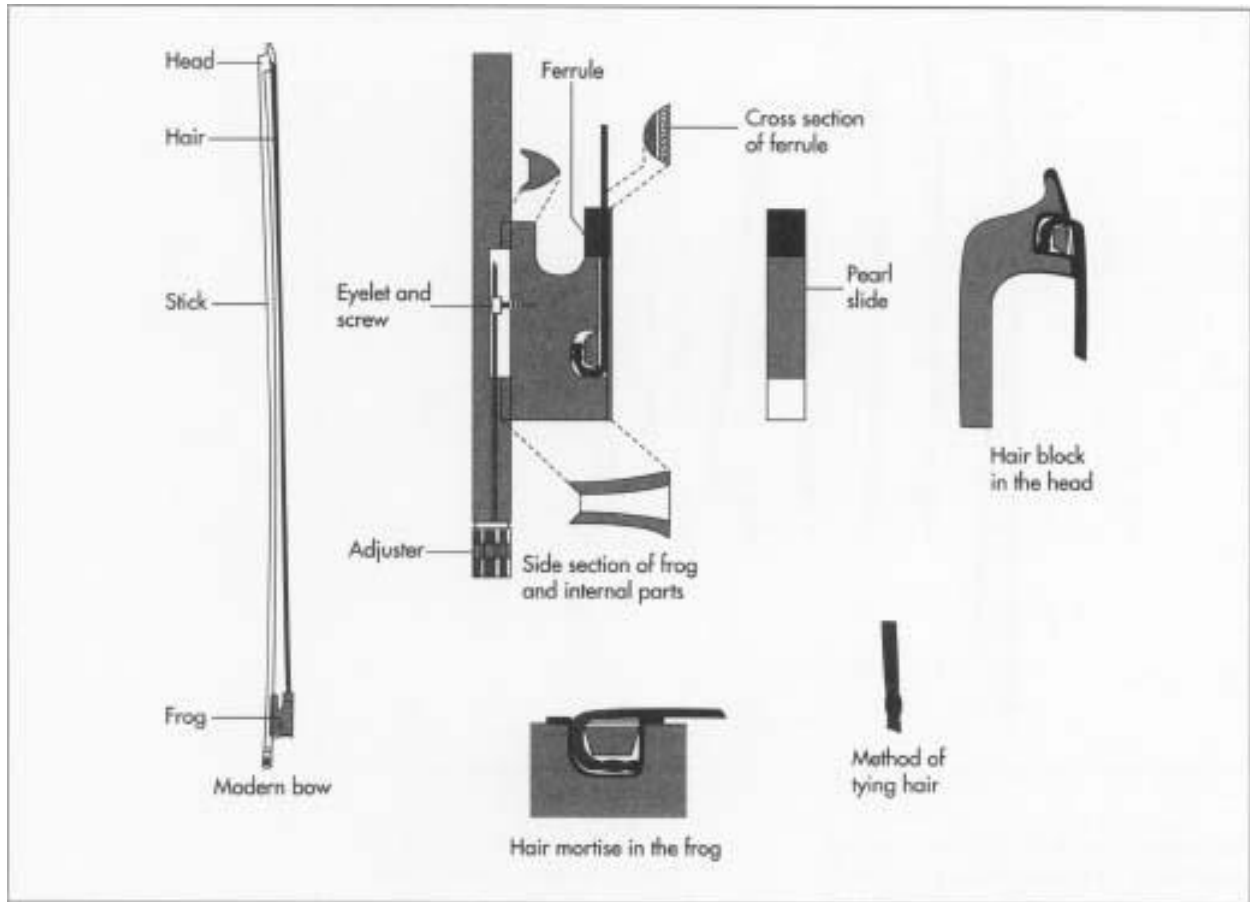


TEACHING RIGHT-HAND TECHNIQUES & TEACHING MUSICAL EXPRESSION AND ARTISTIC REALIZATION



“To understand the functioning of the bow, one has to realize from the very onset that the whole right arm technique is based on a system of springs”.

Ivan Galamian (1903-1981)

All content in this manual is copyrighted. Please direct any questions to Dr. Dijana Ihas
dihhas@pacificu.edu

TEACHING RIGHT-HAND TECHNIQUE

Right-hand techniques encompass all the techniques taught to students once a proper bow hold is established. In Western Europe, the United States, and Canada, a proper bow hold is rooted in the principles of the Franco-Belgian violin school. It involves holding the bow between the bent thumb and middle finger, with the ring finger supporting the hold and aiding bow movement between the bridge and fingerboard—often referred to as the "spiritual guide." The index finger controls bow pressure and counterbalances the pinkie, which in turn counterbalances the index finger's pressure. This dynamic interaction is sometimes described as "pull on a downbow & push on the upbow" (*tirez & poussez* in French), where the index finger pulls the bow and the pinkie pushes it.

Developing a wide range of right-hand techniques for artistic playing takes years to fully mature. Therefore, it is crucial to introduce the foundational elements of these techniques—including advanced bow strokes and principles of tone production—from the very beginning of instruction. To succeed in this complex and long-term endeavor, continuous refinement of "healthy foundations" is essential, while teaching right-hand techniques using a "spiral curriculum" approach. In this approach, techniques are introduced in simplified forms initially and revisited multiple times over months and years, gradually increasing in complexity and sophistication.

This teaching manual includes explanations and exercises intended to teach a variety of right-hand techniques, drawing from a wide range of historical and modern teaching methods. These exercises are suitable for both individual lessons and group class settings.

What to teach?

- Use of the whole bow and drawing the bow straight
- Two basic bow strokes/styles
- Starting and ending the sound
- Playing “into the string”
- String crossing
- Bow divisions
- Bow changes
- Bow strokes/styles
- Double-stops and chords as related to the right-hand
- Principles of tone production

Objectives

- Establishing and maintaining proper bow hold, based on the principles of Franco-Belgian violin school, is the key component of all right-left techniques.
- To get the feel for what Ivan Galamian called “system of springs” every part of the arm, hand, and fingers shall be flexible and coordinated. Practicing bow exercises makes arm, hand/wrist, and fingers stronger and more flexible.
- The ultimate goal of instruction as related to right hand at all levels of instruction is to help students to develop understanding of how beautiful sound sounds and what does it take to produce beautiful sound.

Nuances in the bow hold to consider:

Simon Fischer suggested that in order to have truly balanced bow hold it is important that the right thumb be positioned not in the center of the middle finger but more to the left edge of the middle finger. That is, more towards the ring finger.

Pedagogy for teaching the use of the whole bow and drawing the bow straight

Three ways to teach the use of the whole and straight bow: (a) “whole bow” approach (Bornoff), (b) “half bow” approach (Applebaum), and (c) “partial-to-whole bow” approach (Suzuki)

Sequence for teaching right-hand techniques in string classes and school orchestras classes:

- Teach the technique in the air or in some form of shadowing or miming
- Teach the technique on one open string
- Teach the technique on an open strings cycle
- Teach the technique on one-, then on two-octave scales
- Teach the technique on a short etude, or on Twinkle Song

Exercises for teaching arm movements that go into drawing whole & straight bow:

At the beginning level

“Open & Close” exercise for teaching movements that go into the use of the upper half of the bow (no instrument and now bow stage): (1) Lift right arm to pretended playing position on second string in “square like” formation. (2) Place left-hand pointer in inner part of elbow area. (3) While saying the chant (see below) move forearm from “square position” to “straight right-arm” position. (4) Make sure that the only part of the arm that is moving is right forearm. (5) Memorize the sensation of opening and closing forearm.

Open and Close

Open the gate in the morning, children are coming to play.

Close the gate in the morning children want to stay.

Open the gate in the evening children have to go.

Close the gate in the evening, that’s how we move our bow!

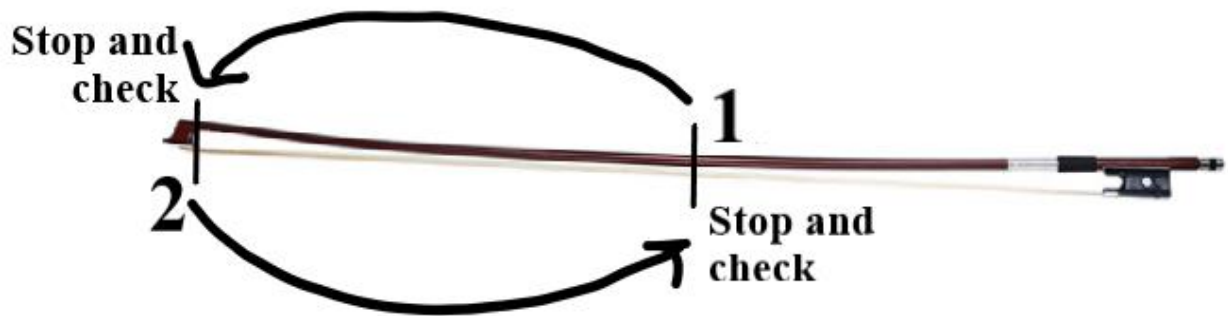
“Up Like a Rocket on Twinkle Tune” exercise (with the bow and instrument stage): (1) Move the bow above the left shoulder. (2) Start up bow and sing the song on Twinkle tune while making up- and down-bow movements above the shoulder.

Samuel Applebaum “Swinging” exercise for teaching movements that go into the use of the lower half of the bow (no instrument and now bow): (1) Lift right arm at pretended second string level high and bring hand above left shoulder blade. (2) Place left hand on right-elbow and “swing” it back and forth. (3) Push right elbow to left and memorize the feeling of “whole arm movement.”

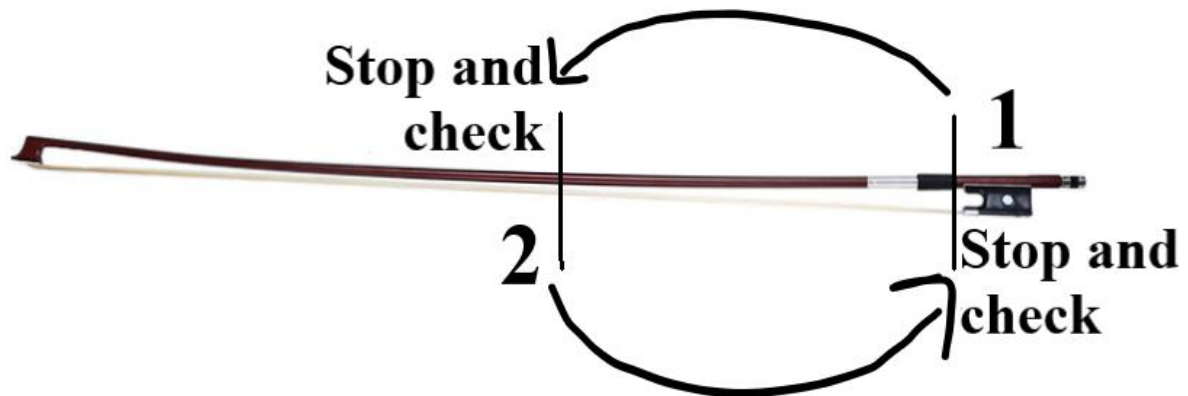
Paul Rolland *Moon-Landing* exercises for teaching movements that go into the use of the whole bow (silent bow movements): (1) Hold the bow with a regular bow hold. (2) Instrument in playing position. (3) Place the bow silently in the frog area. (4) Count “one” and lift the bow in arch like movement and at count of “two” land in the middle part of the bow. (5) Rest on count of “three” and lift the bow again in arch like shape and land in the tip at count of “four.” (6) Repeat starting up-bow.

- Practice this exercise in upper half of the bow, lower part of the bow, and whole bow. Maintain straight bow. Practice on each string four times.

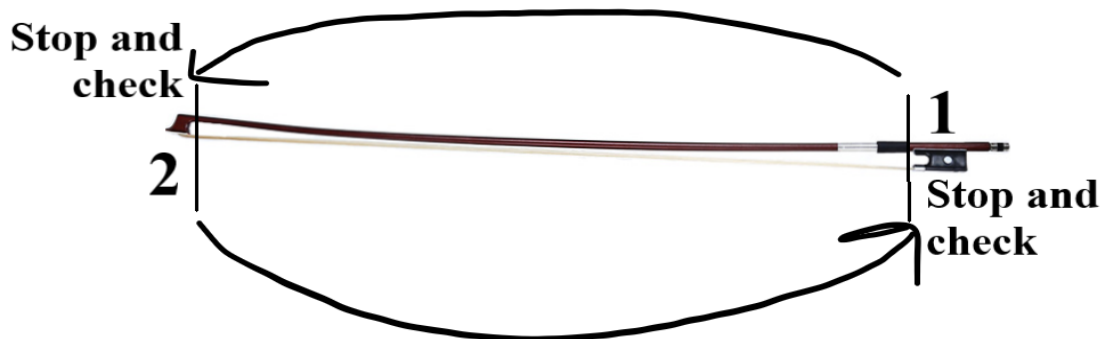
“Moon Landing” exercise in upper half of the bow:



“Moon Landing” exercise in lower half of the bow:

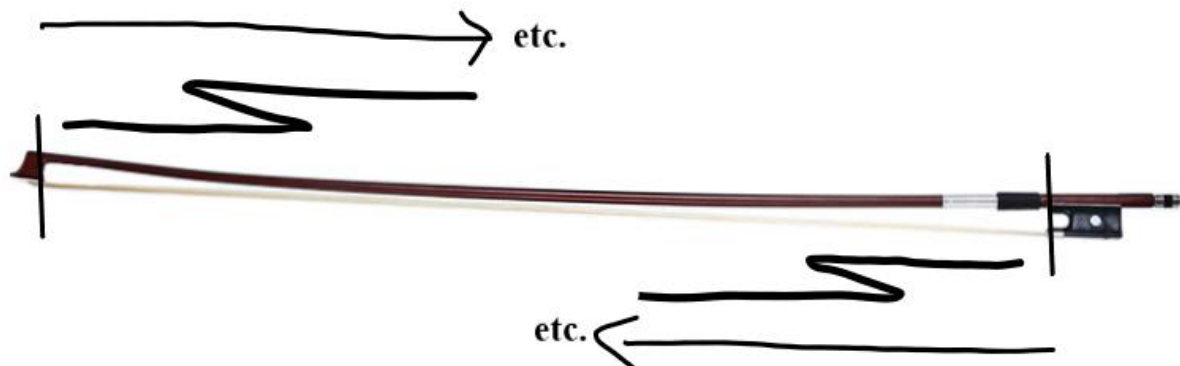


Moon Landing” exercise with whole bow:



At the intermediate level

Paul Rolland Wandering Bow exercise for using the whole bow: (1) Place the bow in the frog area. (2) Make several détaché bow strokes while traveling closer to the tip. (3) On each down bow use more bow than on up bow. (4) When “wandering” from tip to frog use more bow on up bows and less on down bows. (5) Practice on each string. (6) After mastering “wandering bow” on each string play Twinkle Var. A with “wandering bow.” This exercise is applicable to all bowed string instruments.



George Bornoff staccato sequence for use of the whole bow: (1) Start with dividing the bow in two equal parts. (2) Continue with dividing bow in three, four, six, eight, and 12 parts. (3) Maintain straight bow. This exercise is applicable to all bowed string instruments.

At the advanced level:

Ivan Galamian whole bow sequence: (1) Bow/bow arm placed in frog in “Triangle Position”. (2) Move the bow to the middle while using whole arm. (3) Bow stick and bow arm form “Square Position” when in the middle of the bow. (4) Extend the arm as approaching the tip in front of the body to reach “Straight Line” position in the tip. (5) When going from up bow to frog follow the same steps but in opposite order.

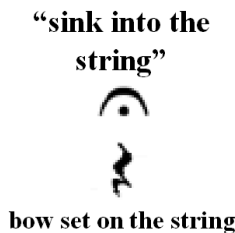
- For cellos and double bass: (1) From the frog to the middle move the whole arm. (2) From the middle to the tip extend the forearm. Observe that the bow remains parallel to the bridge

Karen Tuttle Coordination System exercise for the use of the whole bow and smooth bow changes: (1) Start in the frog. Finger knuckles flat. Move whole arm. (2) Around the balance point make “re-pull 1” movement. (3) In the middle of the bow start opening the forearm. (4) Around upper balance point, make “re-pull 2” movement. (4) In the tip extend the forearm while “also releasing the neck”. (5) When going back still do “re-pulls”. (6) In the frog make “turn” This Coordination sequence feels/looks like horizontal number “8”. It also includes “Deeping with Knees” and breathing. Eventually this sequence is practiced in all parts of the bow.

Pedagogy for teaching two basic bow strokes

Détaché bowing: French for “detached.” Contrary to the meaning of the word, détaché is the bow stroke in which each note gets to be played on one bow direction. There are many types of détaché bow stroke. They differ by the degree of connectedness between the notes. For example, *German* or *Singing Détaché* is much more connected than tenuto détaché in which bow directions are slightly separated. In basic détaché students maintain constant pressure/weight. This is accomplished by teaching students to “catch the string” or to “sink into the string.” While maintaining “catch the string” contact between the bow hair and the string, student moves bow up and down.

Step # 1: “Sink’ into the string” (“catch the string”)



Step #2: “Addition”



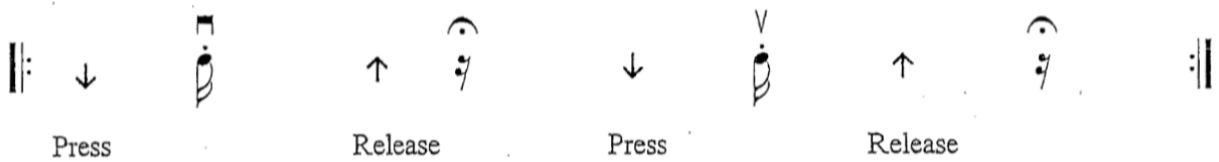
Step #3: “Singing Détaché”



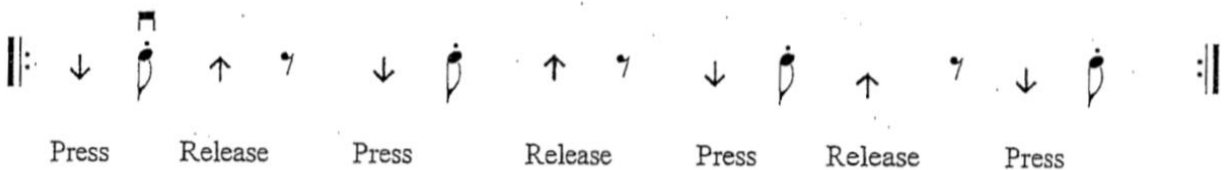
Martelé bowing: French for “hammer.” This is an on string accented, short, staccato bow stroke. To get an accent the pressure/weight is applied an instant before bow movement starts. The whole sequence involves “press-release-press.” Marked with the dot for “short” bow stroke sometimes with accents. Also, by word *marcato*.

Teaching the “Catching the String” component of the *martelé* (Fischer): (a) place the bow on the string in the middle part of the bow, (b) apply the pressure that will bring the bow stick in close contact to the string, (c) without making any sound, move string left and right, (d) practice “catch the string” in all parts of the bow.

Step #1:



Step #2:



Step #3:



Most pedagogues discussed four levels of right arm/elbow, one for each string. Simon Fischer proposed seven levels of right arm/elbow: one for each string and three for in between strings. Larger bowed string instruments—viola, cello, and double bass—require more attention to be given to the levels of elbow.

Pedagogy for teaching how to start the sound

Samuel Applebaum *Three Ways to Start the Sound*: (a) from the string softly, (b) from the string with an attack (like martelé start), and (c) from the above string with making a small circular motion and setting the bow on the string for soft start.

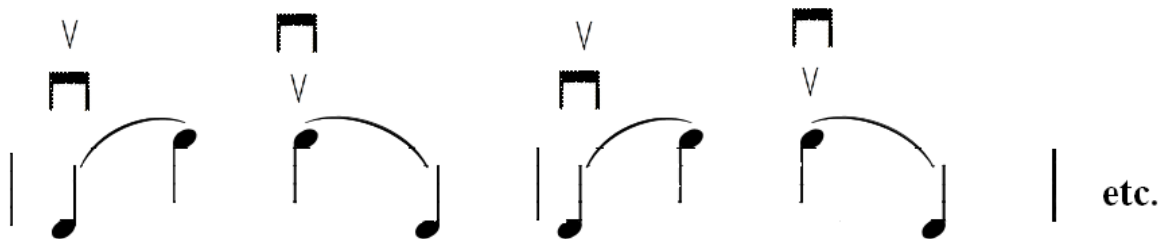
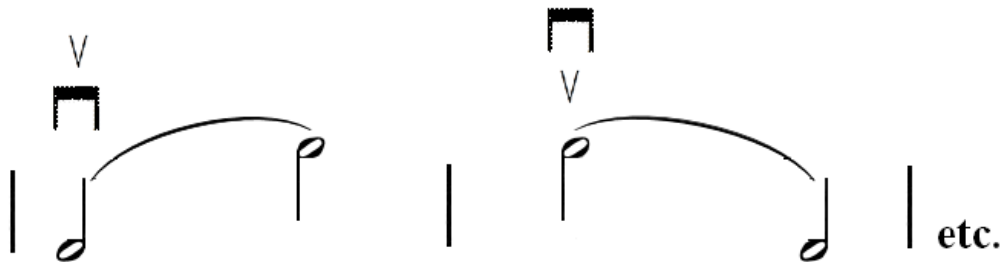
Ivan Galamian *Three Qualities of Starting the Sound*: (a) very smooth, vowel like, and not definite start, (b) clearly defined, consonant-like start, and (c) the accented attack start. Teachers should teach and students should practice various ways to start the sound on open strings, scales, etudes, and pieces.

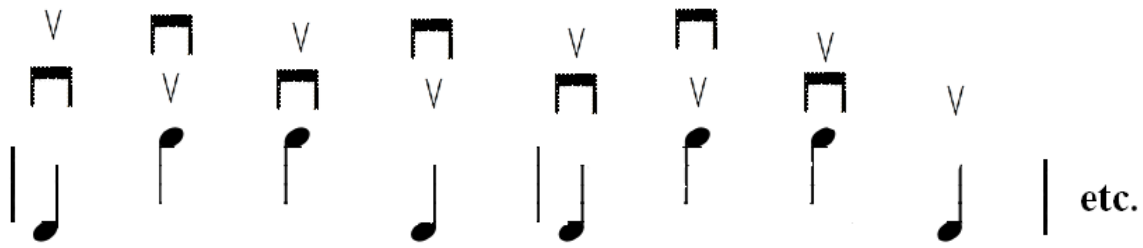
Pedagogy for teaching string crossing

Two types of string crossing: (a) large string crossing and (b) adjacent/small string crossing

Louis Kiezman exercise for the development of the smooth connection between the distant strings. Large string crossing rote exercise:

Easy and effective string crossing exercises for young players are the silent string crossing exercise by Paul Rolland. Place the bow in the middle part and silently “rock” between adjacent and distant strings.



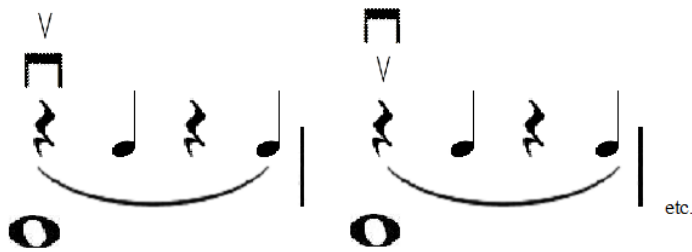


At first practice the above exercise on open strings.

Louis Kiezman exercise for development of the smooth connections between adjacent and close strings. Adjacent string crossing rote exercise:

- In this exercise the whole note should be played with full tone and should not be diminishing when playing quarter notes on upper string.
- At first practice on open strings. Practice starting down and up bow.

Adjacent strings string crossing exercise:



Important to explain to students:

- There are three qualities of string crossing technique: (a) the distance (small-medium-large), (b) speed (slow-medium-fast), and (c) character (smooth-edgy)
- When crossing to adjacent string (small string crossing) in fast tempo (like in *bariolage* bowing), right elbow should be at the in between two strings level.
- In small string crossing in slow tempo, right hand leads the movement with a minimal involvement of the right wrist.
- In large string crossing, right elbow/arm leads the movement. It is important to “measure” how far right elbow needs to “travel” so not exaggerate the movement.
- Hold instrument still while crossing the strings.

Nuanced insight related to string crossing:

Simon Fischer offers exercise for development of the “Pivoting” component of the string crossing:

- Place the bow on the string in the middle part of the bow.
- Observe the contact point between the bow hair and the string
- Angle the bow hair and stick little more towards left (towards lower string) or right (towards upper string) while remaining on the same string and not touching other strings.
- Practicing these steps will develop the feel for “Pivoting” moment in string crossing.

Pedagogy for teaching how to play into the string (center and leverage balances)

Two exercises developed by **Samuel Applebaum** and designed to teach the contact between the string and the bow hair: (a) exercise for development of the center balance and (b) exercise for development of the leverage balance. Both exercises applicable when teaching strings in orchestra setting.

(a) Exercise for development of the *center balance*:

- Instrument in playing position
- Bow is held with the thumb and two middle fingers only and placed in lower middle part
- Students plays D major scale in two- or four-times repeated quarter notes, while holding the bow with only the thumb and the two middle fingers.
- Bow hair is flat.

(b) Exercise for development of the *leverage* balance:

- Instrument in playing position
- Bow is held with the thumb, index and pinkie only placed in lower middle part or in the middle of the bow
- Students plays D major scale with two- or four-times repeated quarter notes, while holding the bow with thumb, pinkie, index finger.
- Pinkie is placed on the side of the bow octagon that is closer to student’s palm.
- Bow hair is flat.

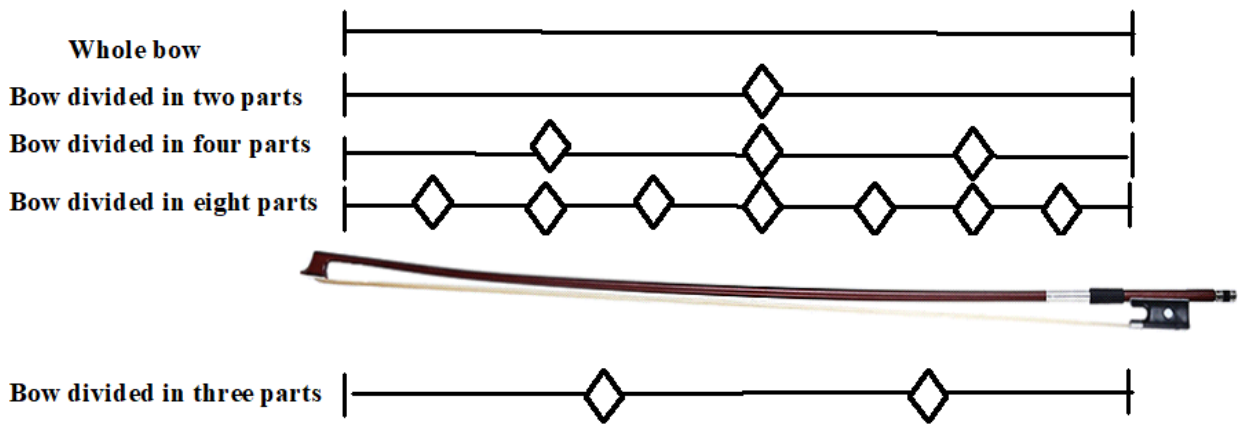




Pedagogy for teaching bow divisions

- “Five Bow Divisions” (Capet):
 - 1st Bow Division: *Whole Bow*
 - 2nd Bow Division: *Half Bow*
 - 3rd Bow Division: *Quarter Bow*
 - 4th Bow Division: *Eight Bow*
 - 5th Bow Division: *Third Bow*

“A well-controlled and logical division of the bow is of greatest importance. When it is absent, unwanted dynamics or undesired tone quality or both will be result.”
-Ivan Galamian



Helpful markings on the bow (two options): (a) stickers on the inside side of the bow or (b) full tape

Kató Havas offered an insightful way for determining where the middle of the bow is relative to the length of player’s arms: Place the bow on extended right arm. Bow frog is in the shoulder area. Where the bow stick meets the elbow crease, that is where the middle of the bow for that particular arm is.

Lucian Capet sequence for teaching bow divisions (applicable when teaching intermediate and advanced string students):

Three *pre-exercises* for teaching bow divisions:

Pre-exercise 1: Dividing the bow in two equal parts while using the whole bow:

Directions to students:

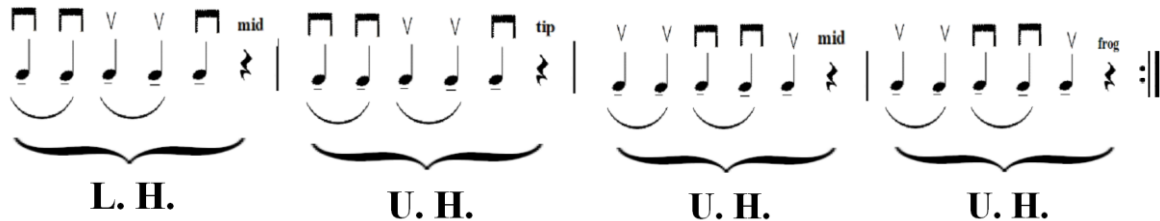
- Place the bow on D or A string in the frog part of the bow with arm in triangle position.
- Bow hair is slightly tilted towards student.
- Student plays indicated number of notes under the slur and in an indicated part of the bow.
- Notes are slightly separated from each other like in *portato* bowing.
- Maintain the bow parallel to the bridge.
- Should be practiced on all four strings.



When dividing the bow in two parts think about two sequential movements in right arm:

- In the lower half of the bow move the whole arm in “swing out and in” type of movement.
- In the upper half of the bow move only forearm in “open and close” type of movement.

Pre-exercise # 2: Dividing the bow in four equal parts while using either only upper half (U.H.) or lower half (L. H.) of the bow.



When dividing the bow in four parts think about four sequential movements in arm/hand:

- Measure 1: “turn-flat-flat-turn-reset to middle” (lower half)
- Measure 2: “flat-open-close-flat-reset to tip” (upper half)
- Measure 3: “close-flat-flat-open-reset to middle” (upper half)
- Measure 4: “flat-turn-turn-flat-reset to frog”

Pre-exercise # 3: Dividing the bow in eight equal parts while using either one of the two lower half bow quarters (lower quarter-L. Q. or lower middle quarter-L. M. Q.) or one of two upper half bow quarters (upper middle quarter U. M. Q. or upper quarter U. Q.).

L.Q. L.M.Q. U.M.Q. U.Q.

U.Q. U.M.Q. L.M.Q. L.Q.

Bow division exercise #1: Dividing the bow in two, four, and eight parts in succession

Directions to students:

- Place the bow on D or A string in frog part of the bow with arm in triangle position.
- Bow hair slightly tilted towards student.
- Plays indicated number of notes under the slur while dividing the bow in equal parts.
- Notes are slightly separated from each other like in *portato* bowing.
- Maintain the bow parallel to the bridge.
- Should be practiced on all four strings.

(after Capet & after Bornoff)

Bow division exercise #2: Dividing the bow in two and four parts with long bows

Pedagogy for teaching bow strokes

Bow strokes nomenclature (organization):

- **On string bow strokes:** détaché, martelé, piqué, staccato
- **Off string bow strokes:** spiccato, collé, *sautillé, ricochet*
- **Stylistic bow strokes:** Louré, Viotti, Classical bow strokes
- **Expressive bow strokes:** bariolage, sul ponticello, sulla tastiera, col legno battuto, tremolo
- **Pedagogical bow strokes:** Son filé, Collé
- **Right hand pizzicato:** five types of pizzicato

“The first thing we have to do is to teach player to think vocally while playing a melodic passage...after all principles of phrasing and interpretation are planned, science ends and art begins.” Samuel Applebaum)

Description and steps for teaching bow strokes:

On String Bow Strokes

- *Détaché* (French for “separate”)
 - Active and deeply “in string”, yet smooth bowing with concealed bow changes (usually in eight- or sixteen-notes values)
 - Three basic types of détaché bow stroke: simple détaché, “singing” or “German” détaché and *détaché porte* (tenuto détaché)
 - Considered to be the “bread and butter” of string playing
 - Can be played in any part of the bow, but most often played in upper middle for violin/viola and lower middle on cellos and double basses.
 - Involves forearm and wrist, with some finger action.
 - Introduce it on open strings, Twinkle (Var. D & E) and scales.
 - Image that works well with students: *Give the bow to the string!*
 - Symbolic representation: no special articulation markings for détaché; *détaché porte* and/or *articulated détaché* is often marked by tenuto lines.
- *Martelé* bowing (French for “hammer”):
 - Short and crisp sound
 - Each note gets a separate bow direction with an accent
 - Press-release action (bow stays on the string)
 - Considered to be one of the **pedagogically most important bowing styles**
 - Can be played in any part of the bow (For beginners the best is in the middle part of the bow).
 - Introduce it from the onset of instruction as “*puff bowing*” on open strings, Twinkle Var. B and scales (Arm in square position, using about an inch of the bow - opening and closing forearm).
 - Three steps for teaching principle of martelé bowing :
 - “Weight down & weight up” exercise in two separate points of the bow
 - “Connect the two” with slow stops (with fermata)

- “Connect the two” with fast stops
 - Image that works well with students: *Puff Bowing*
 - Symbolic representation: dot above or under the note head, sometimes with and sometimes without an accent mark. *Marcato* character label in string music often indicates martelé.
- *Piqué* bowing (French for “spurred”):
 - A tiny, **on string**, biting stroke that is performed by fingers movement.
 - It is used for the shortest staccato notes.
 - Very important practicing bow stroke as it requires **activate fingers**.
 - Prepare it through **bow exercises** that focus on finger movements.
 - Introduce it right after *martele* is mastered and start with open strings, Twinkle, scales and etudes.
 - Set the bow with a firm contact at the balance point.
 - Suddenly move the bow about an inch by **straightening** the fingers.
 - Aim for clear attack and short sound free of scratches.
 - Release bow pressure immediately, then reset, and prepare for the next up-bow during which the fingers will **curve** again.
 - Image that works well with students: *Bite with fingers & Taekwondo Fist*
 - Symbolic representation: dot under or above the note head with accent symbol
- *Staccato* bowing (Italian for “discontinued” or “separate”):
 - Two types of staccato: (a) *connected staccato* - succession of several short and clearly separated bow movements performed on **one bow direction** and (b) *simple staccato*-each movement on **different bow direction**
 - Different from *martelé* because there is a **constant bow pressure** (“solid staccato”) rather than “press-release-press” sequence of martelé
 - Start with two eighth notes in one direction followed by one note in opposite direction.
 - Continue with three, four, five or more notes.
 - In advanced stage, practice Bornoff’s *Staccato Sequence*.
 - Image that works well with students: *Stay deep down into the string*.
 - Symbolic representation: dot under or above the note head and no accent marking

Off String Bow Strokes

- *Spiccato* bowing (Italian for “with a sense of humor”):
 - Short, off the string bowing executed in the balance point of the bow stick
 - Individual drop and lift
 - First **off string** bowing stroke to be taught
 - Three basic types of spiccato:
 - Brushed spiccato (horizontal & flatter)
 - Bouncing spiccato (vertical & narrower)
 - Flying spiccato
 - *Classical Motif*: first note on string down bow followed by two or more notes off the string up bow

- Introduce spiccato from the early stages of instruction as an efficient tool for fixing bow hold (Bornoff's spiccato in the frog). Start with below described sequence on open strings, Twinkles, scales and etudes.
- **Eight Steps for Teaching Spiccato** in classroom setting (see the notation of these steps in spiccato section of this document):
 - Find the balance point of the bow by placing the lower part of the stick on the right-hand pointer. Balance bow stick until it stays in "balanced position."
 - With the instrument and bow in playing position strike selected open string with big down-bow circles. Extend the right forearm and circle through the hair in starting position.
 - Same steps for making big up-bow circles. This time scoop whole arm in (towards the body).
 - Combined down and up bow circles
 - Down-up & shake-shake. These movements shall be lower in height and closer to the string.
 - Drumroll (faster and slower off string bows for gaining control over the height and speed of bounces)
 - Quadruplets, triplets, and duplets, on one string followed by open strings cycle (Bornoff)
 - Scales (four repeated, three repeated, two repeated, two repeated starting up bow)
- *Spiccato* involves both, vertical and horizontal movements of the bow arm.
- Image that works well with students: Introduce *spiccato* with Paul Rolland's early bow hold to make it more approachable at early stages of learning.
- Symbolic representation: It may have markings, dots above the eight notes or sixteen notes. Tempo and style will decide whether notes with staccato markings are to be played as staccato or *spiccato*.
- *Collé* bowing (French for "glued" or "sticky")
 - A short, sharply pinched bow stroke that is executed by finger movements as they **slightly lift the bow** off the string in preparation for the next stroke.
 - Very important **practicing** bow stroke that helps with the development of *martele*, *piquet* and *spiccato* as it **emphasizes fingers movements**
 - Introduce it on open strings, Twinkle, scales and etudes.
 - Start practicing it in the tip of the bow with up-bow motion.
 - Fingers are straight.
 - Lift the bow and travel to the frog.
 - Play short, down-bow strokes.
 - Fingers are curved.
 - Lift the bow and go back to tip.
 - Once steps above are mastered, practice/play *Colle* in lower part of the bow.
 - Image that works well with students: *Taekwondo Fist*
 - Symbolic representation: accent markings under or above the note head.

- *Sautillé* (French for “little bounce”):
 - Rapid *spiccato* (uncontrolled or natural *spiccato*)
 - No individual drop and lift
 - Involves wrist movement and **resistance of the bow stick**
 - Slight vertical motion of the wrist will help the bow leave the string
 - Bouncing will take place only in the limited area of the bow: around the balance point in slower tempi, and around the middle in fast.
 - Start with *singing detache* and increase the speed until bow starts bouncing, then slow back down into *singing detache*.
 - Image/exercise that works well with students: *close o the string bounce*
 - Symbolic representation: no special markings; tempo and style will determine whether it is *spiccato* or *staccato*

- *Ricochet* (French for “rebound”):
 - Series of bouncing notes, caused by **only one impulse**
 - Upper two-thirds of the bow with stick directly above the hair (no tilt)
 - Bounce faster when closer to the tip and when jump is not high
 - Start on one open string with two down-bow bounces, followed by three, etc..
 - Continue practicing with the change of open strings
 - Image/exercise that works well for all stages of technical development: *Gallop* from Rossini’s *William Tell Overture*
 - Symbolic representation: dots above or under note heads with slur

Stylistic Bow Strokes

- *Louré* (French) or *Portato* (Italian for to “carry over”):
 - *Louré* or *Portato* is a series of slurred, slightly separated *detaché porte* (separated *detaché* with tenuto markings) bowings.
 - There is a slight swelling at the beginning of each note followed by a gradual lightening of the sound.
 - The bow never fully stops. Pitches enunciated with bow speed and pressure
 - Used in pieces with *cantabile* character mainly of Baroque era
 - Images that work well with students: mixing *louré/portato* (with slurs) and *detache porte* (separated bow stroke with swells and slight separations)
 - Symbolic representation: *tenuto* lines with slurs

- *Viotti stroke* (after famous Italian violinist Giovanni Batista Viotti)
 - Type of hooked bowing (e.g. dotted eighth note followed by sixteen note that has dot above the note head)
 - Attention on short note and long note will come out “just right”
 - Great pedagogical stroke for development of the sense of bow speed

Expressive Bow Strokes

- *Bariolage* bowing (French for “*multicolored*” or “*colorful*”):
 - Adjacent string crossing
 - Elbow in between two strings
 - Start with separate bow strokes and string crossings on adjacent open strings (both directions)
 - Add slurs (two and four slurred sixteen notes) on adjacent strings
 - Image/exercise that works well with students: *Fiddle Twinkle*
 - Symbolic representation: no special marking
 - *Sulla tastiera* bowing:
 - Bow over the end of fingerboard
 - Characteristic glassy sound
 - *Sul ponticello* bowing:
 - Bow over the end of the bridge
 - Soft, gentle sound
 - *Tremolo* bowing:(Italian for “*to shake*”):
 - Bow in the upper middle or tip
 - Rapid repetition of a pitch
 - Waiving wrist
 - *Col legno battuto* bowing:(Italian for “*the wood*”):
 - Striking string with the back (wood) part of the bow

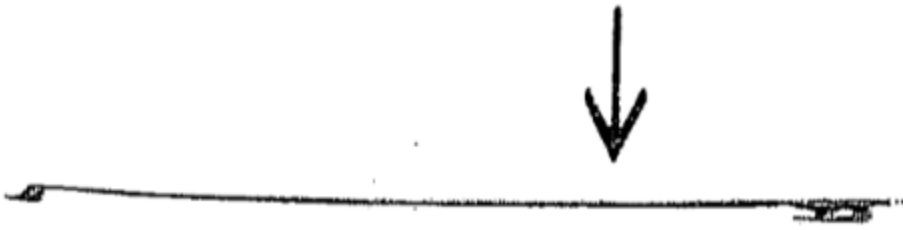
Pedagogical Bow Strokes:

- *Son filé* bowing (French for “*spun*” or “*long tones*”):
 - Slow bow stroke designed to develop bow control
 - Put the metronome on 100 beats per minute for quarter notes. Play on any fingered note progression of “long bows” as follows: half note, dotted half, whole note, all way up to 20-30 quarter notes per bow. Practice this exercise in reverse order starting with 20-30 quarter notes per bow and ending with half note. Keep moving the bow regardless of tone quality. This is excellent way to make practicing *Son filé* more interesting to younger students.
 - To enhance the benefit of practicing *Son Filé* practice with dynamics:
 - Leopold Mozart’s *Bow Division* exercise:
 - Division 1: Strong-Soft-Strong
 - Division 2: Strong-Decrease-Weak
 - Division 3: Weak-Increase-Strong
- Collé (see above)

Eight Steps for teaching spiccato (notated):

Spiccato bow stroke: Italian word for “separate the sound well from each other” or “playing with humor.” It is played by separated and controlled off-string bow strokes that alternate. The challenge of *spiccato* is that it combines horizontal and vertical movements. Marked by dot next to the note head or by the word “*spiccato*.” Tempo of the piece as well as musical era shall aid our decision whether to play *staccato* or *spiccato*.

Step #1: Find the Balance Point: point where bow bounces the most naturally (it will be about 1/3 up on the bow stick from the frog)



Step #2: Drop the Bow: Hold the bow firmly (but not stiffly) and “drop the bow” onto the D and/or A string at the bouncing point in down bow direction. Repeat several times in down bow direction and then up bow direction.

Step #3: Drop and Draw (Jéte): Same, as in step two but this time *draw* a down bow towards the upper middle of the bow as soon as the bow hits the stings. The feel should be like “open the gate”. (Make half a circle in right elbow while opening forearm. Limit this motion to lower part of the bow)

Step #4: Repeat steps 2 & 3 starting up bow.

Step #5: Drop and Catch: Catch the bow high in the air.

Drop



Catch



Drop



Catch



Step #6: Groups of Two: Down Up Shake, Shake (during “shake, shake” keep moving arm)

Down Up Shake Shake Down Up Shake Shake

Step #7 Groups of four: Down Up Down Up Shake, Shake

Down Up Down Up Shake Shake Down Up Down Up Shake Shake

Step #8 The Drumroll: Slow (large motion), to fast (smaller motions), back to slow

George Bornoff sequence of couplets, triplets, and quadruplets on open string cycle.

Couplets Triplets Quadruplets

Steps 1-8 to be repeated four to six times.

Teaching Double Stops as Related to the Right Hand

Lucien Capet discussed the role of the bow pressure in playing double stops. His general conclusion is that the pressure of the bow should be more heavily applied to lower string, except in sixths when bow pressure should be applied more to upper string.

Teaching Chords as Related to the Right Hand

Carl Flesch proposed five ways to break three-note chords: (a) play bottom note alone and two higher notes as double stops, (b) play two bottom notes as double stops and play the highest note alone, (c) play two lower notes as double stops and two upper notes also as double stops, (d) play all three notes in arpeggiated manner, and (e) play all three notes as arpeggio with the middle note as appoggiatura.

Pedagogy for teaching right-hand pizzicato

Five exercises designed to teach five types of right-hand pizzicato: (a) classical pluck with no bow in hand, (b) classical pluck with bow held in ‘fist position’, (c) classical pluck with bow held in normal bow-hold position, (d) two fingers pizzicato, and (e) *Bartok pizzicato*

(a) “Classical pluck with no bow in hand”

Directions to students:

- Instrument in playing position.
- Right-hand thumb set at the corner of fingerboard close to the player’s body.
- Index finger pulls the string to the right side and lets it ring.
- To be practiced on Twinkle Theme

(b) “Classical pluck with the bow held in “fist position”

Directions to students:

- Instrument in playing position.
- Bow held in “fist position” with index finger being free for plucking movement
- Index finger pulls the string to the right side and lets it ring.
- To be practiced on Twinkle Theme

(c) “Classical pluck with bow in hand”

Directions to students:

- Instrument in playing position.
- Bow held in playing position with index finger being free for plucking movement

- Index finger pulls the string to the right side and lets it ring.
- To be practiced on Twinkle Theme

(d) Two fingers pizzicato

Directions to students:

- Instrument in playing position.
- Right hand thumb set in the corner of fingerboard close to player's body.
- Index finger and middle finger alternate plucking same string in eight notes.
- To be practiced on one string, two adjacent strings, and Fiddle Twinkle

It is important to vibrate when playing right-hand pizzicato. "Pizzicato rhymes with vibrato."

(e) Bartok pizzicato

Directions to students:

- Instrument in playing position.
- Bow held in fist position with index finger being free for plucking movement
- Index finger pulls the string up (not to the right side) so that string re-bounces on fingerboard while producing "slap into the wood" type of sound.
- To be practiced on open strings and ringing tones.

Pedagogy for teaching tone production

Four components of tone production:

- Bow speed
- Bow and arm weight/pressure
- Sound point
- Bow hair tilt/inclination

"Both Galamian and Capet agreed that good tone production is a matter of training the arm, hand, and fingers to make the physical motion that will properly play the correct combination of pressure, location on the string, and bow speed."
(Kelly Johnson)

"Sound Point" exercise:

Directions to students:

Practice this exercise to develop correct sensations and understanding needed for playing in three different sounding points and producing three levels of dynamics: forte, mezzo forte, and piano.

Play the first part of Twinkle Theme in the middle part of the bow in four ways:

1. Close to the bridge with lots of weight in arm for playing forte (*f*) - line number 1
2. In between the bridge and the finger-board and with less weight for playing in mezzo forte (*mf*) - line number 2
3. Closer to the finger-board with little weight for playing piano (*p*) - line number 3
4. With moving the bow from close to the bridge (*f*) to close to the fingerboard (*p*)



Bow speed exercise:

Simon Fischer “Fast-Slow” exercise for teaching bow speed: (1) Choose any string and place bow on that string. (2) Play broken thirds on one string with rhythm two sixteenth notes followed by half note and quarter note, four beats per measure and on one bow. Change the speed from fast to slow in accord to note value. (3) Repeat with three notes per bow.

Bow pressure/weight exercise:

Simon Fischer “Heavy-Light” exercise for teaching bow and arm weight/pressure: (1) Choose any one octave scale. (2) Play it with: “one forte-piano” per bow, “two forte-piano” per bow, “three forte-piano” per bow, and “four forte-piano” per bow. (3) use more bow on heavy part.

Bow hair tilt/inclination exercise:

Simon Fischer “Tilting the Bow Hair” exercise:

Four Bow Hair Tilts Exercise

Practice this exercise to develop fluency in changing the bow hair tilts.

Directions to students:

- Play each open string in repeated eight notes with four bow hair tilts:
 - Tilted bow hair for playing piano
 - Slightly less tilted for playing mezzo forte
 - Less tilted for playing forte
 - Flat hair for playing fortissimo
- Obey the dynamics and tempo markings.
- To be practiced in lower, middle, and upper parts of the bow.

flat **slightly tilted** **more tilted** **tilted**

line 3

mf

Simon Fischer “Five Sounding Points Exercise”:

Practice this exercise to develop fluency in changing five sounding points (“Five Lines”).

Directions to students:

- Play each open string in repeated quarter notes in five sounding points while using the whole bow:
 - Sound point 1: Close to the bridge for playing fortissimo
 - Sound point 2: Slightly further from the bridge for playing forte
 - Sound point 3: In between the bridge and fingerboard for playing mezzo forte
 - Sound point 4: Slightly closer to the fingerboard for playing mezzo piano
 - Sound point 5: Close to the fingerboard for playing pianissimo
- Obey the dynamics and tempo markings.
- To be practiced on open strings as well as with ringing tones (e.g., 3rd finger on violin and viola).
- When practicing with ringing tones practice with vibrato and with no vibrato.



line 1 line 2 line 3 line 4 line 5 (line 6)

ff *f* *mf* *mp* *p* *pp*

Simon Fischer exercise that combines the sound points and bow hair tilt:

Practice this exercise to develop fluency in combining the “five sound points” and “four bow hair tilts”.

Directions to students:

- Play each open string in repeated quarter notes in five sound points combined with four bow hair tilts.
- Obey the dynamics and tempo markings.
- To be practiced with the whole bow.

flat hair **slightly tilted** **more tilted** **tilted hair**

line 1 line 2 line 3 line 4

f *mf* *mp* *p*

Lucian Capet “Son Filé” exercise for development of the bow control:

- Student plays chosen open string for the duration of 16 counts while maintaining bow parallel to the bridge.
- Bow moves at steady speed while producing the sustained sound.
- To be practiced on all strings and in forte and piano



After several weeks of practicing student adds following dynamics variations (Lousi Kievman’s suggestion):

Variation A: $p \longleftarrow f$

Variation B: $f \longrightarrow p$

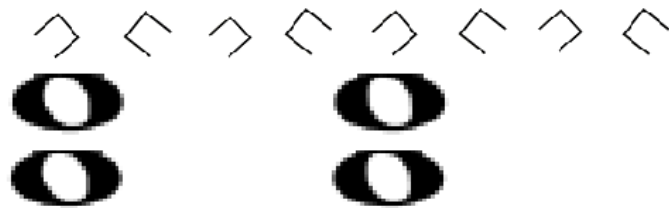
Variation C: $p \longleftarrow f \longrightarrow p$

Lucian Capet “Roulé bowing” for the development of the feel for bow hair tilt/inclination and for playing into the string (adapted by Ivan Galamian)

- Student plays chosen open string for the duration of the whole note (four counts) while rolling the bow between the fingers so that the bow stick tilts away and towards the student in an alternative manner.
- The turning the bow stick should be smooth and the sound shall remain as even as possible.
- To be practiced on open strings, one octave scales, and double stops



”Pivoting” or rolling the bow hair and stick on one string.



Rolling the bow hair and stick between two strings.

TEACHING MUSICAL EXPRESSION AND ARTISTIC REALIZATION

“Render the character of the music with the accent appropriate to it and you will know how to move the listener; neglect this accent or render it falsely, and even the most clear-cut piece will lose its effect.” Pierre Baillot (1771-1842)

Elements of musical expression that teachers need to teach to students with equal attention as they place into teaching foundations, left-, and right-hand techniques include:

- Dynamics
- Articulations
- Phrasing
- Tempos and tempos changes (“agogic changes”)

Pedagogy for teaching dynamics, tempos, and articulations:

- Teach the meaning of all dynamic and tempo markings as well as articulation markings.
- Have student mark dynamics, tempos, and articulation markings in their music in different colors.
- Teach students how each dynamic correlates with the part of the bow in which we play.

Teach students that on string instruments dynamics mean:

- Piano is almost always played in upper part of the bow and closer to the fingerboard with less bow hair.
- Forte is almost always played in lower part of the bow and closer to the bridge with more bow hair.
- Mezzo dynamics are almost always played in middle part of the bow.

- Have student mark dynamics, tempo, and articulation markings in their music in different colors.
- Isolate dynamics and practice them just as one would practice pitches and rhythms.
 - Strategies: “contrasting dynamics”, “transitional dynamics”, “standing up with crescendo or sitting down with decrescendo”

Coloring the sound (with left- and right-hand):

- Use Fischer’s tone production exercises and apply them to the piece of music.
- Experiment with left-hand fingers pressure.
- Experiment with various vibrato speeds/width and work on continuous vibrato.

Pedagogy for teaching phrasing and other means of musical expression

Phrasing and bow choreography:

- Sing, sing and sing. Have students listen to great singers and great pianists.

- Mark phrasing in music with broken vertical lines to show where phrase begins, where it culminates, and where it ends.
- Show phrasing in movements created by hands or body.
- Teach students two traveling bows: “Crawling Bows” for down-bow travels and “Lightening Bows” for up-bow travels.

Discovering the character of the piece and deciding on “musical accents” through the intellect:

- Teach background information on composer, his/her music, and musical era/style.
- Use “Tuttle’s Emotions Chart” to start discussion about the character of the piece.
- Decide on “musical accents” (special moments) and practice them.

“Students must come to believe that the piece of music is not learned until they can play it expressively and beautifully.”

Robert Duke

Selected Readings

Fischer, Samuel. *Tone: Experimenting with Proportions of Violin/Viola*. London, UK: Edition Peters, 2019.

Flesch, Carl: *The Art of Violin Playing*, Book 3. New York: Carl Fischer, 2000.

Galamian, Ivan. *Principles of Violin Playing and Teaching* (3rd ed.). Ann Arbor, MI: Shar Products Company, 1985.

Johnson, Kelly. *Lucien Capet and Superior Bowing Technique: History & Comparison*. Fairfax, VA: American String Teachers Association, 2015.