Harmonising a chorale melody in four voice parts

This guide is designed to help you work out a stylistically appropriate harmonic framework for a given melody, and to array that harmony across three voices beneath the melody.

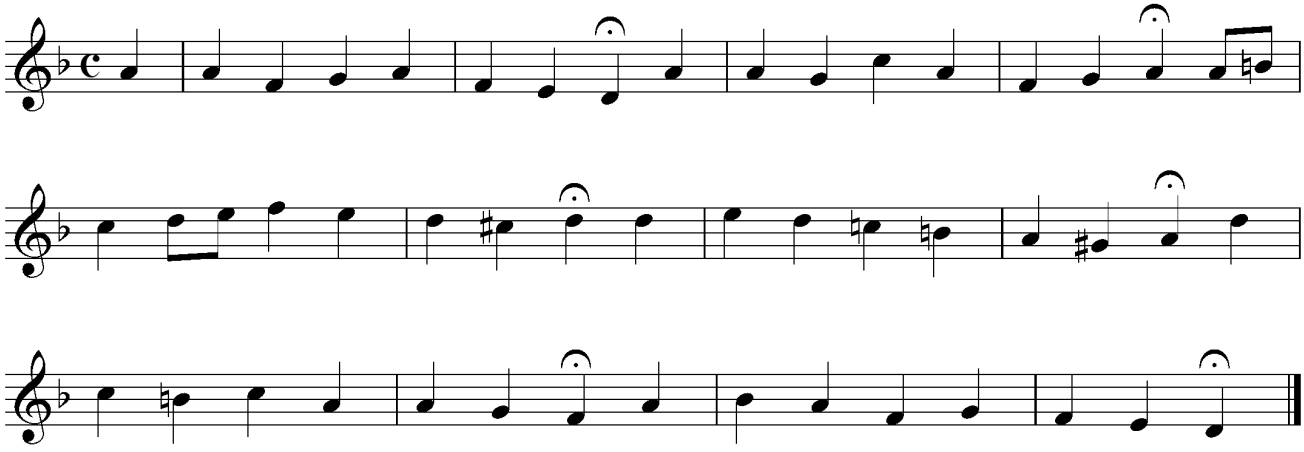
You may like to use this guide to check a pre-existing piece of work that you wish to submit, or as a set of instructions for a new piece of work. Don't be concerned if some of the concepts and terminology are unfamiliar to you. This exercise is intended to help prospective students at all stages, and you are encouraged simply to try your best. There are many possible solutions to all exercises of this kind, so please do not submit one closely based on this guide.

The music should work in two directions at once: 'vertically' and 'horizontally':

- the vertical direction is the harmony: all the chords created should obey the conventions of consonance and dissonance (see below for an explanation of these terms), and should operate within the diatonic system (i.e. there should be identifiable key areas like the tonic, dominant and subdominant).
- the horizontal direction is 'voice-leading': this means that each voice part works as a line by itself, with occasional exceptions like octave leaps.

The combination of harmony and voice-leading is the foundation of all music in the 'Western Classical' tradition from at least the 15th to the early 20th century. Quite a lot of notes have been composed, performed and studied in accordance with these conventions!

This guide takes the form of a partially worked example: the chorale *Vater unser im Himmelreich*. (The exercise is completed without text.)



BASIC CONVENTIONS

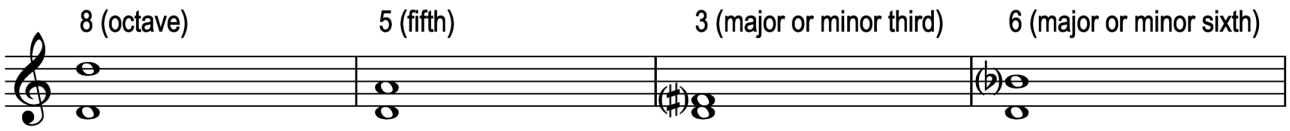
Before we begin, here are some basic 'rules' to which music in this style/tradition adheres. (The 'rules' are really just an abstraction of practice, but they help us understand the principles of writing in this style.)

Consonance and dissonance

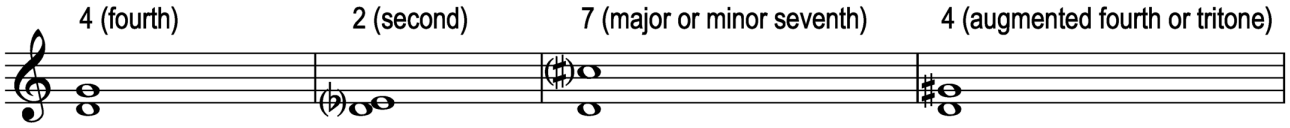
Certain intervals between two voices are considered consonant, and certain intervals dissonant. You can use a consonance at any point, and must always begin and end phrases with consonance.

But music consisting entirely of consonance would be dull, so dissonance is equally important. The treatment of dissonance is the defining characteristic of much music in this tradition.

The consonant intervals are:

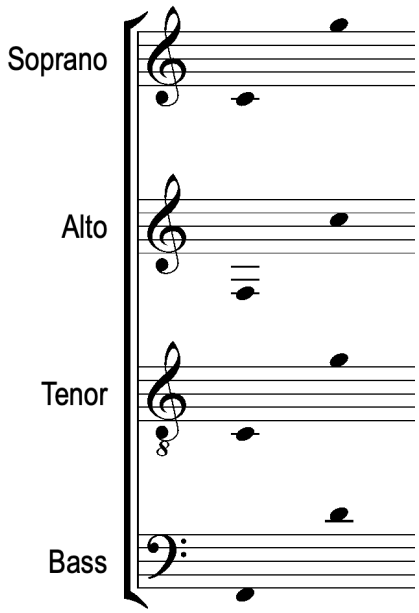


The dissonant intervals are:



Voice range or *tessitura*

The basic ranges of the four voice parts are as follows:



There are exceptions, but in general try not to stray beyond these boundaries—indeed, try to keep well within them. Each voice should have a 'centre of gravity' in the middle of its range—so avoid writing successive bars at the extremes of the ranges. Have a look at examples by J. S. Bach to get an idea of 'standard' practice. You can find them all online: search www.imslp.org for 'Riemenschneider' for a comprehensive collection, which sets out most of Bach's chorale harmonisations in 2-stave format.

STEP ONE: CADENCES

Sub-steps

1. **What's the key?**
2. **What are the likely key areas?**
3. **Fill in possible cadences**

1. This chorale has a key signature of one flat, so it's either in F major or D minor. A glance at the final bar confirms that the **key** is D minor. This means…

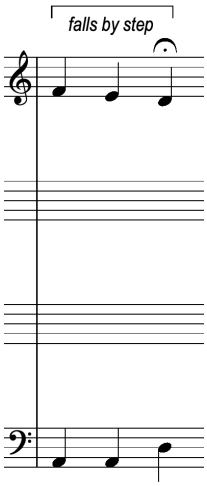
2. The **likely key areas** – where the cadences are likely to fall – are as follows:
    - Tonic (I): D minor
    - Dominant (V): A (with major third, C sharp, at cadences)
    - Subdominant (IV): G
    - Relative major (III): F

    These areas are all candidates for the cadences in the chorale. The cadences are most likely to be *perfect* (V-I) or *imperfect* (I-V); sometimes there might be an *interrupted perfect cadence* (V-VI). Remember that to articulate a perfect cadence clearly, the V chord needs a major third, which is the *leading note* of the main key (I) – in this case, C sharp in a chord of A.

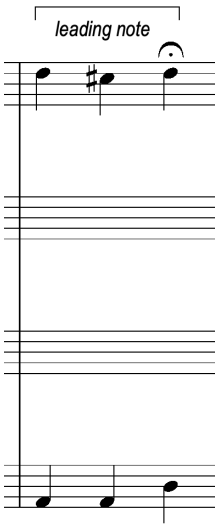
3. Look for cadences in the likely key areas that will fit the melody. Start with the bass line only, but think about what the other voice parts will be doing. You're dealing with triads (three-part chords), which in a four-part texture means that two voices will be singing the same note (unless it's a seventh chord, in which case the voices will all have different notes).

    The ends of phrases are denoted with fermata symbols over the melody ('pause marks').

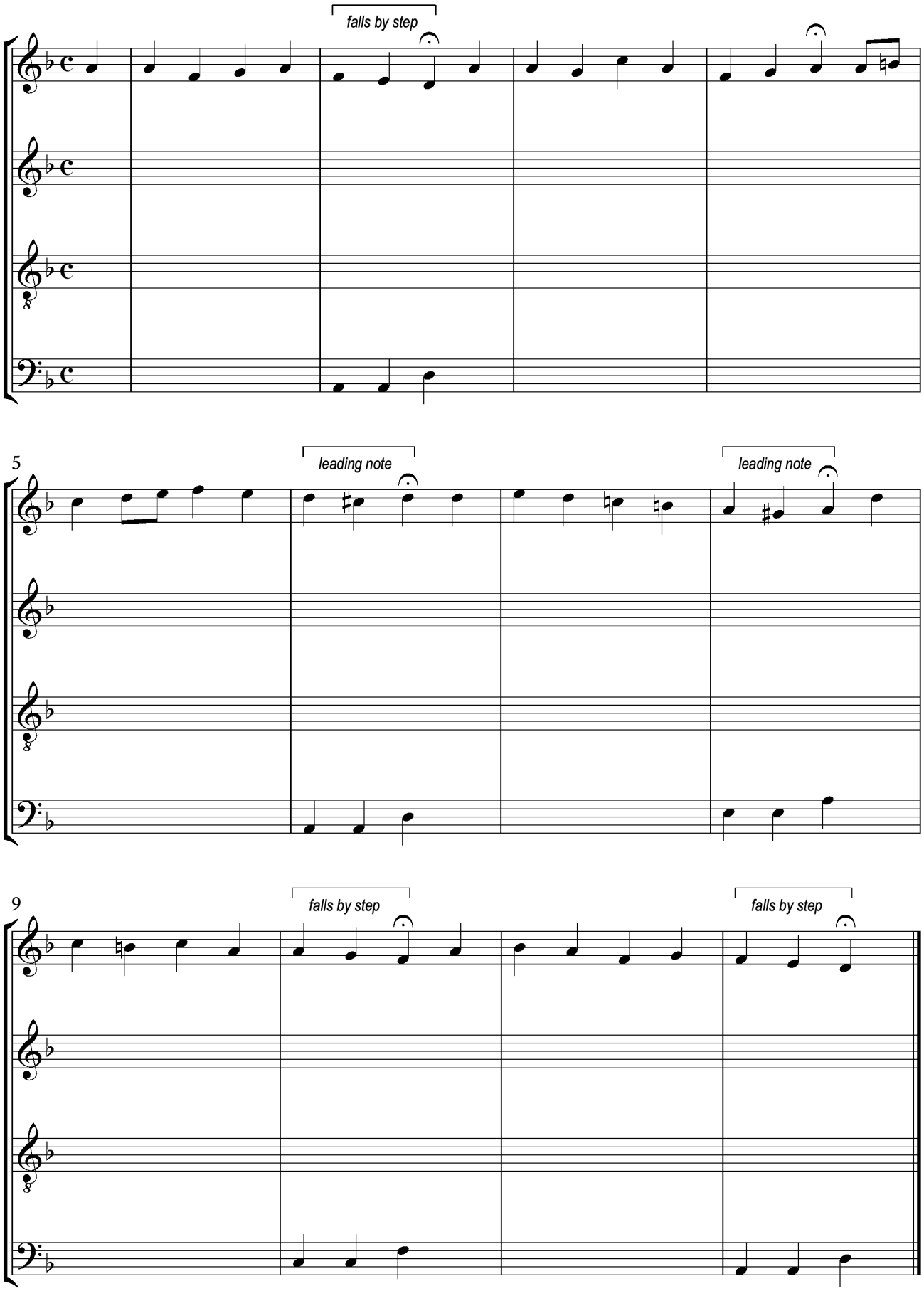
    Often, the top voice part will fall stepwise to the tonic – e.g. bar 2:



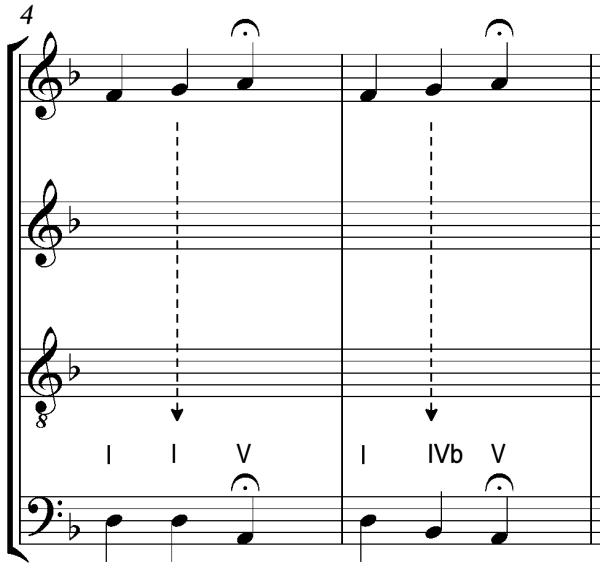
    Or it might provide its own leading note – e.g. bar 6:



On this basis, we can fill in almost all the cadences with V-I movement:



This leaves the cadence in bar 4. The melody suggests an imperfect (V-I) cadence here, but if we move from the tonic D to the dominant A in the bass, the second chord of the bar is a perfect fourth, which is dissonant (4ths are fine between any of the upper voices, but not between the bass and any voice above it—unless they're treated correctly, as is the case with all dissonant intervals).



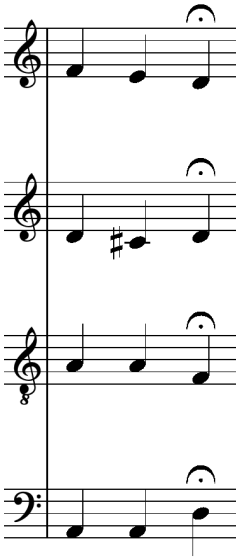
One way of avoiding the dissonance is to move from D to A via B flat. This gives a consonant interval (a sixth) and a strong harmonic movement from I to V via IV.

As we continue, we should be prepared to make more judicious changes of this kind to the bass line we've sketched in.

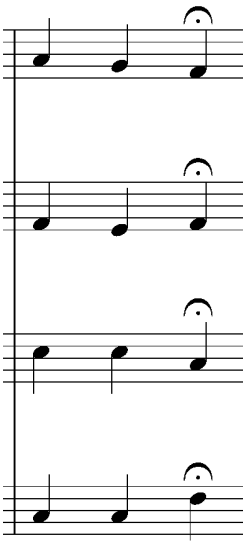
STEP TWO: FILL IN MIDDLE VOICES AT CADENCES

Every perfect, imperfect or interrupted cadence needs a leading note in the dominant chord (V) and a major or minor third in the tonic chord (I). The leading note will always appear as a major third in chord V. If a voice part supplies the leading note in chord V, it cannot supply the third in chord I, because this would involve an ungainly rise or fall in the melody.

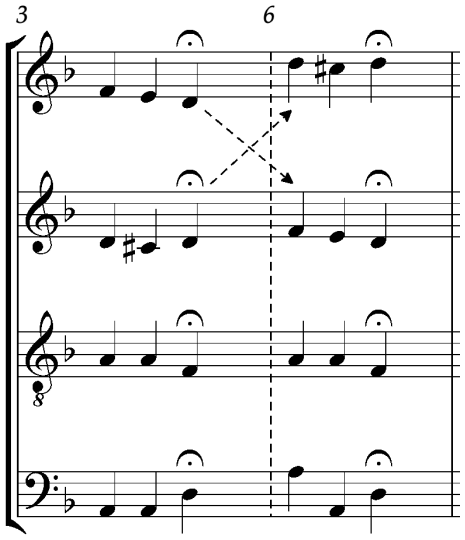
In b.3 neither the melody nor the bass line supplies the leading note or the tonic third, so these must appear in the inner voice parts ('alto' and 'tenor'). The best spacing of the V chord on the second beat is with the third in the alto – if it were an octave lower in the tenor it would be too low. So it will probably look like this, with the tenor supplying the third in the tonic chord:



This will work for the final bar as well, and for b.10, where there is another perfect cadence with this profile in the outer voices:



In places where the leading note in the V chord appears in the melody (soprano) voice, take the arrangement above and swap the voices around. Here, for example, between the cadences in b.3 and b.6 the top two voices exchange roles, leaving the lower two voices unchanged:



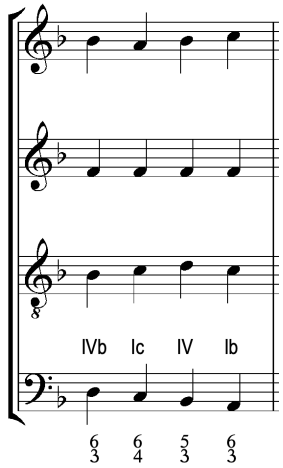
There's no reason why a perfect cadence shouldn't include a major third instead of the default minor—the harmonic twist known as the *Tierce de Picardy*. Almost certainly, a chorale in a minor key will *end* with a major chord, and it would be perfectly in order for (e.g.) the tenor in b.6 to fall to an F sharp rather than an F natural.

STEP THREE: THE WHOLE BASS LINE & CHORD POSITIONS

Sub-steps

1. **Root positions and inversions**
2. **Parallel and contrary motion**
3. **Passing notes**

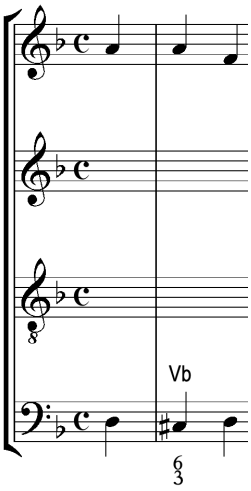
1. It's good for the chords generated by your bass line to be a mixture of root position and inverted triads. Most common are first inversions, or 6/3 chords – the numbers, or 'figures', which are printed vertically beneath the bass line in the extracts, refer to the intervals of the voices above the bass. Second inversions (6/4 chords) are used either as preparations for cadences (see above, b. 3, 6, 8, 10 & 12) or in passing between two more stable chords, like this:



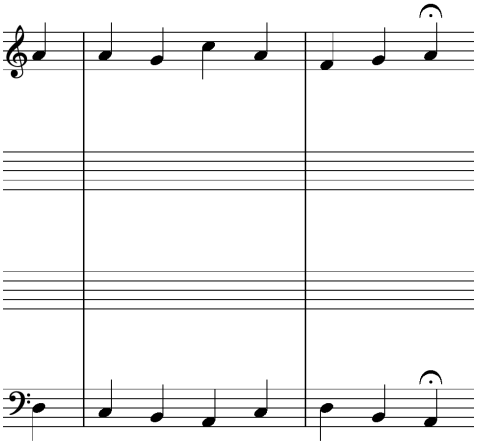
In this extract the tonic is F major:
the second chord is a so-called 'passing 6/4': it passes between a first inversion of B flat and a root position of B flat.

6/4 or second inversion chords are *inherently* unstable. This is because they incorporate a dissonant fourth between one of the upper voices and the bass. That dissonance means that they must resolve to a more stable chord, a root position or first inversion triad.

2. Likewise, it's good if the bass and soprano (melody) lines move in a mixture of parallel and contrary motion. When the melody has a repeated note, it's likely the bass will move – e.g. the first two notes of the chorale:

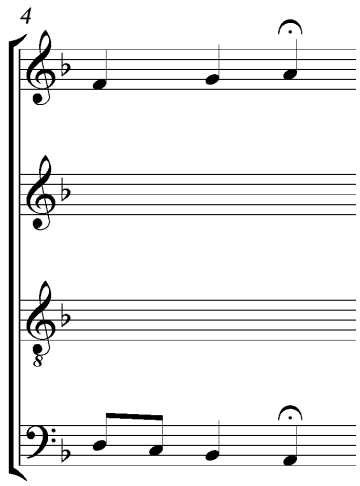


Looking at the second phrase, here's a solution that combines parallel and contrary motion:



Think about the middle voices, too: what inversion are these triads? For example, the first chord of b. 4 in this version could be a first inversion of A or a (passing 6/4) second inversion of F. Decide on that, and you'll have a good idea of what the middle notes should or could be. It might help to sketch in figures below the bass line.

3. **Passing notes** are a good way of making the bass line more like a melody. They can be dissonant, as long as they pass *by step between two consonances*. Thus, in b. 5, the crotchet D on beat 1 could be turned into a quaver, followed by a C:



The C is dissonant to the F above (a 4th), but because it's passing by step from a D consonant with the F above to a B flat consonant with the G above, its dissonant nature is disguised.

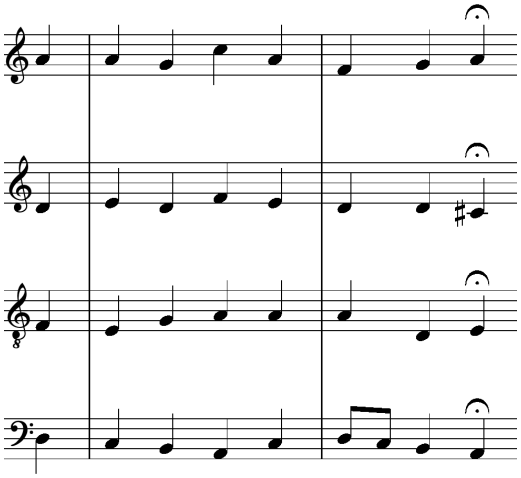
STEP FOUR: THE ALTO AND TENOR VOICES

Sub-steps

1. **Filling in the triads**
2. **Checking for consecutives**

1. You may already have a good idea of what notes are left – what's missing from the vertical harmony – but it's important also to check the horizontal axis, the melodic quality of the voice parts. They needn't be very distinctive or interesting melodies, but you should aim for fairly conjunct (step-wise) lines, which will sometimes move decisively by wider intervals—just like the bass line.

   Let's return to the second phrase. We have a good bass line already, and if we work out what harmony it generates, we can fill in the inner voices:



This moves harmonically as follows:

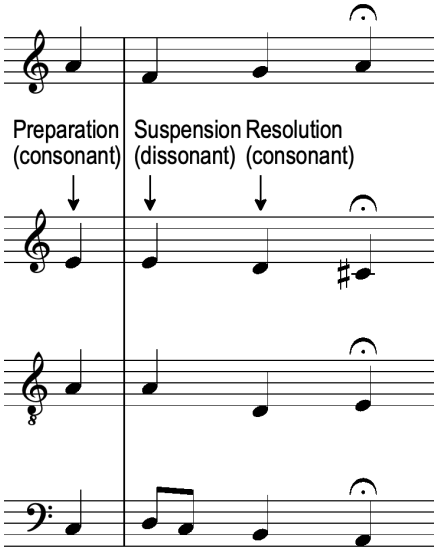
- Tonic root position
- Dominant (with minor 3rd) 1st inversion
- Subdominant 1st inversion
- Mediant (relative major) 1st inversion
- Dominant (minor) 1st inversion
- Tonic root position with passing note
- Subdominant 1st inversion
- Dominant (with major 3rd) root position

In voice-leading terms, the lower three voices move largely by step. Note that the second and fifth chords in the phrase are harmonically the same but slightly different in the way the notes of the triad are distributed: in the second chord, the 5th appears in two of the voices, whereas in the fifth chord, it's the root that is doubled. Note also that the Tenor voice jumps down a perfect fifth before the penultimate chord.

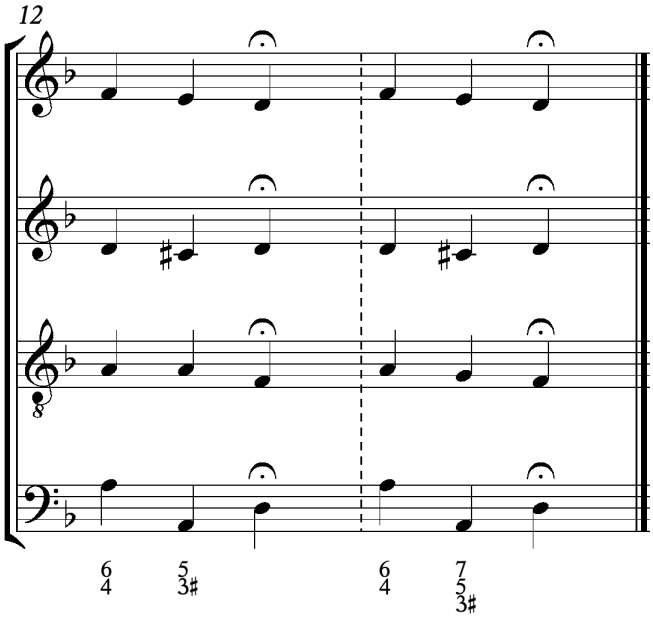
Can you see any opportunities for passing dissonance?

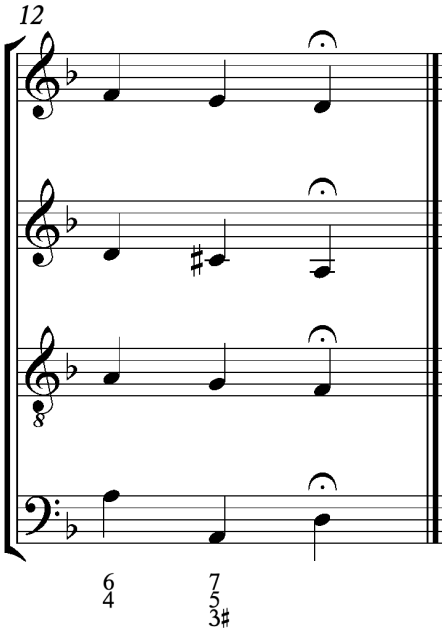
There is an opportunity for another type of dissonance: the accented dissonance or *suspension*.

The alto voice might, at the start of the second full bar, 'suspend' its E to make a dissonant 9th above the bass. This can only happen if the note is consonant in the chord beforehand, and *falls by step* to another consonance in the chord following. The E passes these tests: and accented dissonances are the best bits to sing.



Seventh chords are different from triads in that no voice need double another's note: there are four notes in a seventh chord, rather than the three in a triad. In this style, seventh chords always appear as a result of stepwise movement in a voice – they are a good example of the harmonic and melodic 'axes' working together. Take the final cadence: here the tenor voice falls from A (doubling the 5th of the tonic chord in second inversion) to F (the minor third of the tonic), via a dominant chord in which it doubles the root. But it could fall step-wise, from A to G to F, producing a seventh on the penultimate chord:





There's one other feature of Bachian chorales worth mentioning: at cadences such as the one above, the voice that has the leading note – in this case the alto – often falls to the 5th of the tonic triad, so the final chord is 'complete'. So in the extract above, instead of resolving upward to D, the alto would fall to A. It doesn't look quite right, but it is what Bach (and others) do, to provide a more satisfying sonority at the end of the phrase.

2. **Consecutive fifths and octaves** are not part of this style—indeed, composers went to great lengths to avoid 'an excess of perfection' in their harmony. Make sure you check your work very thoroughly for consecutives, *between all combinations of voices* (i.e. between soprano and bass, soprano and alto, soprano and tenor, alto and tenor, alto and bass, etc.).

   If you discover consecutives, don't despair. There is another solution, probably close at hand. You can't usually cheat your way out with passing notes, because the ear will still detect the consecutive motion between the beats of the bar. Something will need to be changed – possibly the chord before the two with consecutive motion, possibly the bass line – but the solution is there somewhere, and the consecutives are there to lead you to it.

Over to you: good luck!