Chapter 7

Composer use scenarios for Melodizer

This chapter aims to give a few examples of how Melodizer can be used in practice by composers to improve their expression and composition abilities. The different scenarios will be written as actual situations that composers might find themselves in, and should not be used as a tutorial. The reader should read chapter 6 for a tutorial on how to use Melodizer. Assuming you have installed Melodizer and have it open in front of you, you can follow these examples yourself. The following examples are different uses of Melodizer, including:

- Finding a melody to harmonize with a sequence of chords that the composer came up with
- Revisiting an existing piece by modifying the pitch of the melody
- Finding a melody to play on top of a sequence of chords using Rhythm-Box to generate rhythm
- Generating motifs, phrases and periods using optional constraints
- Generating variations of an existing melody while keeping its general feel
- Using Melodizer to generate and combine musical elements to make a musical piece

7.1 Reminder

This section gives a reminder about a few notions that are useful to understand this chapter.

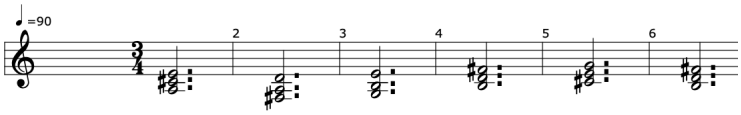
Creating a melodizer object To create a melodizer object, you can click on Classes/Libraries/Melodizer/ALL/MELODIZER and the click anywhere on the patch. Double clicking on the object will open its editor window.

Inlets/Outlets You can give input to Melodizer by connecting boxes to its inlets (the circles on top of the object box). Trying to connect them will show their name. You can get output from Melodizer similarly by connecting its outlets to other boxes.

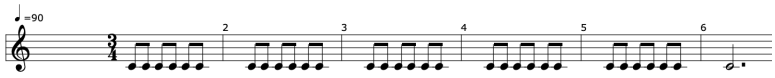
Motif A motif is a short melodic idea. It can be as simple as two notes, and can be more complex but is generally really short (up to one measure long).

Phrase A phrase is a little bit longer than a motif. It is generally a few bars long, and expresses a more complex melodic idea.

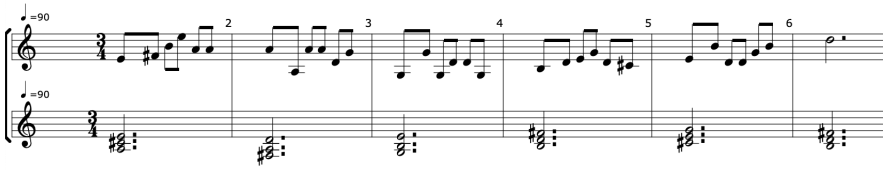
Period A period is a complete melodic idea. It can be composed of several phrases.



(a) Chord sequence given as input to the melodizer object



(b) Rhythm given as input to the melodizer object



(c) Solution suggested by Melodizer for the input presented above

Figure 7.1: Input and output of Melodizer when looking for a melody to fit a chord progression

7.2 Finding a melody to harmonize with a sequence of chords

A composer came up with a chord progression (figure 7.1a), and they would like to find a melody that can be played with this chord sequence. They also came up with a rhythm (figure 7.1b) for the melody they want, but didn't settle on the pitch of the melody. To do so, they first have to set the mode of the tool to "melody-finder". Then, they can either connect the voice objects for the chords and the rhythm to the corresponding inlets, or they can edit them using the corresponding buttons in the editor window of the melodizer object. Once that is done, they can select the desired tonality (here, B minor would be a good idea) using the pop-up menus to select a key and a mode. After that, they can press start and start navigating through the different solutions by pressing the next button and edit them or save them if they want. Figure 7.1c shows one of the suggested melodies, and figure 7.2 shows the complete patch for this scenario, with one of the solutions suggested by Melodizer. The input and output can be listened to by scanning the QR code or by clicking the following url : `https://www.youtube.com/watch?v=enxMEUmD6sM`.

7.3 Revisiting an existing piece

A composer has written a piece, with chords and a melody (figure 7.3a), and they wish to try using different melodies with the same rhythm to see what would work best with these chords. They can do that using Melodizer. First, they should set the mode to "melody-finder" and set the chords and the melody as input of the melodizer object. They can then select a tonality for the melody, that can be the same as the original melody idea they had, but can also be different. After that, they can specify additional constraints if they want, and then start searching for solutions. They can edit and save the solutions. Figure 7.4 shows the use of Melodizer to generate an alternative melody for the song "Puisque tu pars" by Jean-Jacques Goldman [9], and figure 7.3 shows the original song and the new song side-to-side. The original and new versions can be listened to by scanning the QR code or by clicking on the following link : `https://youtu.be/Rdy2XGoMiL4`.

7.4 Finding a melody to play on top of a sequence of chords using Rhythm-Box to generate the rhythm of the melody

A composer has an idea of a chord progression (figure 7.5a) and a rhythm (figure 7.5b), and they want to experiment with the rhythm and the pitch of the melody. To be able to use Rhythm-Box [11] with Melodizer,

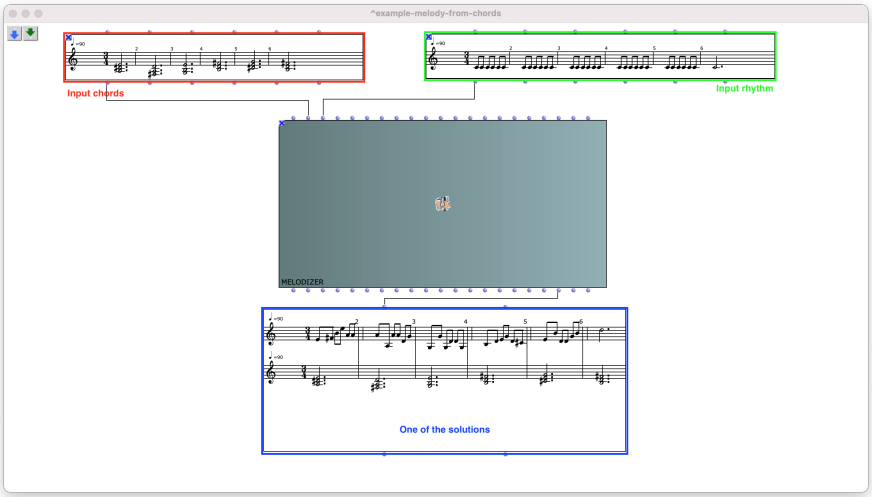
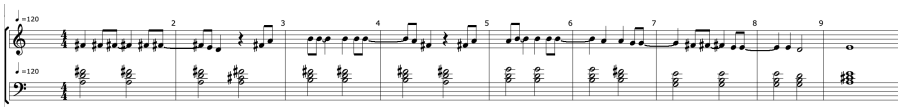
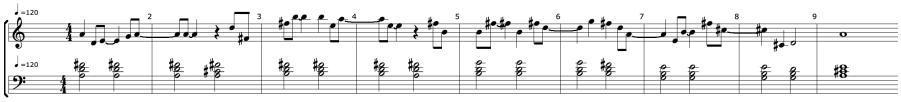


Figure 7.2: Patch for finding a melody harmonizing with a given chord sequence



(a) Simplified version of “Puisque tu pars” by Jean-Jacques Goldman



(b) Melody generated by Melodizer from the chords and melodic rhythm of “Puisque tu pars”

Figure 7.3: Example of the use of Melodizer to revisit “Puisque tu pars” by Jean-Jacques Goldman [9]

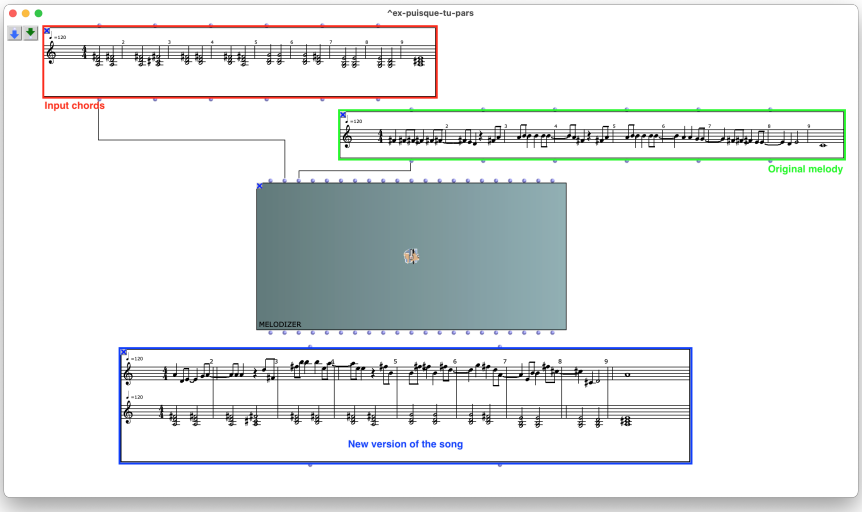
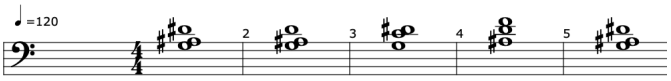
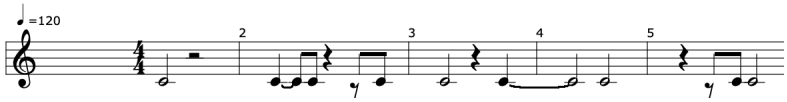


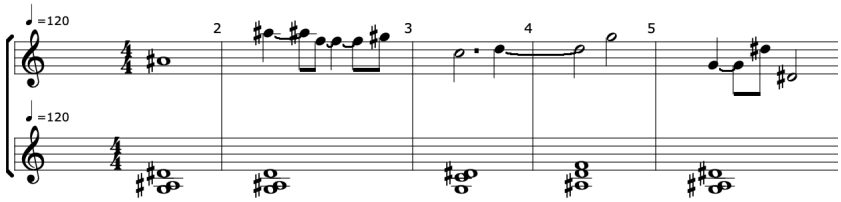
Figure 7.4: OpenMusic patch to generate an alternative melody for the song “Puisque tu pars” by Jean-Jacques Goldman



(a) Chords given as an input to the melodizer object (chords from "Fix You" by Coldplay)



(b) Rhythm used to generate other rhythms with Rhythm-Box



(c) Solution given by Melodizer for the input presented above, with the help of Rhythm-Box to generate a new rhythm

Figure 7.5: Input and output of Melodizer using Rhythm-Box to generate a melody to fit a chord progression

the composer has to give the input to the melodizer object through the inlets and not through the interface. A rhythm can be generated using Rhythm-Box[1] and given as an input to Melodizer, together with the chord sequence. After that, the composer can search for solutions like in section 7.2. Figure 7.6 shows the patch to do that in OpenMusic, and the input and output can be listened to by scanning the QR code or clicking on the following link: https://www.youtube.com/watch?v=d1hrL-Qs21I.

7.5 Generating motifs, phrases and periods using optional constraints

A composer has come up with a chord sequence (figure 7.7a) and a rhythm (figure 7.7b), and they want to find a melody to play on top of it. They want that melody to go in a certain direction, i.e up or down. They can use the "melody-finder" mode of Melodizer to achieve that result. They first have to specify the chord progression and the rhythm for the melody to the tool, and they can then select a tonality and additional constraints that the generated melody should follow. Figure 7.8 shows a patch generating a phrase for the input chords and rhythm at the top of the patch, with the constraint that the pitch must mostly be going up. The video on how to do it using Melodizer can be found by scanning the QR code or by clicking the following link: https://www.youtube.com/watch?v=QQwzvImpABI.

7.6 Generating variations of a melody while keeping the overall feel of the melody

A composer has written a melody with a chord progression (figure 7.9a), and they want to make variations of this melody while keeping the overall feel of the melody. Using Melodizer, they can select the "variation-maker" mode and give their melody and chords as input to the melodizer object. Melodizer will then suggest variations of that melody to the composer. Figure 7.9b shows one of the solutions suggested by Melodizer, and figure 7.10 shows a patch using Melodizer to generate variations of a melody. The original melody and the variation can be listened to by scanning the QR code or by clicking on the following link: https://www.youtube.com/watch?v=WyyXGCjOLXo.

[1] see https://github.com/blapiere/Rhythm-Box for a tutorial on how to use Rhythm-Box

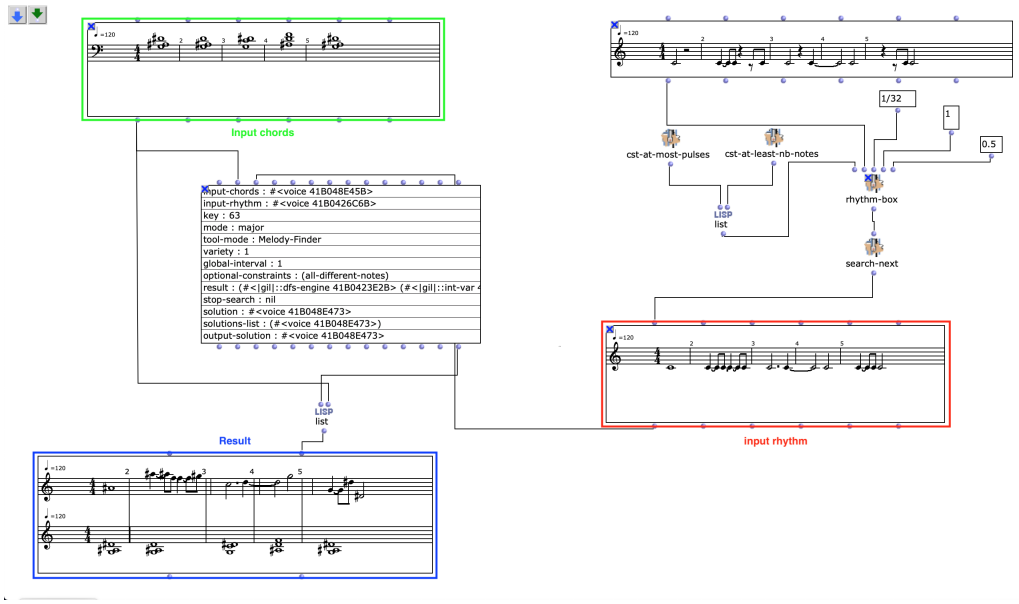
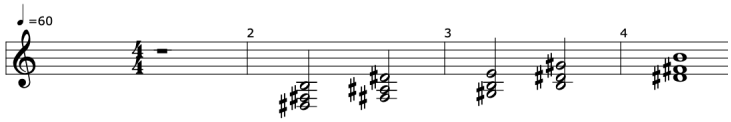
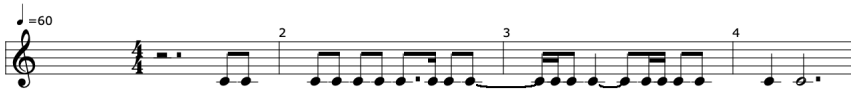


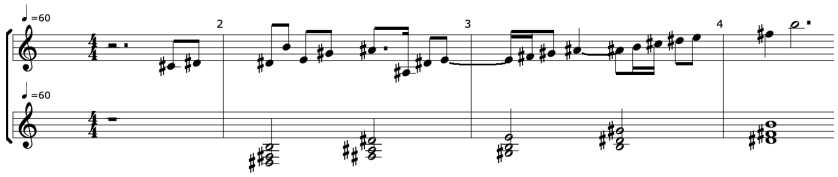
Figure 7.6: Example of the use of Melodizer with Rhythm-Box to find a melody harmonizing with a given chord sequence (chords from "Fix you" by Coldplay)



(a) Chord sequence given as an input to the melodizer object



(b) Rhythm given as an input to the melodizer object



(c) Solution suggested by Melodizer for the input presented above, using the mostly-increasing-constraint (see chapter 3) on the melody in the tonality of B major

Figure 7.7: Example of the use of Melodizer to generate a melody with a specific direction

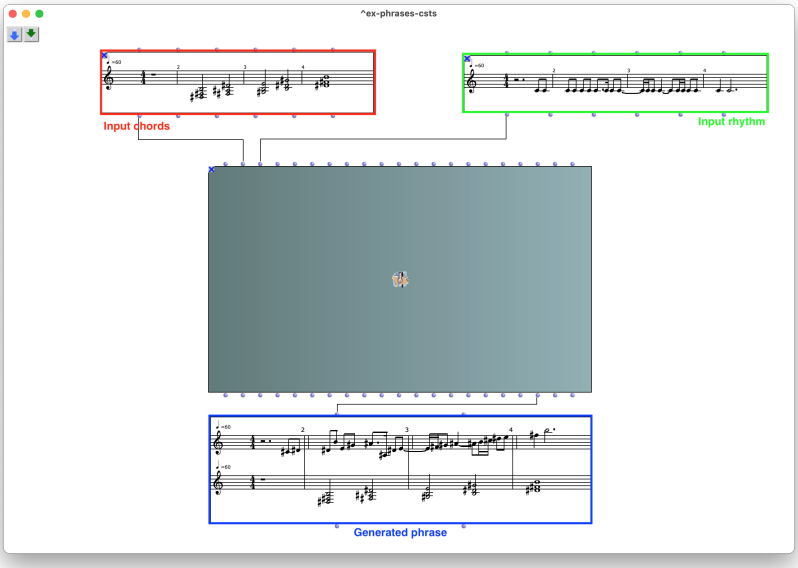
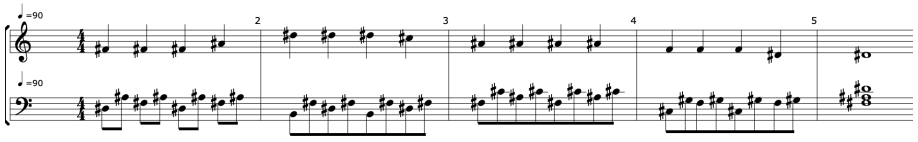
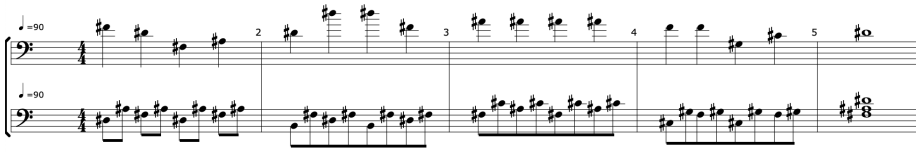


Figure 7.8: OpenMusic patch to generate a musical phrase based on the input chords and rhythm respecting a constraint



(a) Original melody given by the composer to Melodizer ("Faded" by Alan Walker)



(b) Variation of the melody generated by Melodizer

Figure 7.9: Original melody and variation of "Faded" by Alan Walker [18]

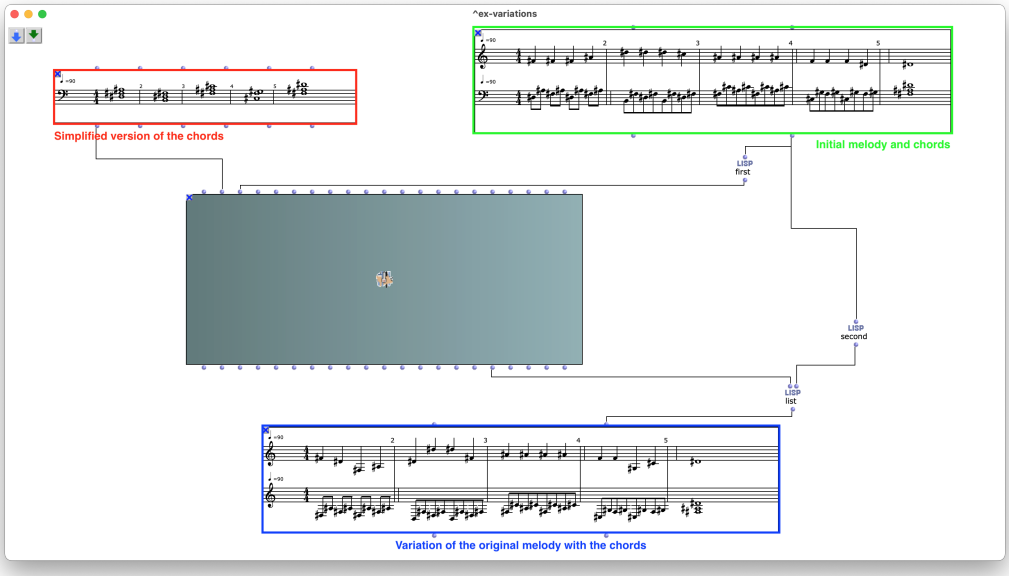
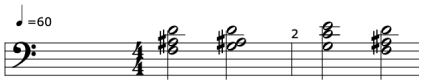


Figure 7.10: Patch using Melodizer to generate variations of a melody

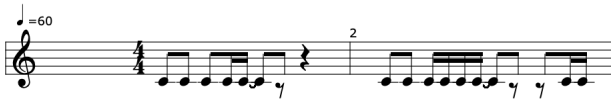
7.7 Using Melodizer to generate different musical phrases, creating variations of them and combining them together to create a musical piece

A composer has a couple chord progressions and rhythms in mind (figure 7.11), and wants to create a musical piece by combining them and creating variations of those melodies. One way to do that is to first generate melodies using the "melody-finder" mode of Melodizer, and then saving the phrases to be combined later with other melodies. Variations of a melody can then be obtained by using the "variaton-maker" mode of Melodizer, and musical periods can be created by combining phrases together. Figure 7.12 shows an example of a musical piece generated from the input of figure 7.11, and a video of the use of Melodizer to create this simple musical piece can be found by scanning the QR code or by clicking the following link : `https://www.youtube.com/watch?v=Cjk4vAdCMq0`. This example contains the following operations :

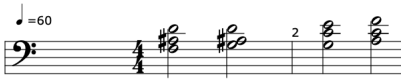
- Creating of a melodizer object in the patch
- Editing of the input chords and input rhythm objects with the chord sequence and rhythm of the problem through the interface
- Using Melodizer to generate melodies
- Navigating between the different solutions
- Editing of the solutions
- Saving solutions in the search panel to examine them later
- Saving solutions as phrases to be combined with other musical elements
- Extracting elements from Melodizer through the outlets
- Using Melodizer to generate variations of a melody
- Combining musical phrases to create a musical period.



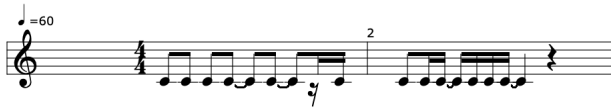
(a) First chord progression



(b) First rhythm idea



(c) Second chord progression



(d) Second rhythm idea

Figure 7.11: The composer's initial ideas

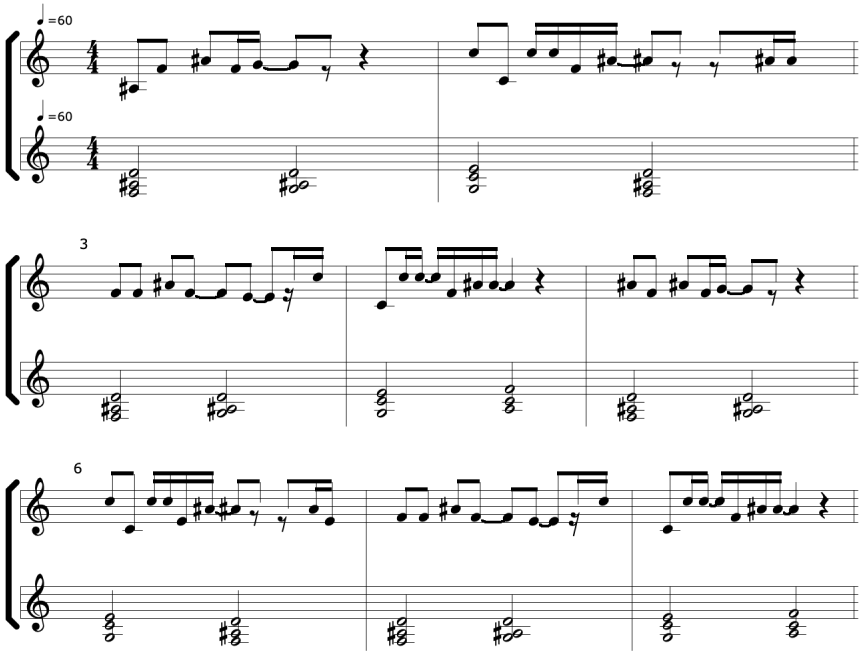


Figure 7.12: Musical piece created by generating different phrases and combining them using Melodizer