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Mapping Tonal Harmony Pro. A software for harmony learning

Mapping Tonal Harmony Pro. Un *software* para aprendizaje de la armonía

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The present review aims to present the pedagogical capabilities of the "Mapping Tonal Harmony Pro" program in teaching harmony. The program has been developed and updated by the American company *mDecks Music*[2] and there are versions for macOS and iOs [3]. For other operating systems (Windows), an interactive PDF document version is available[4]. The program offers a wide configuration of possibilities through different plugins that allow the approach to harmony from simple chord sequences to the most complex ones. The software allows you to listen to the chords and sequences used at any time. For this review, beyond offering an overview of the program trying to cover the wide range of possibilities it offers, we have chosen to approach the program through the experience in the classes of the subject "Harmony" of the studies of Professional Music Education. The initial configuration chosen is shown in Figure 1.
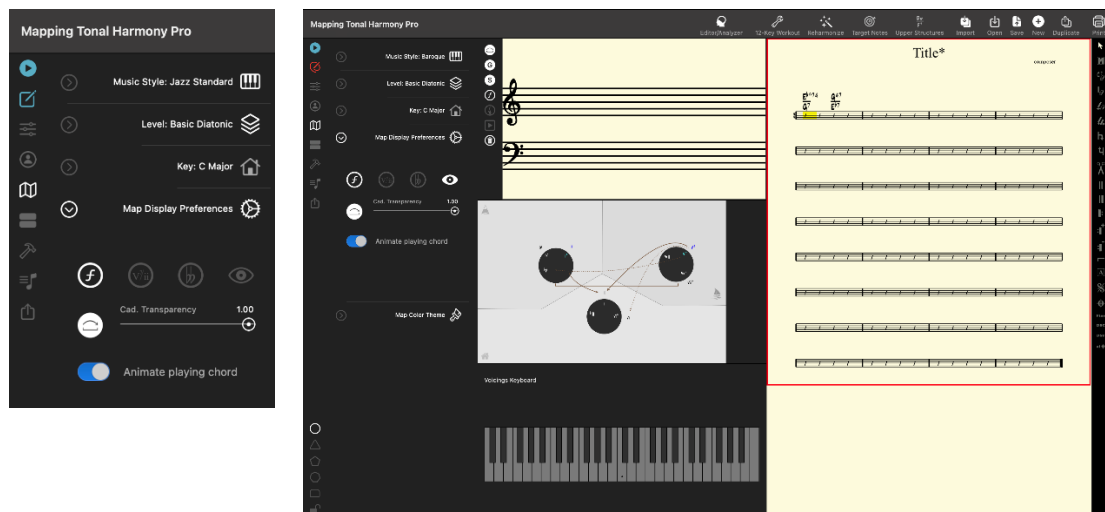

Figure 1. Program interface and configuration window

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[2] https://mdecks.com/index.phtml
[3] https://mdecks.com/mapharmony.phtml
[4] https://mdecks.com/the-composers-guide-to-tonality.phtml

This configuration results in chords harmonically located within the Baroque period, diatonic harmony and key of C M (C Major). Once the configuration has been chosen, the program interface is configured as shown in Figure 1.

In order to learn harmony, one of the first questions is to understand the tonal system and the hierarchical relationships established between the three main tonal functions, i.e. Subdominant, Dominant and Tonic. Once the tonality to be worked on has been established, the program establishes the three tonal regions and places each of the chords of the seven degrees of the scale according to the tonal function that corresponds to them, which allows a quick and clear vision of each of them[5]. In addition, it shows by means of arrows (solid line) the direction of the two concluding cadences:

- Authentic Cadence: from the Dominant region (group of chords located at the top right) to the Tonic region (group of chords located at the bottom center).

- Plagal Cadence: from the Subdominant region (group of chords located at the top left) to the Tonic region (group of chords located at the bottom center).

Also of the broken cadence, by means of a dotted arrow:

- From the region of the Dominant to the VI, located in the area of the Tonic region, or to the ♭VI located in the region of the subdominant.
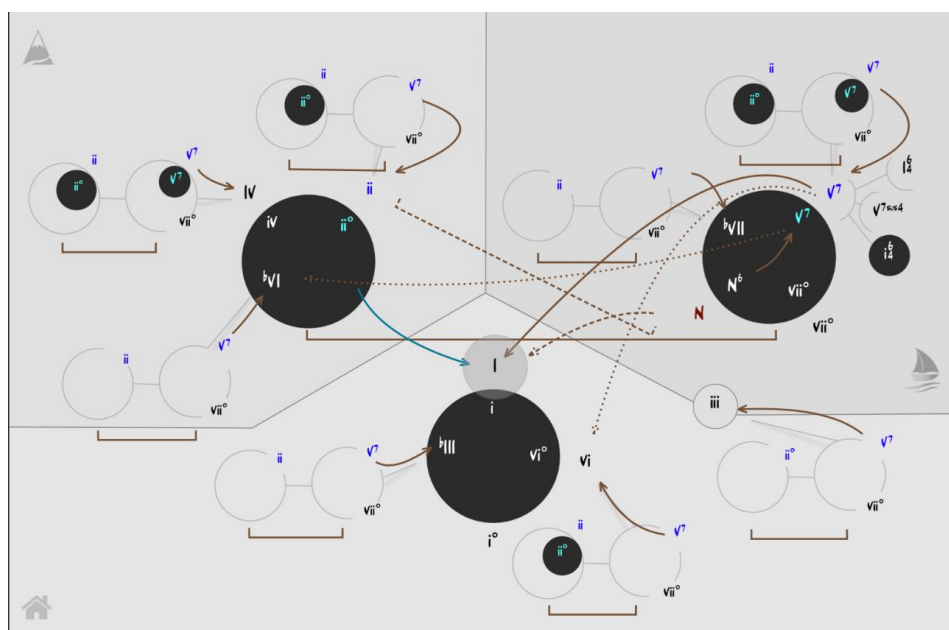

Figure 2. Tonal Regions

Making the tonal regions visual, the distribution of chords between them, as well as being able to choose a succession of chords from the different regions while listening to them, greatly facilitates the understanding of the harmonic tensions and distensions produced by each of the regions and helps to introduce the concept of substitution between the different chords of each region. Subsequent to this approach to the basic concept, with a change in the configuration, the

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[5] It is important to clarify that the programme's placement of the III within the Tonic region is very common in jazz, but not so accepted in classical tonal harmony. The III is a degree with a very ambiguous sonority since, although it shares two sounds with the Tonic chord and two with the Dominant chord, it does not offer enough tension to be used as a Dominant, nor does it offer enough of a sense of rest to be used as a Tonic.

program allows the addition of secondary dominants (Figure 3). To do this, the program sets each of the degrees as a Tonic region and assigns it its own Subdominant and Dominant regions, as shown in Figure 4.

The introduction of Secondary Dominants and the concept of "passing tonicization", showing the Subdominant and Dominant regions of each of the different degrees, allows, at the same time, a clear and thorough approach to modulations and the concept of expanded tonality, which is also offered by the program.
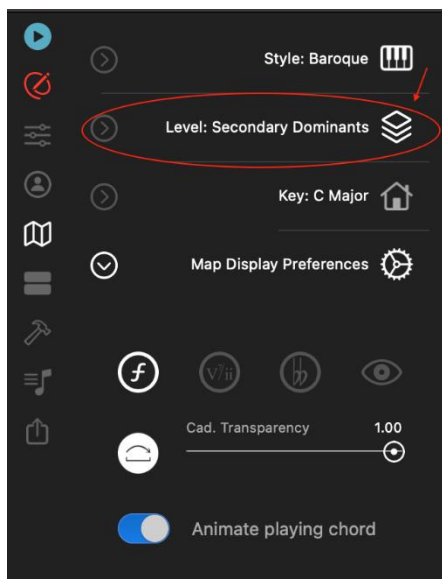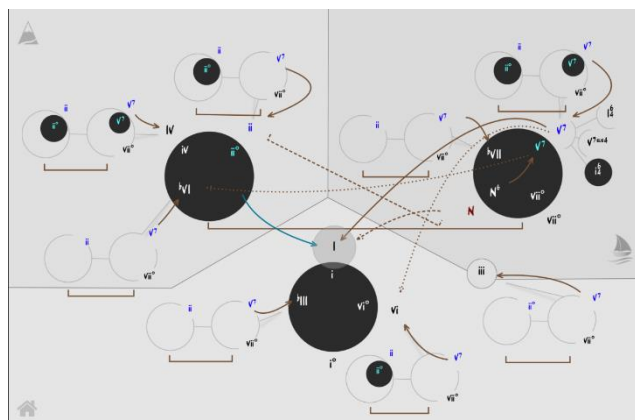

Figure 3. Change in configuration   **Figure 4.** Secondary Dominants

Conclusions

In conclusion, the program *Mapping Tonal Harmony Pro* can be of great help for the teaching of the subject "Harmony" in Professional Education classes. The different configurations of the program allow to sequence the complexity of the contents shown, to see the written chords and to be able to locate them visually on the basis of their tonal function, which is a great help for the theoretical expositions. In addition, the program also allows to listen to each of the chords individually, which helps the students to assimilate aurally the different sonority of the different types of chords. Similarly, the fact of being able to choose, also visually, between different chords within a certain region and establish a succession of chords to create a harmonic sequence, being able to try and listen, greatly facilitates the exposure of the theoretical concepts of tonal harmony and makes these concepts more easily assimilated and understood by the students because it allows them to work with them directly from practice and listening.