

# ***Approaches to Arranging: Developing Harmony***

## ***by Artemus***

The starting point of any adventure in producing an arrangement would be to have a good idea on what you wish to achieve. What is the purpose of your arrangement? The answer to this question alone will determine how you can go about arranging and it is important to know, since there are countless ways in which a piece of music could be arranged. There really is no end. You may think that in standard harmony there are only 12 different notes so how could the possibilities be endless? Look at the world around you, look at the variety of different “things” that exist – try counting them! Yet there are only 94 naturally occurring elements that combine to form everything around you, including you and me.

Worry not, I am not about to begin a discussion on musical philosophy or humanities; I'm simply pointing out the myriad possibilities that there are when it comes to arranging and the relevance of having a clear understanding of what you want to accomplish when arranging. Furthermore, it should be apparent that I cannot present a guide that covers everything; the following is only a small example of one idea, which itself may be approached from many different angles and can be used in any way imaginable. Although, there are plenty of resources available for further study where authors have expounded the secrets of unlocking harmony and then there are further sources of information for those that want to pursue more specific sounds, e.g. film scoring, electronic music, or jazz orchestration.

In this article I present one of the routes I take when I wish to play with an existing melody and create a more individual style. This is by no means an exhaustive account of reharmonisation, counterpoint or voice leading, although some basic techniques are demonstrated. In this article I will discuss a process in which something as bland as a stale biscuit can be turned into the blueprint for something more colourful and exciting. Note, however, that I merely present the melody and harmony, expressed with a voicing on the piano. These are not the only voicings available of course, but they serve as a demonstration of the subject matter. The voicings are also fairly open so that individual melodic lines can be visually identified easier.

For the rest of this article we shall be looking at a well-known melody called “Ah! vous dirai-je, Maman”, popularised through nursery rhymes such as “Twinkle Twinkle (Little Star)”. I have chosen this melody for two reasons; i) it has been the source for many rearrangements and variational compositions by many composers, including the likes of the young W.A. Mozart, and ii) music does not get much less interesting than this.

Before we begin, sing the first line. Notice that the melody is contained within the major key and apart from the first interval of a perfect fifth, the melody moves diatonically, with the last half of the first line descending down the scale. The traditional harmony applied would be as follows.



***Figure 1*** Melody and simplest harmony using primary triads

This is harmonised with the primary, triadic harmonies, i.e. tonic, subdominant, and dominant (I, IV, and V respectively). These chords make up the functional harmony since they clearly define the music's tonality and plot the course for its direction. Of course we could just harmonise the entire melody with a C major chord, but there's a word for that: **mono-tone-ous!** That's not to say you can't just stay on C major, but with the melody as it is, an audience will quickly begin to fall asleep. Minimalistic chord movement can work, but one has to be clever to keep the music interesting; using different instrument timbres and varying texture, or using wider or more exotic intervals, or introducing bitonality. There are options and they are worth investigating but for this article we will look at expanding the harmony whilst leaving the melody unchanged.

Using the primary triads, we have a developed shape but it's very black and white, or rather red, blue, and green. There are other colours of the spectrum that we can use to blend the colours together. These supporting colours, or chords, can be found by harmonising the rest of the major scale. A triad typically consists of three notes; a root, a third and a fifth, which can also be viewed as stacking thirds. With this principle the major scale can be harmonised thus:

C major – D minor – E minor – F major – G major – A minor – B diminished  
(C – Dm – Em – F – G – Am – B°)

The simplest method would be to apply the triads to every different note of the melody as the root of the triad, i.e. C – G – Am – G – F – Em – Dm – C. However, in doing so, the harmony directly follows the line of melody and does not enhance it much more than hearing the melody itself since each melody note remains the root of each chord. This is not the same as parallelism, or planing of the chord, where the chord shape is maintained but moved around. This will be exemplified later.

A better approach would be to decide which notes are *target* notes and which are the *approach* notes. The target notes generally are longer notes which are chord tones or tensions of the functional harmony. In this example, the target notes are a little ambiguous though – they could just be the end note of each phrase, such as the G in the second bar and the C in the last, or they could be each of the notes on the 1<sup>st</sup> and 3<sup>rd</sup> beat of the bar. By deciding on the most pleasing tones of the target notes, the approach notes can be reharmonised as desired.

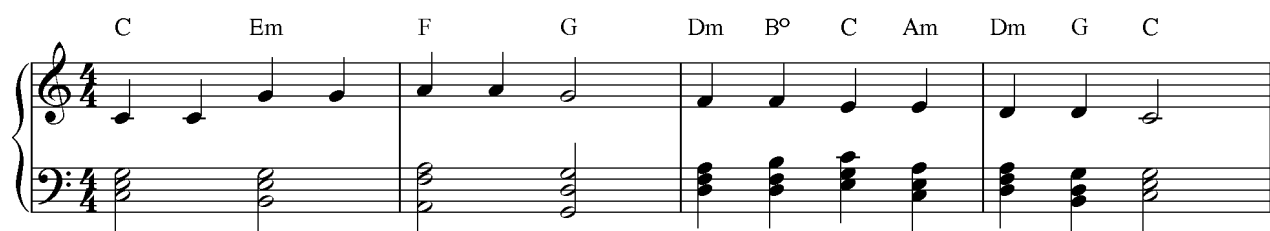
A sense of movement can be best created by considering the bass movement and writing a *countermelody*. I stress the word melody since it should not only harmonise and lift the main melody, but it should also stand up on its own to have melodic interest. In doing so, the music is sure to have a more lyrical quality and hold much more interest than a repeated pattern.

Some guidelines that I set myself up to follow are:

- use both similar and contrary motions
- avoid large intervallic leaps
- do not overdo or overuse any particular idea – *don't be too predictable*

This last point is the main motto that I'd like to bring attention to. It ties in with the importance of having a countermelody that is of melodic worth. A descending scale in contrary motion to the melody can sound wonderfully smooth, but doing so for an entire passage could dissolve the desired effect because the ear can predict what happens and quickly accommodate. A certain amount of balance between predictability (for listener to relate to the music) and surprise (for the listener to remain interested) should be the priority.

These points are shown in Figure 2 where the melody is harmonised using triads from the C major scale. The voicings in the bass clef are the way I would opt to play them since they demonstrate much better voice leading for a three-part harmony than if all the triads were played in the root positions.



**Figure 2** *Melody and harmony using triads from major scale harmony*

In particular, note the descending bass line in the first two bars that is in contrary motion to the melody. By writing the bass line like this first, it helped me to decide on the chords for the harmony: C major to E minor sounded best to me since I preferred to reserve the dominant chord for the end of the first two bar phrase and in the last bar for a V – I cadence. Also, the C major and E minor triads share the notes E and G; the less notes changed from one chord to the next in a progression, the smoother it will sound.

The harmonies in the second phrase (bars 3 and 4) arose, again, from creating an interesting bass line first, which in this case was a descending pattern of melodic thirds:

D – B – C – A – (B) – G – C

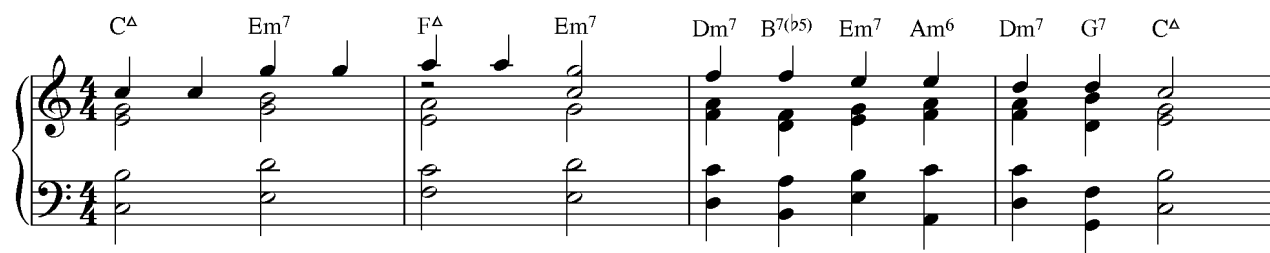
The last bar was easy enough to harmonise with a very commonly used cadence: II – V – I. So, instead of B° – G – C, it is Dm – G – C. Also, as mentioned previously, the chord progression sounds smooth because of the minimal movement between them; both the chord choices and their inversions are considered with the principle of maintaining the notes close together. From D minor to B diminished, the A (the fifth of D) resolves up a tone to B (the root of B diminished). The diminished chord has an unstable, tense sound which wants to resolve either a tone down (A major) or a semitone up (C major). C major to A minor (the relative minor of C) is another smooth transition with G (the fifth of C) going a tone up to A (the root of A minor). In fact, from C major in the third bar, we have a I – VI – II – V (I) progression – another commonly found cadence.

This example now has a much more mature sounding harmony than that shown in Figure 1, yet the process of arriving at this has, I hope, been simple and logical. This is by no means original. Compare it with the first line of one of the most well known arrangements of this song: Mozart's 12 variations on the theme (K. 265/300e). You'll notice just the melody and a countermelody, which in bars 5 – 8 (equivalent to bars 3 – 4 in Figure 2) has a descending thirds pattern to F, finishing with G to C, i.e. D – B – C – A – F – G – C. Sound familiar?

The harmony in Figure 2 sounds very much like a choral work, or such as you might find in church/hymnal music. This is all very well, but what if you want a more modern sounding harmony. You'll notice that the melody notes are all chord tones of the triads used. Before we start using chord tensions, let us apply a very simple technique for making this sound a lot richer without doing much work at all. How? Remember that we harmonised the major scale using triads. As the name implies, a triad consists of three notes, i.e. two stacked thirds, but why stop at this? why stop at three notes?... Why indeed! Stack another third on top and you've created a “seventh” chord. These do not contain seven notes (that would be the major scale played harmonically, which is silly), rather the seven refers to the seventh interval that has been added. So harmonising the C major scale as before we get:

C maj 7 – D min 7 – E min 7 – F maj 7 – G (dominant) 7 – A min 7 – B 7b5 (or half-diminished)  
(CΔ - Dm7 – Em7 – FΔ – G7 – Am7 - B<sup>o</sup>)

So substituting the relevant seventh chords in place of the triads we arrive at a much fuller sounding harmony, shown in Figure 3.



**Figure 3** *Melody and harmony using seventh chords of the major scale*

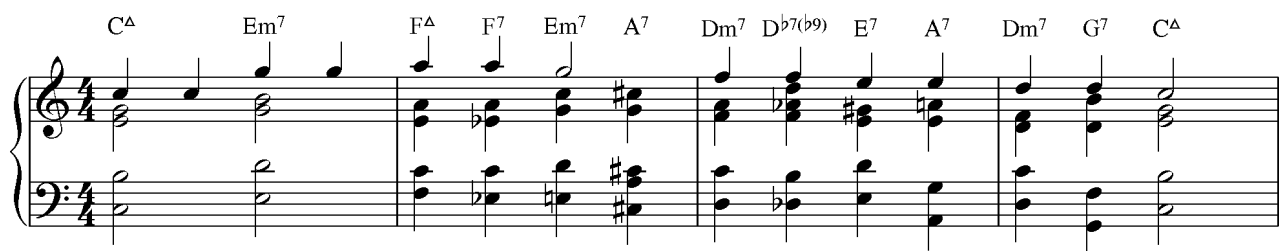
So you think I made a mistake. You think that second Em7 is a typo and that I meant to write Am7, not Am6. Well done for spotting it, but that's no mistake (nice try). I decided to return to Em in the second bar rather than ending with G. The first two bars are more like part of a sentence - the whole 4 bars making a the fuller phrase. Using the V chord (G) at the end of the second bar is like joining two subjects in a sentences with a big “AND” whereas going back to the Em lends a more subtle transition to the Dm in the next bar, replacing the “AND” with more of a “comma”; a gentle breath. Harmonising the G in the second bar with the V chord sounds okay with the triadic harmonies, but harmonised with the seventh chords of the major scale yields a dominant seventh, which is a major triad with a minor seventh. The interval between the third and the seventh is a tritone, which is very unstable, making this chord want to resolve much more strongly than when it was a lowly G major triad. Since the next chord is a Dm7, not the root, the Em7 would be a better choice in my opinion. As for the Am6, it should be fairly obvious why I specified the minor sixth rather than the seventh when you look at the countermelodies in the treble clef. With the minor sixth of A (F), the rising thirds pattern can continue. In addition, the minor sixth is an important chord tone that distinguishes the Aeolian mode, which in the key of C is A (natural) minor. Anything else? Yes! The C chord in the third bar is now Em7, making the last cadence a III – VI – II – V; again, a common sequence, particularly for turnarounds.

Now we have something more substantial to work on, so let us begin to make this a bit more interesting. Thus far, we have established a backbone harmony to the melody and padded this out using seventh chords. It's time to start squeezing more juice out of it and delve into the realms of reharmonisation. Strictly speaking, reharmonisation is the substitution of an existing harmony with an alternative one, i.e. chord substitution, but in actually it encapsulates harmonic embellishment too. So rather than thinking of just putting one chord in place of another, it's more accurate and more sensible to think of adding greater melodic development into the harmony. With that in mind, I'll start backwards. Now have a look at Figure 4. My preferred approach to reharmonisation is to identify the target notes and stuff harmonies in-between these. Having a goal or destination makes any journey more meaningful than just aimlessly wandering around. Moreover, one avoids the danger of getting lost. So, the most obvious target note is the last note. This last note, the root (C), is preceded by the III – VI – II – V. It's common for the VI to be played as a dominant chord (VI7) because not only are there more tensions available for use when using a dominant chord as opposed to a minor seventh, the VI7 wants to resolve down a fifth to II much more strongly. In truth, it's also common to make all the chords dominant sevenths – then the world becomes an oyster.

I decided on a chromatic motion of the bass line from D to D $\flat$  in the third bar, implying a C where the E7 chord is, which makes this chord stand out a little. The ear expects to hear a C major but instead hears the E7 yet the transition sounds smooth because the flatted ninth (D natural) becomes the seventh of the E7, which the D $\flat$  also resolves to chromatically, whilst the A $\flat$  (fifth) and B (seventh) remain, becoming the G $\sharp$  (third) and B (fifth) of E7. If this seems a little confusing, just play the two chords and listen to the effect, then play the individual melodic lines of the harmony and hear how they move. Another way of appreciating this is by understanding the close relationship between the V7 $\flat$ 9 chord and the diminished chord/scales. Take D $\flat$ 7 $\flat$ 9 chord and play it

as a rootless voicing. The notes are the same as F diminished – the D $\flat$  comes from the fact that the chord is built from the half-step/whole-step diminished scale. The diminished scales are symmetrical and there are no avoid notes; the chords and scales are interchangeable at intervals of a minor third, i.e F diminished is equivalent to A $\flat$ , B, and D diminished. It follows that D $\flat$ 7 $\flat$ 9 is equivalent to E7 $\flat$ 9, G7 $\flat$ 9, and B $\flat$ 7 $\flat$ 9; just the root changes. Given this flexibility, you'll appreciate it's versatility and use to blend chords together. The diminished sounds work well when blending approach notes. An example is the “four way close” harmonisation of a scale, in particular the bebop scales, where every other note is a diminished. More on this another time. So it could be viewed that the D $\flat$ 7 $\flat$ 9 is a tritone substitution for G7 $\flat$ 9, which would make it a II-V cadence. A tri-whatty substi-thingy? Yes, tritone substitution. We'll come back to this momentarily. For now, if this seems like a little too much theory in one sitting, just try to appreciate the change from the standpoint of melodic movement within the harmonies.

In the second bar you'll notice that I've added harmonies to the other two notes to make a smoother transition from F major7 to E minor7, and from Em7 to Dm7 in the next bar. This is just an exercise in voice leading. Em7 to A7 you should now recognise as a II – V cadence with the A7 resolving down a fifth to D in the next bar. The F7 provides a nice step from the F major7 to the E minor7 because of the E $\flat$ . Look closely at the whole bar and the middle harmony. There's a chromatic descent: E – E $\flat$  – D – D $\flat$  (C $\sharp$ ) to C in the next bar.



**Figure 4** *Melody with more notes harmonised*

With a similar approach we could now just harmonise every note of the melody, which you can see in Figure 5. There is only the first bar left so I adopted a chromatic descent again but, in order to preserve the freshness of the harmonic movement, I've made some changes. Note the second bar – there is now F diminished rather than D $\flat$ 7 $\flat$ 9. Since the D $\flat$ 7 $\flat$ 9 is a disguised F diminished, the harmony remains intact, however, the chromatic movement in the bass now ascends rather than descends. The chromatic motion in the first bar is by no means subtle; both the bass line and the middle harmony (starting on E) descend chromatically and the upper melody in the bass clef moves to maintain the seventh interval of the chords which are all dominant (minor sevenths) except for the first chord. In a similar fashion as before, I've employed the use of a diminished sounding harmony for (what can in isolation be considered as) the approach notes on the second and fourth beat of the bar. I opted to play the altered dominant for the last chord of the bar, but A $\flat$ 7 $\flat$ 9 or C $\sharp$ dim/A would work just as well. The altered dominant is derived from the seventh mode of the melodic minor, otherwise known as Locrian  $\sharp$ 2 or Superlocrian, and contains both a  $\flat$ 9 and  $\sharp$ 9, major 3<sup>rd</sup>,  $\sharp$ 11, no fifth,  $\flat$ 13, and minor 7<sup>th</sup>. Truth be told, this is one of my favourite chords. It's basically a dominant seventh with all the wrong notes, but it sounds so nice. It has a luscious, yet dark sounding quality. Compare those chord tones now with the half-step/whole-step diminished scale from which the V7 $\flat$ 9 chord is built. Besides the fifth, the important difference between them is the 13<sup>th</sup>, otherwise they possess the same chord tones. The 13<sup>th</sup> of A is F, so using the A7 $\flat$ 9 would give a good chromatic resolution to F, using the A7alt means I stay on the F and the transition is much more subtle.

The other embellishment of harmony shown is my addition of more tensions, especially to the dominant sevenths. All these tensions add colour and depth. However, the decision as to which tensions to use in a given situation can be quite daunting theoretically and sometimes it's best to use your ears to decide what sounds better and what creates the best effect for its purpose, i.e. the next note/chord it resolves to. The most common alterations are  $\flat 9$ , alt and  $\sharp 11$ . The  $V7\flat 9$  alteration I tend to use in order to voice a diminished harmony, but I may just use the diminished chord; my choice usually depends on what I want the bass line to do. However, when using the  $V7\flat 9$  in this respect, it is important to note that it does not sit well if the melody note is a 9<sup>th</sup> or flatted 13<sup>th</sup> (since neither are part of the half-step/whole-step diminished scale). The alt and  $\sharp 11$  are interchangeable since they are tritone substitutions of the each other in the same key. The lydian dominant is derived from the fourth mode of the melodic minor and the altered dominant from the seventh mode.

A short word on tritone substitution. It is a basic reharmonisation technique applicable to dominant seventh chords and involves the substitution of a dominant chord with another dominant a tritone away. This works because the 3<sup>rd</sup> and 7<sup>th</sup> of the chord (the chord tones that best describe the quality of the chord) are a tritone apart and become the 7<sup>th</sup> and 3<sup>rd</sup> of the dominant chord a tritone away. Using tritone substitution can give a chromatic bass line and sometimes make the melody note prettier as a more interesting tension, but this is not always the case and it pays to be judicious regarding the use of tritone substitution.

The last bar contains a minor II – V – I cadence... sort of. It started out as one with D half-diminished, G altered dominant and C minor-major seventh, but since the original key was C major, it sounded better ending with a major tonality. Adding a minor II – V just gives the harmony a bit more texture and variety, as well as leaving scope for use of other melodic minor chords. Yet I decided not to end on the tonic – it's left open by moving it up a semitone to  $D\flat$ . This is a trick I've heard many times and never grew tired of, so I incorporate into my endings now and then. This doesn't mean you have to, but if you want to, it's an option. It can be unexpected, but remember to keep the unexpected just that. If you start ending all your pieces with the same progression, it loses the magic.

C $\Delta$  B7( $\flat 9$ ) B $\flat 7$  A7alt F $\Delta$  F $\circ$  Em7 A7( $\flat 9$ ) Dm7 D $\flat 7$ ( $\flat 9$ ) E7alt A7alt Dm7( $\flat 5$ ) G7alt D $\flat \Delta \sharp 4$

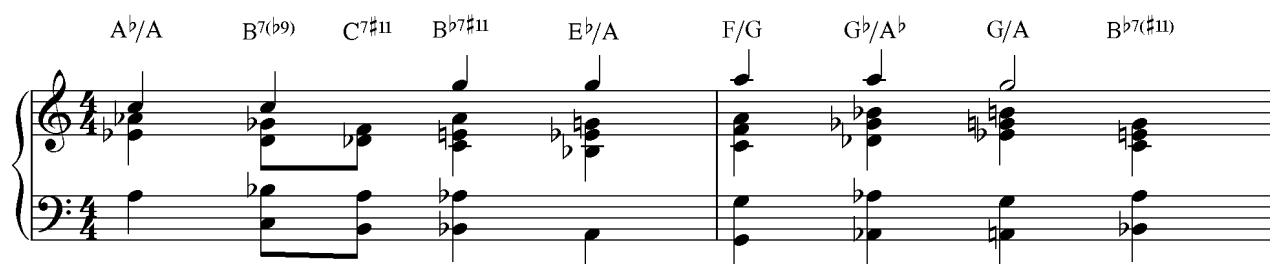
**Figure 5** *Melody with all notes harmonised*

Mostly, this harmonisation would be more than adequate for all our arrangement needs, perhaps even superfluous to our requirements. Not all of the notes need to be harmonised: the fundamental harmony can be kept quite simple, but knowing the possibilities that are shown in Figure 5, some overlap and variation in use of tensions can really lift a piece by injecting a bit of ear-candy.

But what if this is not enough. Maybe in reading this article you've become a harmony junkie or you just want something that's “out there”. Despite the tensions and altered chords of the example in Figure 5, the sound is still walking around in the park. It may be doing back-flips and somersaults through the park, but it's still based on the major, melodic minor and diminished scales that fit the melody. What if the scenery is too bland for your taste and you want to base jump off the comfortable green pastures and hurtle around with dissonance? You could just “go for it” and go

completely atonal on everyone's ass, but if you'd rather at least retain some semblance of structure and harmony, albeit, unconventional harmony, let me introduce you to slash chords.

Figure 6 shows an example of a harmony using some slash chords with the first two bars of the melody. Slash chords are simply one chord over a certain note in the bass, denoted on the right of the “/”, e.g. C/B, pronounced “C over B”, would be a C major triad with a B in the bass, which is basically the third inversion of a C major seventh. By simply shifting the bass note around, some really interesting sounds can be had. For the example given, I focused mainly on the overall motion of the harmony, which is in contrary motion to the melody yet the harmony voices themselves follow the same line, such as in the two bar where the F/G (Gsus) sound is planed down chromatically. The first chord, A<sup>b</sup>/A, is a major triad with the bass note a semitone up from the root. This creates a sound of a major seventh with #4 and #9. Whilst this can often be used to substitute for a I chord (so Cmaj7 would become B/C), I moved it down so that the melody note is the third. The E<sup>b</sup>/A is E<sup>b</sup> major with A in the bass, which is the sound of A7<sup>b</sup>9 without the third.



**Figure 6** First two bars harmonised with some slash chords

With this example, what's important is that the chord choices themselves were not my focus, rather the overall sound and motion. The use of slash chords can be a game in which you can alter the sound of any chord to your desired effect. So it is difficult to summarise in just a few paragraphs what chords to use and where because the beauty of this is that the choice is yours to make. Experiment with different sounds and let your ear guide you. Besides having shown you how to squeeze harmony out of something, I hope that I have shown the importance of listening and making intelligent decisions on how the countermelodies and overall harmony move throughout; to consider voice leading and create interest. Extensive knowledge of chord theory can certainly help, but by listening and developing counterpoint with the melodies, the harmony takes care of itself. You should at least be able to appreciate how large the possibilities are – there is never only one choice. It is for this reason that one melody can and has been interpreted over and over again, in a variety of different ways, by different composers. Not only can the harmony be changed, so can the rhythmic quality. As an example, in Figure 7 I have applied a waltz feel to the harmony in Figure 5, together with lots of chromatic approach notes in the bass. There are, again, countless ways in which the rhythm can be adjusted; swing time feel, 3 / 4, 5 / 4, 13 / 8, a mixture of two or more time signatures, applying polyrhythms to the melody/harmony, perhaps whilst introducing polytonality. The options are endless as I highlighted at the beginning.

I encourage you to employ the techniques and adopt the ideals that I have mentioned here, but moreover, I hope that you will look beyond the “techniques” and not be afraid to try anything. Many of my happiest creations came about by mistake and the composers that stand out from the crowd, the music that seems to expel that magical quality, in my opinion tends to be from those that are not afraid to step beyond the boundaries.

The image displays a musical score for a piece titled "Figure 7 Waltz version". The score is written for a single melodic line and a piano accompaniment. The key signature is one flat (B-flat), and the time signature is 3/4. The score consists of five measures. The first system contains measures 1 through 4, and the second system contains measure 5. The piano accompaniment features a steady eighth-note bass line and chords in the right hand. Measure 3 includes a triplet of eighth notes in both the melody and the right hand of the piano. The piece concludes with a double bar line at the end of measure 5.

*Figure 7 Waltz version*