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Senior Research Project

Impact of Lydian Mode on Group Improvisation in Phish's "Reba"

Phish is an American band that has achieved tremendous success outside of the context of most popular musicians. They have never had a hit record, or even a single, of note. Rather, they have gathered an intimate, dedicated fan base by vigorously touring the United States since the late 1980s. Like the Grateful Dead, the band that many regard as Phish's cultural predecessor, Phish's tours serve as roadmaps for caravans of fans selling clothes, food, and drugs around the venue in hopes of gaining entry to that night's concert¹. In their live shows, intricately composed suites, on-stage antics, spontaneous setlist construction, and psychedelic group improvisational passages ensure that "the latent thrill of discovery...is ever present"². One song that exemplifies the Phish experience is "Reba". Since its live debut on October 01, 1989, the song has been featured on the band's 1990 album *Lawn Boy* and been played at over 380 live shows, which amounts to over 20% of the band's total concerts³. 'Reba' contains many elements of early Phish compositions: surreal lyrics, classically composed movements, and a group improvisation section. As with many Phish songs, there is an ongoing debate between fans over which live version is the best based on the execution of the composed song and the coherence of the improvisation section. The song's improvisational passage always begins with an opening two chord motif that infers a Lydian context. The purpose of this paper is to explore

¹ Joy Bashew Rosenberg, "Going Down the Road: Forty Years on Tour with American Jam Bands," PhD Dissertation, (University of Southern California, 2008, ProQuest, EP61488), 39.

² Edwin Kent Morris, "Destroying America: Phish, Music, and Spaces of Aesthetic and Social Exception," *International Review of the Aesthetics and Sociology of Music* 45, no. 1 (2014): 170.

³ The Mockingbird Foundation, Inc. "Reba as Performed by Phish." . Accessed April, 2, 2018.

Phish's improvisational techniques and the use of Lydian mode in the improvisational section of 'Reba', to suggest that the Lydian context of 'Reba' prompts rhythmic, harmonic, and melodic discrepancies in live performances of the song.

The song "Reba" itself embodies the essence of Phish, from its quirky lyrics, to its unexpected changes, to its blissful culminating improvisation section⁴. Its origins stem from Anastasio's college years studying composition under Ernie Styles; his main objective was to produce a piece that never repeats itself but never develops⁵. The song begins with a catchy chord-led song form featuring Anastasio and McConnell on vocals. Following the "Bag it, tag it" refrain, the song progresses into a second composed passage where Anastasio plays the melody on guitar, McConnell and Gordon provide a harmonic base, and Fishman plays a drumbeat that is homogenous to Anastasio's melody. Later, a new melody played simultaneously by McConnell and Anastasio is then repeated with the piano leading the guitar in an extended fugue. This second section culminates with the band repeating a two-bar repeated vamp on F-Eb in ¾ time (see: Form A), across which Fishman provides drum fills, before changing to 4/4 time and reversing the progression to the Eb-F structure of the improvisational section.

Form A:



⁴ Grant Calof, Tim Wade. "Reba." In *The Phish Companion: A Guide to the Band and their Music*. 1st ed., 163-164. San Francisco: Miller Freeman Books, 2000, 163.

⁵ Calof, Wade, "Reba", 163.

Form B:



“Reba”’s popularity with the band and its fans can be traced by its performance frequency. Like many songs in the band’s repertoire, it was debuted months before it was released on the album “*Lawn Boy*” in September 1990. Since then, it has been performed at nearly 20% of shows, most recently on New Year’s Eve 2017 at Madison Square Garden in New York City⁶. The band has played the song in several ‘slots’ during a two-set performance over the years, but “Reba” tends to appear in the middle of the first set of their shows⁷. It is very likely that the band chooses this placement because the first set generally features many contained, or non-Type II jamming or segues between songs. The drumroll that invariably concludes the “Reba” jam connotes a finality that adheres to this model.



However, the Reba jam can produce some spontaneous, Type-II improvisation. Three examples of live improvisation in Reba will be analyzed below. The three versions, from 12/31/1995, 07/03/2011, and 10/31/1994, will be presented in order of increasing discrepancy from the opening Lydian progression.

Phish was founded in 1983 at the University of Vermont. The current line-up of Page McConnell on keyboards, Trey Anastasio on guitar, Mike Gordon on bass, and Jon Fishman on drums was solidified in 1985. Despite receiving little radio play and average record sales, the

⁶ The Mockingbird Foundation, Inc. “Reba”.

⁷ Calof, Wade, “Reba”, 164.

band became a counterculture phenomenon in the 1990s. Anastasio, the group's chief composer in its formative years, studied classical composition as an undergraduate at the University of Vermont and Goddard College. However, the band's members were familiar with funk, bluegrass, jazz, and reggae and blended these genres into their ever-expanding repertoire⁸. This diverse musical background manifested in a live concert experience that attracted a massive, dedicated fan base as the group toured extensively throughout the 1990s and 2000s.

While the band's creative process has changed over the years, Trey Anastasio has always spearheaded it. Anastasio studied classical composition at the University of Vermont and Goddard College. His popular music influences included Frank Zappa, King Crimson's Robert Fripp, and Grateful Dead; homages to these artists exist in Anastasio's early compositions and the band's improvisations. His senior thesis, a musical called "The Man Who Stepped Into Yesterday", which consisted of narration and nine songs that remain in the band's repertoire today, set the framework for Anastasio's early compositional style. A key component of this style included composing the lead melody, usually the guitar, in unison with the drum kit. These homorhythmic passages find their roots in early Fripp pieces, such as in the bridge of King Crimson's "21st Century Schizoid Man". The relationship developed between Fishman and Anastasio through this union regularly manifests in improvisational passages, including in "Reba", as well. Another area of Phish's music in which Fripp's influence can be felt is through their attempts to deconstruct a song's rhythmic and melodic organization. This becomes more prevalent as Phish matures as an improvisational unit. The origins of this style of improvisation

⁸ Elizabeth Anne Yeager, "Understanding 'It': Affective Authenticity, Space, and the Phish Scene." PhD Dissertation, University of Kansas, 2011. ProQuest (3460101), 12.

in rock music can be found in King Crimson's "Moonchild". Following a delicate song, the band engages in improvisational interplay that is devoid of rhythm but explores timbral and gestural experimentation. Though they tend to possess a more solid rhythmic base in their experimental improvisation, Phish's ability to manipulate a song's harmonic and structural forms pays homage to this groundbreaking improvisational endeavor.

While Frank Zappa similarly influenced Anastasio's compositional style, and he also serves as an improvisational predecessor as a guitarist. His complex compositions for rock ensembles eventually led to the composition of several orchestral pieces later in his career. Similar to Zappa's works, Anastasio's early works, such as "Reba", also feature dense harmonic textures, odd timbral interludes, and nonsensical lyrics. Zappa's middle period work, which makes heavy use of dense chord structures and two-chord modal vamps for solos, influenced Anastasio to include two-chord modal structures for extended solos, or full-band improvisation, in his early compositions⁹.

Anastasio's love of the Grateful Dead swayed Phish toward the improvisational juggernaut that they came to be in the 1990s. The band's obsession with developing strong musical communication can be linked to the legacy of live rock improvisation that the Dead championed throughout the 1960s, 70s, and 80s leading up to Phish's formation. The Grateful Dead often spoke of the nature of their live shows, which heavily showcased improvisation, as "phenomenon" that they could only facilitate, not control¹⁰. "Improvisation" didn't just cover 'jamming'; there were improvisational elements in the lighting design and setlist construction, too. Phish sought to replicate that unconstrained experience. As noted by Anastasio in a 2001

⁹ Brett Clement, "An Introduction to Frank Zappa's 'Chord Bible'". *Music Analysis*, 36., 2017, 8.

¹⁰ Nancy Reist, "Counting Stars by Candlelight: An Analysis of the Mythic Appeal of the Grateful Dead." *Journal of Popular Culture* 30, no. 4 (Spring, 1997): 189.

interview, “we always talked about creating an atmosphere where the four of us would have an equal voice”¹¹.

Phish began spending an immense amount of time developing their group improvisation techniques when improvisation became more of a focal point in their live shows in the early 1990s. Improvisation at its core is an empathetic creative process that exists within a predetermined knowledge base (chords, harmonies, riffs)¹². A democratic practice structure is imperative to developing this level of non-vocal communication. Miles Davis was a proponent of a democratic practice space because he believed that the true performance arises from actions and reactions of his band’s members¹³. Phish believed in intense practice too, but they also sought to enhance their predetermined knowledge base with spontaneous injections of musical material while improvising. The exercise that most encouraged this spontaneity was the “Hey” exercise. Dean Budnick explains it as follows:

This begins with one person presenting a melody. The other three band members then perform a complementary melody of their own. When the three have finally achieved this complementary melody, all four band members say “hey”. Then the adjacent person alters his melody a bit, and the three remaining band members are required to modify their own melodies in a corresponding manner. Once this is done, everyone says “hey” and the next band member makes an adjustment. This exercise teaches each of

¹¹ Yeager, “Understanding ‘It’”, 137.

¹² Frederick A. Seddon, “Modes of Communication during Jazz Improvisation.” *British Journal of Music Education* Vol. 22, no. 1 (2005), 48.

¹³ Seddon, Frederick. “Modes of Communication during Jazz Improvisation”, 49.

them to become unconsciousness of his own performance while simultaneously listening to the performance of the three others.¹⁴

As the band became nimbler at this spontaneous group expression, their improvisation began to take on new forms. From the beginning, Anastasio especially emphasized the need for live performances to feel interconnected. While this aspiration first manifested as obsessive setlist construction that placed songs in logical musical progressions (i.e. a song ending in D would be followed by a song in E, then F#, and so on up the major scale), Phish eventually began crafting their own sets through extended improvisation that depart each song's form. Ultimately, the band could cycle between both types of jamming, Type I, which adheres to the rhythmic and harmonic context of the song, and Type II, which is completely novel and spontaneous¹⁵. Within a Type II jam, the band has the capacity to return to the original song's structure to complete it or segue into a new song without hesitation. In Type I jams, especially those included in pieces composed by Anastasio, a two-chord vamp, or repeated gesture, serves as the "launch-pad", or starting point of the improvisation, and denotes a mode on which the band could begin improvising.

Modality is a harmonic language that is defined by the transposition of a tonal center along a series of seven natural scale tones. The seven "church" modes are all derived from the "C Major" scale; starting on successive scale tones tonicizes different modes. These modes can be transcribed to any key. For example, the two-chord progression used to launch Reba's jam is an Eb major to F major vamp in the key of Bb. Because Eb is the 4th scale degree of Bb, it

¹⁴ Yeager, "Understanding 'It'", 156.

¹⁵ Morris, "Destroying America: Phish, Music, and Spaces of Aesthetic and Social Exception.", 172.

tonicizes Lydian, the fourth church mode. Lydian mode was reintroduced in modern popular music in the 1950s when jazz composer and theorist George Russell wrote his guidebook to the Lydian mode as a new tonal organization concept and improvisational tool¹⁶. According to Russell's theory, the Lydian mode is chromatically constructed by fifths, meaning each tone is equidistant to its neighboring tones. When reconfigured, the tones produce the Lydian scale. Because the circle of fifths continues, tones outside of the standard Lydian scale emerge. These tones can only sound consonant if the tonal gravity is shifted to another tone farther up the circle of fifths¹⁷. Following the circle of fifths starting from Eb in Phish's Reba, the tones in the scale would be:

Eb Circle of Fifths: Eb Bb F C G D A C#

Eb Lydian Scale form: Eb F G A Bb C D

Bb Major Scale Form: Bb C D Eb F G A

Lydian mode is not prevalent in popular music because of the presence of a tri-tone between the tonic and the augmented subdominant scale degree and because of its flat subtonic, both of which have been used to demonstrate the mode's harmonic "weakness"¹⁸. However, this determination is borne of Western music theory that utilizes parallel scale relationships, which changes scale tone function based on the parent scale, to explain Lydian mode rather than approaching Lydian theory through relative scale relationships, which alters a

¹⁶ Russell, George. *George Russell's Lydian Chromatic Concept of Tonal Organization*. Brookline, Mass: Concept Pub. Co., 2001., 1.

¹⁷ Russell, George *Russell's Lydian Chromatic Concept of Tonal Organization*, 14.

¹⁸ Clement, Brett. "Modal Tonicization in Rock: The Special Case of the Lydian Scale," *Gamut: Online Journal of the Music Theory Society of the Mid-Atlantic*: Vol. 6 : Iss. 1 , Article 4. (2013). 96.

forward motion, Anastasio will often incorporate C, the fourth tone in Lydian chromatic construction, into his lead guitar playing. While still a consonant tone, the sixth scale degree does provide enough ambiguity when played on the downbeat to provoke this sense of progression. Whenever he stresses the tritone, A, and the band conforms to him, Anastasio effectively shifts the tonal center as far out from Eb as the normal Lydian scale can go. Lastly, Anastasio and McConnell will emphasize G on downbeats during the “peak” of the jam. At this juncture, Gordon returns to the Eb-F progression, leaving the lead guitar and supporting piano a whole step away from both the II and the augmented IV. Stepwise motion in either direction creates dissonance against the Eb, but the potential to resolve to Eb (I), G (iii), or up to Bb (V) results in a vaguely airy sound that connotes the exaltation and bliss for which the peak of the “Reba” jam is known.

In lieu of complete transposition, Phish’s improvisation requires a model that can represent the music’s trajectory. Christopher Bohling utilized “intensity graphs” in an attempt to conceptualize, not coincidentally, King Crimson’s free improvisations in songs like “Trio” and “We’ll Let You Know”. Bohling posits that, “the development of recorded sound technology created a shift in focus from the written score to the sound recording as the primary means of musical dissemination, and consequentially allowed for the widespread distribution of single, unique, and possibly improvised performances”²¹. While intensity graphs were originally used to graph the development of free jazz solos that had less rigid rhythmic and harmonic anchors, they can still convey ‘intensity’ delineated by changes in tempo, timbre, and range in metered

²¹ Bohling, Christopher P. "Freedom and Construction: New Concepts of Form in the Improvisations and Compositions of King Crimson." PhD Dissertation, University of Kansas, 2012. ProQuest (1532876)., 1.

music²². In the following analyses, intensity graphs have been constructed with two lines progressing across a timeline. The top line signifies the treble instruments (guitar and keyboards), and the bottom line signifies the percussion section (bass and drumkit).

The New Year's Eve 1995 "Reba" is a very "contained" interpretation of the jam's structure. After an error-ridden performance of the composed movements, Anastasio and the rest of the group produce one of Reba's most highly regarded improvisations to date²³. The band rarely departs the Lydian structure, but they utilize the tritone, mediant, and dominant tones in the Lydian mode scale to trigger dynamic and timbral changes in the jam's progression. At 5:54 in the LivePhish release of the concert, the band enters the improvisation section at a quicker tempo than normal, and Anastasio begins a rapid 16th-note melody that focuses on repeating 3-2-3-1 scale tone motif while using the 6th scale degree, C, as a pickup note.



Within four measures, Gordon's emulates Anastasio's opening melody on bass, but he augments his first step to a minor third, and lands on the Bb, the dominant fifth tone in the Eb Lydian mode. He then repeats the phrase while ending each repetition on descending scale tones. He extends the phrase by including a descending pattern from C to A twice in the subsequent measures.

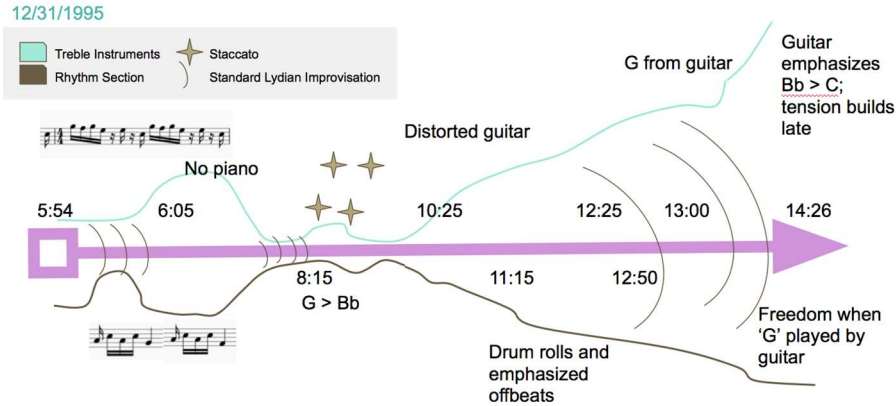


²² Bohling, "Freedom and Construction", 9.

²³ Calof, Wade, "Reba", 164.



After Gordon tonicizes the A through this downward motion, the rest of the band reacts by playing more sparsely and decreasing their volume substantially. Fishman never sways far from the original rhythm of the jam, but he does accentuate the tempo on a cymbal that has more sustain, which creates a percussive timbral base while refraining from using the kick drum as much. This section slowly builds in intensity as each band member starts to integrate more material into their playing. At 8:10, the bass and piano both tonicize G, the mediant, or third tone in the Eb Lydian scale, and the band enters another sparse space. Anastasio, McConnell, and Fishman all add scarce, metrically unconstrained contributions that digresses from the rhythmic drive of the jam. Anastasio again chooses to focus on the third, fourth, and fifth scale degrees in order to avoid the original tonic of Eb. Soon after, McConnell reestablishes the initial progression with sixteenth-note stabs on F and Eb, and the band falls into place on the beat. From here, the band winds towards the concluding “peak” of the Reba improvisational section. The peak lasts for several minutes more than the average rendition, which may influence its popularity with fans. The early discrepancies from the Lydian structure served as quick checks on the band by Gordon to ensure that they were listening to each other before settling into more comfortable harmonic territory for the rest of the improvisation. These spontaneous creations are indicative of the application of the “Hey” exercise in a live setting. It is possible that the band’s cohesiveness over an extended “peak” could not have been as well-executed if it weren’t for these digressions earlier in the improvisational passage.



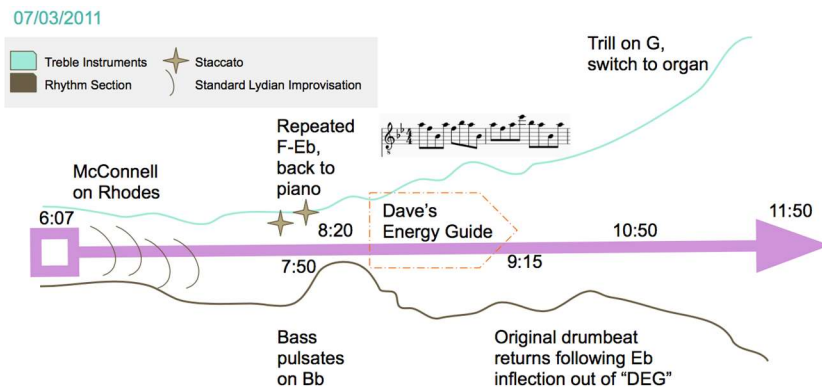
The next version, the July 3, 2011 “Reba” from Super Ball IX, is another standard rendition of the tune. Again, the band produces a largely straightforward interpretation of the improvisation section. In this rendition, they depart the normal rhythmic structure by alluding to “Dave’s Energy Guide”, a fan-favorite “composed jam” which occasionally appears in the band’s improvisation. This spontaneous departure from the Eb-F progression appears as the band is reaching the peak of the jam, and the progressive nature of “Dave’s Energy Guide”’s rhythm propels the band further towards that peak. The Reba jam begins at 6:10 in the LivePhish release and the band settles into a more relaxed tempo, a common decision that they have made in their later years on tour. Notably, McConnell forgoes the grand piano for a Fender Rhodes electric piano, which creates a mellower timbre and adds to the tranquil mood that the band establishes early on. Each band member plays within Eb Lydian but without any gestural motion towards a peak. At 8:00, though, Anastasio begins sharply sliding between F and Eb chords, and this 4-bar staccato rhythm is the first major departure from the “Reba” rhythm. After the four bars, McConnell switches back to piano, which is able to provide bright, staccato gestures more easily than the Rhodes, and the band proceeds in the Eb Lydian vamp.

Seconds later, at 8:40, McConnell accents the augmented fourth scale degree, A, and Anastasio and Gordon quickly catch on and the band modulates into a “Dave’s Energy Guide”

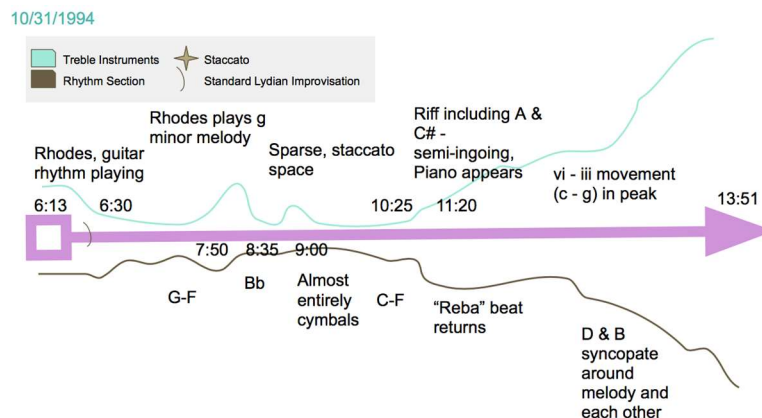
tease. The composed jam itself was written as a series of phrases played in counts of five, six, five, and seven beats. The series of phrases is meant to repeat a different odd numbered amount each time they are played. To the average listener, what results is a metrical ambiguity that creates both tension and a sense of increased tempo.



As noted, Anastasio plays the “Dave’s Energy” theme starting on A and falling to Bb, the Lydian V, on beat. This motion implies a II-V progression because A is the major third of the Lydian II triad. In jazz, this I-V progression generally resolves to I, or Eb. Eb is only played on the off beats every few repetitions of the ‘5, 6, 5, 7’ phraseology (though it’s included twice in the example above to demonstrate where it can be placed in the progression), which further alludes to the band’s trajectory. Ultimately, Anastasio does play Eb on the downbeat of a measure and the band falls back into the Eb-F vamp in Lydian. After this digression into the dissonant “Dave’s Energy Guide” in Bb, Phish plays noticeably louder with more active interplay as they “ascend” towards the peak of the jam.



gravity from ingoing to the semi-ingoing C#. By emphasizing the tonic and fifth of the II triad in Eb Lydian, Gordon establishes the dominant Lydian II that eventually leads the band into calmer territory, McConnell transitions to piano, and they gravitate towards the “Reba peak”. This peak is different, however, because Anastasio returns to the g minor tonality from earlier in the jam while also emphasizing C, the minor sixth triad in Eb Lydian. Reaching the G over c minor creates an entirely different mood because it layers a minor tone over a minor Lydian triad rather than a minor tone over the central tonality of the mode. While the peak contains the same interplay and explosive conclusion, it evokes more a tortured sensation rather than the exalted feeling that “Reba” induces.



The purpose of this research was to determine the exploratory potential in modal progressions that serve as “launch-pads” for extended improvisation. Phish’s “Reba”, which always begins with the same Eb-F progression, tonicizes Eb Lydian. By emphasizing this mode, the band rearranges the values of certain tones within the scale, and uses them to trigger timbral and dynamic changes, as well as changes in register. As a result, it opens up possibilities for spontaneous material to be performed by the band. Over time, they have established a set

of tones in the mode that emphasize different types of change, but have seldom explored other ways to create fresh material that create different harmonic possibilities. This discovery can be applied to a greater trend. First, bands that practice live group improvisation have the capability to create vastly different renditions of songs based on very simple harmonic structure. Despite this, they may choose to, or are incapable of, forgo this challenge in order to create a sound that is popular amongst their fans. While it is possible that the fans of these bands enjoy the more unique explorations into an improvisational space, there will always be a calculated risk when traversing non-verbal musical communication. Perhaps this is what makes them all the more exciting when they are executed successfully.

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