

String Technique (Orchestral Examples)

Introduction

For a general introduction to writing for strings and for basic examples, look under *String Techniques* in the **String Writing (Quartets)** section above. This document offers a few further examples of string techniques in the context of orchestral writing. There are many further examples in the extract from Walter Piston's book on Orchestration (below this file on Moodle).

Pizzicato

The classic use of pizzicato for accompaniments is as a bass line. Here the violas, cellos and double basses play in octave unison whilst the woodwind play the tune and the violins add a busy semiquaver figuration.

Example 1: Schubert Unfinished Symphony, 1st Movement



The image displays a musical score for Schubert's Unfinished Symphony, 1st Movement. The score is arranged in three systems. The first system shows the Violin I and Violin II parts, both marked *pp* and *I*, playing a long, sustained note. The second system shows the Viola, Cello, and Double Bass parts, all marked *pp* and *pizz.*, playing a rhythmic pattern of eighth notes. The third system shows the Woodwind parts, including Flute, Clarinet, Bassoon, and Contrabassoon, all marked *pp* and *pizz.*, playing a rhythmic pattern of eighth notes. The score is in 3/4 time and the key signature is one sharp (F#).

In this movement the pizzicato is used not as an accompaniment but more as an added colour – like adding a percussion instrument. Beethoven adds unison pizzicato chords as interjections between the short phrases of the melody.

Example 2: Beethoven Violin Concerto, 2nd Movement, Bar 20

The musical score for Example 2 shows the first three bars of the second movement of Beethoven's Violin Concerto. The key signature is one sharp (F#) and the time signature is 3/4. The score includes parts for Clarinet (Cl.), Fagotto (Fg.), Violini primi (Vl. pr.), Violini secondi (Vl.), Viola (Vla.), Violoncello (Ve.), and Contrabbasso (B.). The score shows a melody in the Clarinet and Fagotto parts, with pizzicato chords in the strings. Dynamics include *p dolce* and *p*.

Later in the same movement, Beethoven uses the entire string section to provide a pizzicato accompaniment to the solo violin (could work with a wind instrument playing the melody too). Initially the violins play chords, which the violas and cellos cascade falling fifths and octaves that reinforce the harmony. In the fourth bar of the extract all the strings play homophonic chords before returning to the previous texture.

Example 3: Beethoven Violin Concerto, 2nd Movement

The musical score for Example 3 shows a section of the second movement of Beethoven's Violin Concerto. The key signature is one sharp (F#) and the time signature is 3/4. The score includes parts for Violini primi (Vl. pr.), Violini secondi (Vl.), Viola (Vla.), Violoncello (Ve.), and Contrabbasso (B.). The score shows a melody in the Violini primi part, with pizzicato chords in the strings. Dynamics include *pizz.* and *sempre perdendosi*.

Example 4: Tchaikovsky Symphony No. 4, 3rd Movement

Tchaikovsky is one of several composers to use string pizzicato much more extensively. The strings pizzicato all the way through the third movement of his fourth symphony.

Initially they play homophonically:

Allegro
pizzicato sempre
Violine 1
Violine 2
Viola
Violoncello
Kontrabaß
Allegro

Then the melody moves between the upper and lower strings, whilst the others play accompanying chords:

21
Viol.1
Viol.2
Vla.
Vc.
Kb.

In the last part of the movement the strings alternate with woodwind and brass and the movement ends with this arpeggio falling through the string section (still all pizzicato):

405
Hrn.2 in F
Trp.1 in F
A. T.
Pos.
B.
Viol.1
Viol.2
Vla.
Vc.
Kb.

Double, triple and quadruple stopping

Multiple stops are often used in orchestral textures for big tutti chords as in the famous opening to Beethoven's Symphony No. 3. Rapidly repeating or changing chords are not practical:

Example 5: Beethoven Symphony No. 3, 1st Movement

The image displays a page of a musical score for the first movement of Beethoven's Symphony No. 3. The tempo is marked "Allegro con brio. $\text{♩} = 60$." and the key signature is two flats (B-flat major or D minor). The score is divided into three systems of staves, each with a dynamic marking of *f* (forte) at the beginning. The instruments and their parts are as follows:

- Flauti.** (Flutes)
- Oboi.** (Oboes)
- Clarineti in B.** (Bass Clarinets)
- Fagotti.** (Bassoons)
- Corni in Es.** (E-flat Horns)
- Corno 3^{zo} in Es.** (3rd E-flat Horn)
- Trombe in Es.** (E-flat Trumpets)
- Timpani in Es.** (E-flat Timpani)
- Violino I.** (Violin I)
- Violino II.** (Violin II)
- Viola.** (Viola)
- Violoncello e Basso.** (Cello and Double Bass)

The score shows a dense texture of chords, with many notes beamed together, illustrating the concept of multiple stops. The woodwinds and brass play chords, while the strings play a rhythmic pattern of eighth notes. The string parts include dynamic markings of *f*, *p*, and *cres* (crescendo), and a *Vel.* (ritardando) marking in the cello and double bass part.

Tremolo

Unmeasured tremolo

There are lots of excellent examples of quiet shimmering tremolo textures in the Debussy Prelude in the Anthology:

- A quiet and relatively low bowed tremolo accompanies the flute in bar 11 on p. 88
- This texture crescendos to **forte** on p. 90
- In bar 94 (p. 114) the strings accompany the flutes with an ethereal fingered pianissimo tremolo with the bow over the fingerboard (see below under *sul tasto*)

Example 6: Debussy, Prelude a l'après-midi d'un faune

[see anthology p. 86]

Measured tremolo

In this example, Beethoven uses measured tremolo to create rhythmic energy. In the first six bars of the excerpt the tune, which mostly moves in quavers, is energised by repeating each note in semiquavers and in the seventh bar the tremolo switches to accompanying chords in the violas and seconds, creating a robust sound, reinforced by the wind and brass chords above. It is worth noting that on the whole measured tremolo is more effective in loud passages than unmeasured, which can get quite scratchy.

Example 7: Beethoven Violin Concerto in D, first movement

The image displays a musical score for the first movement of Beethoven's Violin Concerto in D major. The score is arranged in a standard orchestral format with staves for Flauto, Oboi, Clarinetti in A, Fagotti, Corni in D, Trombe in D, Timpani in D and A, Violino I, Violino II, Viola, and Violoncello e Basso. The first six bars show a measured tremolo in the strings, which is energized by repeating each note in semiquavers. In the seventh bar, the tremolo switches to accompanying chords in the violas and seconds, creating a robust sound, reinforced by the wind and brass chords above.

Bow placement

Sul tasto / Sur la touche

Playing over the fingerboard creates a very light and wispy sound. Here Debussy uses it for colour as the strings play quiet staccato chords as the woodwind cascade down:

Example 9: Debussy, *Prelude a l'apres midi d'un faune*, bb. 85-6

The image displays a page of a musical score for Debussy's *Prelude a l'apres midi d'un faune*, measures 85-6. The score is arranged in a system with multiple staves. The instruments listed on the left are: FL. (Flute), HAUTB. (Oboe), COR ANGL. (English Horn), CL. (Clarinet), CORN. (Cornet), and CORDA (String). The woodwind parts (Flute, Oboe, English Horn, Clarinet, and Cornet) are shown with various musical notations, including staccato markings and dynamic markings such as *pp* and *ff*. The string parts are shown with *arco* (arco) and *pizz* (pizzicato) markings, and dynamic markings such as *pp*. The string parts are marked with *sur la touche* (sur la touche) and *arco*, indicating a specific bowing technique. The score is written in a traditional musical notation style, with a key signature of one flat and a common time signature.

Repeated Down Bows

In this famous example from Stravinsky's *Rite of Spring*, all the strings play accented chords with repeated down bows, creating a very aggressive effect.

Example 10: Stravinsky Rite of Spring, Dances of the Young Girls

13 Tempo giusto $\text{♩} = 50$
I, II, III, IV (I, II senza sord.)
Cor. V, VI, VII, VIII
V-ni II arco (non div.)
V-le tutti f (non div.)
V-c. tutti f arco (non div.)
C-b. tutti f arco (non div.)
sf sempre
sempre stacc. sempre simile

Col legno

In this famous example from *The Planets* the strings all play the menacing rhythm with the wood of the bow.

Example 11: Holst, Mars from The Planets

6 Timpani I wooden sticks
(two players) II
Side Drum
Cymbals
Bass Drum
Gong
Harp I
Harp II
Organ
1st Violins col legno
2nd Violins col legno
Violas col legno
Violoncellos col legno
Doublebasses col legno
p
pp

Muted timbres

Muted strings make an effective quiet accompaniment for gently woodwind solos. One of the most famous examples is the Cor Anglais solo from Dvorak's New World Symphony.

Example 12: Dvorak, Symphony No. 9, second movement

The image displays a musical score for the second movement of Dvorak's Symphony No. 9. The score is arranged in a system with five staves. The top staff is for the English Horn (Corno inglese), which has a 'Solo' marking above it. The four lower staves represent the string sections: Violini I and II, Viole, and Contrabassi. The string parts are marked 'con sord.' (con sordina) and 'ppp' (pianissimo), indicating they are muted and played very softly. The Violini I and II parts also include 'div.' (divisi) markings. The overall texture is quiet and atmospheric, typical of the 'muted timbres' mentioned in the text.

Harmonics

Natural harmonics

The mysterious beginning to Mahler 1 opens with shimmering natural harmonics in the strings that form a backdrop to wind fragments that drift into the texture. Notice that basses and cellos are divided.

Example 13: Mahler, Symphony No. 1, first movement.

Langsam. Schleppend. *Wie ein N*
zu

1. 2. Flöte
Piccolo (3. Flöte)
1. Oboe
Engl. Horn (3. Ob.)
1. Clarinette in B
2. Clarinette in B
Bassclarinette in B
(3. Clar.)
1. 2. Fagott
Langsam. Schleppend.
1. Violine
2. Violine
Viola
Violoncelle
zu drei
gleichen Theilen
Contrabässe
zu drei
gleichen Theilen
Langsam. Schleppend.