

Composing for Stringed Instruments

Tone Production

Range:

Each instrument has more than four octave possible range for advanced players.
Open strings – playing a string with no fingers (See first line on staff paper – p.3.)
Single stops – Pressing a finger on a string shortens it so it sounds higher in pitch.
Double stops – playing two strings at once (see below under techniques).

Use of Strings in the Orchestra

Range:

From bass through violin a total of more than six octaves is possible (advanced).
(See charts on p. 4 for different levels of each instrument & p. 5 which shows the extended range using fifth position.)

String orchestra – eg. “Adagio for Strings” by Samuel Barber

Full orchestra: Strings form the basic foundation of sound to which the woodwinds, brass and percussion add color and reinforcement.

Stringed Instruments & Bow Parts (needed for composers)

Strings, bridge, fingerboard, frog, tip or point, stick, hair

Mutes

Stringed Instrument Techniques

Sulla Corda or Sul followed by the letter name of the string (for eg. Sul D - - - - - 7
Indicates that the notes are to be played on the D string)

Portamento (sliding from one note to another)

Examples – (see p.3)

Use with discretion. It is inappropriate in music preceding the Romantic Period.
It mustn't be too long, too slow, or too heavy, and not overused.

Indicating Fingerings and Positions

Composers who are not string players usually leave the matter of fingering and positions up to an editor or the player; or they collaborate with a performer during the writing process and bring out a fully edited score upon publication. Fingerings and positions can be indicated in two ways: fingering with Arabic numerals, or position with Roman numerals. Sometimes they use Roman numerals to indicate the string to be played on. I top string ... IV the fourth or lowest string (which can make it confusing)

Double Stops

On bass limited to combinations that utilize an open string (advanced solos).
Violin and viola – from unison to tenths. Larger if utilizing an open string.
Cello – thumb used to play the lower note & third finger to play upper note for octaves and tenths.

Order of difficulty: 6ths, 3rds, 4ths, 2nds, 8ths, 7ths, 5ths, unison, 10ths

Divisi, geteilt (German) means play only one note of a two-part divisi (divide by inside/outside or by stand. Three or four-part divisi by player.

Non divisi, nicht geteilt (German) means both notes are to be played by each player.

Pizzicato

Right hand – three ways.

Used by composers for percussion effects, punctuation, for relief or change.

Left hand – usually in advanced solo literature for violin, viola or cello

Indicated by a + over the note.

Trill

Second finger strongest, followed by third, first, and fourth. Bass rarely asked to trill due to slow response of the strings.

Early music trill is usually started from the higher note and usually ended with a turn using the note below the principal note.

Since Romantic period, trills start on the principal note.

Fingered Tremolo

Like a trill but with an interval of more than a major second

Harmonics – (see chart on p. 6)

Natural Harmonics – produced by placing a finger lightly on a string at one of the string's natural division, or nodal, points. Causes string to vibrate in segments. It sounds soft and flutelike.

Symbols: ° above the note or ◇ in place of a note

Artificial Harmonics – produced by stopping the string with a finger and then touching the string lightly at the interval of a third, fourth, or fifth above the stopped point.

Techniques of the bow

Factors in producing different sounds:

1. Bow direction (up or down)
2. Amount and speed of bow
3. Point of contact on the string. Flautato: over the fingerboard behind the bridge – squeaky for special effect
4. Amount of pressure or weight on the string
5. Amount of hair in contact with the string

Bowings

Divisions of bow – (see p. 7 Figures 6.14 & 6.15)

Bow use and distribution (bow management) – saving the bow to avoid running out of bow

Rules – (see p. 8 # 1-13)

Down-Bow (from frog to point direction)

∨ Up-Bow (from point to frog direction)

Types of bowings – (see chart pp. 9 – 11)

Keys for different levels of playing:

Beginners: G, D, A, C, F

Intermediate: Add E, B, Bb, Eb, Ab

Advanced: Add F#, C#, Db, Gb, Cb

Open Strings I

Violin

Viola

Cello

Bass (Sounds 1 oct. lower)

Handwritten musical notation for Violin, Viola, Cello, and Bass. The notation shows open string positions for E, A, D, and G on each instrument. The Violin part shows E, A, D, G. The Viola part shows A, D, G, C. The Cello part shows A, D, G, C. The Bass part shows A, D, G, C, with a note below the staff indicating it sounds one octave lower.

Handwritten musical notation for Violin. The notation includes a 'Port.' marking and fingerings (1, 2, 2, 2, 2, 1) for a sequence of notes.

Handwritten musical notation for Violin. The notation includes a 'Sul A' marking and a 'gliss.' marking for a glissando effect.

A series of empty musical staves for other instruments, including Viola, Cello, and Bass.

The musical score consists of four staves: Violin, Viola, Cello, and Bass. It is divided into three measures representing different skill levels:

- Beginning:** Each instrument has a single note on the first line of the staff.
- Intermediate:** Each instrument has a double note on the second line of the staff. The Violin and Viola parts include a circled note above the double note.
- Advanced:** Each instrument has a double note on the third line of the staff. The Violin and Viola parts include a circled note above the double note, and the Viola part includes a circled note below the double note.

(Bass sounds 8va lower than written)

CHART SHOWING EXTENDED RANGE USING FIFTH POSITION

Violin (*)	G String	D String	A String	E String	Overall range
1st Position					
Using 5th Position					
Viola (*)	C String	G String	D String	A String	Overall range
1st Position					
Using 5th Position					
Cello (†)	C String	G String	D String	A String	Overall range
1st Position					
Using 5th Position					
Bass	E String	A String	D String	G String	Overall range
1st Position					
Using 5th Position					

*The notes in parentheses are reached by extending the fourth finger.
 †The notes in parentheses are reached by using the forward hand extension.

Example 1

Example 1 shows two staves. The top staff is labeled "Sounds" and contains two whole notes: a D4 on the first line and a D5 on the second space. The bottom staff is labeled "Written D String" and contains two whole notes: a D4 on the first line and a D5 on the second space.

Example 2

Example 2 shows two staves. The top staff is labeled "Sounds 8va" and contains two whole notes: a D4 on the first line and a D5 on the second space. The bottom staff is labeled "Written D String" and contains two whole notes: a D4 on the first line and a D5 on the second space.

Harmonics, which can be produced on the G string of the violin, are illustrated in example 3. By simple transposition the harmonics available on the other strings and other instruments can be found.

Example 3

NATURAL HARMONICS ON THE VIOLIN G STRING

Example 3 shows two staves. The top staff is labeled "Sound" and contains five whole notes: G4, B4, D5, F5, and A5. The bottom staff is labeled "Written G String" and contains five whole notes: G4, B4, D5, F5, and A5.

Example 4

ARTIFICIAL HARMONICS

Example 4 shows two staves. The top staff is labeled "Sound" and contains six whole notes: G4, A4, B4, C5, D5, and E5. The bottom staff is labeled "Written" and contains six chords with fingering: 4-1, 3-1, 3-1, 4-1, 3-1, and 2-1. Dashed lines above the staff indicate an 8va range for the first three notes and another 8va range for the last three notes.

The sign for down-bow is almost universally \blacktriangledown . Some old editions use \wedge , which is an inverted up-bow sign.

Up-Bow

The opposite of down-bow. The bow is drawn in a point-to-frog direction. See B in Figure 6.14. The sign for up-bow is \blacktriangledup .

Divisions of the Bow For convenient reference the bow is divided into six playing areas (Figure 6.15):

Whole Bow (W.B.)	Upper Half (U.H.)
Point (Tip) (Pt.)	Middle (M.)
Frog (Fr.)	Lower Half (L.H.)

These are terms with which conductors and string players must be familiar. They constitute the common language of the orchestra. It should be understood that no area of the bow is used exclusive of another. The upper half includes the point or tip, which is simply the top 2 to 6 inches of the upper half. The middle includes portions of both the upper and lower halves; and the frog is the lowermost part of the lower half.

The area near the frog is the heaviest part of the bow and consequently is used for the heavy bowings. The point is the lightest part. It is in this area that soft tremolo is played. If a conductor's admonition is "Play at the tip," be assured very little volume is wanted.

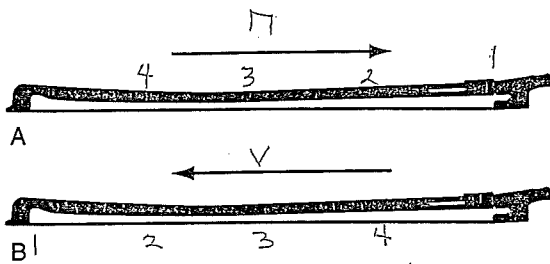


FIGURE 6.14
Line drawings showing bow direction. A. Down-bow; B. Up-bow.

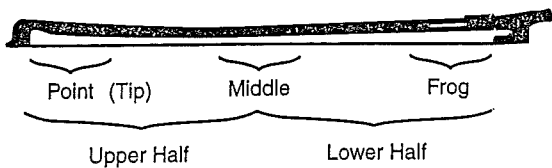


FIGURE 6.15
Divisions of the bow.

If a conductor orders "on the string," it will be in regard to a passage that could very possibly be interpreted to be played off the string (spiccato) as well. In quiet passages, which need special control, such as a staccato passage at a moderate tempo, many conductors prefer to have the bows left on the string. They believe that the string section can achieve increased uniformity and precision in this way.

"In the string" means that the hair is to maintain firm and continuous contact with the string. Increased pressure is usually part of this concept. The sound resulting from this approach is the opposite of flautato, which is a light, airy sound.

Use of the Bow It is possible to digest some basic principles of bow use, which are based upon the laws of physics and are influenced by tradition and the need of the player for comfort and security. Immediately following are the various divisions of the bow and the kinds of bowings that are most frequently performed in those divisions.

Down-Bow

- When the music begins on a strong beat
- For heavy accents and chords
- For diminuendo on one note or a slur

Up-Bow

- When the music begins on a weak beat
- For pick-up note(s)
- For crescendo on one note or a slur

Lower Half

- Heavy accents and chords
- Heavy repeated staccato notes, on or off the string
- Heavy marcato

Middle

- Spiccato
- Détaché
- Staccato
- Ricochet

Upper Half

- Détaché
- Spiccato
- Staccato
- Marcato
- Tremolo
- Ricochet

Point (Tip)

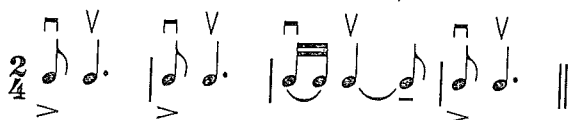
- Tremolo
- Light détaché and staccato
- Ricochet

Full Bow

- Long sustained tones
- Long slurs
- Long, heavy staccato or marcato

Playing the short notes alternately at the U.H. and L.H. is good as long as the pattern continues. This technique applies regardless of tempo. Of course, as the speed of the figure increases, less bow is used. At fast tempi very little bow is used—as little as three to five inches on the long note and one inch on each of the short notes. But each long note permits the bow to regain its position.

This principle becomes more difficult to apply when the figure does not allow for natural compensation. For example:



In this case the accent on the first beat is helped by the fast movement of the bow, which is necessary if the bow is to reach approximately the same point for each up-bow.

Somewhat more difficult to manipulate is a figure such as that shown at the bottom of this page, which is to be played softly and without accent.

To achieve the desired results the down-bow must be light and quick in the first four bars and the up-bow held back. In the next bars this is reversed.

Intelligent use of the various areas of the bow, learning to maneuver the bow to the desired spot for a figure, moving the bow quickly and lightly, and having it compensate for a preceding or succeeding slower bow, are skills that must be developed to reach an artistic level of performance. However, these skills are of a highly sophisticated nature and would be dealt with more appropriately in a treatise on advanced techniques.

There are some well-established practices in bowing orchestra music that are based on the natural laws of bow direction as they apply to and are governed by the music that motivates them. In her book, *Orchestral Bowings and Routines*, Elizabeth A. H. Green outlines some of the basic principles of orchestral bowings and gives musical examples to illustrate the application of these principles. She

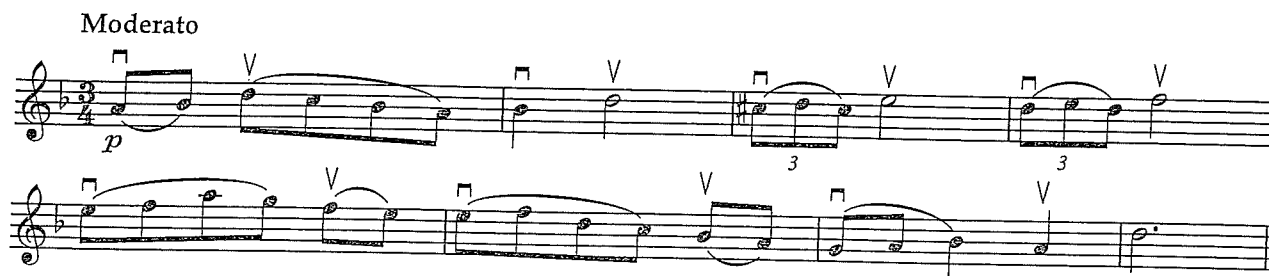
enumerates 13 rules that apply to basic bowings and 9 that apply to what she labels "artistic bowings." Toward the end of her book, she recapitulates the 13 basic rules in simple form.

- No. 1. The note on the first beat of the measure is down-bow.
- No. 2. The note before the bar-line is up-bow.
- No. 3. If the note before the bar-line is slurred across the bar-line, play it down-bow.
- No. 4. An odd number of notes before a bar-line (without slurs) starts up-bow.
- No. 5. An even number of notes before a bar-line (without slurs) starts down-bow.
- No. 6. Alternate bowing, down and up, on after-beats. If rhythmic figures between rests have an even number of notes, chance a down-bow on the first note; if an odd number of notes, try an up-bow on the first note.

Note: Teachers must guide herein with their fuller knowledge. These short rules will cover most rhythms found in the easier music.

- No. 7. In groups of four notes, starting on the beat, play the first one down-bow.
- No. 8. Chords are played down-bow.
- No. 9. Link the dotted eighth and sixteenth.
- No. 10. Link the quarter and eighth in six-eight time.
- No. 11. The dotted eighth and sixteenth is not linked when the execution of the figure is too fast to perform the link feasibly, and the linked bowing is often omitted in soft passages where extreme neatness and clarity are desired. In this case, the dotted eighth is up-bow at the point and the sixteenth is down-bow.
- No. 12. If your closing chord has a little, short note before it, play the little note up-bow starting near the frog.
- No. 13. In four-four time a half-note on the second beat of the measure is down-bow.⁶

6. Reprinted from *Orchestral Bowings and Routines* by permission of the author and copyright (1949, 1957, 1963) owner, Elizabeth A. H. Green. Edwards Letter Shop, Ann Arbor, Michigan. It is forbidden to photocopy or further reproduce this material.



Name of Bowing

Section of Bow Used

How Performed

Notation

Typical Use

Whole bow smoothly

Entire length of bow from frog to point $\lceil + \vee$

Bow must remain parallel with the bridge throughout its length of stroke. Requires bow-arm to reach forward as bow moves from middle to tip, and pull inward as motion goes from tip to middle.

$O \quad \text{or} \quad \circ \quad \text{or} \quad \partial$
etc.

Any slow passages where breadth of length of tone is important.

Slurs

May be performed in any section of the bow $\lceil + \vee$

The bow moves smoothly in one direction while the fingers change the notes on the string or strings.

Used wherever the slur-line indicates in the music. Used in legatelo melodic passages, in short motifs, and in scales and arpeggios where indicated.

Detache

Middle or middle to point $\lceil + \vee$

Short separate bows played smoothly: not slurred, not staccato

In passage work wherever the notes are of equal length and are not marked with staccato dots. Also used in broad figures of this type on the eighth-notes. Used in fast fortes for notes with staccato dots among slurred notes.

Loose

Any section of the bow is feasible \lceil and \vee

The bow continues its motion as in any slur, but releases pressure slightly between notes so that the notes become somewhat articulated.

Used for expressiveness in slurs where the notes need emotional individuality and in slurred bowings on the same pitch to distinguish rhythm.

Tremolo (Bowed)

Middle and middle to point $\lceil + \vee$

Very short separate bows, very fast. Actually a speeded-up detache bowing. Motion centers in flexibility of the wrist. Not necessary to count the number of notes per beat. Usually indefinite.

or with point

For the excitement of a fast shimmering effect in chordal accompaniments or in melodic playing. Softer effects are played near the middle. If very loud, inside players on each stand broaden to detache instead of tremolo.

Name of Bowing

Section Bow Used

How Performed

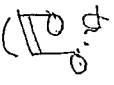
Notation

Typical Use

Trémolo (fingered)

Any section of the bow is practical
f + v

The bow plays smoothly as in a slurred bowing. Fingers alternate rapidly on a pair of notes on one string - as rapidly as a trill.

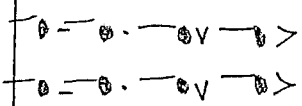


Whenever a trill-effect is desired on notes more than the interval of a second apart.

Martele

Any section of the bow is practical from whole bow to half an inch of bow
f v

The bow applies pressure to the string while standing still before moving. The pressure is sufficiently released, at the instant the bow starts to move, to produce a good sound. The bow stops still at the end of the stroke, and again sets pressure preparatory to the next stroke. This bowing is the underlying foundation on which ultimate clarity of style is built.




This bowing cannot be used in fast passage-work. The tempo must be slow enough to provide time for the stopping and the setting of the bow between notes. It is used for all types of on the string staccatos from pp to ff. Used wherever heavy ictus is needed in the sound, also for accents.

Slurred Staccatos

Any section of the bow is good, f and v. Most often v.

A series of martele strokes moving in one direction of the bow. The bow does not leave the strings between notes.



Most often written, when written, on long runs.  is practical. in Moderate or slower, and f or heavy.

"Staccatos"

Any section of the bow f and v

Any note with a stop at the end of it may fall under the generic term "staccato" on the stringed instruments.

Invariably printed with a dot above or below the note, but not all dots mean on-the-string staccatos; see Spiccato, Sautille, Staccato volante, Ricochet below.

OFF-THE-STRING-BOWINGS

Name of Bowing	Section of Bow Used	How Performed	Notation	Typical Use
----------------	---------------------	---------------	----------	-------------

Spiccato (controlled)	Anywhere between frog and middle including middle.	The bow is dropped on the strings and rebounds of its own accord. Must be held very lightly by hand and allowed to recoil of its own volition.	Fairly fast tempo with staccato dots on the notes Molto allegro	From pp to f in passage-work where lightness and sparkling character are desired.
-----------------------	--	--	--	---

"Chopped"	At the frog	Similar to Spiccato, but heavier with less finesse.	Moderate tempo and loud Dynamics.	When a spiccato effect is called for but the dynamic is too loud for a real spiccato.
-----------	-------------	---	-----------------------------------	---

Seville (Uncontrolled Spiccato)	Middle, and very slightly above and below the middle.	A very fast detache which is so rapid that it flicks-off the string each time the bow changes its direction from V to V, and . . . The hand moves in a more perpendicular swing in the wrist joint than for tremelo	presto and presto	In very fast, continuous passages work where lightness and speed are the requisite.
---------------------------------	---	---	----------------------	---



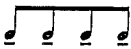


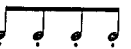

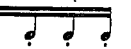

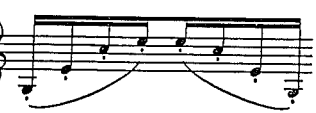

Staccato Volante (Flying staccato)	A series of spiccatos in one direction of the bow, V-bow only.	The bow is dropped on the strings, rebounds, and drops again without changing its direction, continuing in this manner.	(Volante) presto	For lightness on scale passages usually. For the two-note -bow slurred-staccato in very fast passages.
------------------------------------	--	---	---------------------	--

Ricochet	A series of spiccatos in one direction of the bow, V-bow only.	The bow is dropped on the strings going down-bow and allowed to bounce the requisite number of times.	6-8 "from <i>Paris of Bow</i>	Short, light, sputtering runs and "galloping" rhythms as in the William Tell Overture.
----------	--	---	-------------------------------	--


Ricochet tremelo	Middle	Two down-bow bounces followed by 2 up-bow bounces (spiccato).	presto	To replace the single spiccato on repeated note, especially in fast tremelos of long duration.
Ricochet Tremelo				

GLOSSARY OF SYMBOLS AND TERMS USED IN STRING MUSIC

Bowing Terms and Symbols


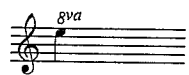
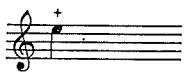



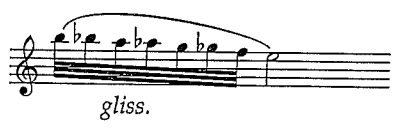
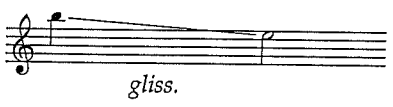
<i>Symbol or Term</i>	<i>Meaning</i>	<i>Explanation or Execution</i>
	Down-bow	The bow moves in the direction of frog to point.
	Up-bow	The bow moves in the direction of point to frog.
Fr.	Frog	To be played near the frog.
Pt.	Point	To be played near the point.
	Détaché	To be played with separate bows, not slurred.
	Slurred	Two or more notes played smoothly while the bow moves in one direction.
	Staccato	Notes are played with abrupt beginning and ending. Length of note is shortened.
	Slurred staccato	Two or more notes played in one bow with stops between the notes.
	Martelé	Heavily accented notes played with staccato qualities.
	Spiccato	A bouncing bow stroke in which the bow leaves the string after each note.
	Ricochet	The bow strikes the string, rebounds, and, while moving in the same direction, strikes the string again to play the second note under the slur. Bow direction is changed to play notes not included in the slur. The number of notes played in one bow is variable.
	Spring bow arpeggio	The bow is bounced across the strings striking each string in sequence.
	Tremolo	Very rapid up- and down-bow, usually toward the point.
a metà l'arco (It.)		To be played with half the bow.
am steg (Ger.)		The bow contacts the string near the bridge.
a punto d'arco (It.)		To be played at the point of the bow.

Bowling Terms and Symbols


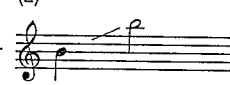
Symbol or Term	Meaning	Explanation or Execution
archet (Fr.)	Bow	
arco (It.)	Bow	Used after a pizzicato passage to indicate the bow is to be used again.
au chevalet (Fr.)		The bow contacts the string near the bridge.
au milieu de l'archet (Fr.)		To be played at the middle of the bow.
au talon (Fr.)		To be played at the frog.
avec de los de l'archet (Fr.)		To be played with the back (wood) of the bow.
battuto coll'arco (It.)		To strike the string with the wood. Same as <i>col legno</i> .
bogen (Ger.)	Bow	
bogen mitte (Ger.)		To be played at the middle of the bow.
col legno (It.)		To be played with the wood of the bow.
colla punta d'arco (It.)		To be played at the point.
coup d'archet (Fr.)	Bow stroke	
détaché (Fr.)	Detached	Not slurred.
en jetant l'archet (Fr.)	Thrown bow	As in <i>ricochet</i> or <i>flying staccato</i> .
flautando (It.)	Flutelike	The bow contacts the string near or over the fingerboard with little pressure.
flying staccato		A series of staccato notes played up-bow with the bow leaving the string between notes.
frog, abbr. Fr.	Frog, nut, or heel of the bow	Used to indicate that the portion of the bow near the frog is to be used.
heel	Frog or nut	
jeté (Fr.)	Thrown	As in <i>ricochet</i> or <i>flying staccato</i> .
jeu ordinaire (Fr.)		Normal use of the bow after a special bowing instruction such as <i>jeté</i> or <i>au chevalet</i> .
L.H.	Lower half of the bow	From the middle to the frog.
lange Bogen (Ger.)	Long bow	
louré (Fr.)		Written  . Played in one bow but lightly pulsed or separated.
M	Middle of the bow	To be played in the middle of the bow.
marcato (It.)	Marked	Accented, separated bow stroke.
martelé (Fr.)		A heavily accented stroke with staccato qualities.
martellato (It.)		Same as <i>martelé</i> .
mit dem Bogen geschlagen (Ger.)	Bow stroke	To strike the string with the bow.
nut	Frog or heel of the bow	
ponticello (It.), abbr. pont.		The bow contacts the string near the bridge.
portato (It.)		Same as <i>louré</i> .
position naturelle (Fr.)	Natural position	Bow normally after <i>sur la touche</i> or <i>au chevalet</i> .
Pt.	Point of the bow	
saltando, saltato (It.)		Slightly ambiguous terms indicating a bouncing bow.
sautillé (Fr.)		Rapid <i>spiccato</i> in which the bow barely leaves the string.
spiccato (It.)		An up- and down-bow bouncing bow stroke in which the bow leaves the string between notes.
Spitze (Ger.)	Tip of the bow	
Springbogen (Ger.)	Springing bow	A bouncing bow stroke in which the bow leaves the string after each note.
sul tasto (It.)		See <i>flautando</i> .
sulla tastiera (It.)		See <i>flautando</i> .
sur la touche (Fr.)		See <i>flautando</i> .
sur le chevalet (Fr.)		See <i>au chevalet</i> .
talon (Fr.)	Frog, nut, or heel	
tip	Point of the bow	
tout l'archet (Fr.)	All the bow	To be played with the whole bow.
tremolo		This is produced by a very rapid up- and down-bow stroke, usually toward the point.
U.H.	Upper half of the bow	From the middle to the point.
W.B.	Whole bow	

OTHER SYMBOLS AND TERMS

Symbol or Term	Meaning	Explanation or Execution
 or 	Natural harmonic	A finger touches the string lightly at the point indicated by the note, producing one of the natural overtones.

Symbol or Term	Meaning	Explanation or Execution
	Artificial harmonic	The first finger stops the string at the pitch indicated by the lower note. The fourth finger (sometimes the third) touches the string lightly at the interval indicated by the diamond-shaped note producing a harmonic of the lower pitch. The example produces 
	Left-hand pizzicato	The string is plucked with the finger(s) of the left hand.
	Trill	A rapid alternation of the principal note with the note one-half or one whole step higher.
	Finger tremolo	The two notes are alternated in rapid succession. They are slurred.
	Portamento	A subtle, expressive slide to or from a note.
à ² avec la sourdine (Fr.) appoggatura	With mute	In orchestral music. Indicates both players on a stand are to play the same part after <i>divisi</i> .
con sordino (It.), abbr. con sord. divisi, abbr. div.	With mute Divided	An ornamental note that precedes a principal melody note, usually as an upper or lower neighbor tone.
glissando (It.) abbr. gliss.		In orchestra music when two or more lines exist in one part. This tells the players to divide the lines. The finger slides on the string. The starting and ending points are usually indicated by notes. Sometimes a glissando is written chromatically as follows: 
		Other times it is indicated by a slanted line as follows: 
mettez la sourdine (Fr.) molto vibrato (It.) non divisi (It.)	Put on the mute Much vibrato Not divided	
non vibrato (It.) otez la sourdine (Fr.) pizzicato (It.), abbr. pizz. portamento (It.)	No vibrato Take off the mute	In orchestra music where there is more than one line on a part, this indicates the player is to play both parts in the case of double stops or all the notes in the case of chords.

The string is plucked with a finger of the right hand.
Akin to a glissando. Produced in the course of shifting between two notes of different pitch. The audible glissando may be from the first note (1) or may precede the second (2).

(1)  or (2) 

<i>Symbol or Term</i>	<i>Meaning</i>	<i>Explanation or Execution</i>
restez (Fr.)		Remain in position.
sans sourdine (Fr.)	Without mute	
senza sordino (It.)	Without mute	
senza vibrato (It.)	Without vibrato	
sordino (It.) abbr. sord.	Mute	
sostenuto	Sustained	Sord. is often used by itself to indicate that the mute is to be used. Senza or senza sord. indicates the mute is to be removed.
sourdine (Fr.)	Mute	
sulla corda (It.)		The passage is to be played on one string. Sul. G. or Sulla C is another way to indicate the same thing.
tessitura		
		The range of a melody or voice part, especially the register in which most of a work or part lies.