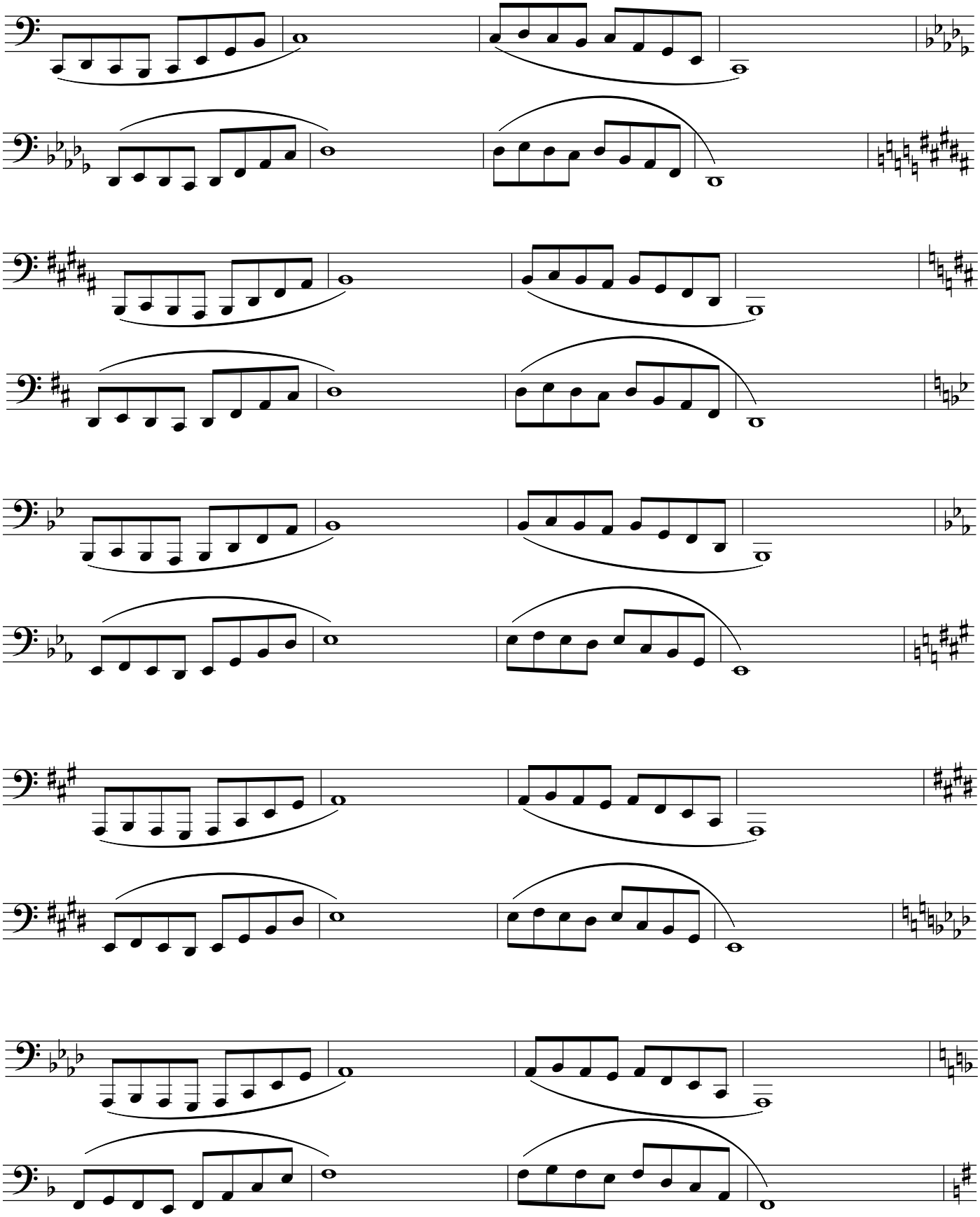
6. Also 8vb ♩= 72

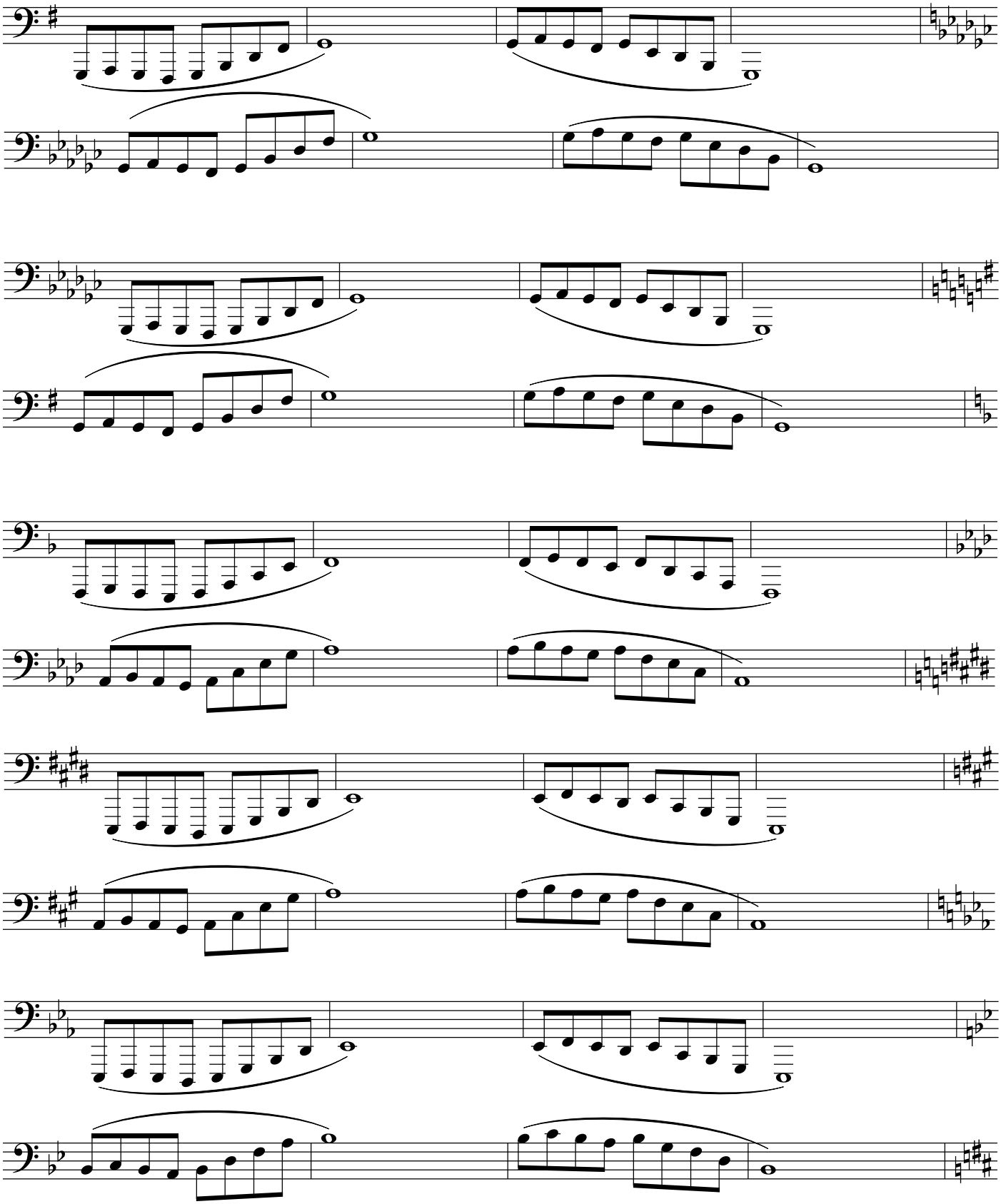


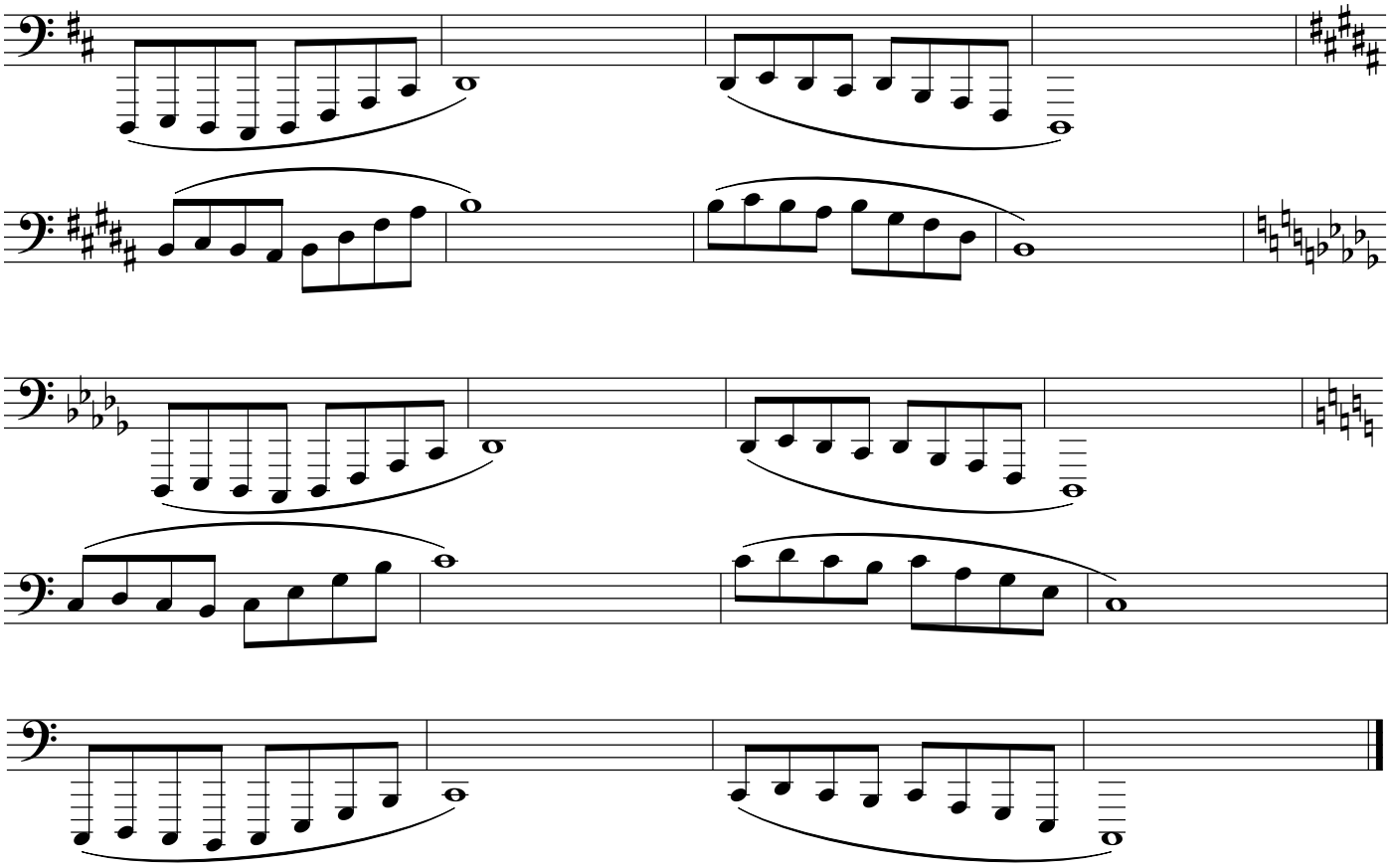
7. Bruckner Exercise ♩= 72



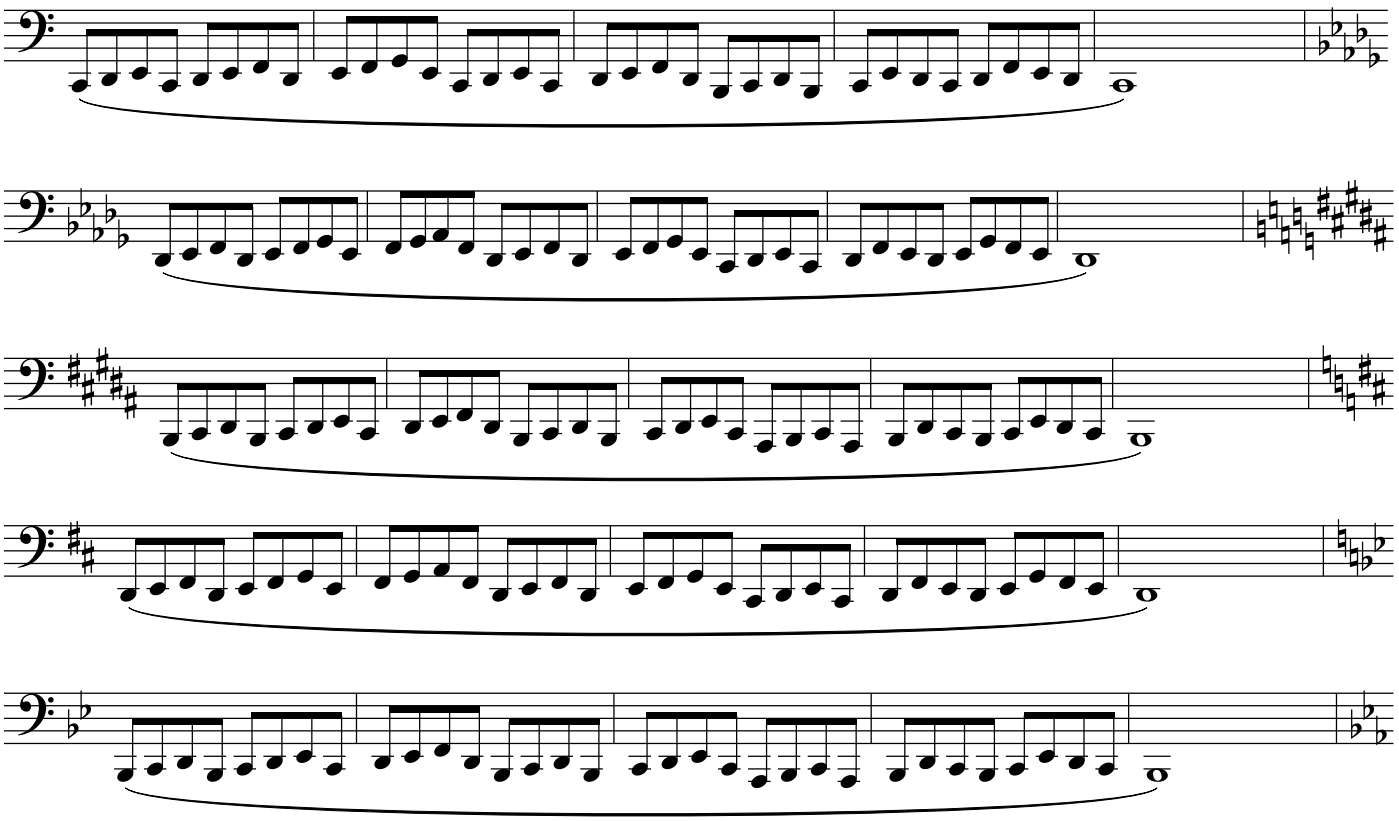
8. Beautiful Sound ♩= 72

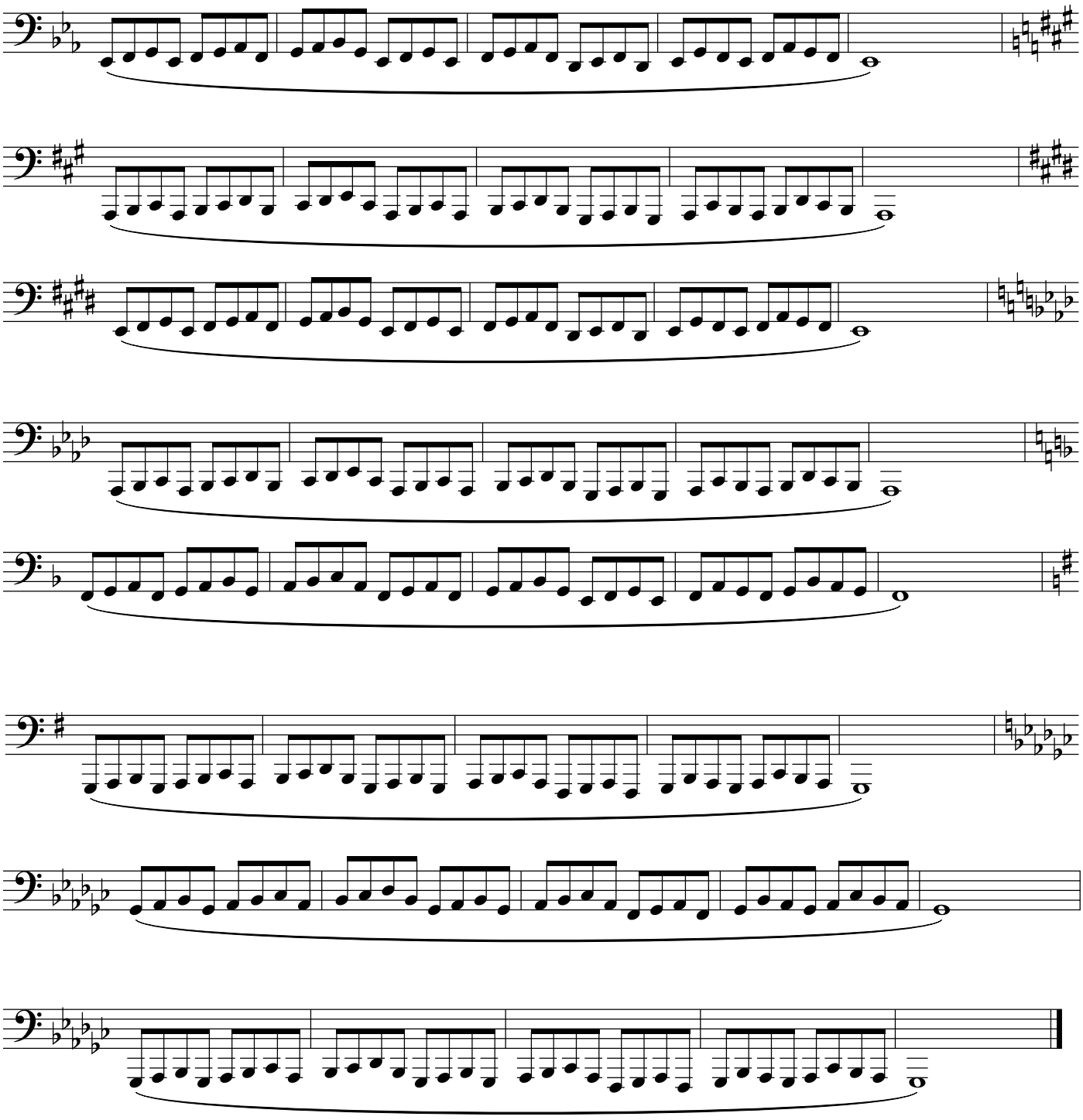




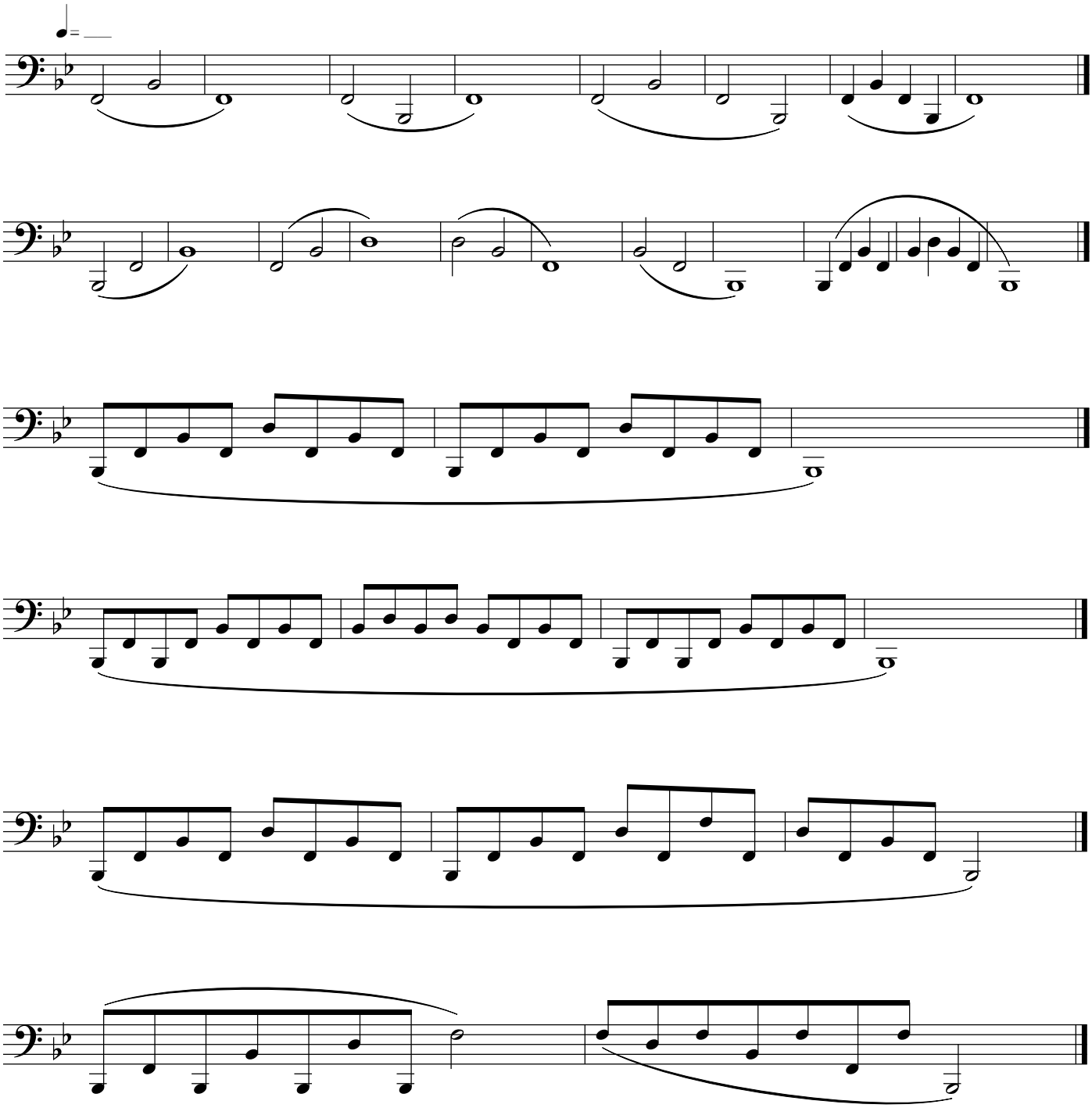


9. Finger Flexibilities ♩= ___





10. Lip Flexibilites - Play each line with as many valve combinations as possible

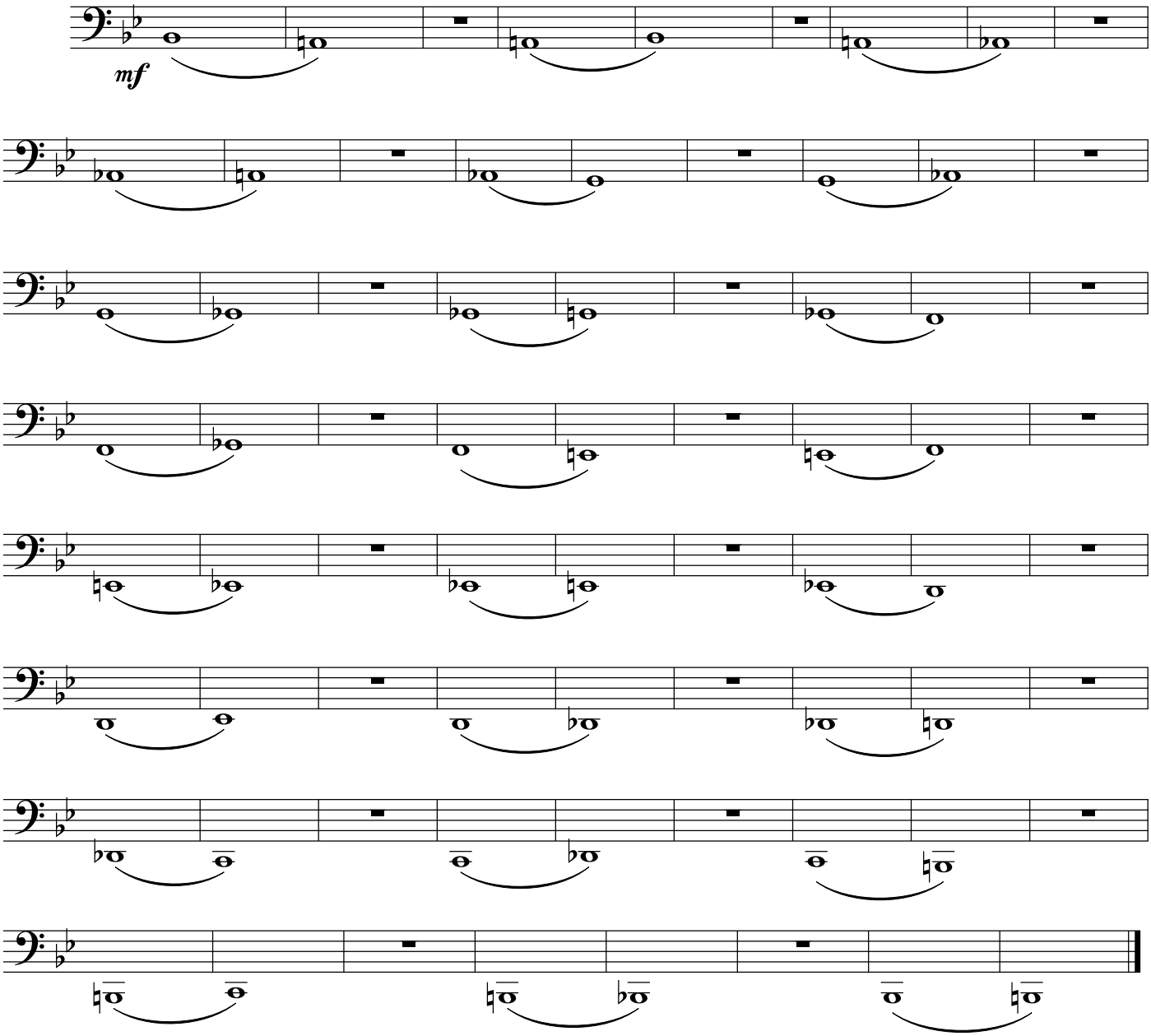


This warmup study comprises excerpts from Ted Cox, Don Little, and Sam Pilafian.
Flexibility studies can be found in "Lip Flexibilities" by Bai Lin.

Warmup and Daily Routine for Trombone and Euphonium

Compiled by Jeff Baker (2004)

1. Relaxed, not forced ♩= 60



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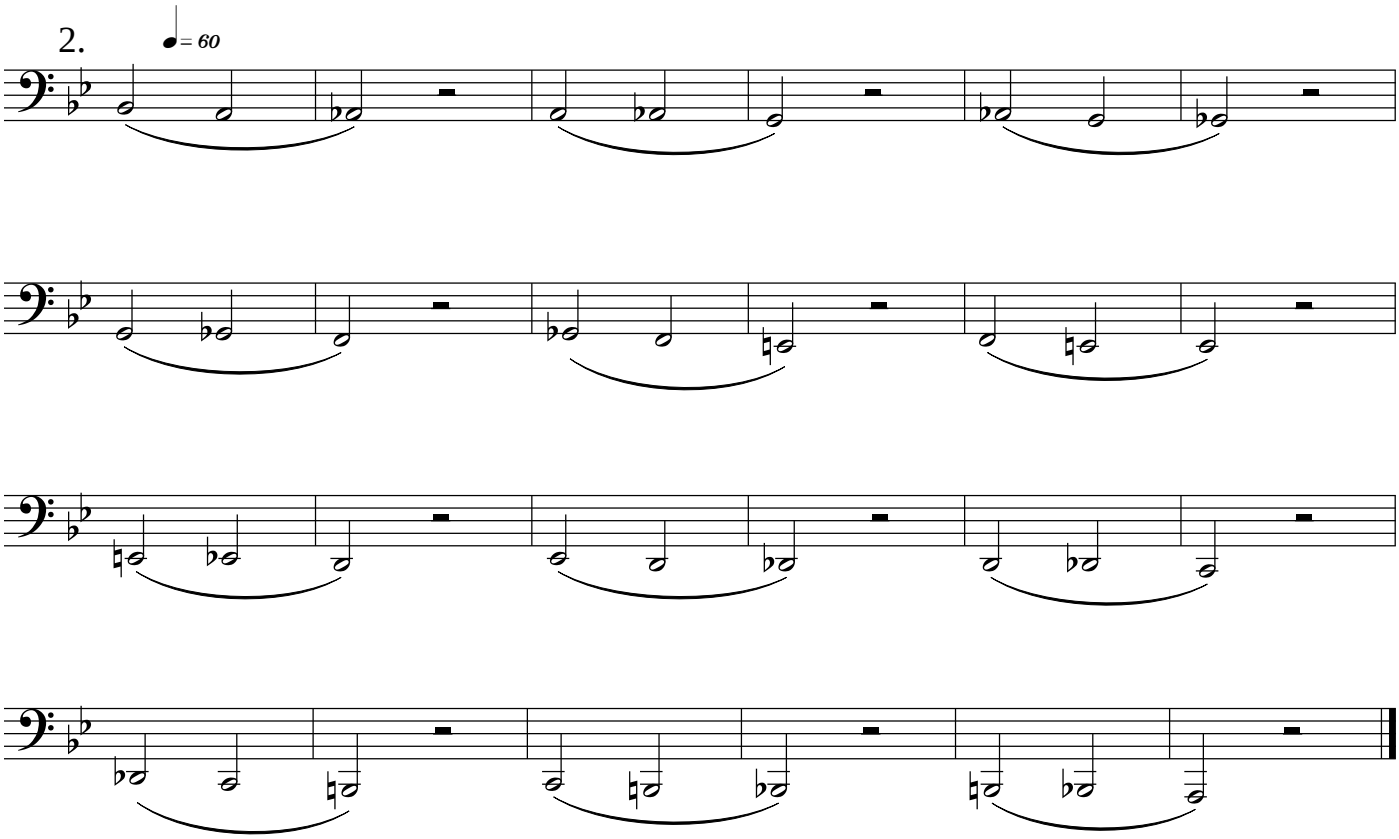
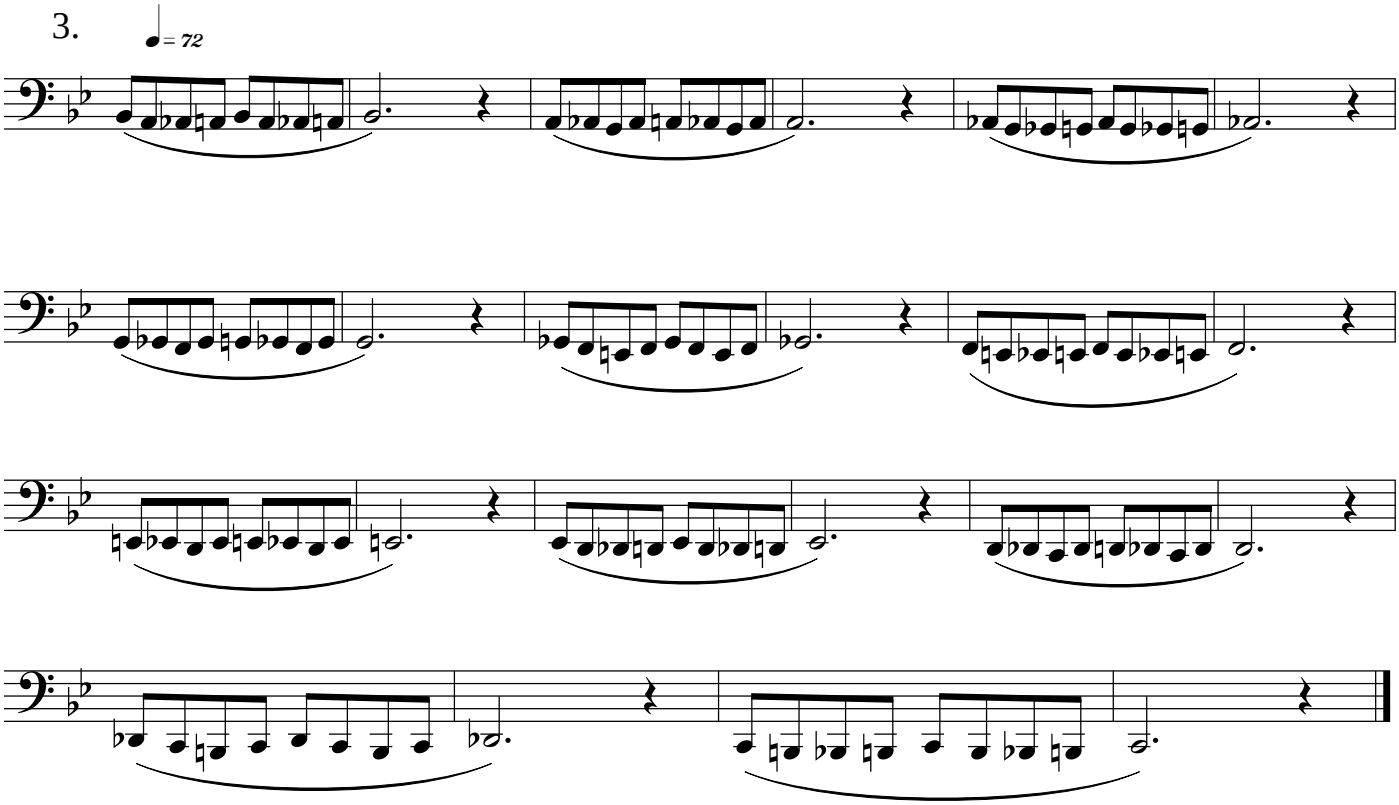
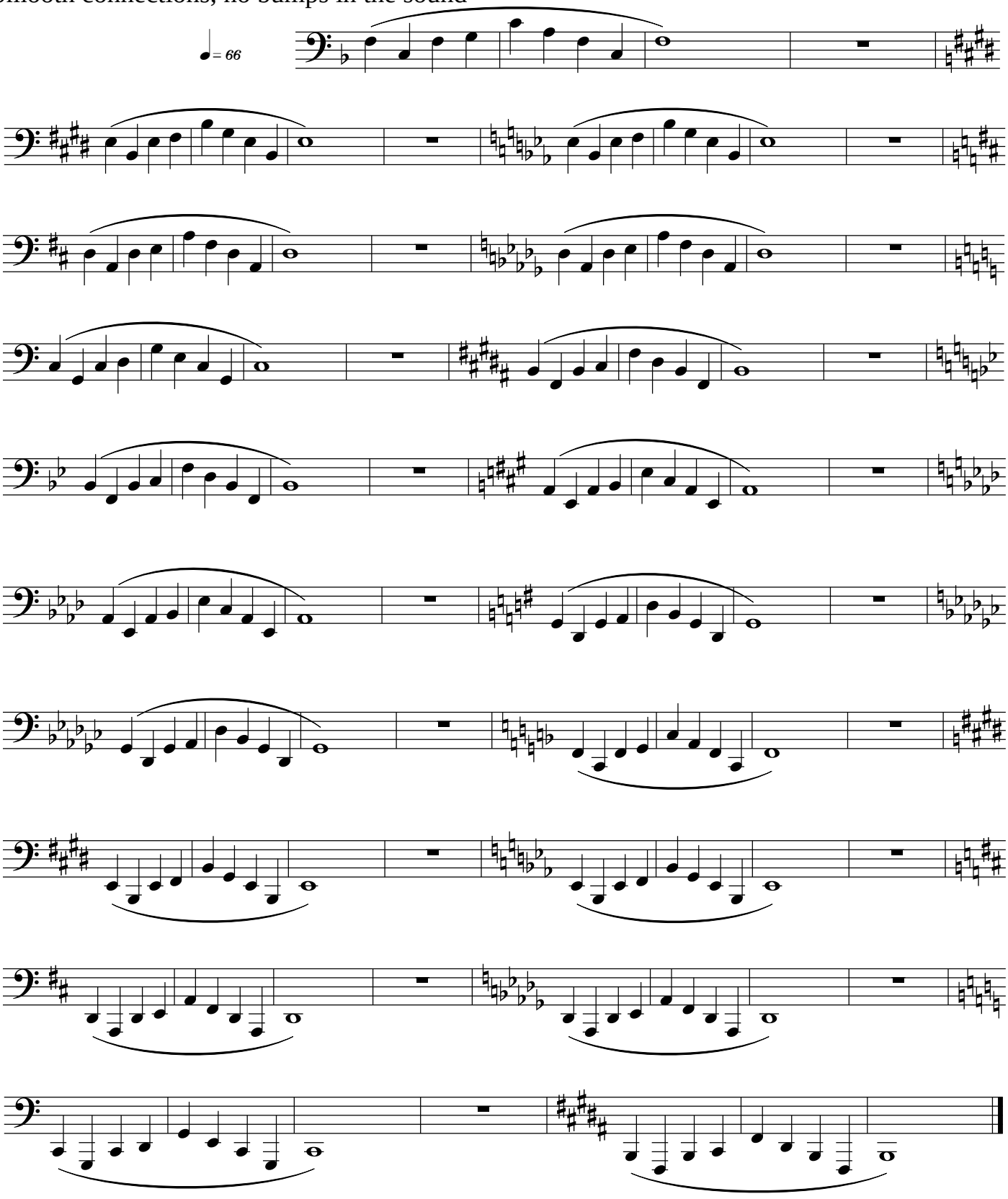


3.



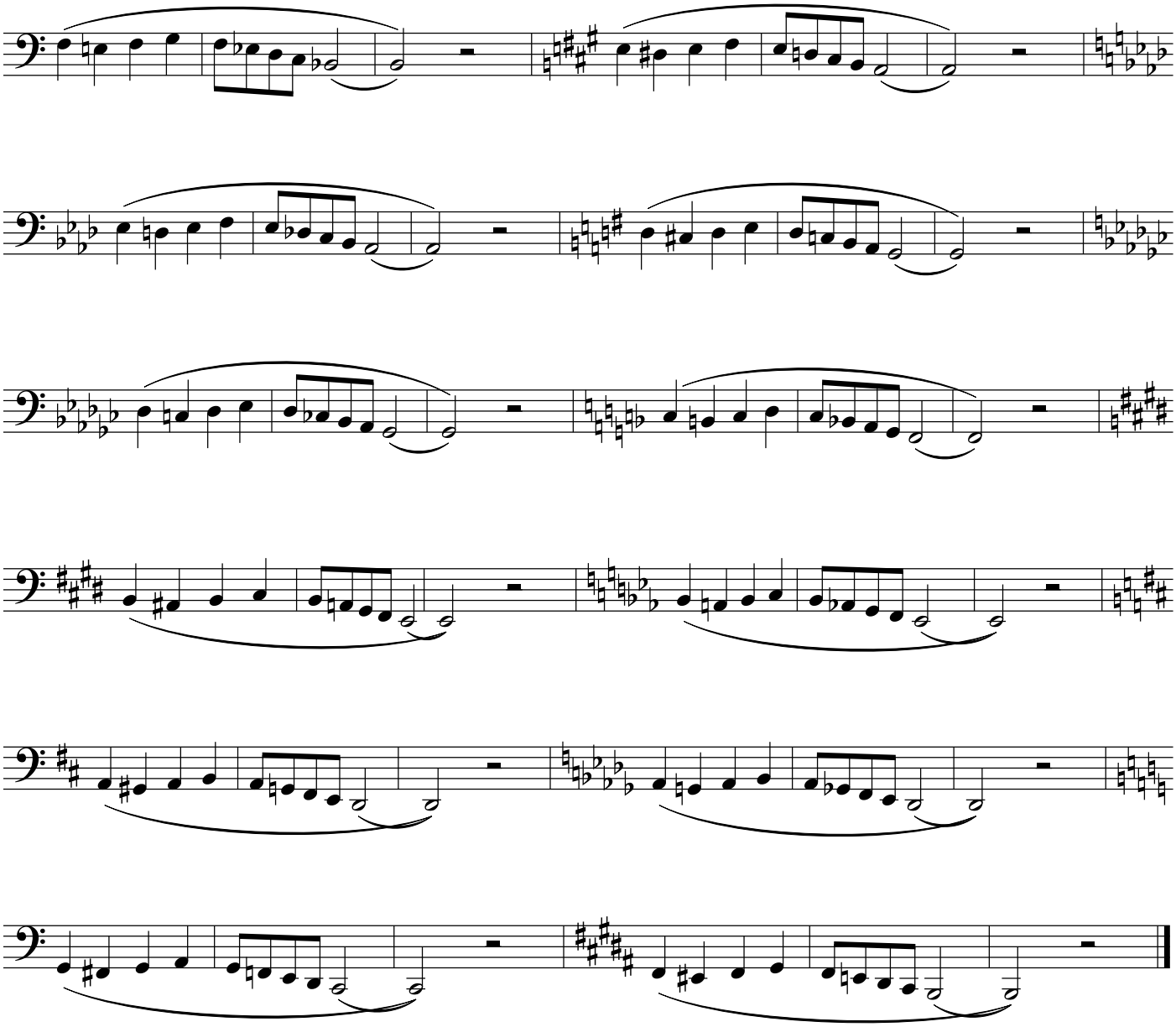
Continue as low as possible. . .

4. Smooth connections, no bumps in the sound



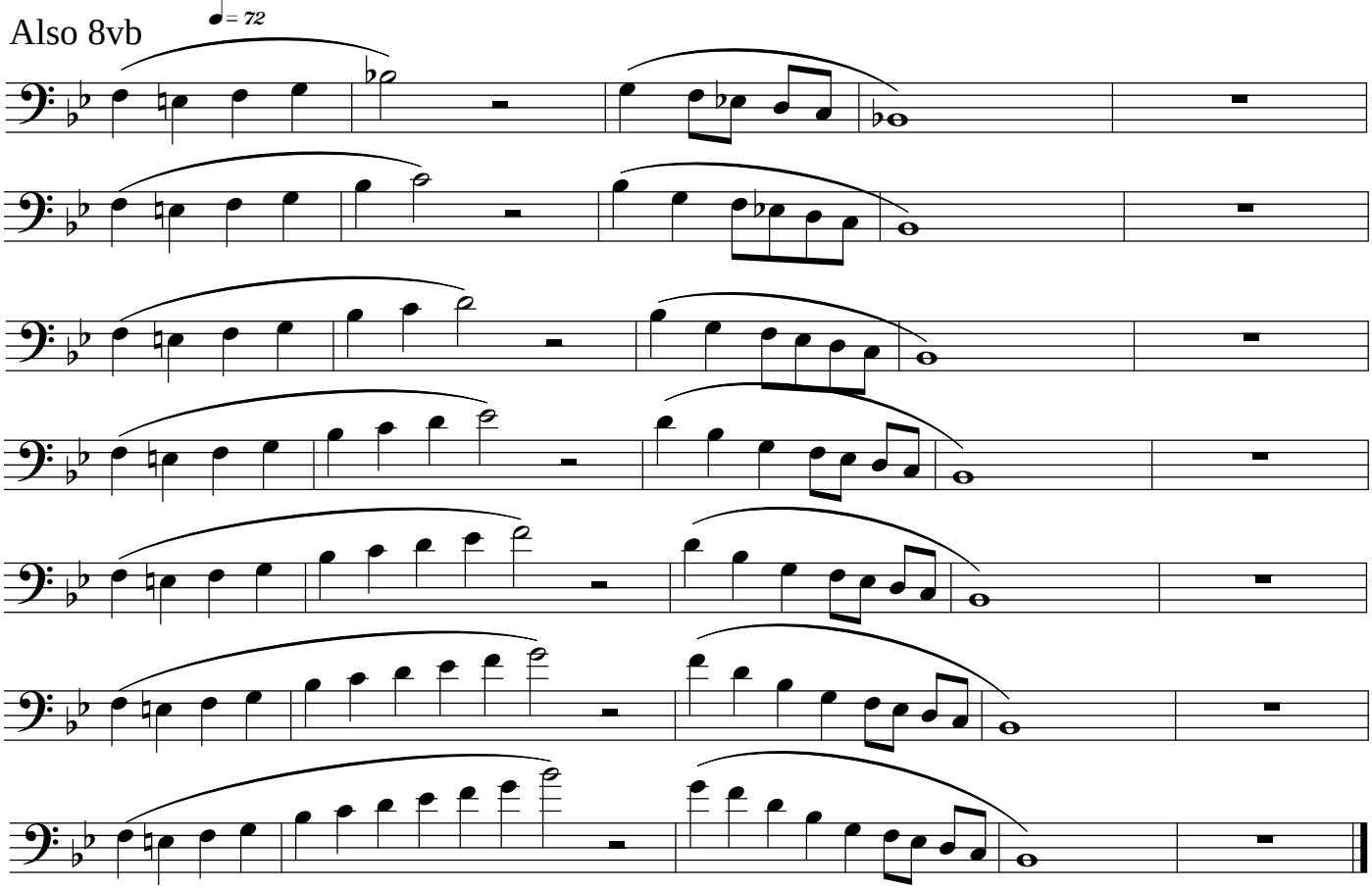
Continue as low as possible. . .

5. Cichowicz Routine ♩= 72

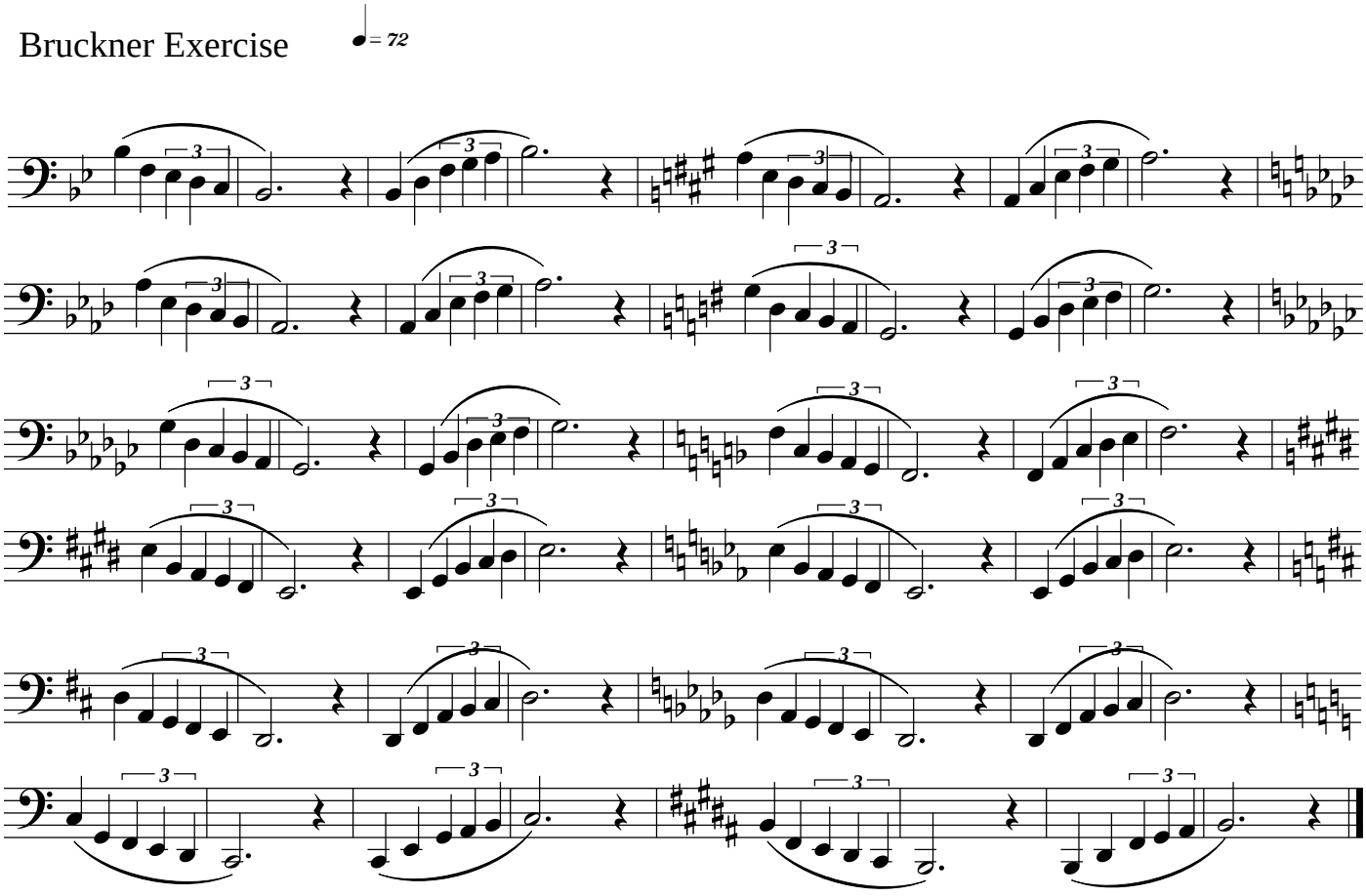


Continue as low as possible. . .

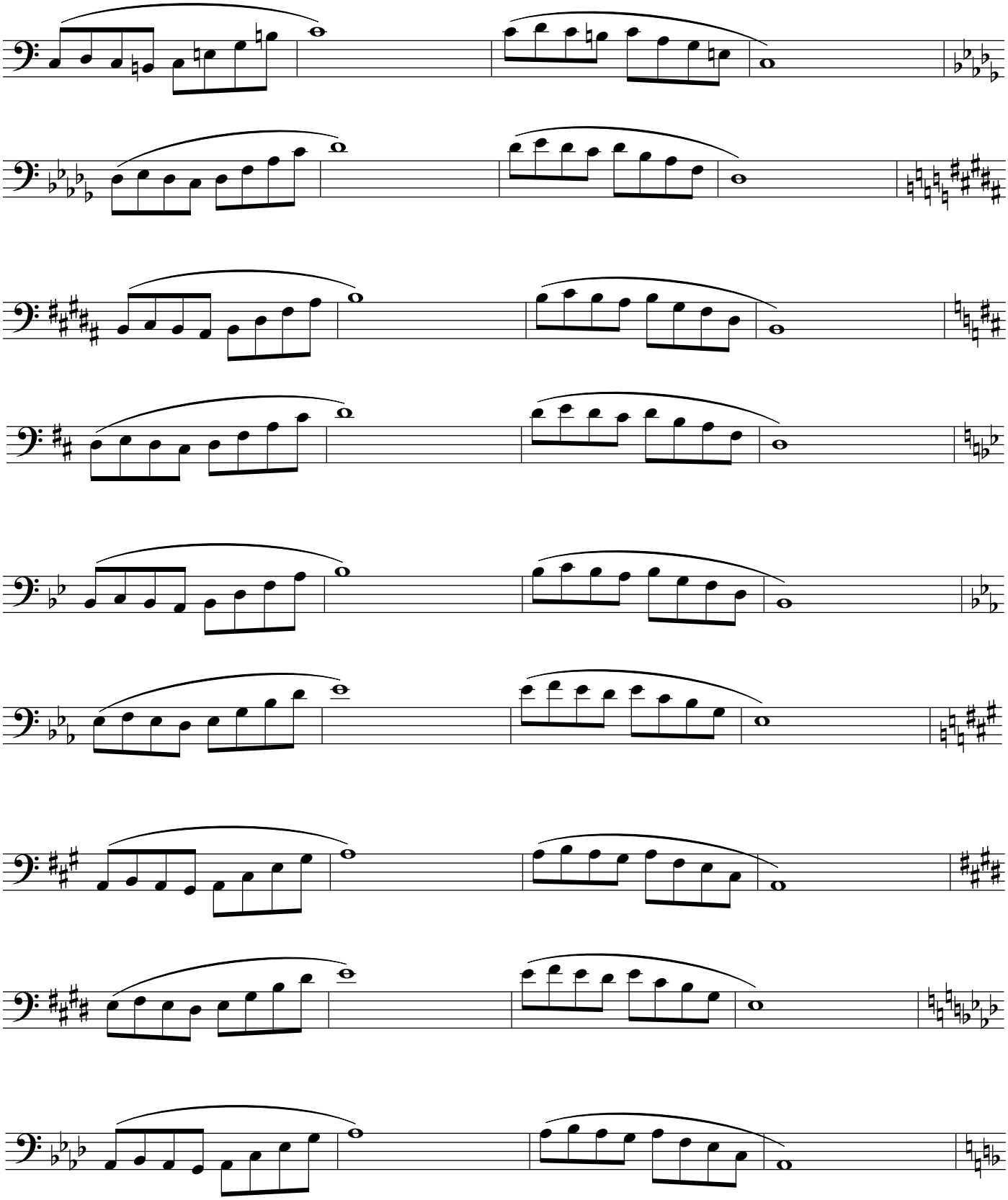
6. Also 8vb

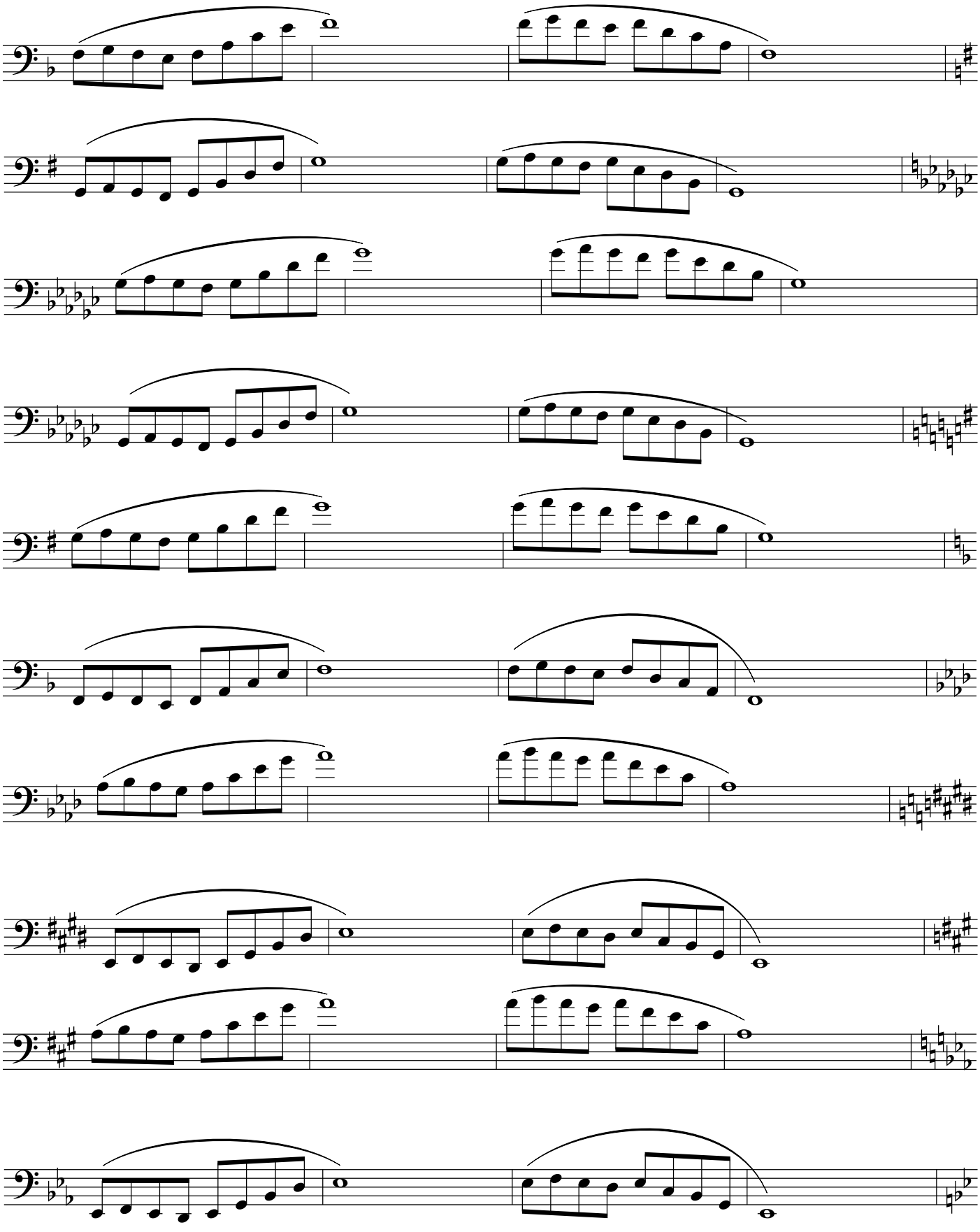


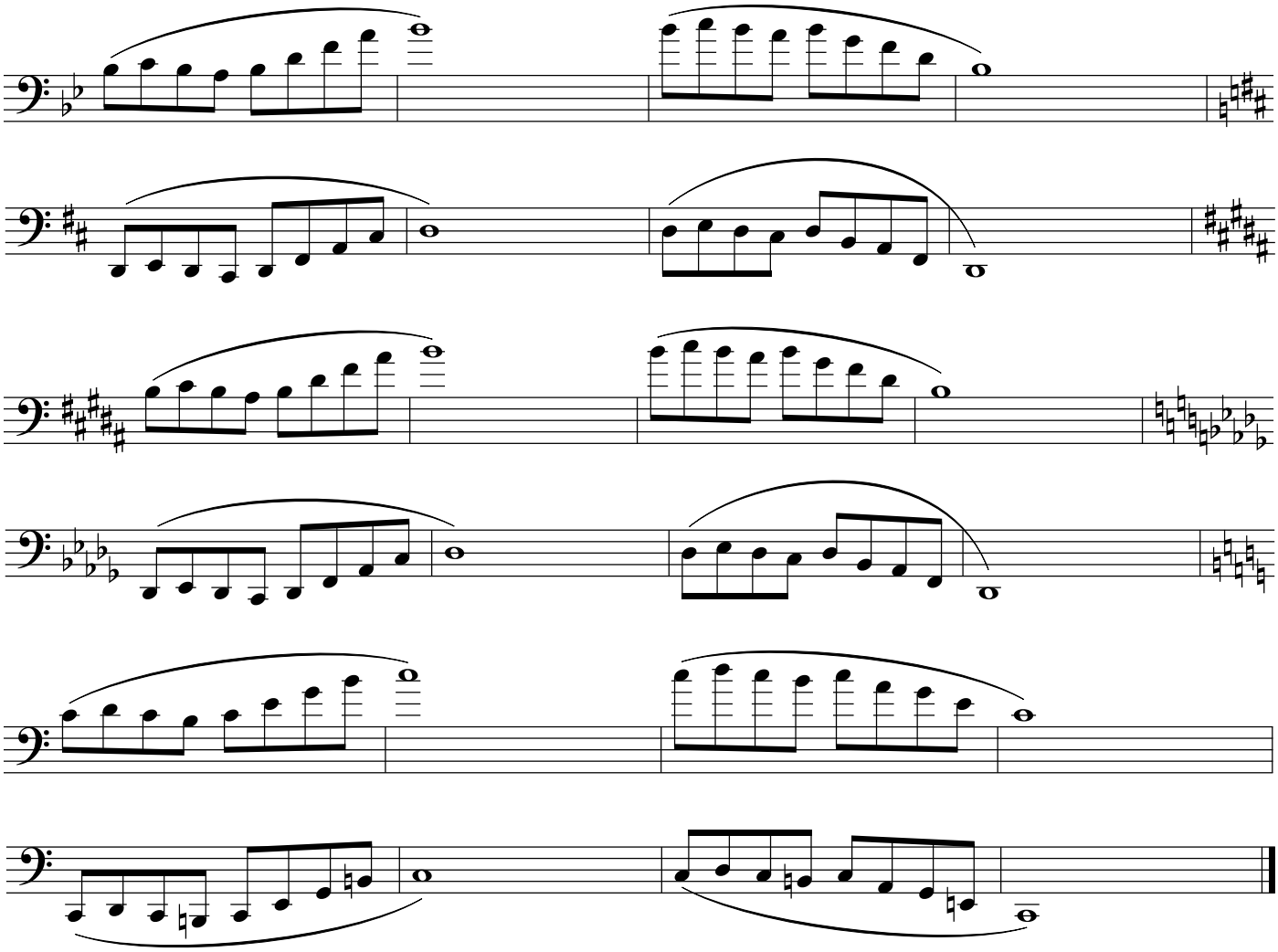
7. Bruckner Exercise



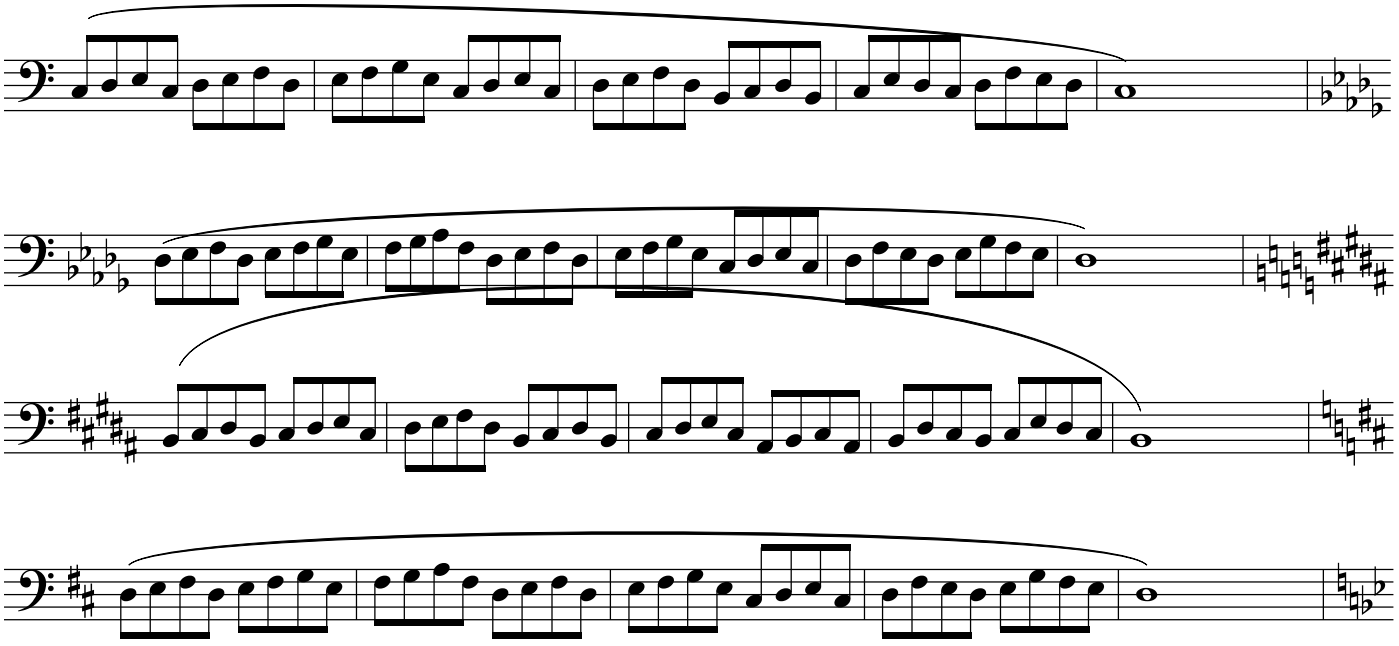
8. Beautiful Sound ♩= 72

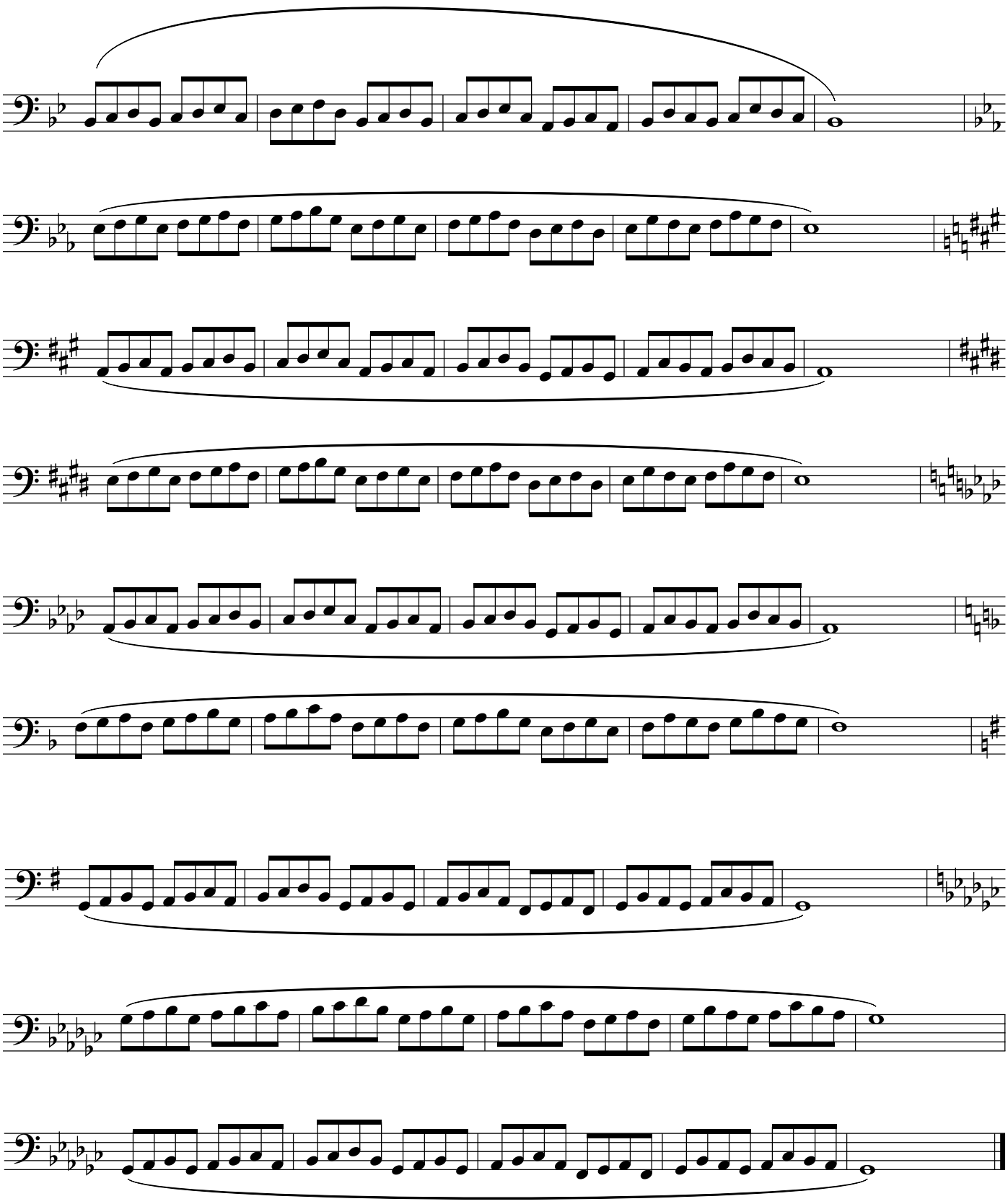




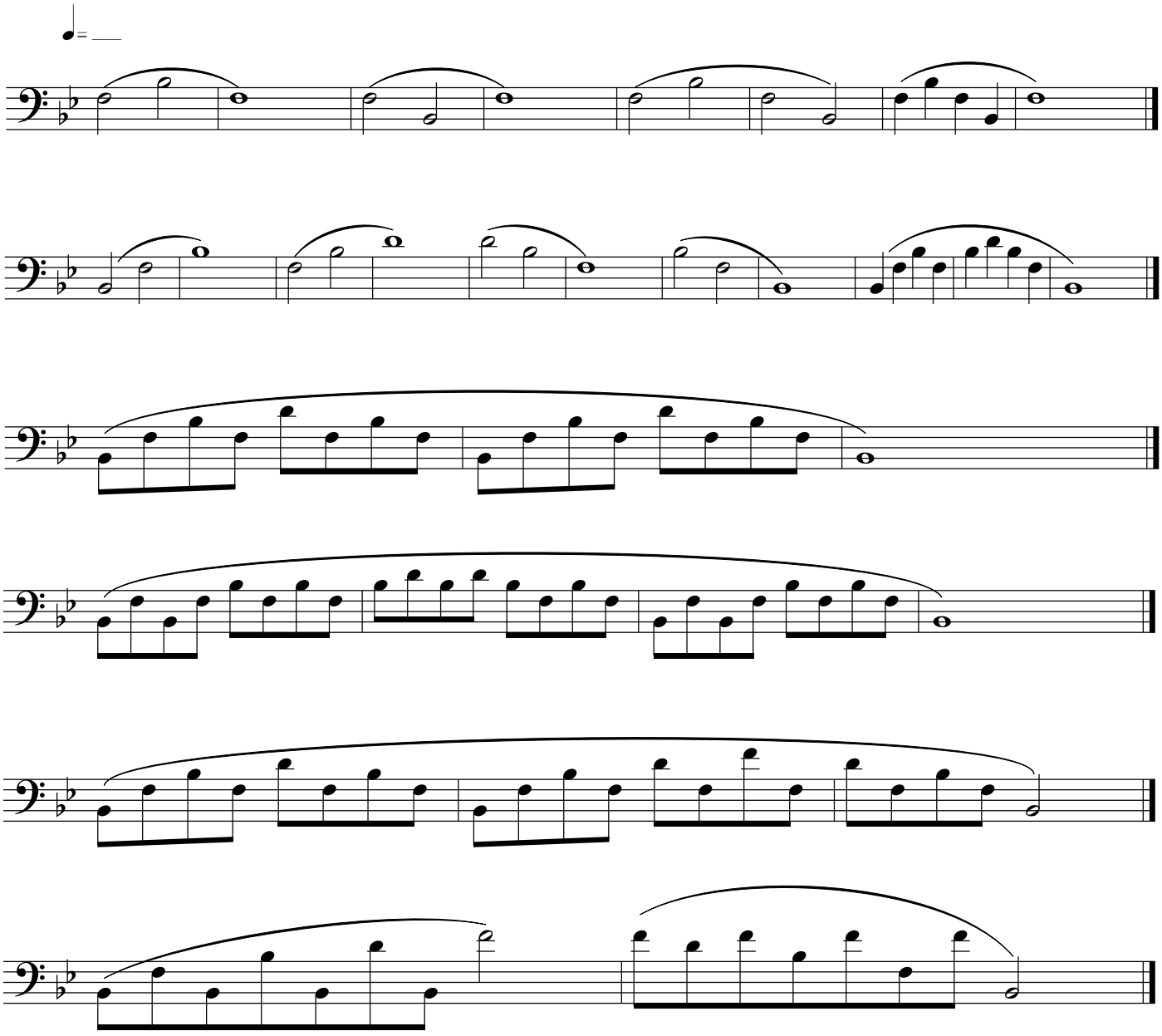


9. Finger Flexibilities ♩= ___





10. Lip Flexibilites - Play each line with as many valve combinations as possible

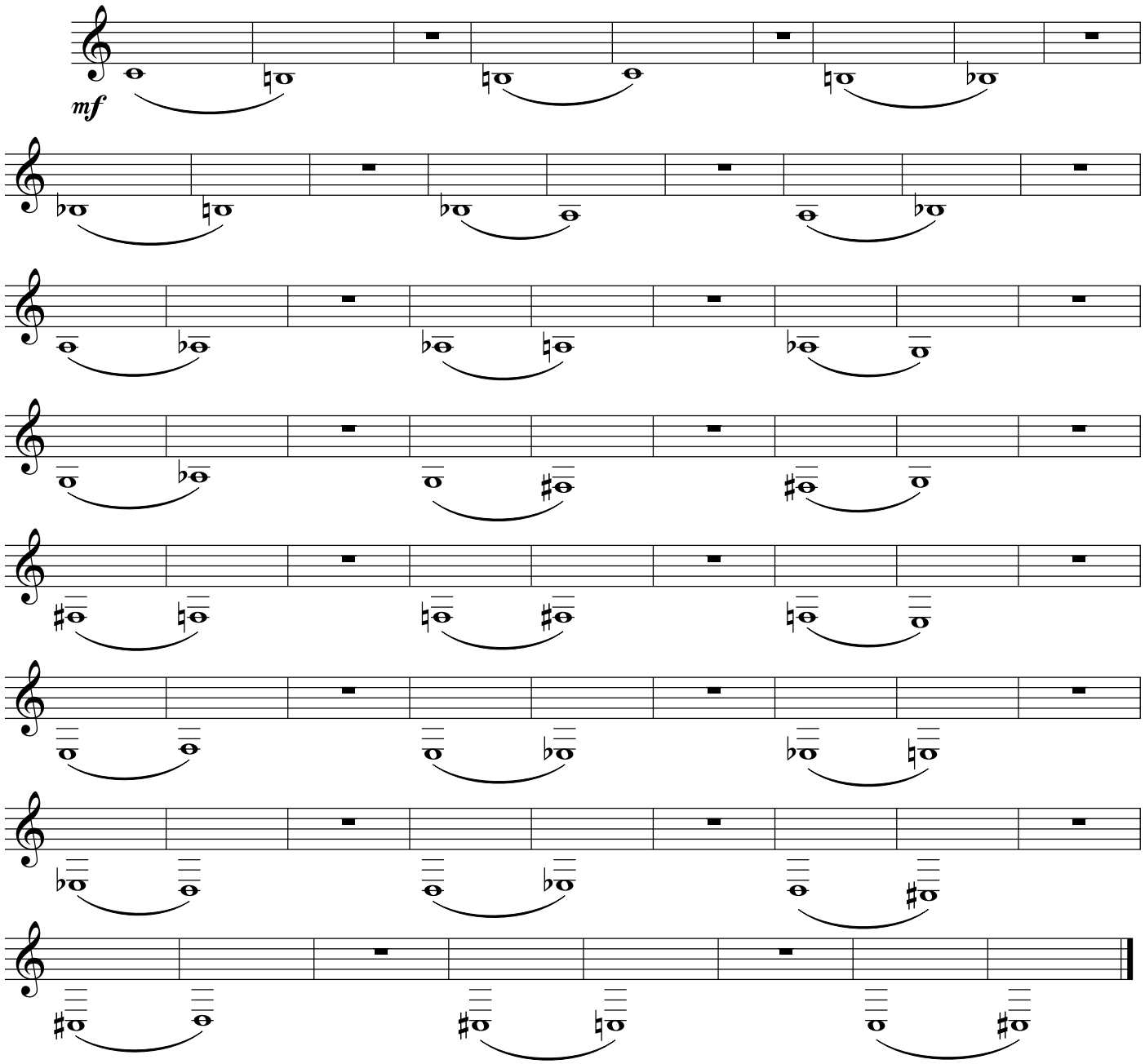


This warmup study comprises excerpts from Ted Cox, Don Little, and Sam Pilafian.
Flexibility studies can be found in "Lip Flexibilities" by Bai Lin.

Warmup and Daily Routine for Euphonium T.C.

Compiled by Jeff Baker (2004)

1. Relaxed, not forced ♩= 60



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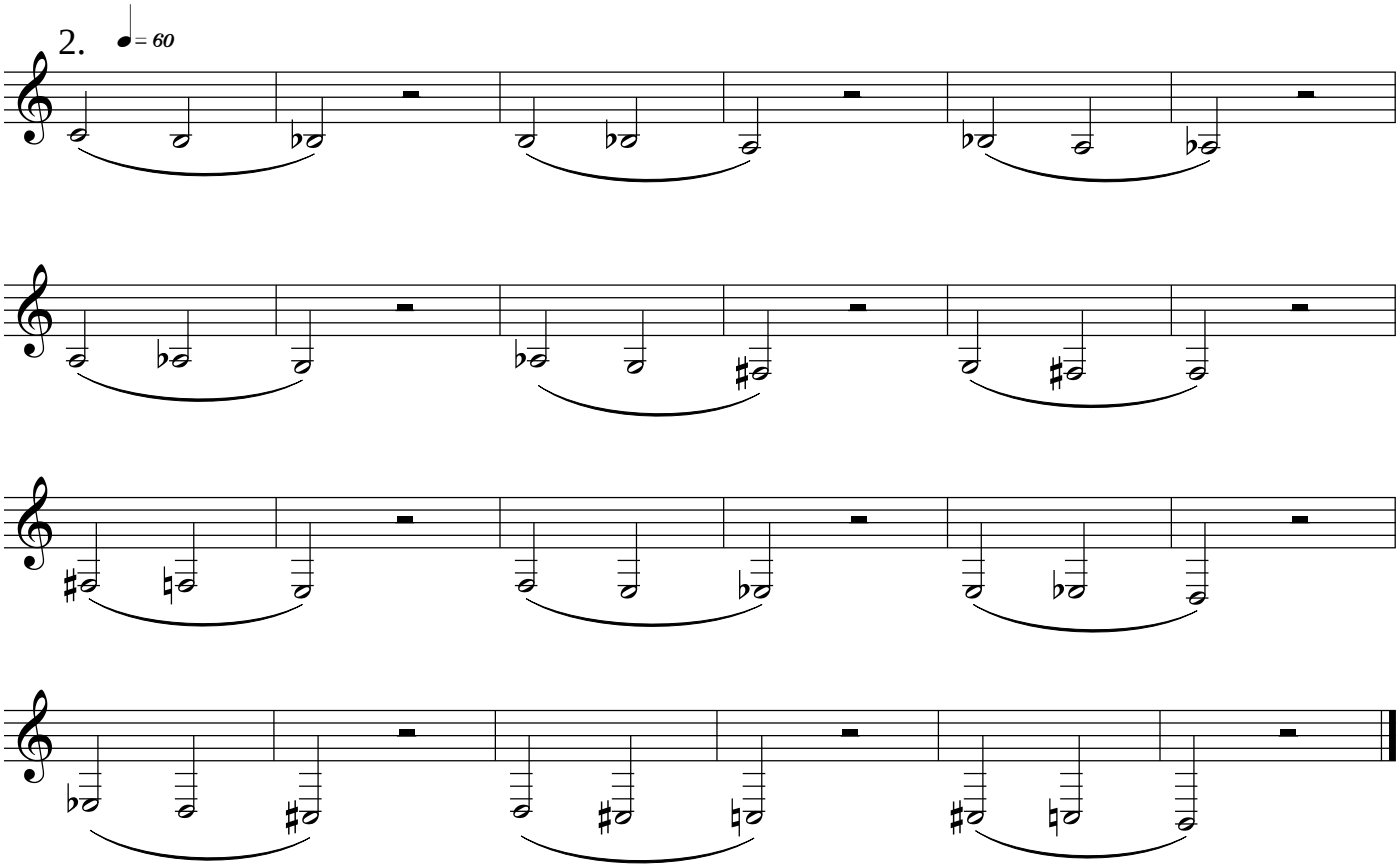
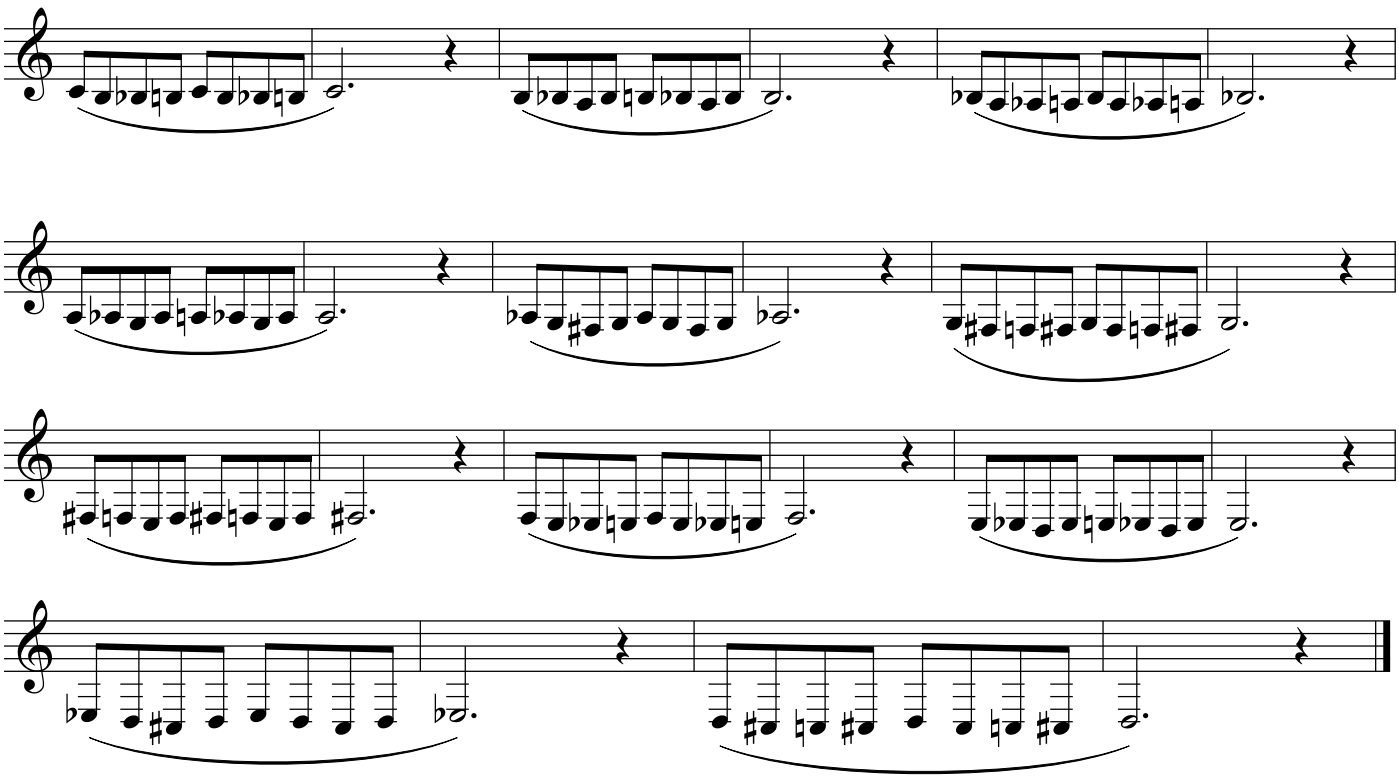
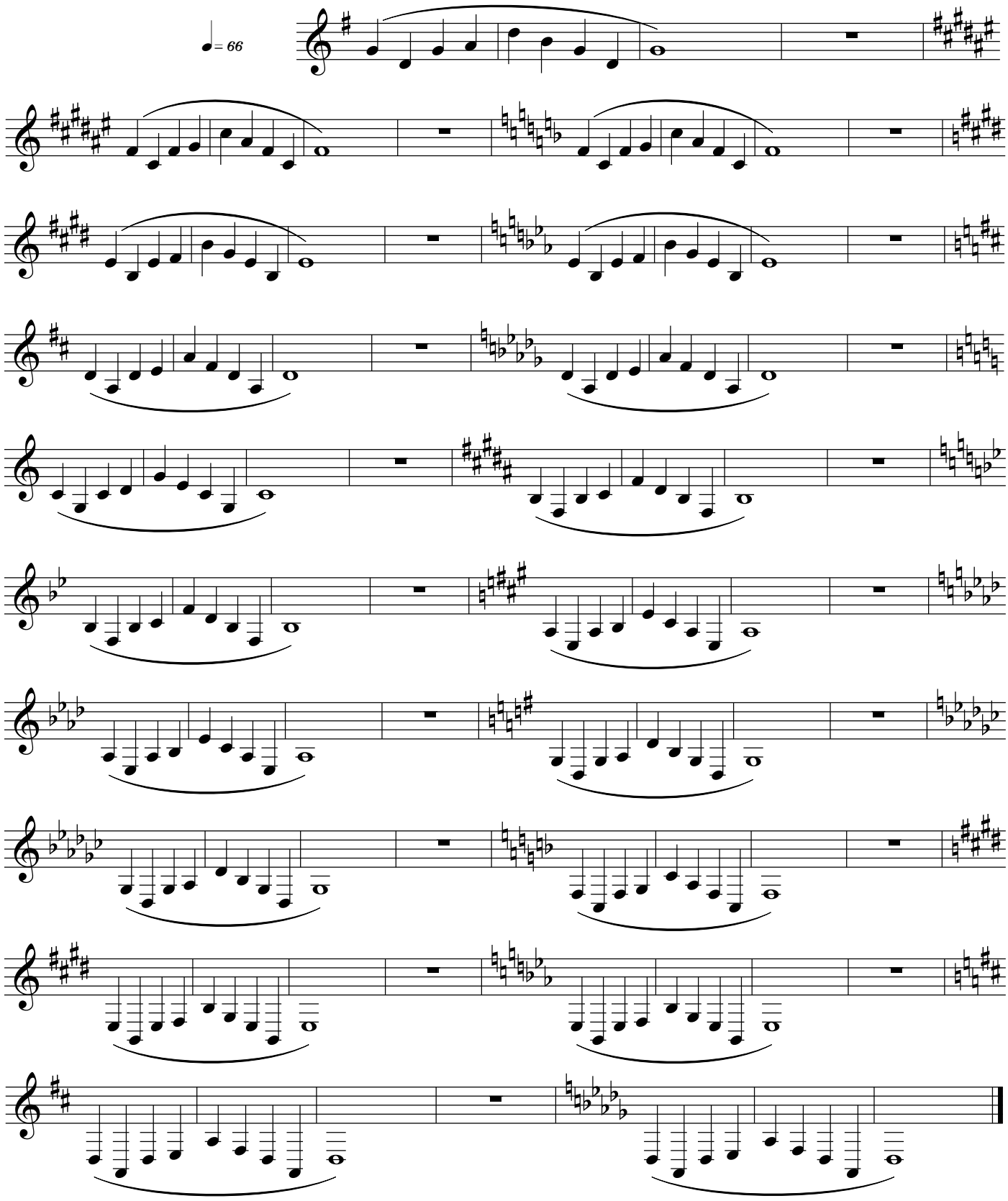


3. ♩ = 72



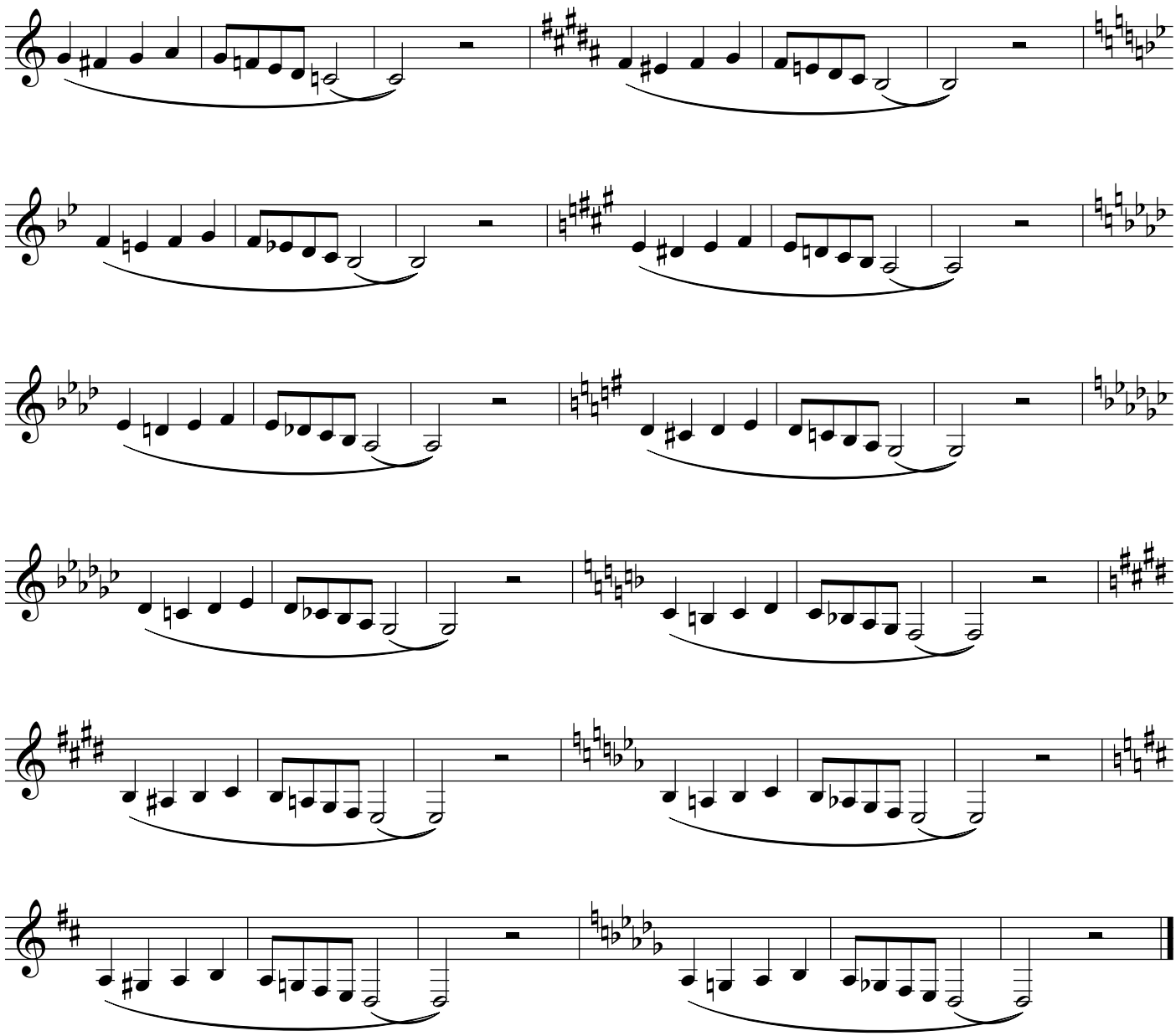
Continue as low as possible. . .

4. Smooth connections, no bumps in the sound



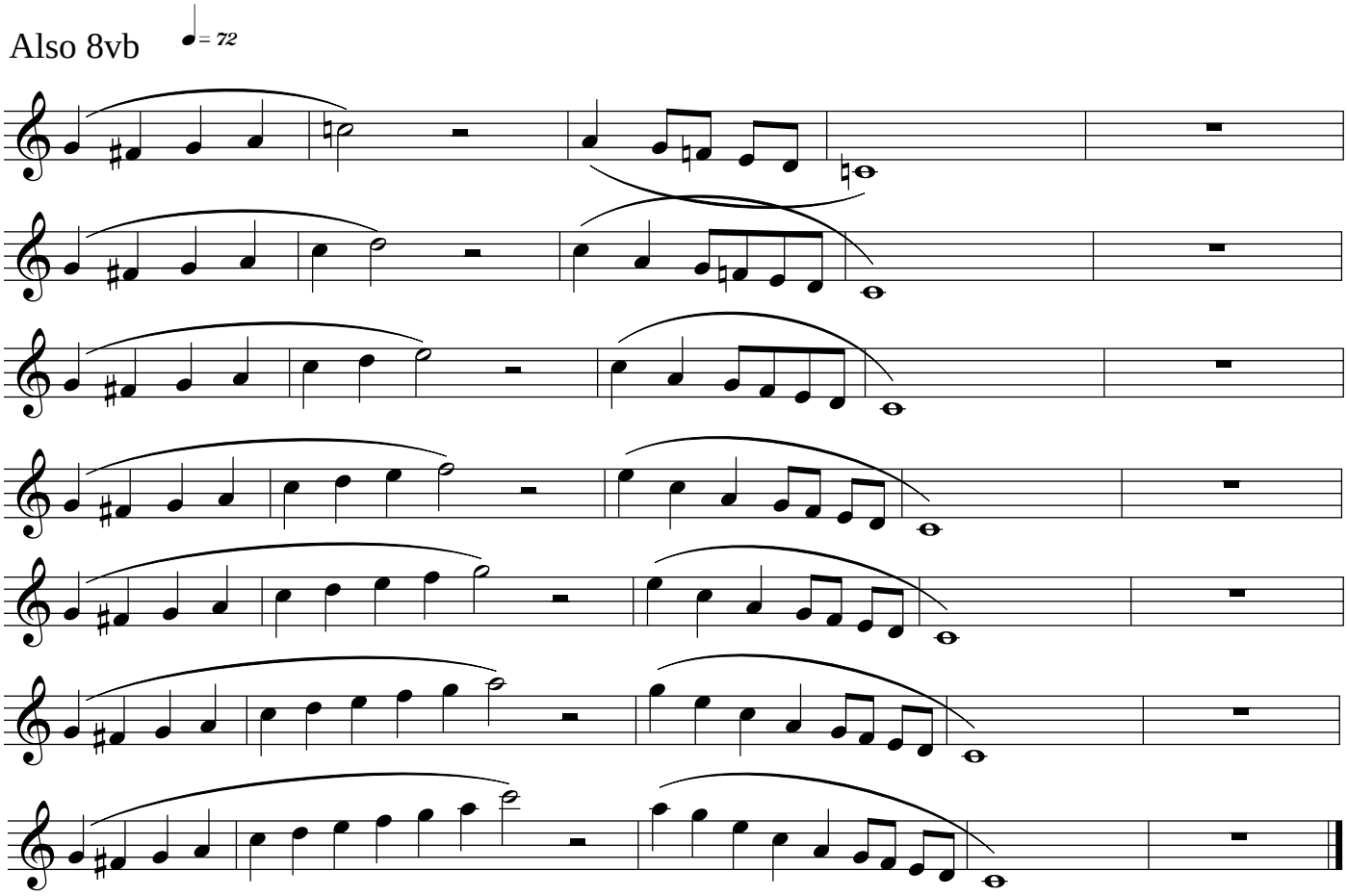
Continue as low as possible. . .

5. Cichowicz Routine ♩= 72

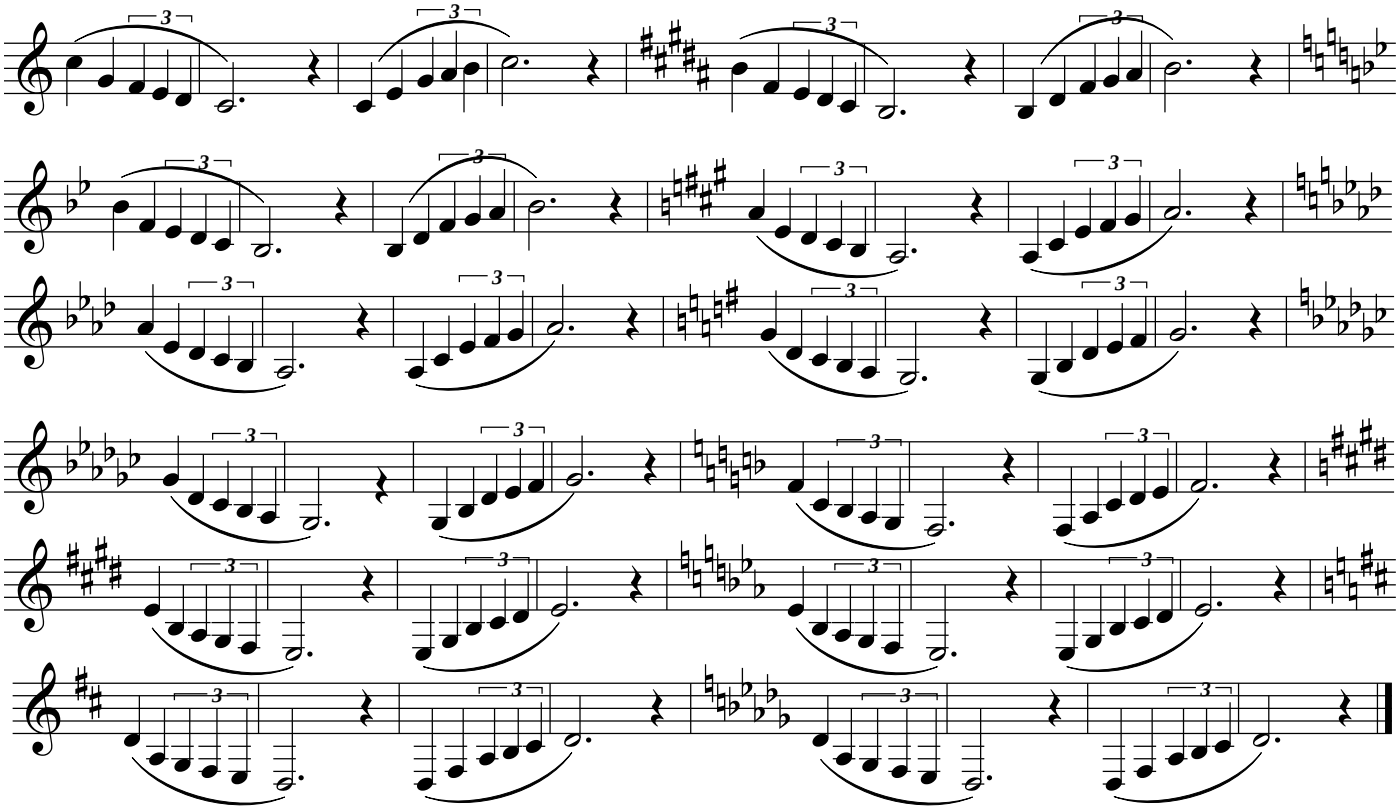


Continue as low as possible. . .

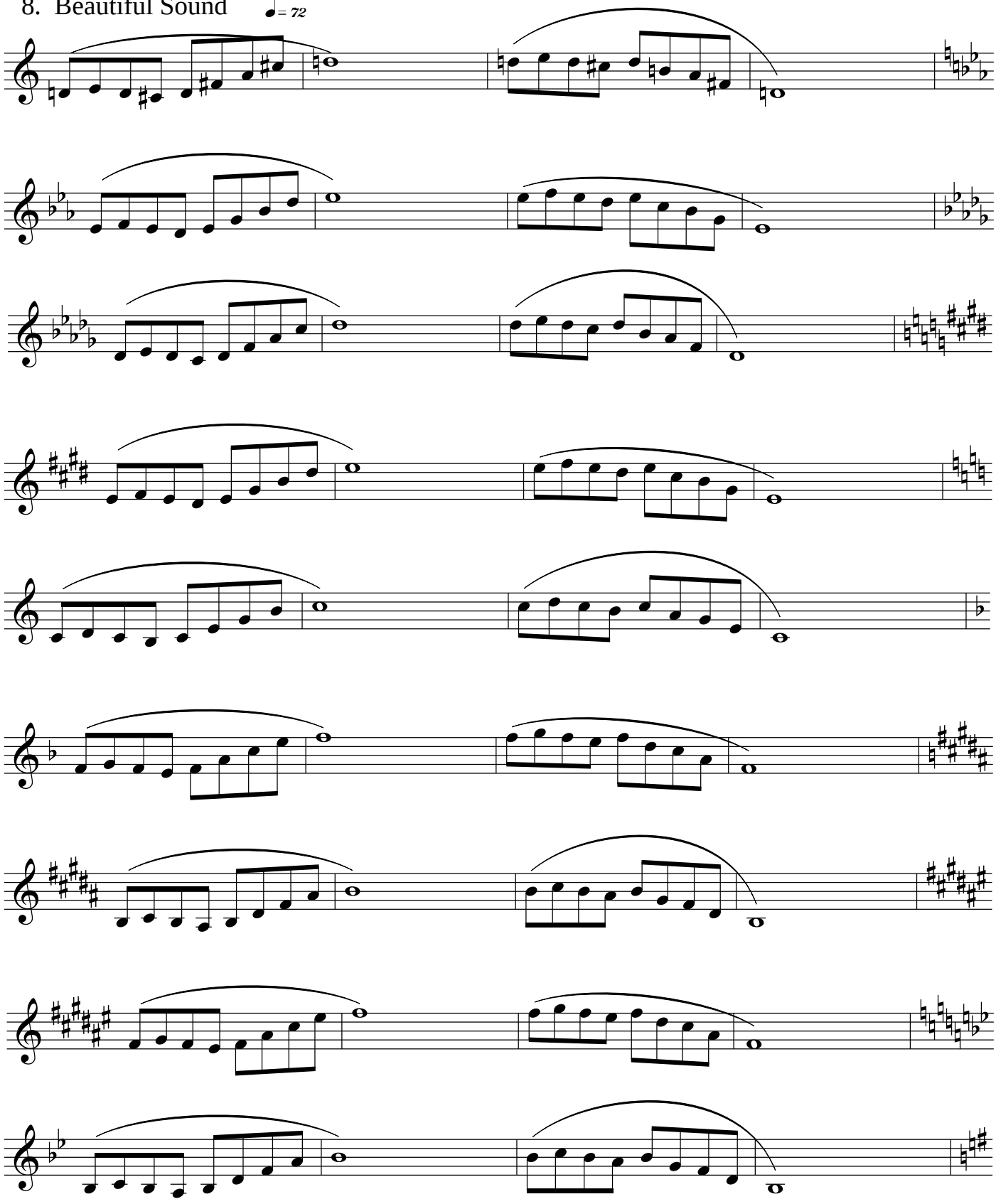
6. Also 8vb

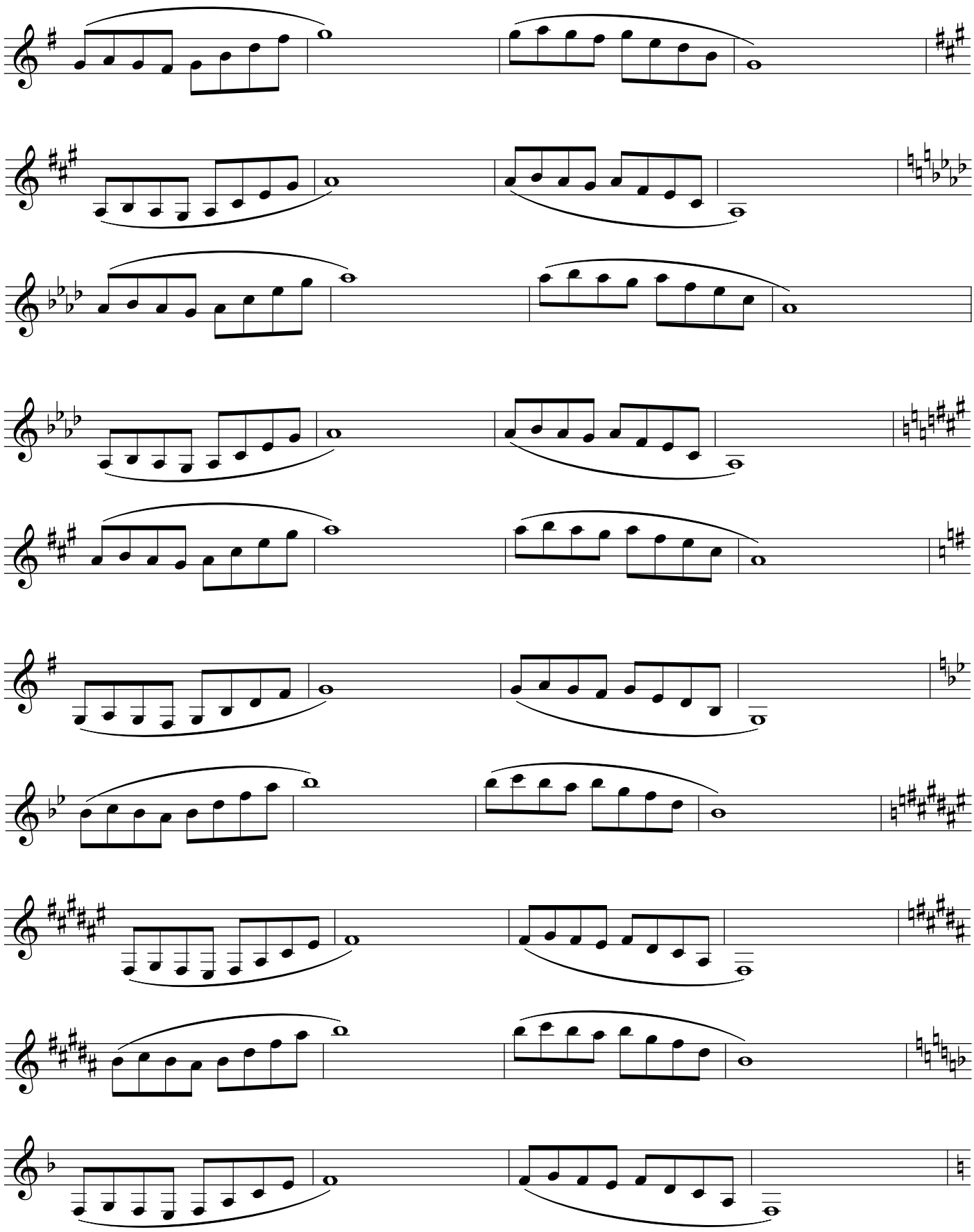


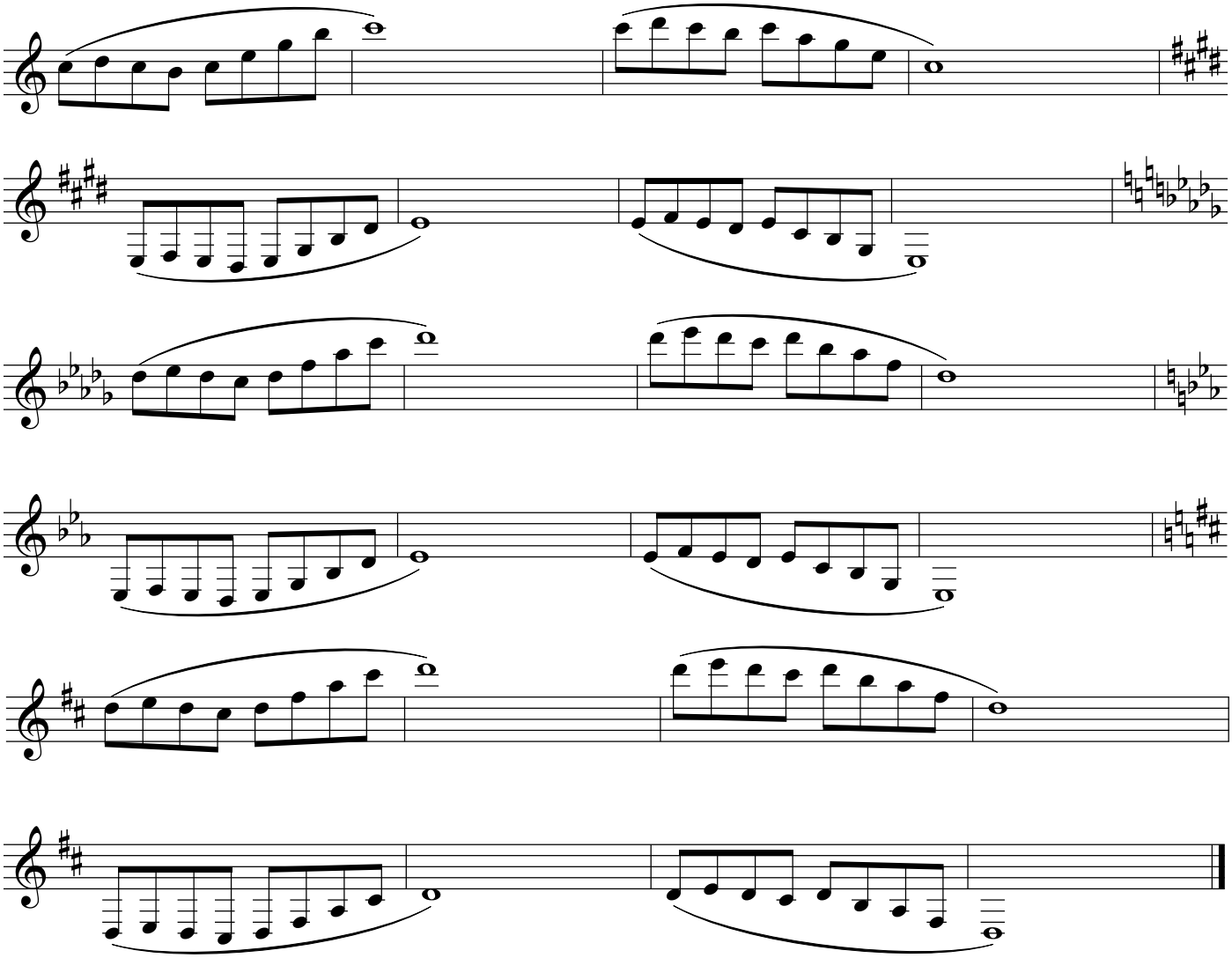
7. Bruckner Exercise



8. Beautiful Sound ♩= 72







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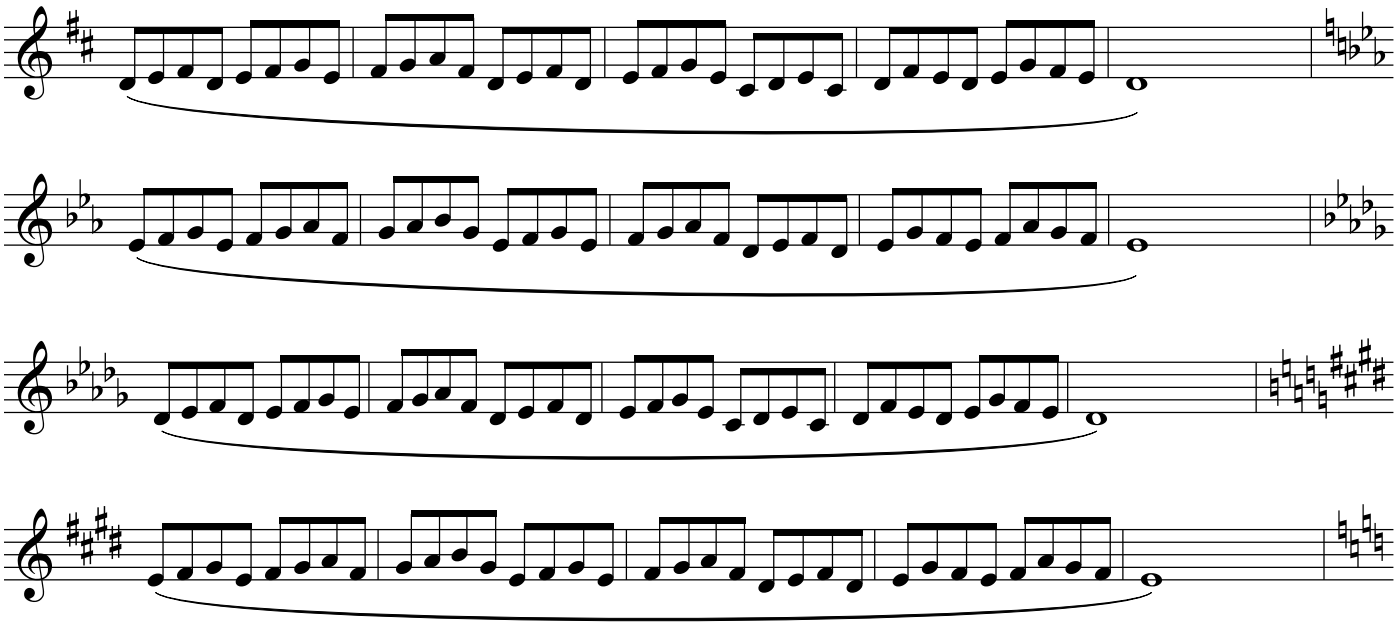

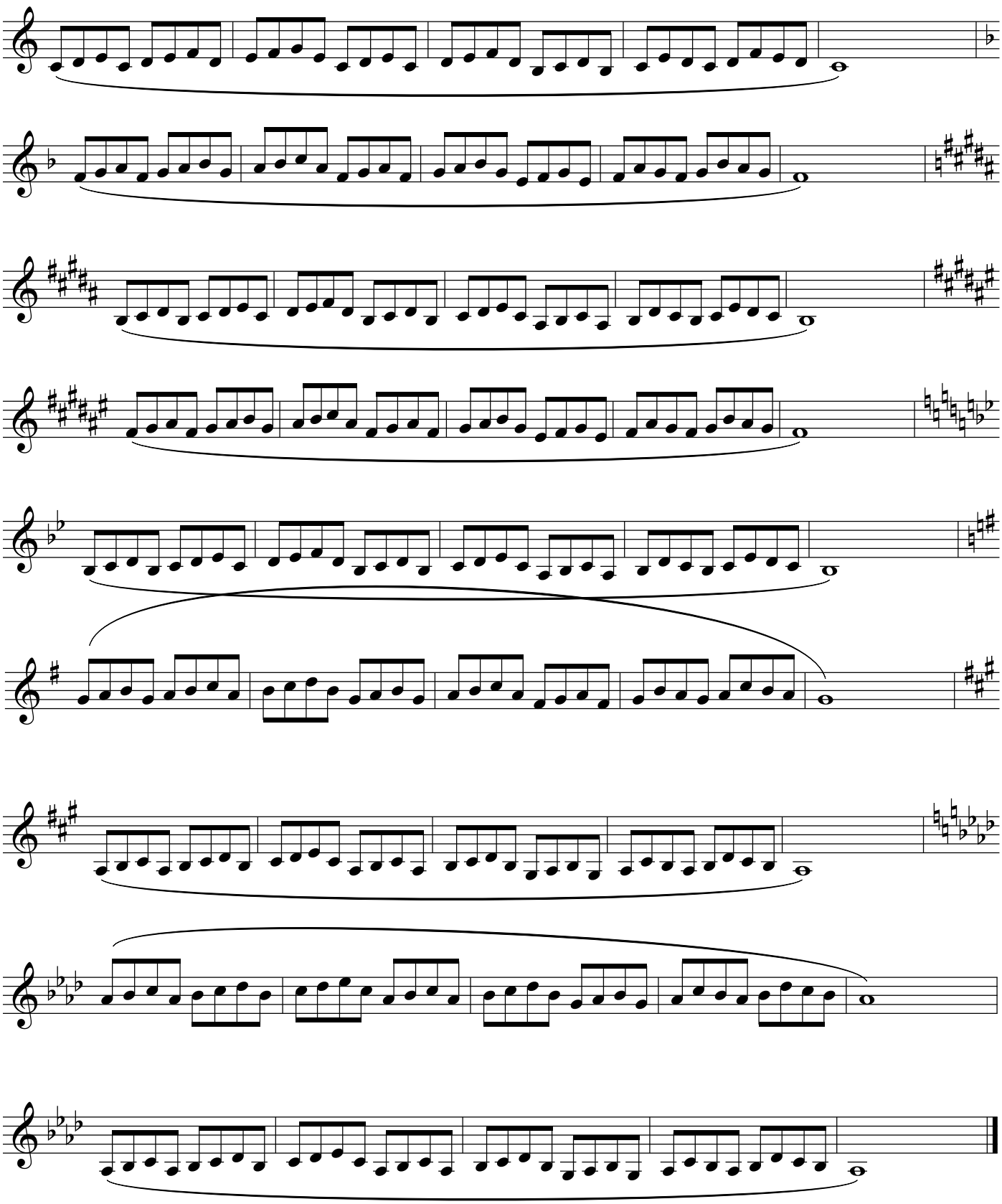

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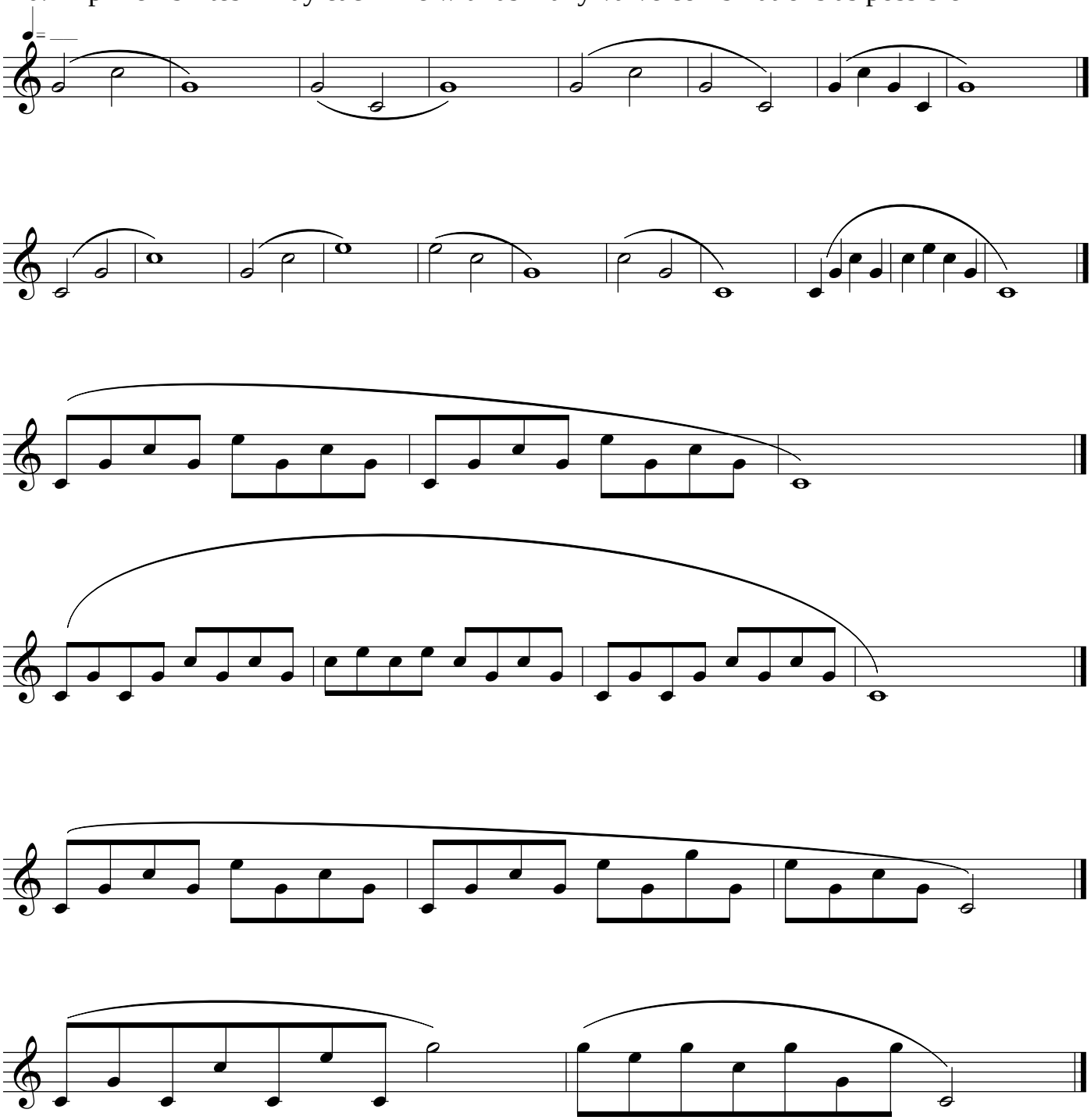

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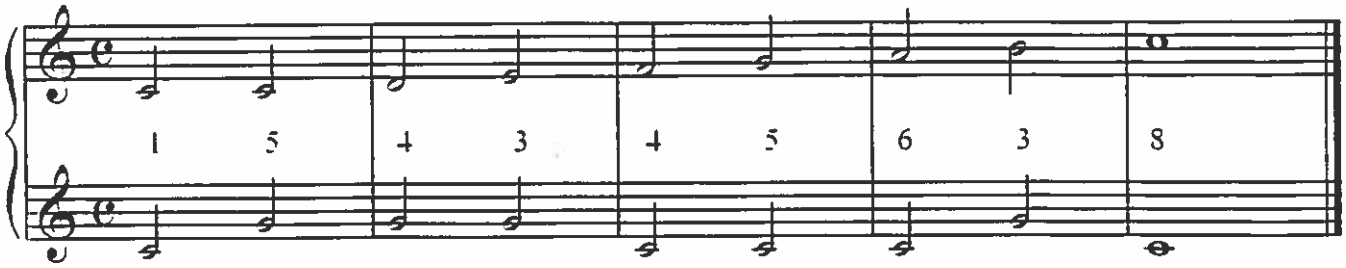
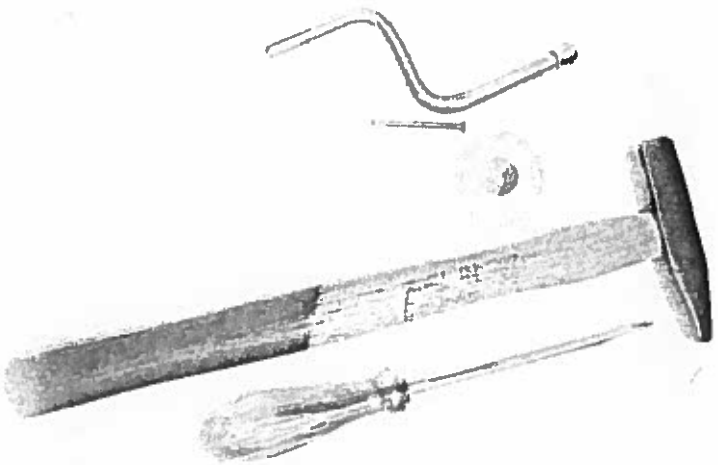
Tuning Exercise

Morrow



take 0.04 millimeters off the entire surface. The trick is to accept a little grinding noise in the valve knowing that it will disappear within a few hours of playing.

If you feel yourself skillful enough, you may take out a valve, clean it, and reinsert it. For this you will need a small screwdriver, a light hammer, a nail with its point filed down or punch filed to fit the shape of the back post, a wooden cylinder approximately the diameter of the valve with a hole in it to seat the top bearing plate, and a crank lever.



Begin by taking off the top cap and unscrewing the screw on the back side. Then, using the filed nail or punch inserted into the screw hole, tap on it with a hammer until you knock out the rotor – it is helpful to have a towel on your lap or something under the valve when the top plate and rotor pop out. Then you use the crank to spin the rotor in its soupy casing while pressing lightly on the upper surface of the rotor with a cloth, wipe the rotor and casing clean with a cloth, and oil the valve before reinserting it. It is very important to carefully align the top bearing plate and knock it tight using the wooden cylinder. A top bearing plate that is not tight produces vertical play in the rotor and may bind on the bearing, causing it to not move..

If your horn's valves have been acid cleaned in the past and are loose in their casing, it is possible to slightly enlarge the rotors by galvanization or plating, but this will normally only help slightly. To replace the entire valve section is possible but expensive and often changes the instrument.

I advise all horn players to not simply trust a repairman to clean your valves. Ask about the cleaning method to be used and never allow your horn to be submitted to an acid cleaning. It pains my soul to see horn players labor away with inefficient, leaking valves simply because they paid for an inexpensive repair.

After playing with the Berlin Radio Symphony Orchestra and the Berlin Philharmonic, Engelbert Schmid was solo horn of the Munich Radio Orchestra for ten years. In 1980 he exhibited his first horns. This article is taken form "Repair and Maintenance of Your Horn for Horn Players" on Schmid's HornForum.

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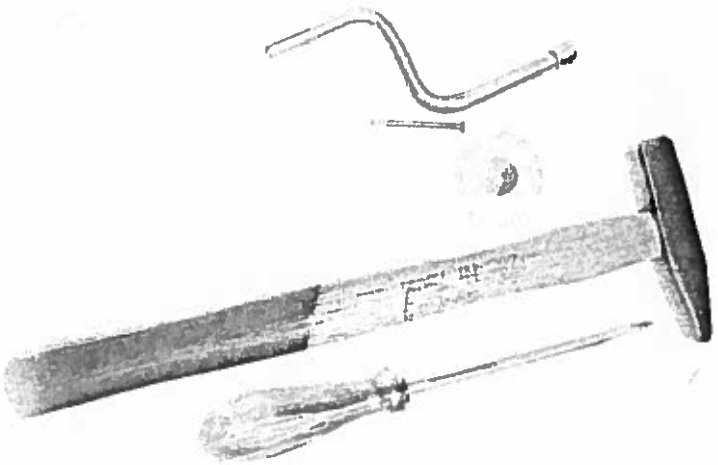

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Valve Maintenance

by Engelbert Schmid

Why this Article?

As a conscientious horn maker, I want the buyer to enjoy his investment for a very long period. The life span of one of my horns should be almost unlimited, and all horns should last a long time with the right maintenance. Unfortunately, I believe there are many repairmen who should probably be called "destroymen" because they are unaware of the correct method of maintaining valves. They have never machined a valve – never had to fight for every hundredth of a millimeter.

The Principle of the Valve

The valve has to be airtight in wet conditions and at a *fortissimo* volume. The tolerance between the rotor and the casing must within 0.05 (ideal) to 0.08 millimeter. New valves of any horn are so tight that the instrument provides a good *ff*. During the first six months, the valves get even tighter because of the natural oxidation and lime deposit that occurs. This is the reason that horns improve after a certain amount of blowing time. Because the valve bearings (the points at the top and bottom of the valve which we oil) need to have less tolerance, the tighter the better – a tolerance of 0.02 millimeter at the bearings is ideal. Of course, if the valve is not oiled regularly, the moisture in the horn will condense and with it lime deposit will grow until the valve sticks.

The valve should be swimming in moisture from condensation and thin valve oil. The bearings require a medium-thin oil that does not evaporate too quickly. Most of the problems with sticking valves result from a lack of oil on the bearings, which allows the penetration of lime deposit on the bearings (the calcium in the lime deposit is not a good lubricant) or from bearings with too much tolerance so that the usually calcium-covered rotor touches the casing, which is also covered with lime deposit.

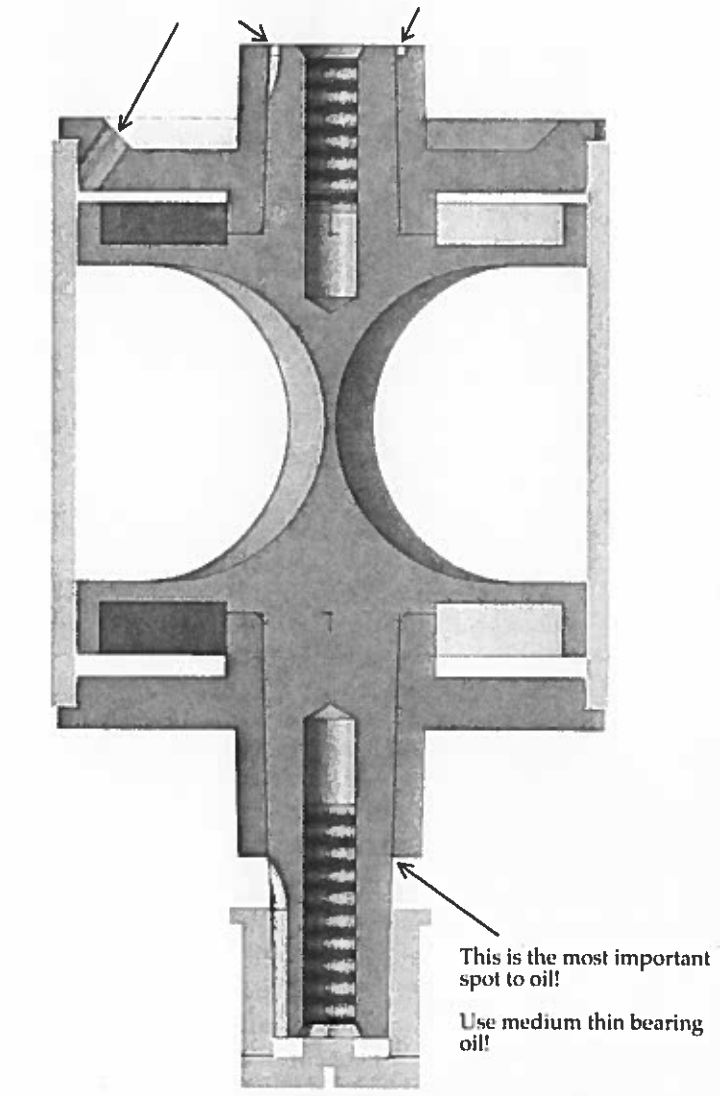
How to Treat Valves to Guarantee Reliability and Prevent Deterioration.

Bearing oil on the bearings (top and bottom) prevents wear and contributes a lot to the reliability of the valves. Oil once a month and in hot weather every two weeks. Half a drop, applied with needled bottle, exactly into the small gap between the stopper and bearing on the back side of the valve is very important. Take care not to get oil on the silicone or rubber bumpers – they will gradually deteriorate and may even pop out of the holder. Add another half drop under the valve cap on the top bearing in the center of the bearing plate. Some valves have an extra hole to facilitate oiling the rotor directly.

Two methods of oiling

• Oiling only the bearings and not the inside. This is the common German method, which works well, but one needs to develop a sense for the correct dose. If you oil the bearing too little, the calcium in the condensation water will grow into the bearing. If you oil too much, the bearing oil will enter into the rotor area and slow the valves. Again, a half or small drop once a month or more often in hot weather will work. The advantage of this oiling method is that the lime deposit will gradually make the valves tighter.

• Oiling inside and outside. This is the common method in the US. Its advantage is that one may use too much oil on the bearings, which is then diluted by using thinner oil inside the casing. Spreading oil in the horn decelerates the red rot on yellow brass horns (the red spots under the lacquer). The disadvantage of this method is that oil is constantly on the rotor so that almost no lime deposit can build and tighten up the valve.



Working with Your Repairman

Unfortunately, many brass players and repairmen seek only a smooth and quiet valve and are often quick to use an acid bath to achieve that goal. This might work well once or twice, but no acid only attacks the lime deposit and does not take some of the casing and rotor metal with it. Remember that taking 0.01 millimeter of deposit off one part of the valve is to