BEYOND THE BOW HOLD: THE DEVELOPMENT OF BOWING FLUENCY AND ARTISTRY

Stephen Benham, Ph.D.
Duquesne University
Pittsburgh, Pennsylvania
412.396.1887 – benham@duq.edu

Introduction

The development of bow control and fluency are central to the long-term success of any string player. This session will focus on strategies and techniques for guiding student progress and establishing success from the first days of instruction in the private studio and group teaching settings to advanced levels of study.

Information in this material is grounded in the pedagogy of Ivan Galamian, Paul Rolland, Robert Gerle, Christopher Bunting, Robert Culver, Kató Havas, Richard Kapuczinski, Shinichi Suzuki, Carl Flesch, and Louis Bergonzi.

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PART I—THE FIRST STAGES OF DEVELOPMENT

The development of the bow hand from the first days of instruction sets the stage for future success. Keys to the development of the bow include:

1. Teaching the bow hand sequentially
2. Developing flexibility and fluency
3. Developing kinesthetic awareness

I. Establishing the Bow Hold:

A. The bow hold is demonstrated and taught as a function, rather than as a pose. The bow hold is taught *contextually*, through movement and process.

B. The term "bow grip" is a misnomer, since the hand serves as a guide, rather than a vise.

C. The shape of the hand is very important. Straight or flat knuckles, joints, and fingers, indicates tension. Instead, the entire mechanism should be curved.

D. Players must develop tactile awareness of their hand and the bow.

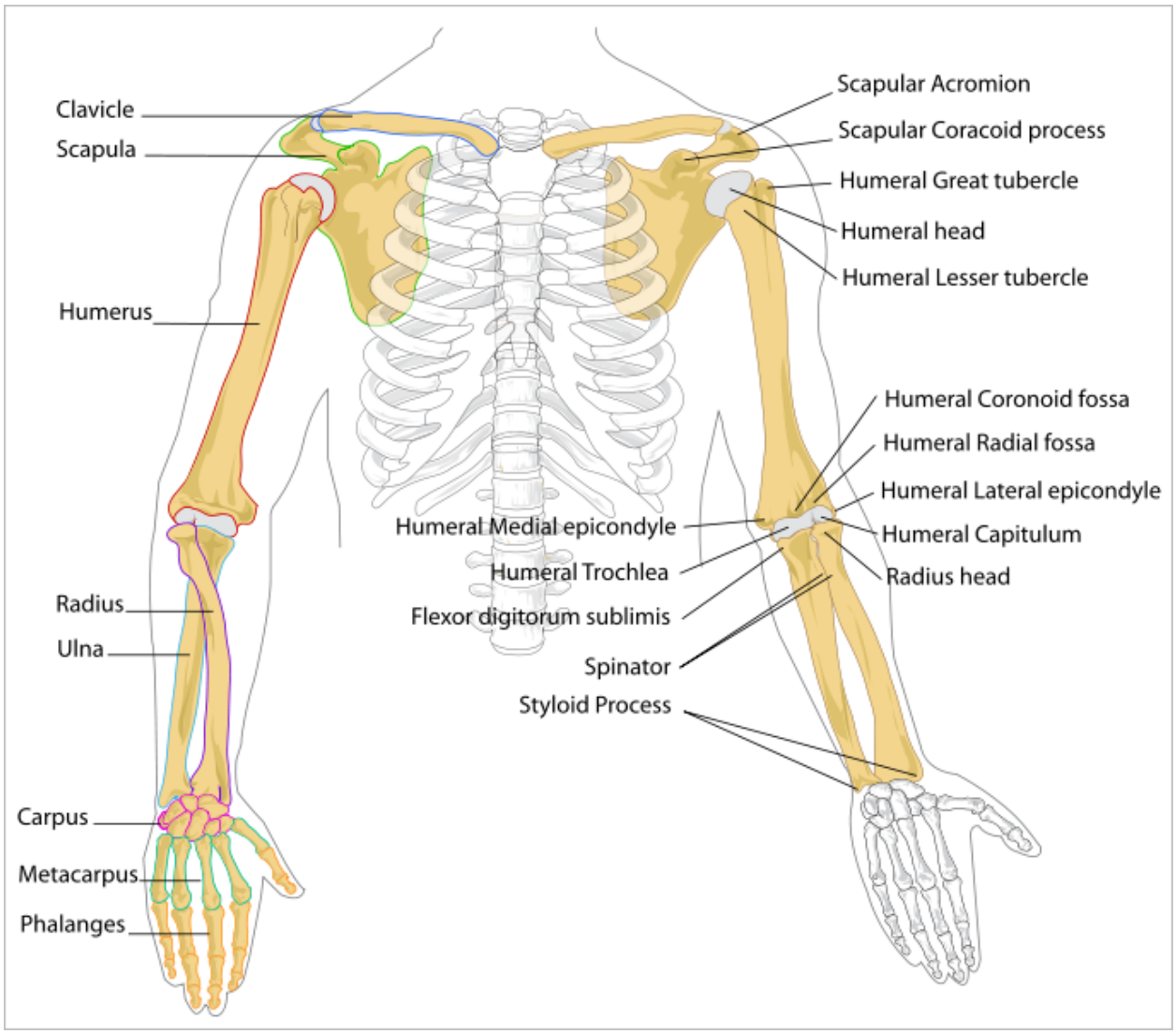
E. Hand is a series of loose, flimsy springs

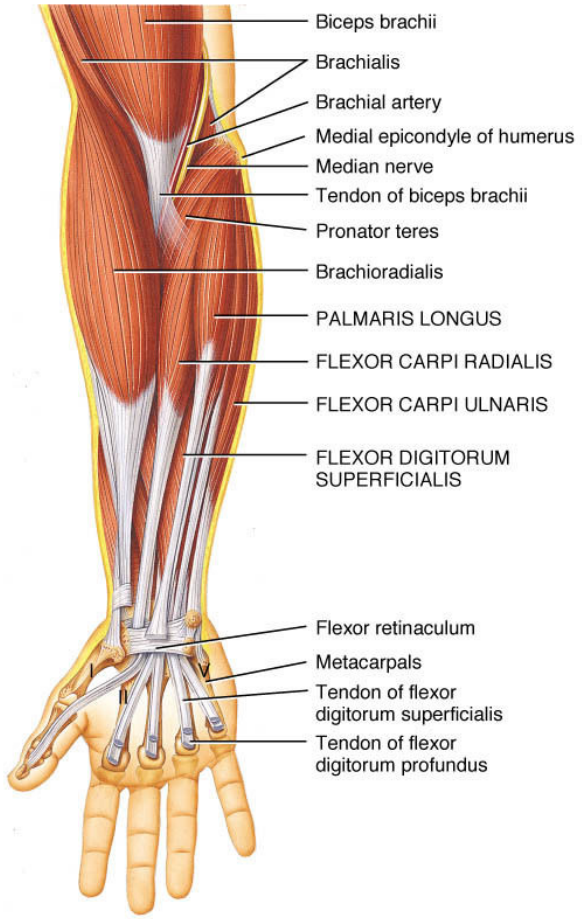
F. All fingers have an assigned place and role, as demonstrated in the next 2 sections.

G. Functionality must be taught and developed from the very beginning. In order to move sequentially and develop student's awareness, it may be beneficial to start with a pencil first (hexagonal, not round), and move to a wooden dowel. I recommend buying four-foot long lengths, and cutting them in half. Use the following diameters: violin/viola–5/16", cello–3/8", bass–7/16".'

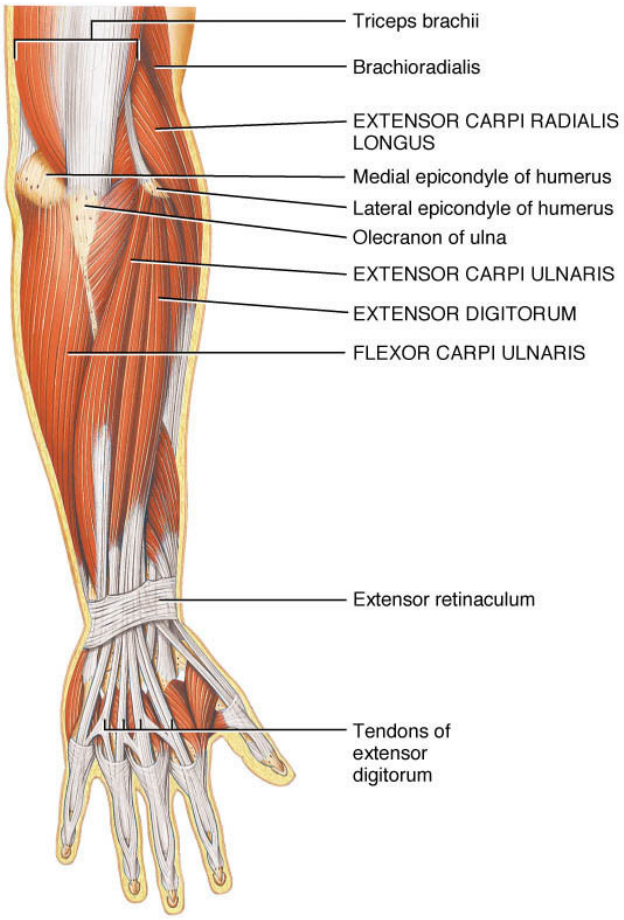
II. The "Functional" Bow Hold

A. The thumb is the fulcrum, or pivot point for maintaining balance and distributing weight.
B. Pinkie acts as a counterbalance to the front of the hand. Middle finger, with assistance from the ring finger, guides the bow, transferring arm weight through to the string.
C. Index finger also adds weight
D. In order to promote the correct balance and function of the bow hand, we'll teach it "upside down" first, so that the moving parts are visible to the student and the teacher, and so tension is not put on the pinkie.

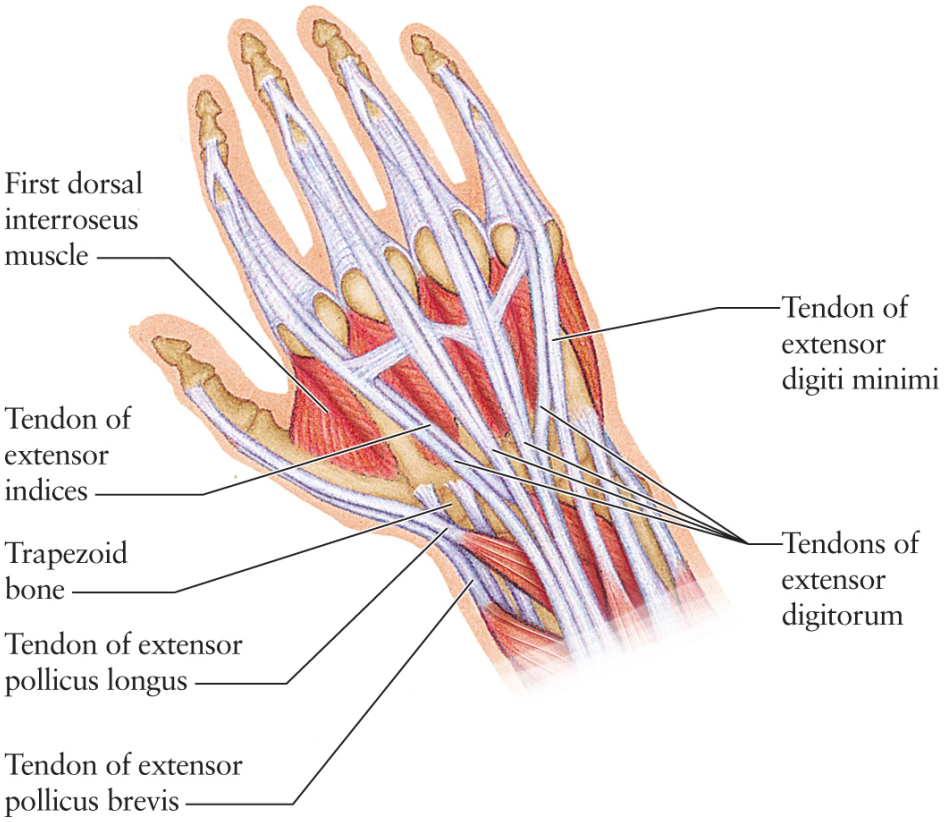


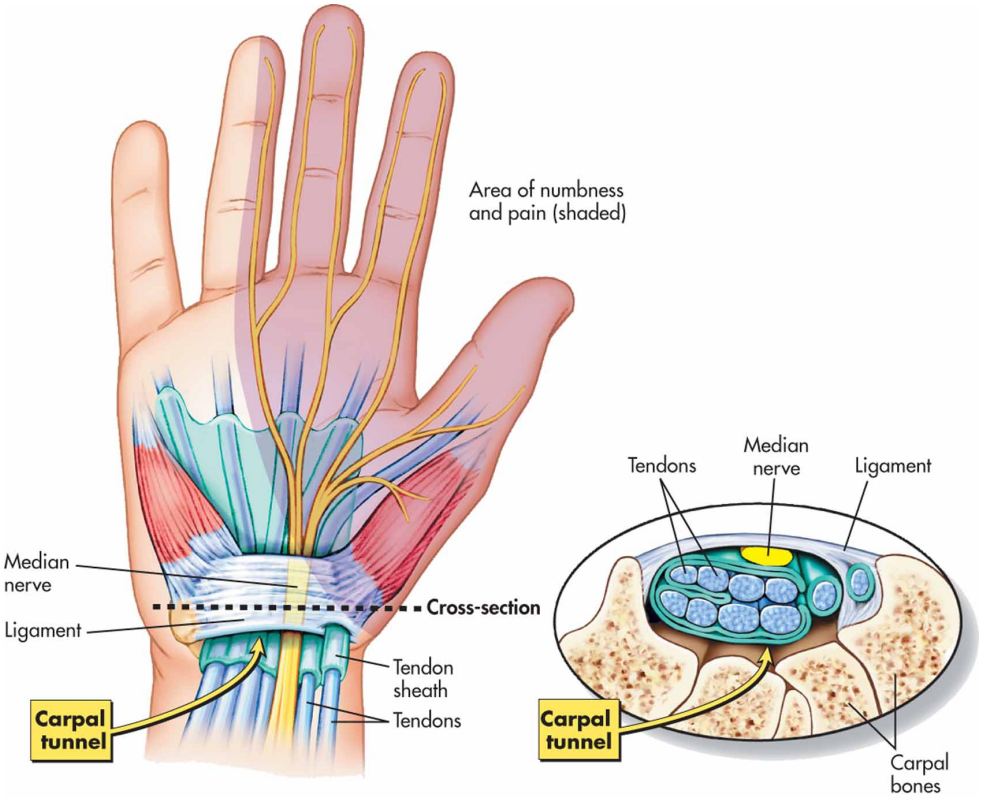


(a) Anterior superficial view



(b) Posterior superficial view





III. Description of Finger Placement for the Bow Hold

A. Violin/viola
1. Thumb: the right/inside corner of the thumbnail touches where the frog meets the stick. In the correct place when thumb stops the "bow-roll." Possibly opposite between the middle and index fingers, forming a circle. It should be visibly bent at both knuckles.
2. Index finger: rests on top of the bow in the cradle at the first knuckle or in between 1 and 2, if finger is long
3. Middle finger: drapes over the top of the stick and touches the stick near the second knuckle joint
4. Ring finger: drapes over the stick with the fingerprint on the concave side of the frog
5. Pinkie: sits curved on top of the stick
6. Hand has slight lean toward index finger. This is promoted naturally when the bow is taught upside down.

B. Cello

1. Position

a All fingers are traditionally draped over the side of the frog and bow stick
b. Side of thumb tip placed where frog meets the bow
c. Index finger draped over bow at or near second knuckle joint
d. Ring finger fingerprint may fit into the "U" cut-out of the frog
e. Pinkie is over the top of the stick, traditionally

2. All fingers naturally curved

3. Hand more perpendicular to bow than violin/viola bow hold

C. Double Bass

1. French bow hold

a Same as cello hold, except fingers are draped over farther; second finger may touch the ferrule
b. Used in school programs because of similarity with cello hold; becoming increasingly popular within professional players.

2. German bow hold

a. First finger and thumb touching, forming a circle
b. All fingers/knuckles are curved
c. Second and third fingers are curved next to the first finger
d. Pinkie positioned under frog for support

IV. Developing the Basic Bow Stroke

A. Guiding Principles: three variables and one constant

1. Four variables are controlled to produce tone (WASP):

a. Bow Weight: varies depending on bow speed and is controlled by the pronation of the bow hand. Note: *weight* is better than *pressure*
b. Bow Angle: the horizontal angle of the bow (tilted towards the fingerboard) in order to maximize the focus of bow hair on the string. Bow angle also refers to the practice of generally moving the bow in a direction that is perpendicular to the string/parallel to the bridge.
c. Bow Speed: this varies depending on the thickness of the string and the size of the instrument. Generally, higher notes (which vibrate at a higher frequency) and thinner strings require faster bows. Low notes, thick strings require slower bows. This counters the myth that students should always use the entire bow. Bow distribution is the concept of using the right amount of bow speed for the note value to be played.
d. Bow Placement: Contact point (sounding point): controlled by the angle of the bow and the pronation of the hand; is found through bow motion and can be felt as a resistance point on the string. Some teachers refer to the concept of bowing lanes, which is generally helpful. Playing closer to the bridge will produce a louder, more strident sound. Playing closer to the fingerboard will produce a softer, less focused, and more covered sound.

String players manipulate all four of these variables to achieve a wide array of timbre and tone color options.

2. Constant

a. The bow moves at 90^{o} to the string, parallel to bridge (perpendicular to the string)
b. In order to accomplish this, the arm must "fold" and "unfold" in a sequence of motions

3. Relationship between the variables and the constant determine sound qualities of volume and tone color.

B. First Bow Strokes

1. Easiest initial bow placement

a. Violin/Viola: middle to the tip (upper half). By beginning at middle (or at balance point), half of the bow weight is supported by arm, other by string. This also focuses the motion in the lower arm, which is easier to control.
b. Cello: middle half
c. Bass: frog to middle

2.

Three approaches

a Suzuki: very short strokes from middle to tip of the bow

i. Advantages of this approach

a. Strong, focused sound from outset
b. Promotes correct forearm motion

ii. Disadvantages

a. Choppy articulations and overly mechanical bow motion
b. Potential difficulty in refining sound later

b. Rolland: Contrasting half bows; using of the easiest half bow and producing contrasting articulations (legato and staccato)

i. Advantages

a. Able to use articulations that are appropriate to varied song material
b. Corresponds to Music Learning Theory and promotes understanding of stylistic differences.

ii. Disadvantages

a. Fuzziness of sound from lack of contact with string
i. Tendency to move ahead to intermediate techniques too quickly before student is ready.

c. European: long bow

i. Advantages

1. Promotes tone control from the beginning
2. Develops whole arm movement from the beginning

ii. Disadvantages

1. Difficult to teach in a large group setting; requires a lot of teacher intervention
2. Many students do not have the kinesthetic awareness necessary to control the whole bow at a young age
3. Long-notes are more difficult to audiate

C. Aspects of the Stroke

Bow's 90^{o} angle to the string maintained via a series of adjusters: shoulder, elbow, wrist, hand, fingers

1. Elbow

    a. Violin/Viola

        i. Elbow only slightly above mid-plane in the lower half of the bow
        ii. Elbow only slightly below mid-plane in the upper half of the bow
        iii. Elbow joint moves toward center of body on up-bow

    b. Cello/Bass

        i. Bow arm motion is an unfolding of the arm from the right shoulder and elbow joint
        ii. Sensation of reaching out for two higher-sounding strings, pulling back for two lower-sounding strings

2. Wrist and Hand

    e. Violin/Viola

        i. Wrist gradually lowers throughout down-bow
        ii. Position of fingers on bow remains the same throughout the stroke
        iii. Hand moves slightly toward the center of the body in the upper half of the bow
        iv. Hand follows a flat crescent shape

    b. Cello/Bass

        i. Must be flexible in order for bow to be parallel
        ii. The top of the hand leads the bow stroke
        iii. Fingers of the bow hold and wrist are gimbaled (moving/reacting to a fixed point), whereas the shoulder, elbow, and forearm move.

D. Motion

1. Is from the center of the body→out to the extremities and occurs as a result of a shift of body weight. "If student is relaxed and well-balanced, the weight transfer will occur instinctively." (Paul Rolland/33)

2. Three types of motion

    a. <u>Unilateral Motion</u> (Carl Flesch)

        i. is first stroke, beginning from weight on left side and coordinated with an exhalation of breath (PR)
        ii. Given (I) and that the initial bow placement is for a down-bow, the easiest string crossing from a lower-sounding to a higher-sounding string is down-bow/up-bow for vln/vla. This is why weight is put on left foot as part of instrument to body.

b. Bilateral: body moves contrary to the direction of the bow. Shift from unilateral to bilateral occurs when speed of the detaché accelerates (Flesch; Rolland).

c. Balanced Motion: using unilateral or bilateral, depending on speed of stroke

E. Characteristics of the resulting détaché stroke:

1. Violin/Viola: produces flat ribbon of hair from frog to tip
2. Cello: stroke is a lateral arc motion
3. Double bass: is similar to the natural arc swing of the extended arm

PART II—INTERMEDIATE TECHNIQUES

Too many teachers move too quickly into advanced techniques, bypassing the crucial time of extending basic technique. There is a certain amount of overlap between beginning and intermediate skills, and students' rates of progress will vary, depending on skill level and aptitude.

Intermediate techniques include:

- *Extending the bow stroke*
- *On-the-string bowing techniques (various détaché strokes, martelé)*
- *Control of direction changes and string crossings*

I. Lengthening of the Stroke from "first stroke"

A. Readiness criteria

1. Integrity of the 90^{o} to the string is maintained
2. Integrity of the bow hold

B. Next area(s) of the bow to be used

1. Violin/viola: middle to the frog
2. Cello: middle to the tip, and then middle to the frog
3. Bass: to the tip as strength of hand and arm allows

C. Transition phase: on the way to sequential direction changes, as it prepares the following compensatory actions:

1. Includes the controlled increase/decrease of arm weight into string to compensate for uneven bow weight across length of fuller bow stroke
2. Approaching tip, 50% of actual bow weight (2 ounces) is lost
3. Compensated for by increase in arm weight resulting from cyclic leveraging of forearm and upper arm

a. Approaching tip

i. Forearm moves clockwise (supination/outward)
ii. Upper arm rotates clockwise in support of forearm

b. Approaching frog

i. Forearm moves counterclockwise (pronation/inward)
ii. Upper arm rotates counterclockwise in support of forearm

II. Developing Fluency in Direction Changes

A. Prerequisites

1. Fingers must be flexible enough to react to change in bow direction. The thumb, in particular, is crucial in changing bow direction. Giving special attention to developing the back of the hand early in instruction (RH I: Hand to Bow) pays off here
2. This is an extension of moving from simple détaché, in a small, controlled section of the bow, to using the entire length of the bow.

B. Sequential motion

1. Originates from the center of the body, work out to extremities
2. The direction change motion of the fingers is the last in the sequence of upper arm, lower arm, wrist, hand and fingers. It is a *response* motion to the pull of the bow.
3. Each section of the bowing mechanism moves only after the section before it in the sequence: feet/body/upper arm lead; elbow anticipates; wrist, hands and fingers react
4. Movement is cyclic (curves), never static (straight lines)
5. Difference between upper and lower strings is in the amount of motion; the motion for cello and double bass is primarily from the wrist, with less elbow motion

C. Description of Motion

1. Finishing down-bow

   a. The up-bow is anticipated: elbow raises slightly causing a counterclockwise rotation of the upper arm; adds needed weight at the tip.
   b. As hands moves to the up-bow, the base knuckles become more prominent; 3rd and 4th fingers extend/lengthen

2. Finishing the down-bow
   a. The down-bow is anticipated by slight arm/elbow drop that rotates (upper) arm clockwise; releases bow weight from string.
   b. As hand moves to the down-bow, hand flattens, curve of 3rd and 4th fingers contracts

D. Major Problems in the Development of a Fluid Motion During Direction Changes

1. The majority of problems are caused by tension in the arms and fingers
2. Problems in instrument position also influence the right arm
3. Problems in posture/body alignment can cause tension

III. Developing Fluency in String Crossings

A. Guiding Principles

1. Arm and bow do not occupy same air space on up bow and down bow
2. Arm and bow form an ellipse
3. Three concentric circles

    a. End screw: makes largest circle
    b. Wrist and fingers: next smallest circle
    c. Elbow: smallest

B. Two types of String Crossings

1. Slurred strokes: those that occur as part of a slur: rounded string crossing that follow shape of the bridge

2. Single strokes: an outgrowth of the sequential motion developed as part of smooth direction changes

Note: The slower the tempo the more obvious the sequencing of the motion, with upper arm anticipating, hand and bow following; particularly important at the tip where a larger arc is required

C. Readiness

1. If all earlier sections of right hand technique are mastered, then this section is easy.

D. Purpose is to develop an economy of gesture/motion

1. "working smarter, not harder"
2. working to minimize motions to those which are only necessary

E. Relationship speed of notes and motion:

1. faster ⇨ slower
2. arm ⇨ wrist
3. slow tempo to moderate: upper arm anticipates, elbow raises for lower strings, drops for upper
4. moderate to fast: decrease in upper arm motion and forearm

F. Cello/Double bass: for our discussion almost the same, but with less elbow motion

V. Martelé and other on-the-string strokes

A. Guiding Principles

1. Not intended to be remedial
2. Based on ability to produce a healthy détaché stroke
3. The silence between each stroke is an important element.
4. Difficulty comes in trying to play a succession of attack strokes

B. Martelé

1. Taught first, before spiccato stroke, because it promotes finger flexibility and staccato finger action

2. Three parts of martelé stroke

   a. Presetting of the consonant weight; an initial click= stronger weight than is required by the glide portion
   b. Glide portion (bow stroke) with some degree of sound/weight decay
   c. Resetting of the consonant weight for the next martelé sound; should not occur until after the bow stroke is finished or you sound "comes to a grinding halt"

3. Articulation mechanism

   a. Weight of the arm provides articulation mechanism
   b. Weight of the arm is over the strength of the thumb: it is weight-over-the-thumb, and not so much torque, that is essential. Therefore, we need to be sure the thumb is conditioned during earlier training
   c. Weight is released into string by having thumb and fingers resist the pulling of the bow hand
   d. If needed, index finger can add more weight
   e. Or, articulation is added by the action of having the thumb press upward against the stick

4. Quality of the resulting sound

   a. Used for strong accents (sfzorandi)
   b. Sound is like the word "ping"
   c. Releasing the sound is the essence of martelé

5. Adjustments depending on size of instrument

   a. Larger the instrument, the longer the glide
   b. Larger the instrument, the longer the click

6. Timing is more important than effort; working hard at the beginning delays progress

7. To increase volume, add more weight and decrease the amount of bow

8. Bow placement

   a. vln/vla/vcl = middle to upper half
   b. double bass = lower half to middle

Resources

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