“HOW TO LEGATO?”
- AN ONLINE ORCHESTRATION/COMPOSITION LESSON -
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Legato lines, or simply put “slurs”, are probably one of the most "mystified" topics in the diverse and wild jungle of orchestration and frankly something many composers are unsure about. In the following short guide I'll try to "demystify" the topic a bit, in giving you some basic advice and tips on how to achieve proper legato lines.

Before we start – what actually does the term"legato” mean? The term is Italian and means something like “slurred” or "bound" and asks the musician to somewhat glue several individual notes together. For notes which should be played legato the composer should put a legato-slur on top of the specific notes. Legato is the opposite of staccato, which would mean short notes. There's also some in-between-thing between legato and staccato called “portato”. Portato is notated by either tenuto lines, or staccato dots under a slur.

For a start, here are some general tips I can give:

1. When writing slurs, always try to think as the musician (e.g. flutist, hornist etc.) would think. For brass and wind legato lines it's always a good idea if you try to sing the melody. For strings I always try to mime a violinist, like I'd have a string bow in my hand, so I can get an idea of how the passage would feel to the musician with the legato bows I've wrote for him or her.

2. Have in mind that melodic, respectively medium- to high-ranged instruments are usually most likely to use way more legato lines than the deep bass instruments do. Especially the deepest instrument of an orchestra; like the double bass, contrabassoon, or tuba don't use it a lot, as they play the typical bass line figures for most of the time. These aren't as “bound” from nature, as for example opposed to the violins, which play lots of melodies, and therefore use legato much more commonly.

3. Legato bows for strings are usually shorter then they are for woodwinds, brass or other instruments.

4. Brass makes in general the least use of legato bows than any other (melodic) instrument of the orchestra.

5. Here's an really important one; make use of the tenuto sign as well as you do from the slurs. As an example: if you want two exact same notes played twice in a row on an instrument, but legato, you shouldn't just write the usual slur for legato, because one may confuse your slur with a tie, and this way one could think the two (actually separated) notes have to be played as just a single long note, which isn't exactly what you wanted. What you could do here is writing tenuto lines on top of both notes to really make sure they are both played long (and not short) but nevertheless separated. Another example: you wrote a row of several notes, which you as the composer don't see as a “whole” (or a real phrase), so you shouldn't write a slur on top of these, but instead put tenuto signs on every single note. The tenuto sign is also great for individual notes, where you want to make sure that they wouldn't come out too short.

...anyway, I will get back on the tenuto sign topic later in this guide.

6. Always make sure the notation is clear, so your legato slur won't be confused with a tie (or a phrasing bow)

7. So, now let's take a look at where we'd need our legato bows:
   - slurred melodic lines (very often)
   - slurred runs (yup, most times they 're slurred)
   - slurred arpeggios or ostinato motives
   - slurred bass-lines (a bit more seldom)
   - glissandis and grace notes
   etc...
...and where we'd need less or none?

- short notes in general (pizzicato, staccato, spiccato, tremolo etc.)
- hardly accented or more forceful melodic phrases
- fanfare-like stuff on brass
- basslines
- “détaché”/non-slurred runs (strings/woods)
- many percussion instruments, even some pitched ones like timpani and tubular bells usually use none

So, as you can see here, there are quite some big differences in the different instrument groups of a usual orchestra, in terms of how much and how in general legato is used. That's also the reason why I've thought that separating the specific sections of an orchestra may be the best idea for a guide of this kind. Anyway, let us start with the woodwinds.

Woodwinds

If notes for the woodwinds are written under a legato bow, that would mean one wants them to be played "in one breath", so without breathing out within the specific phrase. Generally speaking, the woods use, very much similar to the strings, way more legato lines than the brass does, as they are significantly more often asked to play either cantabile melodic lines, exciting and fast run-/scale-type of stuff, or ostinati/diminution, and these are all gestures which often call for legato lines. Also woodwinds in general love to double the strings, but sometimes with the difference that the bows on the woods can be a bit longer than on stringed instruments. Anyway, many times the woods and strings still share exactly the same kind of slur lengths.

In general, always have in mind that players have to re-inhale after a certain time of playing their instrument. For your information; the time after they have to re-inhale varies especially strong in the woods; so for example flutists would most likely run way more quickly out of breath, than clarinet players would.

![Fig. 1: Original Composition “Spaghetti Con Brio”; on the right you can see a typical, slurred woodwind run](click here to have a listen)

(please right click and open in new tab for this and all following hotlinks)
Brass

Generally speaking, apart from all the non-pitched percussion instruments, the brass section is most likely the section in the orchestra which uses legato the least, especially if compared to strings or woods. For instance fanfare-like passages in trumpets, horns and trombones are most commonly written completely without any legato lines at all. Just think of John Williams iconic “Raiders March” or “Superman Theme” played with all long legato notes - it would sound not nearly as focused, fanfare-like and forced, but therefore way more "rounded" and "smooth" – a sound attitude you are not ideally looking for, if doing this kind of music. Same for counter-lines or motives you want to have really strong, shining out and accentuated – I would always advise to use legato sparingly there (if at all). Also, brass does quite rarely play any scale runs, or similar type of things, which (in woods and strings) as told before, many times would have slurs on top of the notes.

Of course brass does use legato too, and it is similar applied as in the woods; means that brass players would accomplish slurred notes in one breath too. Anyway, let's begin with writing non-legato lines and discuss the legato option later.

So, let's say you are writing on a brass passage in typical fanfare style without any slurs, but would then start wondering: "if there aren't any legato bows, how am I supposed to fine-tune how long my notes have to be?" Well, as stated on the first site of our guide, the tenuto sign is your best friend, especially on brass writing! That would mean, if you want the notes very long but not "slurred", then write tenuto line on top of every single note, and if you want them at "medium length" just write nothing additional. For short or very short notes you should make use of staccato dots.

Figure 2 would be a typical example for brass which isn't using any legato at all. Let's get us a bit deeper into it; horns and trumpets play the main melodic line here, but I decided against any legato lines, cause I wanted that edgy, heroic-iconic sound. If at all, we may apply a legato line on the triplet, or at least to a part of the triplet on bar part four in both bar one and three. The tuba and the trombones provide the basic harmonic material, respectively they are providing some kind of base on which the horns and trumpets with their glaring fanfare motive can “stand on”.

![Image of musical notation](image-url)
As mentioned above; of course brass uses legato too. For example if you want long, cantabile lines, you would most likely need some applied legato. Figure 3 above, taken out of my original composition “Project H.E.R.O.”, is a good example to show that brass, in this case horns and trombones, also use slurred lines. By hearing the additional sound recording, you'll find out that the sound result will come out mellower and melodical and simply not as edgy as the score excerpt discussed before. Of course this is not only because of the legato bow, but also because the player would play that particular passage very different to the fanfare passage in the first example. But the legato bow is fittingly complementing that passage. Anyway, one thing that could be surely debatable here is the length of the slurs. So another option would be to put the whole melodic line from bar 1 to 2 in one big slur, instead of two small ones. This change maybe wouldn't be too noticeable, but there may be a bit less emphasis on the upbeat 8ths starting at bar one, beat four. Another thing one may think of doing would be using no slurs at all, but therefore tenuto signs on every single note. But in my opinion this wouldn't be too fitting for this example, as it’s a quite melodic passage. For sure the slurs tell the musicians not only in which style to play and how to articulate, but also which notes belong to the specific phrase, while with tenuto signs all of this information would be completely missing. Anyway, same as with woods; always remember the players have to inhale after a certain period of time, so slurs should never be too long, or the musicians may inhale at a random point.

Strings

Strings are probably the most complicated instruments in terms of where to put the legato lines and well written slurs would be in general pretty important for them. Why? Well, because how you write the slurs for stringed instruments can have quite some heavy impact on how the music would sound at the end; actually even more than on woods or brass, as it also gives the player information on when to play up-bow or down-bow, and this on the other hand has an impact on the overall phrasing, playing style, articulation and where the player may automatically put accents.

Also the players automatically switch between down-bows and up-bows, and since both up- and down-bow sound a bit different, we've just found another point which makes writing slurs for strings even a bit more complicated and diverse. How the strings produce their legato sound can be explained easily: if several notes are written under a legato bow, that would mean they'd have to play them in "one bowing".
The violins are a great example for standard legato lines, which are often slurred in halves, if they are playing quarters in a moderate tempo (meas. 3 and 5)

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Anyway, be advised that especially the string players sometimes tend to completely ignore the slurs written by the composer/orchestrator and just love to play other, “improved” bowing schemes, but this is treated very differently from orchestra to orchestra. So basically there are often two, three or more different ways of playing a passage with different bowing, and all two or three bowing styles could come out as a great sound result. So it's also a matter of taste at the end. The voice leading players ("1st chairs") of each group, will usually decide then on how the legato is actually played and therefore the bowing directions are applied. That's also why in a good orchestra you will always see violins (if not divided, reg. playing non tutti on a passage) using all the same bowing directions, which looks very nice as well.

String players in general use a lot of legato, for instance a lot more than the brass players do, but they are also not seldomly called to play non-slurred melodic phrases or runs. Similar to woods and brass, legato on strings sounds more "round" and not as edgy as non-legato phrases (or “détaché” as it's called on strings). Also quite important to know is, that the longer your legato bows are, the "weaker" that certain phrase would sound and the shorter the legato bows are, the louder and more powerful that certain passage would sound. That's also a reason why string legato lines are very often significantly shorter than the lines for winds or brass are, as defined in the introduction of this guide. Also as a rule of thumb: for slow and soft music one will usually use longer legato then for fast and loud, or wild music, were rapid bowings or détaché could be more appropriate.
A very typical example of détaché playing style would be figure 6 above. This certain passage would have surely a completely different sound approach if Mozart would have used slurs on some notes. It simply wouldn't sound as lively, vigil and accentuated, if extensive legato bows would be used in this example.

**Switching between slur lengths**

Let's say you've got a piece were the strings are introducing your main melody in fortissimo; after that another part follows were you want exactly the same string melody, but a bit more quiet. As already said: long slurs tend to sound weaker and short slurs are stronger; why am I hinting at this? Well, mainly because you can easily use the previously stated fact to your benefit. So it may be good if the fortissimo part had shorter or no bows at all, while your pianissimo part could have longer bows. This is a great, and although an kinda “natural” way in making the strings softer.

Anyway, be careful with changing the bows completely in reprise parts, as this could also change the character of the melody quite immensely, so the loud part could sound too different in phrasing, opposed to the soft part of your piece. That's why completely changing slurs in a reprise isn't always the best idea. And sure, especially in a “real” big reprise part of a piece you want something to remind you to the exposition of the piece, so please be aware that completely changed application of legato can be misleading to your listeners, simply cause the melody may sound strangely different from the exposition and thus this could also give the reprise in its whole function way less of effect. So sometimes it's a good idea to make only very subtle changes in slurring. Let's take a look at Sergei Rachmaninoff’s Piano Concerto No. 2, Mov. 3, were he executed the previously explained technique very well:
Now, in the majestic, fortissimo reprise of the specific theme, the red squared quarters got surprisingly shorter, meaning the bows are not in wholes anymore but in halves. Frankly this is only a subtle change, but nonetheless still an effective and clever way to get more loudness and power.

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**Up- and Down-bowings**

One thing you should always think of as a music arranger, is the bow and how the string players are using it. As mentioned already, there are basically two types of bowing directions: down-bows and up-bows. Played on their own, both would sound pretty much the same, but actually there's quite some difference in them:

- **Down-bows**: these generally sound more strong, accentuated and forcefully and are very common for strong short notes. Remember those typical, remarkable closing or ending chords or notes of classical concerts music? These in general are always played as down-bow, to help the tones to a maximum of force and power.

  For long notes therefore a down-bow naturally would start out loudly and then decrease in loudness, thus resulting in a decrescendo. That's also the reason why most string players start out with a down-bow on accentuated time signature parts (those are also called “downbeats”), simply as they would introduce the melodic or chordal material, reasonably more forcefully. On the other hand down-bows are generally more applicable for decrescendos.

- **Up-bows**: opposed to down-bows, up-bows generally sound a bit weaker by nature, opposed to down-bows. On long notes up-bows give a crescendo instead of a decrescendo. If a string instrument has to play upbeat notes, or has to start a legato line on an upbeat, it will most likely start out with an up-bow as well.

as you can see, Liszt wrote a lot of down-bows here for the whole string group, to help the strings to a more profound and powerful sound attitude (as the tempo isn’t too fast, the players got enough time to “reset” the bow, cause – of course- after a down-bow the next bow would by standard usually be an up-bow)

Anyway, I've seen quite a bunch of orchestras ignoring Liszt bow direction indications and using a normal down-bow – up-bow playing style on this passage.

Click here to have a listen
In addition to the legato bows, which already give quite some information on how the composer wants the phrasing (and therefore bowing directions), many composers additionally add the symbols for bowing directions. That's also the reason, why especially powerful and loud parts—sometimes have continuous down-bow signs with them (think of Bernard Herrmann's Score for Hitchcock's "Psycho" or the "Dances of the Young Girls"-Part in Stravinsky's "Le Sacre Du Printemps").

As a rule of thumb: if you write music for beginners/scholars you should make use of these symbols a lot. When working with professionals, they often won't need any of these directions, as they are usually implied by the music itself. The annotations should be written if the composer wishes for a certain effect on the specific notes, or has written a passage were the slurring might be confusing, so he writes up- and/or down-bow symbols on single notes, in order to help the players along, which can save up quite some (expensive) recording time.

Fig. 10: Tchaikovsky – Piano Concerto No 1., Mov. 1 – Opening, as you can see several big chords in Vl.I, Vl.II and Vla. - Chords like these are typically played In down-bows (with resetting the bow between the chords) to achieve maximum force.

As it's somehow mandatory anyway, there are no bowing signs included.

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Since there are two different bow directions, which do also share a subtle difference in sound, it's always a good idea (if not even mandatory) to comprehend the bow directions, and to check if they would “come out right”.

Let me explain this with a short example: let's say we've got the strings playing a regular run in four fast 16ths on every beat in a 4/4 time signature frame, and let's say the composer writes a slur on every bar, so we'd consistently have 4 16ths glued together by a slur:(note: as explained above, mind that the bowing signs usually wouldn't be written down anyway in professional music literature on a pretty much self-explaining passage like the following, same there for the accent signs)

Fig. 11

The result would be a light accent on every beat of the measure (yup, if a string bow hits a new string, there will usually always be a light, naturally caused accent, that's another important aspect).

Now let's use only two slurs in one bar on the 16ths:
The sound difference would be, that we don't have light accents on every beat anymore, but only every second, so 1 and 3 and on.

Well, now we would like to try out another bowing; we'll slur the first group of four 16ths on beat 1, slur the eight 16ths in a row from bar 2-3, and then we'd put another short slur on the four 16ths on bar 4. So the bowing would go like this:

You may guess what's the problem with the last bowing construct in figure 13; we would end with a down-bow, and that would mean, the new measure after this would have to start with an up-bow. Also, the articulation would be a bit different than before, if not quite unusual. Sure, this may be OK, and actually such bow shiftings are not uncommon, but let's say for this specific situation we want exactly the same bowing (and phrasing) for every single measure. One workaround here could be that the string players quickly “reset” the bow positions, so they can start with a down-bow again on the new measure. Yes, this is very commonly done, but as we are on fast 16ths it may be hardly applicable for the player, so not the best solution for our specific example. So we go back to bowing examples one or two instead of the third one.

…well, and that's why it's important to always count through the bowings used on your string scores. So, counting them through and see were you land, is never a bad idea and can comprehensible for confusions in recording sessions.

**Portato/Mezzo-Staccato**

Let's say you want several notes played in "one bowing" and more lightly, respecitively not in full length time, you could make use of a legato bow, but the staccato dot or tenuto line sign above/under every note (if you use ten. or stacc won't make any difference). This will result in a sound which is also known as “mezzo staccato” or “portato”.

**Phrasing Slurs**

Some composers also tend to not write legato lines, but phrasing lines for the strings. At first sight, these look like legato lines, but can usually very easily be made out, because they are much longer than typical slurs and are unplayable in one bow as well. I generally would not recommend to write those long phrasing lines. Using them is a bit of laziness on the composers side in my opinion and can lead to confusions under the players, and therefore also to more (costly) rehearsal time in a recording session. So unless you write
concert music, which usually has significantly more rehearsal time, I wouldn't recommend to use any phrasing lines.

![Fig. 15: Liszt – Piano Concerto No.2, Allegro Moderato; A beautiful long phrasing slur. Theoretically this could be played in one bowing, but practically absolutely not; as the tempo is low and thus the phrase would most likely end up very weak](Click here to have a listen)

**Other Instruments and Singers:**

A specialty about the harp and all keyed Instruments like piano, keyboard, celesta etc. is, that they are practically capable of playing very long, well theoretically even infinite legato. This is because they don't need to breath (like woods and brass) or change the bow (like strings). On keyed instruments the legato will usually be achieved by holding keys out a tad longer before the next one comes, to somewhat “glue” both individual tones together. On the piano, celesta, or any other keyed instruments with a sustaining pedal, a “fake legato” is often achieved by holding out the sustain pedal. Often the “real” key binding legato and pedal legato are used simultaneously.

![Fig. 16: Tchaikovsky – “Nutcracker Suite – Waltz of the flowers”; a perfect example for a typically very long legato bow placed above a harp arpeggio](Click here to have a listen)

Then we've got all the instruments with sticks, e.g. marimba, xylophone, glockenspiel; these are the exceptional instruments, which produce a certain pitch, but aren't capable of producing any real legato at all, simply as their produced sound is quite short in nature, but usually slurs are used nonetheless, to give the musician some information about the phrasing. For Tubular bells the common practice is that composers usually never write any bows at all (not even to give information about the phrasing).

As last important pitched percussion instrument we'd have the timpani; this instrument uses pretty much no slur indications at all, if at all usually only for grace note, which could be bound to a following main note.

As for the singers, these practically handle like winds and are also in terms of bow lengths often pretty much similar. Otherwise no other special rules for these instruments and singers.
How much and where exactly you are using legato lines is for sure still a matter of your own taste - no matter which instrument. Also the topic is surely treated a bit differently from era to era and composer to composer as well.

Surely, all those kinds of different slur approaches can lead to a lot of different, but often equally great sounding results. Intense study of printed scores will help to give you some more insight into this topic.

I hope you enjoyed this little guide and found some value in it for your further orchestration studies.

Frederic C. Bernard

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Special thanks to my brother André Bernard for critically reviewing and proof-reading this text in terms of orthography.

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