

### 3.3.1 Chromatic Mediants

Chromaticism became more and more elaborate through the nineteenth century. Composers like Reger, Liszt, and Wagner among others began to experiment with chord successions that did not necessarily follow functional logic.<sup>8</sup> Some of this chromatic music can be explained with tonal relationships; others cannot. Functional Analysis may be only partially useful for musics in which functional tonality is not the main driving factor – but still may be useful on some level.<sup>9</sup> On the other hand, much chromatic music can still be explained with some references to a tonic, and then Functional Analysis can be extended to include these chromaticisms. For example, a chord might include altered tones that resolve in a functional manner. In fact, the increasing prevalence of chords like the Neapolitan or augmented sixth (Examples 3.29 and 3.30 on page ???) is a good example of altered tones that resolve functionally.

Another type of chromatic color is chromatic mediants, which begin to occur both as key areas and as chords. They are fairly easily described as alterations of relative and variant third relationships discussed in Section 3.1.1. The following examples show a few of these more chromatic relationships, starting with the chromatic mediants available in a major key in Example 3.43.

Example 3.43

The musical notation for Example 3.43 is presented in a grand staff with a treble and bass clef. The treble staff contains five chords, each represented by a block of notes. The bass staff contains five single notes, each aligned with a chord in the treble staff. Below the staff, the labels C, T, Tv, TV, Tr, and TR are written, corresponding to the chords and notes above them. The chords are: C major (C-E-G), F major (F-A-C), B-flat major (B-flat-D-F), E-flat major (E-flat-G-B-flat), and A major (A-C-E). The notes in the bass staff are: C, F, B-flat, E-flat, and A.

C: T Tv TV Tr TR

<sup>8</sup> Daniel Harrison, *Chromatic Harmony*, 1.

<sup>9</sup> The Chopin analysis of Section 4.3.2 is an example of functionality that works consistently only at the largest level, but does not use tonal function to move from one note to the next. For ideas on how to approach the non-functional parts of late Romantic music, see Daniel Harrison's "A Renewed Dualist Theory of Harmonic Function," in *Harmonic Function in Chromatic Music*. Or anything neo-riemannian. Steven Rings?

Because the capital T refers to the home tonic, we know the variant would normally be built on the major third *mi* (second chord), and that secondary functions are the opposite quality of the primary – Tv. However, if we have TV (third chord), that would be a major chord built on *mi*, not a closely related key at all. Likewise with TR (last chord), which is the parallel major of the relative minor. Other chromatic mediants can be seen as more familiar chords borrowed from the parallel minor, such as tR, but Example 3.44 shows a few more possibilities.

Example 3.44

c:    t        tR        tr        tV        tv

These chords are now the minor version (tr, tv) of those that would normally be major triads in a minor key (tR, tV). Since much music of the Nineteenth Century already uses modal borrowing (chords from the parallel major or minor are available in any key, see Example 3.28), any of these chromatic mediants from major or minor could hypothetically be found in either major or minor keys.

These chords expand the realm of harmonic possibilities when considering modal borrowing and other chromatic techniques. Students may enjoy exploring the relationships and startling color shifts between distantly related sonorities by writing chromatic progressions or modulations of their own, or analyzing the opening of the second Dvořák's Ninth Symphony, as in Example 3.45 below. While the chords sound very striking, and look very unrelated – sharps in a flat key – the Functional Analysis shows that there are still prolongational relationships to be found even in this chromatic music; specifically, this passage consists of upper and lower chromatic mediants surrounding the emergent D-flat tonic, ending with a plagal p–T progression.

### Example 3.45

Db: tR TR<sub>3</sub> tR T tV p<sup>5-6</sup> T

#### 3.3.2 Non-V Dominants

Having chords other than *so ti re* leading to tonic was initially a large stumbling block for me using Functional Analysis with pop music, because to call something Dominant implies Tonic is coming, but in Functional Analysis it also implies the specific notes *so ti re*. And what to do when *so ti re* doesn't imply tonic? I struggled for some time with to find a way to describe chords I heard as moving to tonic, but yet were not the pitches *so ti re*, that was easy to read and understand and no more complicated than the rest of the system. Then I discovered Nobile and Doll.<sup>10</sup> These two recent pop scholars are talking about harmony and function in pop or rock music, and have some very helpful insights as to how to describe function.

Up to this point we have not spoken in detail of what/how to define function theoretically - only practically, aurally, by cadence (Section 3.1.1). Drew Nobile offers three different theoretical versions of function in his forthcoming article in *Journal of Music Theory*. These are Function as Category – which is function defined by chord identity, or a chord's intrinsic notes; Function as Progression – function as defined by what follows what, such as predominant is what it is because it is followed by dominant; and finally Function as Syntax – function as defined by context, usually a combination of the context of a key, or of a form.<sup>11</sup>

My earlier definition using cadence most closely/ideally follows the syntax definition (as you

<sup>10</sup> Christopher Doll, *Listening to Rock Harmony*; Drew Nobile, *A Structural Approach to the Analysis of Rock Music*.

<sup>11</sup> Nobile, "Harmonic Function," 4.

will see in a moment), but my aural identification of function depends somewhat on all three types. When we hear the leading tone resolve, or we identify specific notes as being likely markers of a given function, then it is category. When we hear V follow IV in progression, or I follow V, then Progression. When we understand dominant and tonic in context of cadence, phrase, form, and key, it is Syntax. [This is interesting, because we define function in context, but we also define the context via the function.]

In functional tonality, these different definitions of function tend to reinforce each other. In other genres, that is not always the case, and the above definitions maybe in conflict. For cases where we wish to stretch the limits of Functional Analysis, the syntax definition helps us the most, and I find it to be most aurally salient. In pop music, even when traditional tonal harmony is not in play, we can still identify a feeling of function, of stability versus instability, and the desire to resolve.<sup>12</sup>

For syntax purposes, it is most useful to divorce the pitch labeling from the function label. If you were to be concentrating only on analysis to show syntax function, a different system may be needed to show what pitches are present.<sup>13</sup> However, since Functional Analysis is designed to show both pitch and function simultaneously<sup>14</sup> (which is an advantage in CPP music where these identities reinforce the syntax), we must stretch Functional Analysis somewhat to use it when analyzing music where pitch and syntax are not equivalent.

Since students are, in general, more familiar with pop music than tonal music when they begin Music Theory core programs, being able to demonstrate function with music with which they are familiar can be important to help them learn basic concepts. Using music they like can also draw

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<sup>12</sup> Milo Fultz, May 10.

<sup>13</sup> This is not unlike the current versions used in say, the Laitz textbook that show pitch with RNs and function with T P D in a different layer.

<sup>14</sup> Section 2.5.2, after Example 2.5 (Page ???)

students into the idea of analysis in general, and present them with opportunities for inquiry relevant to their interests.

The first idea of syntax-based function is that pre-tonic function (historically *so ti re* dominant) is defined more by context and **emotional** drive to tonic than intrinsic notes or progressions – leading to a multiplicity of pre-tonic chords.<sup>15</sup> No more is it only *ti* that can pull to *do*, but depending on the tonal or formal context, other pitches or chords may be more successful in implying the oncoming tonic. When I first teach function to the most beginning students, I ask if they can hear open versus closed cadences, or the sense of desire to resolve. This desire is present with more than just *so ti re* in many genres.

Additionally, syntax-based function works well in a hierarchy (like Schenker, or Functional Analysis levels), because in different context the same chord may function different ways.<sup>16</sup> Even in diatonic historical tonality, a *so ti re* chord can also be an embellishing chord when not at a cadence. Thus, with syntax function, there are two types of function: predictive (i.e a chord having a pre-tonic function – predicting tonic), and non-predictive (a chord that gives the impression of serving a different hierarchical level).<sup>17</sup>

According to Doll, any chord that gives the aural impression of leading to tonic can function as a pre-tonic chord.<sup>18</sup> Since Functional Analysis places emphasis on hearing the functions – the desires – of chords, while also showing the pitch content (Function As Category), I had to come up with additional labels for pre-tonics that were not *so ti re* in order to interact with music where this was common. My labeling decision for a few of the more common non-V dominants follow, with explanations of why I am using certain abbreviations. Some of the examples will have scores, and some will use only the chord symbols.

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<sup>15</sup> Doll, *Listening to Rock Harmony*, 16; Nobile, *A Structural Approach*, 32.

<sup>16</sup> Nobile, “Harmonic Function,” 10, 13.

<sup>17</sup> Nobile, “Harmonic Function,” 11.

<sup>18</sup> Nobile, “Harmonic Function,” 14.

One common pre-tonic chord is the subdominant (abb. S or s), which is a pre-tonic chord that pulls to tonic built on the 4th scale degree, *fa*. It has the same pitches as traditional tonal predominant but a different function. Sometimes *le-so* is substituted as an opposite direction leading tone for dualistic purposes, which leads to more plagal progressions and resolutions.<sup>19</sup> In service of expanding analytical possibilities, I devised a way to talk about the triad built on *fa* as a chord that leads to and implies tonic. Particularly in minor with *le-so* pulling to the tonic, this association can be quite strong. When this chord is not merely a cadential extension of a more traditional PAC, or the analyst wishes to highlight the plagal/dualist cadential potential, we can label *fa-la-do* or *fa-le-do* as SubDominant – S or s – a different type of dominant on the opposite side of tonic – the original meaning of Rameau’s term.<sup>20</sup> The Dvorak Example 3.45 above also includes this type of cadence.

When any chord can be a pre-tonic, this also opens up possibilities for pre-dominants (or pre-pre-tonics, if you like<sup>21</sup>). When S is being used as the pre-tonic chord, the chord built on *so* sometimes provides a pre-subdominant function, which I have abbreviated PS. What follows are some examples of S as a pre-tonic, as well as pre-subdominants. Example 3.46 shows the chorus of the Beatles tune “Let it Be.”<sup>22</sup> This chorus uses a *fa* based subdominant as the pre-tonic chord, as well as the *so* based triad as the pre-subdominant chord.

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<sup>19</sup> The plagal cadence is the “Amen” cadence that in CPP typically follows and reinforces the standard D-T cadence discussed in Chapter 3.

<sup>20</sup> Joel Lester, “Rameau and eighteenth-century harmonic theory,” *The Cambridge History of Western Music Theory*, 768.

<sup>21</sup> Doll, *Listening to Rock Harmony*, 16.

<sup>22</sup> John Lennon and Paul McCartney, “Let it Be,” 218.

### Example 3.46

Example 3.46 is a musical score for a piano and voice. The first system consists of five measures. The piano part (bass clef) has notes: C4, E4, G4, F4, E4, D4, C4. The vocal part (treble clef) has notes: G4, A4, B4, A4, G4, F4, E4, D4, C4. The lyrics are: "Let it be, let it be, let it be, le it, be." Above the vocal staff, chords are indicated: G/B, Am, G, F, C. Below the piano staff, Roman numerals are indicated: C:, Tr, PS, S, T. The second system consists of three measures. The piano part has notes: C4, E4, G4, F4, E4, D4, C4. The vocal part has notes: G4, A4, B4, A4, G4, F4, E4, D4, C4. The lyrics are: "Whis - per words of wis - dom; let it be." Above the vocal staff, chords are indicated: G, F, C/E, Dm7, C. Below the piano staff, Roman numerals are indicated: PS, S, T.

Example 3.47 shows the refrain of theme song from the video game *Portal*, “Still Alive,” by Jonathan Coulton.<sup>23</sup> The verses are in D major, but the cadence of verse provides an unusual deceptive cadence, D – tR (A major to F major), that provides a tonic substitute while still taking our ears for a very unexpected turn. The chorus below is in F, and whether described as one phrase or three, the first four measures use PS and S to return to T. Measure 5 of the example also shows a non-cadential pre-tonic as the standard *so* based dominant (C major), so that within five measures there have been two different pre-tonics on approximately the same prolongational level. The primary cadence of the chorus (B $\flat$  - A - D) returns to D major is very tonal with tV - D - T.

<sup>23</sup> Jonathan Coulton, “Still Alive.”

### Example 3.47

Example 3.47 shows two staves of music. The first staff has the following chord symbols above the notes: F, C, B $\flat$ , F, F, C. Below the first staff are the figured bass notations: F:, T, PS, S, T, PS. The second staff has the following chord symbols above the notes: B $\flat$ , F, B $\flat$ , C, F C/E Dm, B $\flat$ , A, D. Below the second staff are the figured bass notations: S, T, P, D, T.

Just as tonic and predominant can be replaced with substitute chords, such as the relative relation (see Example 3.3 and 3.4), some other pre-tonic chords are substitutions for either the standard *so* dominant or the *fa* plagal subdominant. A common one is dR: the major relative of the minor dominant, *te re fa*. This chord uses *te* instead of *ti* to pull to *do*. This is shown below in Example 3.48. (In this expanded harmonic vocabulary, minor v dominant is also a cadential possibility.)

### Example 3.48

Example 3.48 shows a piano accompaniment. The treble clef has a chord of B $\flat$  major (F, A, B $\flat$ ). The bass clef has a chord of D minor (D, F, A $\flat$ ). Below the piano notation are the figured bass notations: c: d dR.

Pop songs that use dR as the pre-tonic chord include the chorus of “Living on a Prayer” by Bon Jovi:<sup>24</sup> (Last phrase of chorus, with tonic resolution on verse) tR pR dR [t]

G C D7sus4 [Emin]

Wooo, livin' on a prayer

<sup>24</sup> Biamonte, “Triadic Modal and Pentatonic Patterns in Rock Music,” 103; Bon Jovi. “Living on a Prayer Chords.”



as well as Simon and Garfunkel's "Scarborough Fair:"<sup>25</sup>

t	dR	t
<b>Emin</b>	<b>D</b>	<b>Emin</b>
<b>Are you going to Scarborough Fair?</b>		

Continuing with replacements, just as dR can be used, so can sR (*le do me*). The refrain from "Carry On My Wayward Son" by Kansas provides a good example of this.<sup>26</sup> This refrain also uses *te re fa* as a pre-tonic and a pre-pre-tonic (dR, psR).

t	tR	psR	sR
<b>Em</b>	<b>G</b>	<b>D</b>	<b>C</b>
<b>Carry on my wayward son</b>			

  

t	tR	dR
<b>Em</b>	<b>G</b>	<b>D</b>
<b>There'll be peace when you are done</b>		

  

t	tR	psR	sR
<b>Em</b>	<b>G</b>	<b>D</b>	<b>C</b>
<b>Lay your weary head to rest</b>			

  

	[t]
	<b>(N.C.)</b>
<b>Don't you cry no more</b>	

Many modern pop songs are rotational or looping, repeating four chords over and over.<sup>27</sup> This repetition can lead to multiple interpretations. Depending on the context, you may hear no chord as most important (tonic), or more than one chord as the home base. Invite students to explore multiple interpretations! My favorite song that is an example of this is "Radioactive" by

<sup>25</sup> Paul Simon, "Scarborough Fair," 24.

<sup>26</sup> Kansas, Kansas.

<sup>27</sup> Nobile, "Counterpoint in Rock Music," 193-194.

Imagine Dragons,<sup>28</sup> which repeats the progression A minor - C major - G major – D major. This could be read as:

[Amin C G D]

a: t – tR – dR – S

C: Tr – T – D – DD

a: t – tR – (D)[tR] – S

which might be heard as having CPP type dominants or more modal subdominants as the pre-tonic chord. My ears usually hear A minor as tonic, but yours might be different!

The last pre-tonic chord I want to mention is the tritone substitution, using an excerpt from an arrangement of Duke Ellington’s “Satin Doll”.<sup>29</sup> Shown below in Example 3.49, the chord in question is the D $\flat$  13, in m. 6. (The rest of the analysis is more or less functionally tonal plus tertian extensions, as is common in many styles of jazz.)

Example 3.49

The musical score for Example 3.49 consists of two systems of piano accompaniment. The first system contains measures 1 through 5, and the second system contains measures 6 through 10. Chords are labeled above the staves, and functional labels are written below the bass staves.

**System 1 (Measures 1-5):**

- Measure 1: Chord A<sup>13</sup>(b<sup>9</sup>)
- Measure 2: Chord Dm<sup>7</sup>
- Measure 3: Chord G<sup>9</sup>(b<sup>5</sup>)
- Measure 4: Chord C<sup>maj7</sup>(add<sup>9</sup>)
- Measure 5: Chords Am<sup>9</sup> and A<sup>9</sup>

**System 2 (Measures 6-10):**

- Measure 6: Chord D<sup>9</sup>
- Measure 7: Chord D $\flat$ 13
- Measure 8: Chord C<sup>9</sup>
- Measure 9: Chord Em<sup>7</sup>
- Measure 10: Chord A<sup>13</sup>(b<sup>9</sup>)

**Functional Labels (below bass staves):**

- Measure 1: C: (D) Pr
- Measure 2: D
- Measure 3: T
- Measure 4: Tr (D)
- Measure 5: (D)
- Measure 6: D $\flat$
- Measure 7: sV
- Measure 8: T
- Measure 9: (Pr)
- Measure 10: (D)

<sup>28</sup> Imagine Dragons, “Radioactive.”

<sup>29</sup> Duke Ellington, “Satin Doll,” 90.

This chord appears at a cadential point, as a pre-tonic, and is preceded by a dominant of the traditional dominant. It has all the proper chord qualities of a dominant function – major-minor seventh, extra 9 and 13 for emphasis. But we’d be expecting G as the root, not Db, if this were traditional tonality. Jazz practitioners know this chord as the “tritone substitution,” a chord that takes a tritone relation away from the standard dominant and uses it in a dominant functioning place. For Functional Analysis purposes, the reason this works is because it uses a *le-so* tendency tone to replace the *ti-do*. Additionally, the flat two, or *ra-do*, reinforces the plagal *le-so* resolution. While some may argue that this chord includes the leading tone *ti*, it does not resolve up as a leading tone in this instance – it’s the seventh of the chord and is better described as flat-*do*, which resolves down, in a way, to *ti* in the next chord, even if they are the same key on the piano.

As a *le-so* pre-tonic chord, this chord is a variation of the s-T plagal resolution discussed earlier. With s as f-a**b**-c in this key, Db can be seen as a third relation – sV (similar to the Neapolitan pV). This tritone sub is foreshadowed somewhat by the use of altered dominants that include lowered fifths – the one time a G chord does appear as a dominant, it uses a voice leading including Db.

### **3.4 CONCLUSION**

This chapter has covered the manner of labeling many different types of harmonic concepts, provided a philosophy of their usage, and engaged with musical examples. From the most basic diatonic tonal ideals, to more challenging chromatic concepts, and even some topics beyond what is normally considered functional, all the labels aim to provide pedagogical clarity. In the next chapter we will delve more deeply into the specific teaching applications. These include observations from a class taught with Functional Analysis, hypothetical implementations for many different scenarios, and analyses of whole pieces from a pedagogical view.