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LITTLE DOTS: A STUDY OF THE MELODIES OF THE
GUITARIST/COMPOSER FRANK ZAPPA

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TABLE OF CONTENTS

List of Figures	iv
List of Examples	v
Abstract	vi
INTRODUCTION	1
THE GUITARIST/COMPOSER	6
PINK NAPKINS	10
THE BLACK PAGE	25
BE-BOP TANGO	49
LARGE-SCALE CHROMATICISM	59
MOSAIC PROCESSES	61
CONCLUSION	67
BIBLIOGRAPHY	68
BIOGRAPHICAL SKETCH	75

LIST OF FIGURES

1. Chords and pitch collections of “Pink Napkins”	13
2. Number of times each pitch is sounded in “Pink Napkins”	13
3. Segmentation of “Pink Napkins”	15
4. Factory-cycle phrasing of “The Black Page” drum solo	34
5. Form of “The Black Page #1”	35
6. Two different readings of the form of “The Black Page”	36
7. Note values of long-held notes	37
8. CSEGs for quintuplets of [DF] and [DF`]	43
9. Pitch intervals of [DF] and [DF`]	44
10. CSEGs for [a3] and [a`3]	46
11. Pitch intervals for [a1] [a`1] and [a2] [a`2]	48
12. Chordal progression of introduction	59
13. Overview	60

LIST OF EXAMPLES

1. [1], [13], and [7] of “Pink Napkins”	18
2. [2] and [3] of “Pink Napkins”	20
3. [11] and [12] of “Pink Napkins”	20
4. [5] and [10] of “Pink Napkins”	22
5. [8] and [9a] of “Pink Napkins”	24
6. Measure 15 of “The Black Page #1”	27
7. Measures 4-6 of “The Black Page #1”	31
8. Measures 6-9 of “The Black Page #1”	32
9. Measures 1-2 of “The Black Page #1”	33
10. Measures 14-16 of “The Black Page #1”	38
11. m. 1 [a], m. 16 [a`], m. 13 and 27, m. 28 of “The Black Page #1”	40
12. “Uncle Meat” mm. 7-10, “Be-Bop Tango” mm. 7-8	42
13. [DF] and [DF`]	43
14. [a1] and [a`1], [a2] and [a`2], [a3] and [a`3] of “The Black Page”	45
15. Introduction to “Be-Bop Tango”	50
16. Measures 5-6 of “Be-Bop Tango”	52
17. Measures 12-14 and 23-27 of “Be-Bop Tango”	54
18. Split transformations	57
19. Final sonority of “Be-Bop Tango”	58
20. [4] and [5] of “Be-Bop Tango”	62
21. [2a] and [4] of “Be-Bop Tango”	63
22. [6] and [7] of “Be-Bop Tango”	65

ABSTRACT

This study explores the pitch and rhythmic content of the melodies of Frank Zappa. It also describes the relationship between Zappa's melodies and their harmonic climates. Three pieces are analyzed in detail. The analysis of the guitar solo "Pink Napkins" serves to introduce Zappa's theory of harmonic climates. A system is devised to explore consonance and dissonance relationships in the solo. The analysis of "The Black Page" explicates Zappa's use of "rhythmic dissonance" by means of the relationship between a melody and its "factory-cycle" pulse. Comparisons are made between "Pink Napkins" and "The Black Page" in order to describe the free exchange between Zappa's improvisations and his composed melodies. Finally, the analysis of "Be-Bop Tango" engages Zappa's atonal process and describes the structural importance of long-held notes in the piece. Other aesthetic concerns in the music of Frank Zappa are addressed.

INTRODUCTION

As we pass the ten-year anniversary of his death, Frank Zappa (1940-1993) remains as enigmatic to the general public as his music seems intractable to the analyst. The public facet of the counter-cultural icon's persona has been diminished in recent years to occasional television clips of Zappa's testimony before a Senate committee in the mid-eighties, where he stood in protest against a proposed album rating system by the Parents' Music Resource Center, or PMRC. During the hearings, Zappa was treated with surprising respect by the Senators present; Al Gore went even as far as to call Zappa "a true original and talented musician."¹ Some of the Senators, however, might not have realized that the well-spoken man seated before them, neatly groomed in a dark suit and tie, was the architect of quite possibly the raunchiest lyrics in the history of music up to that time.² As Zappa himself stated, "none of the artists who made it onto the list which became known as *The PMRC's Filthy Fifteen* had anything in their lyrics **even close** to the stuff in my catalog."³

The PMRC's failure to identify Zappa as a purveyor of what Senator Hollings called "outrageous filth" is a symptom of the music-listening public's relationship with Zappa's output: one that can be characterized by an extreme lack of familiarity. This is partly understandable, for Zappa composed, performed, and released music at a truly mind-boggling rate. The official Zappa catalog numbers over seventy titles, some of which run over two hours in length. Al Gore is probably one among many who had lost track of Zappa's output since his earlier,

¹The exception was Senator Slade Gorton, who called Zappa's comments "boorish" and "horribly and insensitively insulting."

²For a thoughtful yet entertaining analysis of Zappa's lyrics, see Ben Watson, *The Negative Dialectics of Poodle Play* (New York: St. Martin's Griffin, 1993).

³Frank Zappa, with Peter Occhiogrosso, *The Real Frank Zappa Book* (New York: Touchstone, 1999), p. 278. Emphasis by Zappa. The artists targeted by the PMRC included Twisted Sister, W.A.S.P, AC/DC, and Prince.

more politically charged material with the Mothers of Invention.⁴ Mainstream rock magazines such as *Rolling Stone* have done little to promote Zappa's music outside of these early records and the *Hot Rats* album of 1970. Indeed, Zappa claimed that there are many "who still believe the only 'good' material was performed by that particular group [the early Mothers]." ⁵ Further, radio stations seem to uniformly avoid programming any of Zappa's music.⁶ Yet, even with these obstacles in mind, Zappa's reputation remains enormous in a variety of musical circles.

Because of the eclectic nature of Zappa's music, categorizing his output has proved to be a challenging enterprise. Zappa tried his hand at composing in virtually every musical style that came within his orbit, even those styles he felt contemptuous towards. When asked whether he had a sense of his place amongst other composers, he responded: "Well, yes: basically that I don't belong."⁷ Here Zappa expresses a common sentiment of twentieth-century avant-garde composers, including idols of his such as Varèse and Stravinsky. The same can be said, however, of Zappa's position within rock music history: a fact that may come as a surprise to those who view Zappa as thoroughly entrenched in the Sixties musical scene. One explanation for Zappa's outsider status can be demonstrated in this exchange between Zappa and interviewer Kurt Loder regarding Zappa's 1968 doo-wop album *Cruising with Ruben and the Jets*:

Kurt Loder: I've always thought that Ruben and the Jets contained some of your sweetest, most emotional music. Why haven't you done more along that line?

Zappa: Well, I don't know whether doing emotional music is a mark of excellence. That's been one of my downfalls with rock

⁴Gore revealed this to Zappa in conversation years later.

⁵Frank Zappa, liner notes to *You Can't Do That on Stage Anymore*, 1988. This opinion is echoed by Michael Gray in one of the many available rock biographies of Zappa. Of the 1975 fan-favorite album *One Size Fits All*, he writes that it "carried with it, somehow, the negative feeling of the era it had come from." Michael Gray, *Mother! The Frank Zappa Story* (London: Plexus, 1994), p. 164.

⁶One explanation could be that, because the average Zappa album runs through all tracks uninterrupted by pauses, his music is virtually un-programmable.

⁷Don Menn, "The Mother of All Interviews," in *Zappa!* tribute issue, *Keyboard and Guitar Player*, 1992.

critics, 'cause they all seem to have this feeling that the more emotional it is, the better it is. And that's not my aesthetic at all. A little of each, you know? I like skill in music.⁸

Loder failed to recognize the key ingredient running through nearly all of Zappa's music: the unholy union of parody and homage. As Zappa himself put it, "the Emperor's not wearing any clothes, never has, never will."⁹ Zappa likened it to Stravinsky's neoclassical period. "If he could take the forms and clichés of the classical era and *pervert* them, why not do the same with the rules and regulations that applied to doo-wop in the fifties?"¹⁰ Zappa's quest for "skill" in music also reveals a kinship with Stravinsky, who considered himself a craftsman above all else. Zappa's contention that rock critics and the general rock audience tend to judge that music primarily on its emotional content may help explain the fringe status to which his music has often been relegated.

The characteristics listed above should not keep his music from being accepted by "serious" art music audiences, however. "Serious" is of course a misnomer for any of Zappa's music, even including his instrumental works for orchestra, which are often provided Satie-esque titles such as *Sinister Footwear*, *Mo 'N Herbs Vacation*, *Bogus Pomp*, etc.¹¹ The significant performance difficulties of these works have kept them out of the concert halls.¹² More importantly, they pose problems for classic music audiences because, in them, the musical style Zappa had established in his rock music remained largely unfettered by its newfound environment. The employment of a drum kit and rock drummer in a piece such as *Bogus Pomp* is one among many examples of Zappa's modifications of orchestral norms of scoring and style.¹³ Hence, his orchestral

⁸Kurt Loder, "Interview with Frank Zappa," in *Rolling Stone*, 1988.

⁹Bob Marshall, "Interview with Frank Zappa," October 22, 1988.

¹⁰Frank Zappa, with Peter Occhiogrosso, *The Real Frank Zappa Book*, p. 88. My emphasis.

¹¹This practice can also be observed in relation to Zappa's rock instrumentals and his guitar solos.

¹²Zappa believed that difficulty of performance has kept not only his own compositions from being performed but also those of other composers writing in a more adventurous idiom. In contrast, he felt that the standard repertoire of Beethoven, Mozart, etc. as well as Minimalist music was given unfair preference because it is cheaper to rehearse and perform.

¹³Terry Bozzio in the 1975 *Orchestral Favorites* version and Chad Wackerman in the 1983 *London Symphony Orchestra* arrangement. For more on Zappa's orchestration techniques

music is not presented to the audience as the next important development in the lineage of twentieth-century composition. In his mostly orchestral album *The Perfect Stranger*, Zappa labeled this facet of his output as “preposterously non-modern.”¹⁴

Jonathan Bernard has proposed that Zappa’s orchestral works can only be approached using the same “models developed from his more abundant commercially successful output.”¹⁵ This is consistent with Zappa’s own theory of what he calls *Project/Object*.

Project/Object is a term I have used to describe the overall concept of my work in various mediums. Each project (in whatever realm), or interview connected to it, is part of a larger object, for which there is no ‘technical name.’¹⁶

The same approach recommended by Bernard should thereby be extended to Zappa’s guitar solo endeavors as well as to his film projects. Part of the difficulty in characterizing Zappa’s music is the sheer quantity of *projects* (comedy songs, jazz numbers, instrumental pieces, guitar solos, spoken word, etc.) and how they are integrated into a larger *project* such as an album or a movie. For the non-initiated listener hoping to glean an understanding of the *object*, it stands to reason that the most successful *projects* to sample would be those containing the greatest number of small *projects*. Unfortunately, no existing Zappa album contains every facet of the *object*, so a small sampling of Zappa’s output can be extremely misleading.¹⁷ In his early-eighties output, in particular, Zappa seemed bent on compartmentalizing the divergent styles in his music rather than on integrating

and aesthetics, see Arved Ashby, “Frank Zappa and the Anti-Fetishist Orchestra,” *The Musical Quarterly* 83, no. 4, 1999: 557-605.

¹⁴Frank Zappa, *The Perfect Stranger*, Rykodisc RCD 10524, 1984.

¹⁵Jonathan Bernard, “Listening to Zappa,” *American Rock and the Classical Music Tradition*, ed. John Covach and Walter Everett (Overseas Publishers Association, 2000): 63-103.

¹⁶Frank Zappa, with Peter Occhiogrosso, *The Real Frank Zappa Book*, p. 139.

¹⁷The closest Zappa ever came to representing the *object* in a single *project* is the box set release *Lather*, Rykodisc RCD 10574-76, 1996. This release is actually a kind of compilation of four different albums: *Zappa in New York* (1978), *Orchestral Favorites* (1978), *Studio Tan* (1979), and *Sleep Dirt* (1978). Not released until after his death, it is still debated whether the box set was how Zappa originally envisioned the music to be presented.

them. This has led to the false assumption that Zappa's "serious music" projects were an attempt to make himself more "respectable" to the musical community.

If Zappa himself never managed to convey the complete breadth of the *object* in a single work, this study cannot hope to fare any better. A more fruitful endeavor will be to compare and contrast a small sample of works from different media that are thought, for one reason or another, to be interrelated. Of course, according to Zappa's theory of the *Project/Object*, all of his works are united by a process akin to "conceptual continuity". Conceptual continuity was a term Zappa used to describe associations that can be made between lyrics from different albums, which are achieved by recurrences of characters or words, such as the poodle dog in the songs *Dirty Love*, *Stinkfoot*, and *The Poodle Lecture*.¹⁸ For the purposes of this study, associations will be made between non-vocal musical works in an attempt to demonstrate a purely musical continuity outside of textual considerations. The musical *projects* in this study are not chosen arbitrarily, for the connections between these works have already been suggested in statements made by the composer himself. Therefore, this study will first investigate the relationship between Zappa's improvised guitar solos and his instrumental compositions. The discussion of Zappa's guitar improvisations will serve to provide a stylistic foundation and to derive an analytical strategy by which his composed melodies, all of the "musically uncompromising boy-is-this-ever-hard-to-play" variety, can then be considered.¹⁹

¹⁸Zappa attempted to tie together the stories of "Billy the Mountain", "Greggory Peccary", "Joe's Garage", and "Thing-Fish" in the book *Them or Us*, 1984.

¹⁹Frank Zappa, with Peter Occhiogrosso, *The Real Frank Zappa Book*, p. 182.

THE GUITARIST/COMPOSER

I'm a composer and my instrument is the guitar. If you like the composition, fine- . . . But there isn't anybody else who will take the chances that I will take with a composition, live onstage in front of an audience – and just go out there and have the nerve, the ultimate audacity to say “Okay, I don't know what I'm gonna play, and you don't know what I'm gonna play, and that makes us equal so let's go, we'll have an adventure here.”²⁰

I don't so much play the guitar as make up stuff . . . the notes that I play during the solo, I conceive it as a composition that's happening instantly at the time that it's . . . You know, you have two minutes to fill up or you have nine minutes to fill up or whatever it is . . . you're gonna make a composition in there. . . . an idea will pop up and I'll just develop it in the same way I'd develop an idea on a piece of paper except that I don't have to wait to hear it – I get to hear it as it's coming out.²¹

But I approach it more as a composer who happens to be able to operate an instrument called a guitar, rather than “Frank Zappa, Rock and Roll Guitar Hero.”²²

Most composers used to play the piano. Well, I'm not a piano player, so obviously, because of the technical limitations of the guitar versus the piano – in terms of multiple notes and so on – the stuff I write is determined by my interest in the guitar. And consequently, it provides difficulties for other instruments. If I hear something in my head that's guitar based – bends, and stuff like that – a lot of times, those things can't be executed on other instruments. So it provides a slight element of frustration when you hear your lines played on instruments other than what they were intended to be played on.²³

A composer's comments on his own music can be extraordinarily valuable to the analyst. Zappa gave hundreds of interviews on a wide variety of subjects.

²⁰Frank Zappa, “The Frank Zappa Picture Disk Interview,” 1984, uncredited.

²¹Ibid.

²²Steve Rosen, “One Size Fits All,” *Guitar Player*, Jan. 1977.

²³Tim Schneckloth, “Frank Zappa: Garni Du Jour, Lizard King Poetry and Slime,” *Downbeat Magazine*, May 1978.

Unlike many composers, Zappa was ever willing to reveal his thoughts on his music. Because most of the interviews were conducted by rock journalists with little or no formal musical training, Zappa rarely ventured into technical explanations of his compositional process. However, it is illuminating to observe that the most detailed descriptions of Zappa's musical technique and style are provided within discussions of guitar-playing aesthetics. Of all of Zappa's talents, his reputation as an electric guitarist of significant stature, in particular one with such an aggressive style, should be solid proof that he was primarily a rock musician after all. Though, the quotes above suggest that Zappa wished to divorce his own playing from the mainstream guitar trends of Seventies and Eighties rock music. By labeling his improvisations "compositions" he is not merely valuing his solos above those of other rock musicians, but placing his improvisations firmly within the rest of his compositional output.

The last quote provided above seems to imply that Zappa's instrumental compositions are written on and for the guitar. In fact, most evidence suggests that Zappa's compositional process involved four possible mediums: guitar, piano, paper, or any combination of those three. Nigey Lennon describes Zappa's piano skills as "hunt-and-peck note picking when he was composing and needed to figure out a melody line that wouldn't fit on the guitar."²⁴ Steve Vai claims to have "seen him compose orchestral pieces while sitting in an airport, or while flying in a plane."²⁵ Therefore, it is not the thesis of this study to overstate the guitar/composition connection but rather to underline the correlation between improvisation and composition.

Another interesting aspect of the last quote above is Zappa's use of the word "frustration" to describe his reaction to hearing his melodies performed on instruments besides the guitar. One may wonder then why Zappa did not simply relieve his frustration by playing them himself. The answer to that question is

²⁴Nigey Lennon, *Being Frank: My Time with Frank Zappa* (California: California Classics, 2003), p. 101.

²⁵Andy Aledort, "Zappa's Universe: An Interview with Steve Vai and Mike Keneally," *Guitar Player*, Feb. 1999.

simple: because he did not possess the technique to execute them cleanly.²⁶ Zappa described his technique as “fair” while others, such as his son Dweezil, considered it “the weirdest technique ever.”²⁷ The idiosyncratic element of his playing lies in his right hand picking technique, which utilized the thumb and first finger to pick notes, while the ring finger and pinky rested firmly on the pickguard.²⁸ This technique resulted in a more resonant sound when used for simpler melodies, but when applied to his more complex compositions, it would result in a muddled tone as it is more difficult to mute the lower strings without the aid of the wrist. However, these idiosyncrasies were turned into an asset in his improvised guitar solos.

Before exploring one of Zappa’s guitar solos in detail, a word must be said about the transcriptions and the transcriber. All guitar solo transcriptions referenced in this study are taken from *The Frank Zappa Guitar Book*, transcribed by Steve Vai.²⁹ During the time frame of these transcriptions (1979-1981), Vai (born 1960) was a young die-hard Zappa fan who had previously studied with Joe Satriani. While attending the Berklee School of Music, Vai sent Zappa transcriptions of the guitar solo “Black Napkins” and the instrumental piece “The Black Page” (both to be discussed below). Suitably impressed, Zappa hired Vai to transcribe more solos and to play the “impossible guitar parts” in his touring ensembles from 1980 to 1982.³⁰ The guitar solos transcribed in *The Frank Zappa Guitar Book* are taken from the albums *Zoot Allures* (1976), *Sheik Yerbouti* (1979), *Joe’s Garage* (1979), *You Are What You Is* (1981), and *Shut Up ‘n Play Yer Guitar* (1981).³¹ Zappa considered the transcriptions to be mostly accurate, though some have questioned Steve Vai’s assertion that “on a few licks, where

²⁶In all fairness, there have only been a handful of virtuoso guitarists who have been able to play them well. The same can be said of keyboardist, wind players, etc. Of all the guitarists in Zappa’s many touring ensembles, only Steve Vai (1980-1982) and Mike Keneally (1988) were ever required to play these types of melodies.

²⁷James Rotondi, “My Guitar Wants to Kill Your Mama: Frank Zappa’s Lethal Axe,” *Guitar Player*, Oct. 1995.

²⁸The typical technique is to rotate the wrist back and forth to move the pick.

²⁹Frank Zappa, *The Frank Zappa Guitar Book* (California: Leonard, 1983).

³⁰Steve Vai was paid a measly ten dollars a page for his work. Vai later claimed that it took him three days to transcribe just one page!

³¹Unfortunately, none of the solos from *Guitar* (1988) or any of Zappa’s other albums have been transcribed.

there are several ways to write them, I chose the way which accents the phrasing.”³² Therefore, any significant discrepancies between the transcription and the actual performance will be corrected if it has any bearing on analytical statements.

³²Frank Zappa, *The Frank Zappa Guitar Book*, p. 5. David Ocker, a copyist for Zappa, was of the opinion that some of the transcriptions could have been simplified and that Zappa seemed to prefer overcomplicated transcriptions. Bill Lantz, “Interview with David Ocker,” 1994 and 1995.

PINK NAPKINS

The majority of the solos on the guitar-solo albums *Shut Up 'n Play Yer Guitar* and *Guitar* are titled differently from the songs from which they are extracted. To the listener unfamiliar with the format of Zappa's live shows, these solos could very well be self-contained compositions or one-time-only events, as they share no thematic material with the songs within which they occur.³³ The solos extracted from the song "Inca Roads" are prime examples of this phenomenon.³⁴ On the other hand, Zappa did compose a handful of tunes specifically designed to function as guitar-solos. "Pink Napkins" from *Shut Up 'n Play Yer Guitar* is one such piece, even though its title is a slight modification on the title of the work from which it is extracted, "Black Napkins", in order to better capture the mood of this particular performance.

Zappa considered "Black Napkins" to be one of his signature pieces. It debuted in the Fall 1975 tour and was included in nearly every subsequent tour, often as a show opener or closer.³⁵ Not only does this piece hold a significant place in Zappa's oeuvre, but it represents a prime example of Zappa's improvisational conception. "Pink Napkins", taken from a Winter 1977 performance, finds Zappa in a particularly reflective and subdued state. The rare use of a clean jazz-like tone for his guitar allows us to witness first hand the guitarist/composer unencumbered by his usual highly amplified "hog" tone. Though no bootleg exists of the actual concert, it is highly likely that "Pink Napkins" is edited from a larger solo.³⁶ For his officially released solos, Zappa

³³Zappa does not inform the listener of the song origin of the solos in the liner notes [Besides giving concert dates]. This is further evidence that Zappa wished them to be considered as separate compositions.

³⁴"Shut Up 'n Play Yer Guitar", "Gee, I Like Your Pants", "Shut Up 'n Play Yer Guitar Some More", and "The Return of the Son of Shut Up 'n Play Yer Guitar" from *Shut Up 'N Play Yer Guitar* and "Systems of Edges" from *Guitar*.

³⁵The only tour that did not include "Black Napkins" was the Spring 1979 tour. "Black Napkins" originally appeared on the *Zoot Allures* album. *Zoot Allures*, Rykodisc RCD 10523.

³⁶Of course, there is no doubt that it is edited from a longer "Black Napkins" performance, as it lacks the main theme. Performances from this tour also included a violin solo prior to Zappa's solo.

frequently edited a longer solo into a performance that he could consider to be a true representation of his musical conception.

“Pink Napkins” embodies one of the key features of nearly all of Zappa’s guitar solos: simple or static non-progressive harmonic accompaniment. Typically, Zappa’s solos are accompanied by a single chord or two chords alternating at regular intervals. Zappa compared the single chord ostinato accompaniments to the hypnotic Indian sitar music of Ravi Shankar. “The idea of creating melody from scratch based on an ostinato or single chord that doesn’t change – that was the world that I felt most comfortable with. If you listen to Indian classical music, it’s not just pentatonic. Some of the ragas that they use are very chromatic, all sustained over a root and a fifth that doesn’t change.”³⁷ Examples of Zappa solos utilizing this type of accompaniment are too numerous to list, though “Drowning Witch”, “Zoot Allures”, “Sinister Footwear III”, “Yo Mama”, and “The Black Page #2” are a few of the best known of this category. The accompaniment of “Pink Napkins” consists of two alternating chords and even though, technically speaking, this constitutes a chord change, Zappa did not consider these to be “chord changes” in the sense that jazz musicians might. “I mean, some people like to play on II-V-I changes and can bebop themselves into a frenzy; and there are other people who even like to listen to that sort of thing. I can’t stand it myself. I pretty much *loathe* chord changes.”³⁸ Instead, Zappa preferred to name these specialized accompaniments *harmonic climates*.

Knowledge of Zappa’s theory of “harmonic climates” is crucial in attaining an understanding of the relationship between melody and harmony in both his improvised and his composed music. Though somewhat ambiguous, it seems to imply the power of melody to modify harmony and vice versa: “The chord that is being played is the harmonic climate – if it’s an augmented chord it’s a mysterious climate; if it’s a diminished chord it’s a little tenser; if it’s minor it’s serious; if it’s major it’s happy; if it’s major seventh you’re falling in love; if it’s augmented eleventh it’s bebop. You know these are all established harmonic

³⁷David, Mead, “Unholy Mother- Frank Zappa,” *Guitarist Magazine*, June 1993.

³⁸Matt Resnicoff, “Poetic Justice: Frank Zappa Puts Us in Our Place,” *Musician*, Nov. 1991.

aromas that people recognize whether they do it consciously or not, that's what's built into you."³⁹ (While Zappa may be over-generalizing the expressive content of these chords, his recorded output shows he is quite aware that a minor chord can express more than a "serious" mood.)⁴⁰ Zappa better described the "harmonic climate" as "the establishing shot in a movie – where you see the exterior of the building, or the alley with the garbage cans. It tells you where it's happening."⁴¹

More important to Zappa's compositional aesthetic is how the melody then functions in the harmonic climate. For Zappa, melody takes an active role in creating meaning and emotion, and it does so through the process of consonance and dissonance. "If you hear in the bass a C and a G, you know, 'You're in the key of C, buddy.' You are anchored to a tonality, and when a soloist comes along and plays the C#, he's sending you a *message*. And where the C# goes is part of the adventure of playing the solo."⁴² "So a melody functions against a harmonic climate in terms of what is the fractional delay between the time that you hit a note that is tension to that chord, to the time that you hit a note which is inside the chord which creates the resolution – that's how melodies work."⁴³

Taking this information at face value, we can approach the harmonic and melodic material of the "Pink Napkins" guitar solo in a systematic manner. The accompaniment of "Pink Napkins" involves the alternation of two chords, each occupying a measure of 6/8: C#-minor-seventh (C#, E, G#, B), and D-major-seventh (D, F#, A, C#). Unlike most of Zappa's two-chord "vamps", these chords require a change in pitch collection for the melody when one chord moves to the next, since the root motion is by semitone. Figure 1 provides the pitch material Zappa utilizes in his solo for each individual chord.

³⁹Frank Zappa, "The Frank Zappa Picture Disk Interview," 1984.

⁴⁰The buoyant G minor based solos "Variations on the Carlos Santana Secret Chord Progression" and "That Ol' G minor Thing Again" are evidence enough.

⁴¹Tim Schneckloth, "Frank Zappa: Garni Du Jour, Lizard King Poetry and Slime," *Downbeat Magazine* May 18, 1978.

⁴²Matt Resnicoff, "Poetic Justice: Frank Zappa Puts Us in Our Place".

⁴³Frank Zappa, "The Frank Zappa Picture Disk Interview," 1984.

<u>Chord</u>	<u>Collection</u>						
C#-minor-seventh: C#	D#	E	F#	G#	A#	B	
D-major-seventh: (C#)	D	E	F#	G#	A	B	

Figure 1. Chords and pitch collections of “Pink Napkins”

The melodic activity here is what Zappa would call “poly-scale oriented”, since the C# minor seventh is paired with a Dorian collection while the D major seventh utilizes the Lydian mode. The extended tertian harmonies of the repeated chords suggest that “Pink Napkins” belongs loosely in a jazz idiom, yet which of these chords might represent the tonal center of the piece? The semitone root motion from C# to D might imply a leading tone relationship to D major tonality. Yet, close listening does not entirely bear this out.⁴⁴ Instead, the harmonic climate of “Pink Napkins” is created by common tones. Example 1 is arranged to show common tones between the two collections. As can be seen, D/D# and A/A# are the only pitches without a common tone in the opposing chord. This begs the question as to whether they are treated differently from the pitches shared between the two collections. According to Zappa’s theory of “harmonic climates”, some pitches will produce dissonance (tension) and others consonance (relaxation). Though it may seem like a questionable analytical practice, an inventory of all articulated pitches in “Pink Napkins” can test the predictive power of the “harmonic climates” theory (See Figure 2).

<u>C#</u>	<u>D/ D#</u>	<u>E</u>	<u>F#</u>	<u>G#</u>	<u>A/ A#</u>	<u>B</u>
153	12 34	131	172	159	41 11	180

Figure 2. Number of times each pitch is sounded in “Pink Napkins”

⁴⁴Steve Vai chooses to notate the solo in the key of C# minor, most likely due to the hypermetric emphasis on that chord. In a complete “Black Napkins” performance, the piece ends on a sustained D *minor* chord under a scalar passage in the D minor scale. The purpose of the passage is, of course, to completely destroy the established harmonic climate. In “Pink Napkins”, a fade-out within the solo is employed.

Figure 2 shows that D/D# and A/A# are used far fewer times than the common tone pitches, all of which number well over one hundred. Of these four pitches, D and A# are used by far the fewest times. D and A# also share the fact that they are only used during their respective chords (C# -7 for A# and DM7 for D). In “Pink Napkins”, the pitches D and A# provide the greatest consonance and the greatest dissonance, respectively. They are used, accordingly, with great care by Zappa, which accounts for the relatively few occurrences of these pitches. The pitches a perfect fifth above or below these pitches, A and D#, are also seldom used, as they provide the other key consonant (A) and dissonant (D#) pitches. The dissonant pitch D#, like A#, occurs over the C#-minor-seventh chord. However, D#, unlike A#, is a naturally occurring non-common-tone pitch between the collections, whereas A# is likely a dissonant pitch pre-selected by Zappa to “send a message” throughout the solo at key points. A#, therefore, is “brought along” by its perfect fifth relationship with the naturally occurring dissonant D#. The pitch A natural is crucial because, by this logic, it is in fact a common tone between the collections intended for the C#-minor-seventh and D major-seventh chords, yet it is rarely used as such. When (or if) A natural is used over the C#-minor-seventh chord, the collection is no longer Dorian but rather natural minor. Therefore, these general statements can be made: 1. The neutral harmonic climate is emphasized by common tones between the collections; 2. Dissonance is relegated in the solo to the C#-minor-seventh chord; 3. Consonance is relegated in the solo to the D-major-seventh chord; 4. Consonance and dissonance relationships are used sparingly in the solo.

Now that the key “dissonant” and “consonant” pitches within the harmonic climate have been revealed, “Pink Napkins” as an “instant composition” can be investigated. The quotes provided earlier in this study urge us to track the development of melodic material throughout the composition. The paradigmatic analytical method to be utilized will allow us to compare musical events that occur at different points in a work by a given set of criteria. Figure 3 is an overview of the melodic activity throughout this through-composed solo. Each

bracketed numeral represents the creation of a distinctive melodic idea that is sustained or developed for a significant duration or number of measures. A lowercase letter following the bracketed numeral denotes a smaller segment within the larger segment. T1, T2, T3, and T4, on the other hand, signify any stretch of time devoid of an important new motive or the development of a previous motive.

<u>Symbol</u>	<u>Measures</u>	<u>Number of Measures</u>
[1]	1-4	4
[2]	5-8	4
T1	9-12	4
[3]	13-16	4
[4a]	17-18	2
[4b]	19-20	2
T2	21-26	6
[5]	27-32	6
[6a]	33-34	2
[6b]	35-36	2
[6c]	37-38	2
T3	39-42	4
[7]	43-46	4
[8]	47-50	4
T4	51-56	6
[9a]	57-58	2
[9b]	59-60	2
[10]	61-64	4
[11]	65-68	4

[12]	69-72	4
[13]	73-76	4

Figure 3. Segmentation of “Pink Napkins”

The “number of measures” column serves to illustrate the degree to which Zappa conforms to the hypermeter created by the theme of “Black Napkins”. “Black Napkins” has an eight-measure theme, with the clearest hypermetric downbeats placed at the beginning of mm. 5 and 9, indicating a simple four-bar hypermetric construction.⁴⁵

Figure 3 shows that, for the most part, “Pink Napkins” conforms to the four-measure hypermeter, especially towards the beginning and towards the end of the solo. In fact, four-bar construction predominates between mm. 1-20 and 57-76, with each unit lasting twenty measures. This creates larger symmetrical 20/36/20 measure units, which suggests a process of return at [9], where four-bar hypermeter is reestablished at m. 57.

By this logic, the thirty-six measures in between [4] and [9] are more freely arranged in regards to hypermeter. The six-measure T2 initiates a series of melodic segments beginning at [5] lasting six measures. At [5] Zappa seems to intentionally overshoot the motive of [5] an extra two bars, which could have restored the established hypermeter, since T2 and [5] combine to twelve measures. This is subverted at [6] by another six-measure segment, which therefore causes the return of four-bar construction at [7] to arrive after measure 42, two bars “too late”. Since Figure 3 does reveal smaller segments in two-measure groupings such as [6], the six-measure segments are not particularly disruptive events. However, they do contribute to the more “experimental” nature of these middle thirty six measures, something readily perceptible to the listener.

⁴⁵Steve Vai chooses to transcribe “Black Napkins” in 3/4 time as opposed to the 6/8 of “Pink Napkins”. It is likely that the “Black Napkins” transcription is the same early transcription Vai sent to Zappa which got him hired. Vai apparently realized the superiority of 6/8 notation by the time “Pink Napkins” was transcribed. Therefore, we will consider the theme of “Black Napkins” to be eight measures long rather than sixteen.

Zappa was prone to ignoring hypermetric concerns in his solos, which sometimes resulted in less-than-smooth transitions back into thematic sections after a solo, as his bandmates could not safely predict when his solo had come to an end. During the opening “Black Napkins” solo on Halloween 1981, for example, Zappa’s solo departed far enough from the hypermeter to cause him to forget which chord he needed to begin the theme with, resulting in a colossal “train wreck” on live television.

Since “Pink Napkins” is a transcription rather than a polished musical score, it will be necessary to relate melodic segments according to looser criteria than one might use for one of Zappa’s composed melodies. For example, [1] and [13] reveal a relationship because they are the only segments that involve improvisation on block chords (Example 1). Significantly, [1] begins the solo and [13] ends the solo, creating a symmetrical layout in the return to this melodic texture. [1] and [13] are further related by Zappa’s analogous use of consonance and dissonance in the solo. This can be best demonstrated in mm. 3-4 and 75-76, where the solo guitar introduces a dissonant F#-major chord (because of the A#) over the C#-minor-seventh accompaniment before moving onto the consonant E-major chord, then on to the consonant D-major chord.⁴⁶ The D#-minor chord at m. 73 of [13], containing two dissonance pitches, can be considered a substitute dissonant chord for F# major. The same harmonic progression in [1] and [13] occurs at the midpoint of the solo at [7]. Here, however, the progression is executed with arpeggiated chords rather than with block chords.

⁴⁶Steve Vai’s transcription is incorrect at m. 3 and m. 75, which should both contain an A#. The A natural of m. 1 is correct, however.

SLOW C#-7
 sensitive, very moody [1]
 clean

mf CON.
 ALTERNATE CHORDS
 Dmaj7 CON.
 mp dissonant consonant consonant ppp

[13]
 p
 dist. con.
 con.

[7]
 ff
 diss. con.
 f con. con. p f 8:6 pp
 3 6 3 7:6

Example 1. [1] [13] and [7] of "Pink Napkins"

These three segments present a snapshot of Zappa's use of dissonance in "Pink Napkins". The "dissonant" collection Zappa is using in his solo in all three segments is D#, F#, A#, C#, where either of the underlined pitches can act as the root of an outlined harmony while D# and A# provide the dissonance. This collection is significant in that, when imagined as a simultaneity over the C#-minor-seventh chord, it produces a chain of thirds beginning on C# that completes the entire collection utilized for that chord: C#, E, G#, B, D#, F#, A#, C#. [2] and [3], for example, use the D# as a dissonance on the downbeat, but in different manners. [2] presents it as an appoggiatura that resolves down to C# while [3] accents the D# on the downbeat and arpeggiates the remaining pitches of the "dissonant" collection A#, F#, C# (Example 2).

The D-major-seventh chord of the accompaniment, on the other hand, is not treated to any significant dissonance. In fact, the pitches of the D-major-seventh chord are used to neutralize dissonances applied in the solo to the C#-minor-seventh chord. A prime example of this occurs at [11] to [12], where an arpeggiation of an F#-minor chord at the end of [11] in measure 68 is carried into [12] as the principal motivic material (Example 3). The F#-minor chord is consonant over the C#-minor-seventh because, as was discovered above, it changes the basic collection to natural minor and adds an extra common tone by the inclusion of A natural. The status of A natural now helps us better understand the harmonic process in [1], where an F#-minor chord in measure 1 was answered in measure 3 by an F# major chord. [1] can now be viewed as a microcosm of the harmonic activity of the entire "Pink Napkins" solo.



[3]



Example 2. [2] and [3] of “Pink Napkins”



Example 3. [11] and [12] of “Pink Napkins”

Other segments can be related using the same system that was applied to [1] and [13]. [5] and [10] hold features in common that are in many ways opposed to [1] and [13] (see Example 4). For one, they are devoid of dissonant pitches, a feature which relates both segments to [11] and [12]. More importantly, [10] is rhythmically derived from [5] in the use of the simple rhythmic motive

eighth-note triplet/sixteenth-note triplet. However, the use of a sixteenth-note triplet rhythm ties both [5] and [10] to [11] and [12] as well. The characteristic that finally causes us to view [5] and [10] as a stronger relationship than the larger group {[5] [10] [11] [12]} is that they reside in the most extreme registral positions in the entire solo: [5] in the highest position and [10] in the lowest position. They are similarly marked by the duration in which the motive is sustained. As stated above, the motive of [5] lasts for six measures; more specifically, it is present in *each* of the six measures of [5]. Likewise, the motive of [10] is utilized not only in the four measures of [5], but is also the generating rhythmic motive of [11] and [12] - twelve measures in total. The same cannot be said for any of the remaining segments of "Pink Napkins", most of which utilize a motive for a maximum of three measures before liquidating the motive in preparation for the next segment. Therefore, [5] and {[10] [11] [12]}, lacking in dissonance and sustained for a significant period of time, represent the points of greatest consonance in the solo.

The image displays a musical score for the piece "Pink Napkins". It consists of five staves of music in treble clef with a key signature of two sharps (F# and C#).
 - The first staff starts at measure 26 and includes a handwritten "[5]" above it. It features a triplet of eighth notes with an accent (^) and a dynamic marking of *f*.
 - The second staff starts at measure 28 and continues the triplet pattern.
 - The third staff starts at measure 30 and includes dynamic markings of *ppp*, *mf*, *ff*, and *mp*.
 - The fourth staff starts at measure 61 and includes a handwritten "[10]" above it. It features a complex rhythmic pattern with a 9:6 ratio indicated.
 - The fifth staff starts at measure 63 and continues the complex rhythmic pattern.

Example 4. [5] and [10] of “Pink Napkins”

So far, the segments encountered have included relatively straightforward rhythms. Zappa considered the most unique feature of his improvisational technique to be his “speech influenced” rhythmic concept. “The rhythmic concept I have about playing [is] based on ideas of metrical balance – long sustained events versus groupettes that are happening with a lot of notes on one beat. Like a lot of sextuplets, septuplets, and things like that. A lot of times I’ll

play thirteen notes over a half note and try to space it out evenly so it flows.”⁴⁷
“I don’t think in groups of twos and fours and stuff – they just don’t come out that way. I can sit around and play fives and sevens all day long with no sweat.”⁴⁸
Though “Pink Napkins” does not provide any clear examples of septuplets and is perhaps not one of Zappa’s more rhythmically complex solos, it does characteristically avoid groups of two or four. [8] and [9a] are related segments because they utilize the technique Zappa described regarding polymeters: evenly-spaced notes compressed into a smaller frame (Example 5). Zappa categorized this phenomenon as “rhythmic dissonance.” “You can write rhythmic dissonance, and you can write the equivalent of rhythmic consonance, too. What I would describe as a dissonant rhythm is 23/24, where things would rub up against each other in just the same way that notes a half step apart have a certain tendency to twinge your ears.”⁴⁹ The real effect of this technique is one of “slowing down” or “speeding up”. The above quotes will be able to be applied with greater precision to the pieces to be discussed below. There, a greater understanding of the rhythmic procedures in Zappa’s guitar solos can be attained.

⁴⁷Steve Rosen, “One Size Fits All,” *Guitar Player*, Jan. 1977.

⁴⁸Ibid.

⁴⁹David Mead, “Unholy Mother- Frank Zappa,” *Guitarist Magazine*, June 1993. For other sources on the concept of rhythmic dissonance, see Maury Yeston, *The Stratification of Musical Rhythm* (New Haven and London: Yale University Press, 1976), and Harald Krebs, “Some Extensions of the Concepts of Metrical Consonance and Dissonance,” *Journal of Music Theory* 31 (1987): 99-120.

48 [8]

57 [9a]

Example 5. [8] and [9a] of "Pink Napkins"

THE BLACK PAGE

When I got off the first road tour with Frank in 75 he had organized a concert of his classical music to be played by a 40 piece orchestra of the best players in Los Angeles, at Royce Hall, UCLA. When we were rehearsing and recording during the days while performing nights at Royce Hall, Frank overheard the studio musicians talking about the difficulty of the music and how they all lived in mortal terror of coming in to a jingle session one morning and being presented with a mythological “Black Page”, a piece of music so hard and filled with notes that it appeared “black”. He joked about it and I soon forgot, but that was the initial incentive for the “The Black Page” drum solo he would write for me two years later!⁵⁰

So goes the genesis of the title for the next composition to be discussed, according to Zappa’s drummer from 1975-1978, Terry Bozzio. As it turns out, the fears expressed by the studio musicians were not entirely unfounded. After its composition, “The Black Page” was often used as a test piece during Zappa’s grueling auditions; Steve Vai was asked to memorize it and play it “as fast as he could” while drummer Vinnie Colaiuta (1978-80) had to sight-read it on the spot from Zappa’s notated score. Both musicians succeeded in this task, in part because both had actually attempted to transcribe the piece on their own before their auditions were ever scheduled. The undertaking of such a daunting project can only be understood as a result of the universal appeal of the piece, one of Zappa’s signature compositions. It first appeared on the *Zappa in New York* album, which documents the premier recordings of the three basic incarnations of “The Black Page” during Christmas 1976: the original drum solo, “The Black Page #1” and “The Black Page #2”. Since it has been dealt with elsewhere, the formal differences between “The Black Page #1” and “The Black Page #2” will not be discussed in detail. Suffice to say, “The Black Page #2”, a somewhat simplified version of “The Black Page #1”, became a staple of Zappa’s live

⁵⁰Terry Bozzio, <http://www.terrybozzio.com>

shows, with virtually all of his different touring ensembles provided with a customized arrangement of the thematic elements.⁵¹

“The Black Page #1”, on the other hand, can only be heard on *Zappa in New York* and in an unreleased Synclavier version from the mid 1980s.⁵² James Borders has suggested that this implies that Zappa may have been dissatisfied with “The Black Page #1”, a thesis that seems questionable when one considers Zappa’s unwavering confidence in his own skill as a composer. One likely scenario is that Zappa had difficulty *rehearsing* his band to accurate performances on some of the more challenging rhythmic configurations in the piece. The rhythms he chose to modify for “The Black Page #2” are not necessarily the most technically difficult to execute; in fact, the most virtuosic passages are largely left unchanged. Instead, Zappa simplified those rhythms that were most challenging to “hear”. Measure 15 includes an example of a particularly cumbersome rhythm: a large triplet over four beats with smaller internal subdivisions of seven, four, and five (Example 6). Zappa was asked to comment on how to count this measure: “Well, unless you’re really skilled at sight-reading that type of material, you have to start by reading it slowly. So I think you’re referring to bar 15 of ‘The Black Page’. And that’s a tricky bar to play. But it *can* be played and it has been played over and over again by a lot of different musicians in and out of the band.”⁵³ Zappa may be suggesting that the real challenge of the measure is that of conceptualizing such a foreign rhythm, not in its actual execution. Note, however, that Zappa does not directly address the interviewer’s question.

⁵¹James Borders has discussed the evolution of “The Black Page #2” throughout Zappa’s touring ensembles and the formal and technical modifications to the theme of “The Black Page #1” therein. James Borders, “Frank Zappa’s ‘The Black Page’: A Case of Musical ‘Conceptual Continuity’,” *Expression in Pop-Rock Music*, ed. Walter Everett (New York: Garland, 2000): 137-156.

⁵²The synclavier was a music computer Zappa purchased in the early 1980s, capable of performing music of virtually any degree of complexity. The synclavier was Zappa’s chief compositional tool from the mid-1980s onwards.

⁵³Frank Zappa, “Absolutely Frank,” *Guitar Player*, Nov. 1982.



Example 6. Measure 15 of “The Black Page #1”

This is not to imply that Zappa’s chief reason for abandoning “The Black Page #1” was consideration for his band, as Zappa was famously unsympathetic and impatient with performers’ complaints about playability. It may in fact be that “The Black Page #1” so perfectly represented Zappa’s compositional aesthetic that it prevented him from adapting it further. The aesthetic of “The Black Page #2”, on the other hand, represents an extrapolation on “The Black Page #1”, that permits the introduction of recognizable rhythmic archetypes in the accompaniments provided by his different touring ensembles ranging from disco (1977) to reggae (1981) to polka (1984) to new age (1988). Thus, “The Black Page #2” lies outside the primary concerns of this study, as its function is to enable Zappa to indulge in his common practice of recasting pieces in different instrumental configurations.⁵⁴

“The Black Page #1” captures Zappa’s compositional concept so well because it is consistent with two of his chief interests: graphics and improvisation. The graphic or visual element relates to the fascination Zappa held for the musical score.⁵⁵ At first, it may seem that the notion of a musical score is incompatible with Zappa’s improvisational style. Zappa himself stated, “I don’t calculate how things that I make up on guitar are going to look on paper or how it’s ultimately going to be. I just play it, and then figure out what it is later, after I’ve recorded

⁵⁴See Jonathan Bernard, “The Musical World(s) of Frank Zappa: Some Observations on His “Crossover” Pieces,” *Expression in Pop-Rock Music*, ed. Walter Everett (New York: Garland, 2000): 157-210.

⁵⁵In fact, Zappa referred the musical score as “little dots”, hence the title of this study.

it. In other words, my theory is that written music in no way assures the pedigree of the musical quality of what's being played."⁵⁶ However, Zappa claimed that his original attraction to music came via his first encounter with a musical score: "Then I saw a score. It just looked so wonderful – the very idea that this graphic representation, when translated into sound waves through the efforts of skilled craftsmen, would result in music . . . So I got a ruler, I went out and bought some paper, and I just started drawing . . . Then I went around looking for people who could play it, to find out what it would sound like."⁵⁷ Zappa also mentions "fetishizing" a book with score excerpts from Varèse's *Offrandes* with "a lot of harp notes (and you know how groovy harp notes look)."⁵⁸

Of course, these comments do not negate Zappa's contention that his improvisations are just as musically substantial as his scored music. The fact that he sanctioned a book such as *The Frank Zappa Guitar Book* suggests that he found the transcriptions to be aesthetically consistent with instrumental pieces such as "The Black Page #1".

If the notational results sometimes appear to be a little terrifying, you can console yourself with the thought that only a maniac would attempt to play these things anyway . . . BUT, if you should be a maniac sort of a person, AND, if you should try to read these charts on your own instrument, please be advised that if I were standing next to you with a metronome and a baton (*frowning and smoking a lot of cigarettes*), I would insist that the rhythms be accurate . . .⁵⁹

Complex rhythms such as [8] and [9a] of "Pink Napkins" (see Example 5 above) have their counterpart throughout "The Black Page #1" in places such as m. 15. Therefore, one can imagine Zappa deriving the same pleasure in imagining guitarists' attempts to execute the "alien" rhythm of [8] as he would in hearing his band perform m. 15 in perfect unison.⁶⁰ It was probably Zappa's drive

⁵⁶Frank Zappa, "Absolutely Frank," *Guitar Player*, Nov. 1982.

⁵⁷Michael Bloom, "Interview with the Composer," *Trouser Press* #47, Feb. 1980.

⁵⁸Frank Zappa, "Edgard Varèse: Idol of My Youth," *Stereo Review*, June 1971.

⁵⁹Frank Zappa, *The Frank Zappa Guitar Book*, p. 302.

⁶⁰Steve Vai landed the job in Zappa's band in part because he was able to play along with Zappa's solo "Sinister Footwear III" in perfect unison.

to hear pieces like “The Black Page #1” performed accurately and quickly that led to his abandonment of orchestral composition in the mid-eighties in favor of composition via the synclavier, which offered “accurate performances of the most ridiculous rhythmic combinations”, particularly of “large tuplets” across an entire measure.⁶¹ Indeed, it is revealing that the only other recording of “The Black Page #1” after the *Zappa in New York* performance is on the synclavier.

Before beginning an in-depth analytical discussion of “The Black Page #1”, there are further superficial correspondences between “The Black Page #1” and “Pink Napkins” that are worthy of examination as they prove important to Zappa’s melodic process. One is in the nature of the musical accompaniment provided a melody. As was demonstrated in “Pink Napkins”, the two-chord accompaniment is commonly employed in Zappa’s guitar solos. Much of “The Black Page #1” is similarly constituted, in particular mm. 1-8 and 19-23, which involve the alternation of two chords, G2 and Bb2. Like “Pink Napkins”, a chord change occurs every measure, here within the fixed meter of 4/4. Though this chord alternation is not maintained throughout the entire piece as in “Pink Napkins”, the practice of holding a chord for at least one measure is continued. Likewise, the bassist Patrick O’Hearn in both “Pink Napkins” and “The Black Page #1” plays the root of the chords almost exclusively, only exhibiting a melodic tendency at the end of a few phrases by joining in on the written melody. By relegating the bass to root pitches, the stratification between a melody and the “harmonic climate” becomes more pronounced. “I prefer to have the rhythm section be aware of where the basic pulse of the time is and create a foundation that won’t move, so I can flow over the top of it. It’s hard to do. It’s hard to get people to do that. And it’s also hard to get them to leave some space for where the fast notes occur.”⁶²

As was the case in “Pink Napkins”, the harmonic climate can be doubly acted upon by the melody with rhythm and pitch. Because “The Black Page #1” was originally composed as a drum solo, a different kind of “harmonic climate” is

⁶¹Robert L. Doerschuk and Jim Aikin, “Jazz from Hell,” *Keyboard Player*, Feb. 1987.

⁶²Steve Rosen, “One Size Fits All,” *Guitar Player*, Jan. 1977.

established by the quarter-note pulse of the fixed meter, what Zappa calls the “factory rhythm”. We can examine one phrase in “The Black Page #1”, the downbeat of m. 4 to the downbeat of m. 5, to demonstrate a common rhythmic practice in Zappa’s music (Example 7). Here, the measure of four quarter notes in measure 4 is particularly littered with notes, so that in the first two beats eighth notes are subdivided into fours, threes, and fives while in the last two beats quarter notes are subdivided into sevens. The different subdivisions of the beat produce a sense of slowing down at the sixteenth-note triplets, speeding up at the thirty-second-note quintuplets, then slowing down again at the sixteenth-note septuplets, which thwarts the factory rhythm (quarter-note pulse). The held half note in measure five thereby functions to reinforce the quarter-note factory pulse, as Zappa’s drummer Terry Bozzio beats out the quarter-note pulse. Zappa described the effect as such: “Anything that deviates from the reinforcement of your factory rhythm could be perceived as rhythmically dissonant. Any rhythm which goes against the grain of the natural rhythm is going to be disturbing for the period at which the dissonance exists. But once you get back to that downbeat, you can then look back and say, ‘Hey, that was quite fascinating what happened there. I didn’t know you could squeeze all those beats [notes] into that one factory cycle.’”⁶³ In this study, the complete process described above will be termed “factory-cycle phrasing”. Therefore, measures 4 to 5 would constitute one factory-cycle phrase.⁶⁴ Zappa gave disco music as the ultimate example of “banging you over the head and reinforcing your factory rhythm.” Not coincidentally, when Zappa took to the task of creating “The Black Page #2”, the modified melody was accompanied by a disco backbeat. In concert, Zappa amused himself by encouraging the audience members to dance to the established quarter-note pulse, all while the melody was continuously thwarting the factory pulse and causing audience members to stumble.

⁶³Bob Marshall, “Interview with Frank Zappa,” October 22, 1988.

⁶⁴For another cyclic approach to rhythm, see Gretchen Horlacher, “The Rhythms of Reiteration: Formal Development in Stravinsky’s Ostinati,” *Music Theory Spectrum* 14/2, 1992: 171-187.



Example 7. Measures 4-6 of “The Black Page #1”

Of course, rhythmic dissonance of this kind can be sustained for a longer span of time than one measure. Measures 6-9 of “The Black Page #1” demonstrate a longer subversion of the factory pulse (Example 8). Here, the dissonance is created by long-held notes, each held for five sixteenth notes, creating a new “deceptive” pulse.⁶⁵ This process ensures that a note will not be articulated on any of the factory pulses within a measure until five beats have passed. Instead of closing the cycle with a long-held note on the third beat of measure 8, Zappa inserts a complex rhythmic configuration to which we will later refer as rhythm [DF] to maintain the rhythmic dissonance until the whole note of measure 9.

⁶⁵For a look at competing pulses in the music of Schoenberg, see John Roeder, “Interacting Pulse Streams in Schoenberg’s Atonal Polyphony,” *Music Theory Spectrum* 16/2, 1994: 231-249. According to Roeder, a new pulse stream is activated when accented twice in succession. Measures 6-9 of “The Black Page #1” represent the only significant competing pulse stream activated in the piece, according to Roeder’s criteria.



Example 8. Measures 6-9 of “The Black Page #1”

As opposed to rhythm, the melodic material in “The Black Page #1” acts upon the harmonic climate in a more consistent manner. The harmonic climate itself is uniform; every chord takes the form of a major chord with an added major second or ninth. In total, “The Black Page #1” presents the chords G2, Bb2, D2, Gb2, (G2, Bb2), C2, C#2, B2, and Ab2. The added major second or ninth suggests Zappa’s chordal thinking is still somewhere within the jazz idiom, as was “Pink Napkins”.⁶⁶ Likewise, the score of “The Black Page #1” consists merely of the composed melody with chord symbols above the measures.⁶⁷ The major quality of the chords, according to Zappa’s statement quoted earlier in this study, would reflect a “happy” harmonic climate. As in “Pink Napkins”, the scalar material that acts upon the chords is modal, though now entirely Lydian. The basic procedure is established in measures 1-2 (Example 9). Measure 1 utilizes pitches within the G Lydian scale while measure 2 shifts the mode to Bb Lydian (the C natural grace note in measure 1 is the only aberration). Therefore, the Lydian scale utilized is always generated from the root of the chord that is

⁶⁶Zappa did make a living in the early 1960s as a jazz guitar player in cocktail lounges.

⁶⁷The score was likely produced by copyist David Ocker from original sketches by Zappa. Frank Zappa, “The Black Page #1”, (California: Munchkin Music ML 002, 1984).

sounding.⁶⁸ Above, I remarked upon the similarity of the alternating G2 and Bb2 chords in measures 1-8 to the alternating C#-minor-seventh and D-major-seventh chords of “Pink Napkins”. In “The Black Page #1”, however, the pitch collections between these two chords share only four common tones, and these common tones are not exploited in any significant way. More importantly, the utilization of the Lydian scale for each chord allows Zappa to maintain the same harmonic climate throughout. There is no convincing reason to regard any of the pitches within the Lydian collection as “dissonant” to the sounding chord; therefore, it can be concluded that the Lydian scale reinforces or perhaps intensifies the harmonic climate of the chord. This allows Zappa to relegate the dissonance/consonance activity primarily to the rhythmic process described above.



Example 9. Measures 1-2 of “The Black Page #1”

Since “The Black Page” was originally composed as a drum solo, it will be necessary to initially approach the form of the piece primarily according to rhythmic criteria. This can be accomplished first by considering the phrase structure, or “factory cycle phrasing” throughout the piece. Figure 4 represents each cycle with a lowercase letter in brackets. Any such symbol represents not only a cycle, but a particular cycle with distinct rhythmic properties. Therefore, any symbol that returns must be an exact replica of its previous occurrence. The symbol [DF], mentioned above, denotes a rhythmic configuration that functions

⁶⁸The B2 of measure 29 is the only chord that does not initiate a change of collection. It merely serves as a passing chord between C#2 and Ab2.

as a drum-fill, and is therefore both a part of the previous cycle and an upbeat to the following cycle rather than a cycle unto itself. Factory cycle phrases are determined by the same criteria established above: the initiation of rhythmic activity that subverts the natural quarter note pulse, followed by a long-held note to reestablish the pulse. Measure numbers are provided below each cycle.

A		B		A`		C								
[a]	[b]	[DF]	[c]	[DF]	[d]	[e]	[a]	[b]	[DF]	[c]	[DF]	[d]	[f]	[f]
1	4	5.3	6	8.3	10.3	12.3	16	19	20.3	21	23.3	25.3	27	29

Figure 4. “Factory-cycle phrasing” of “The Black Page” drum solo

As the layout of Figure 4 shows, the return of [a] at measure 16 demarcates the beginning of an A` section. From measure 16 to measure 26, the rhythmic activity is identical to that of measures 1-11. When cycle [f] appears at measure 27 rather than continuing on to [e], the form created is A B A` C, with B representing [e] and C representing [f] and [f]. This form is quite simple and, as Figure 1 shows, involves very little rhythmic variation. The [f] cycle is the only varied unit, only varied on the first two beats of measure 29. Even [DF] is left unvaried in its four occurrences in the piece. This simple form seems to draw attention towards the [e] and [f] cycles, as they are isolated from the main rhythmic material of the piece contained in the A sections. Rhythmically they are quite dissimilar, the only correlation being the use of a stream of short even-note durations (thirty-second notes in [e] and 11 tuplet thirty-second notes in [f] and [f]). However, they both occupy four measures in the piece, in contrast to the eleven measures of the A sections. Also, they seem to function as their placement in the piece would indicate: as a bridge (B) and a coda (C).

When Zappa took to the task of creating a melody that “sounds like the missing link between ‘Uncle Meat’ and ‘The Be-Bop Tango’” from the “metric spacings” of “The Black Page” drum solo, he was not content to maintain the

simple form of the drum solo.⁶⁹ Since he was restricted by rhythm, the only two tools he had in his possession with which he could modify the form in “The Black Page #1” were pitch variation and harmonic movement. Figure 5 provides a similar overview to that in Figure 4, only now with greater representation of pitch variation and harmony. Therefore, any bracketed letter with a prime symbol demarcates pitch variation. The double prime symbol for the penultimate [f] symbolizes the use of both rhythm and pitch variation. The results of Figure 4 are provided underneath for comparison.

A	B	A`	C
[a] [b] [DF] [c] [DF`]	[d] [e] [a`]	[b] [DF] [c] [DF`]	[d`] [f] [f`]
G2/Bb2 alternation	D2	(Gb2) Bb2/G2 alternation	C2 (C#2-Ab2)

Figure 5. Form of “The Black Page #1

A	B	A`	C
[a] [b] [DF] [c] [DF] [d]	[e]	[a] [b] [DF] [c] [DF] [d]	[f] [f`]
1 4 5.3 6 8.3 10.3	12.3	16 19 20.3 21 23.3 25.3	27 29

From Figure 4.

Figure 5, like Figure 4, reveals an A B A` C structure. The locations of these larger sections, however, are significantly altered because of the salient harmonic changes. A` is articulated by the repetition of cycles [b] [DF] [c] [DF`] beginning at measure 19 and by the return of the alternation of the G2 and Bb2 chords of the A section. The most surprising feature of A` is that it does not begin with cycle [a], which is a significant modification of the traditional A` section (the

⁶⁹Frank Zappa, *Zappa in New York*, liner notes, Rykodisc RCD 10524/25, 1977.

reason for this is discussed below). The A` section is therefore three measures shorter than the A section. Further, both A sections are shorter than in the drum-solo reading of the form, as [d] and [d`] have moved to the B and C sections, respectively. Therefore, B and C are further related by beginning with some form of [d]. Figure 6 summarizes the formal differences between “The Black Page” drum solo and “The Black Page #1”.

“The Black Page” drum solo	“The Black Page #1”
A: mm. 1-11	A: mm. 1-9
B: mm. 12-15	B: mm. 10-18
A`: mm. 16-26	A`: mm. 19-24
C: mm. 27-30	C: mm. 25-30

Figure 6. Two different readings of the form of “The Black Page”

As Figure 5 displays, the A and A` sections are characterized by the alternation of the chords G2 and Bb2. These two chords function as the home “harmonic climate” of the piece as either chord can initiate a factory cycle phrase, yet the G2 chord should probably be privileged because of its primacy. The two most significant harmonic shifts are the move to D2 at the B section and C2 at C section. This would seem to imply a dominant and subdominant relationship with the G2 chord that begins the piece, yet Zappa manages to thwart these tonal implications at the end of B and C. The D2 chord and D Lydian collection of the B section is sustained pass the entrance of [a`], which would have been an opportune time to shift back to G2. Not only does Zappa avoid a return, but he shifts the tonality to Gb2 for the last two measures of [a`]. This semitone root relationship with G2 also manifests itself at [f`] of section C, which does not conclude with G2 but rather with Ab2.

One may wonder why Zappa modified the form of the drum solo in “The Black Page #1”. The answer lies in Zappa’s description of the factory cycle and the processes by which it is subverted and eventually reestablished. According to Zappa, the long-held note is the primary device with which to restore the natural pulse of the cycle. Therefore, it can be assumed that the longer that note is held, the greater the sense of stability will be. Figure 7 displays the note values of the long-held notes that end each factory cycle phrase. The results are displayed top to bottom in order from the longest note to the shortest note. (Note that [DF] functions only as a drum-fill and is not considered an independent cycle. It is best to view [DF] and [DF`] as part of a larger [c].)

[c] (includes [DF] and [DF`]): whole + quarter

[d] [f]: whole

[a]: dotted half

[b] [f]: half

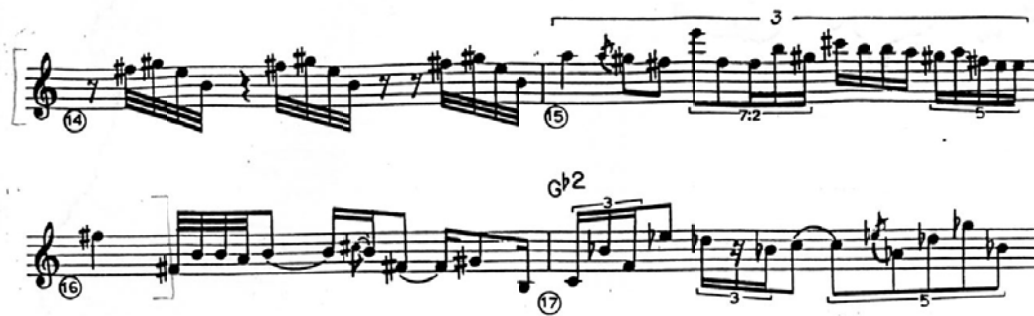
[e]: quarter

Figure 7. Note value of long-held notes

Figure 7 demonstrates the great disparity between the longest note located at the end of [c] and the shortest note located at the end of [e]. We can first consider the crucial role that the longest note at [c] plays in the structure of “The Black Page #1”. As Figure 5 shows, [c] concludes both the A section and the A` section of the piece. This conclusion is articulated by the harmonic shift to D2 in measure 9 and C2 in measure 24, both coinciding with the long-held note in the melody. Further, the melody note that is held is a major seventh above the root of the sounding chord, C# over D2 and B natural over C2. The major-seventh chord is often used in jazz as a substitute for an unaltered tonic at the end of a phrase. The major seventh chord is not present at the end of any of the other factory cycle

phrases and thus it demarcates these two important shifts and supports the hierarchy shown in Figure 7. This hierarchy is thereby responsible for the earlier placement of the B and C sections in “The Black Page #1”. This formal reading is supported by Zappa’s own placement of the C section, or Coda, in versions of “The Black Page #2” beginning in 1981 and continuing till his last tour in 1988. In those renditions, section C, beginning with [d`], entered immediately after a lengthy Zappa guitar solo.

On the opposite end of the spectrum, the shortest note of Figure 7, located at the end of [e], can account for the most striking discrepancies between the two formal readings presented. In particular, it helps explain why A` in “The Black Page #1” is not initiated by the return of [a], the true “beginning” of the piece. Example 10 provides the last two measures of [e] and the first measure of [a`] (mm. 14-16). Measure 14 is preceded by a measure consisting entirely of 32nd notes that strongly reinforces the natural pulse. Measures 14 and 15 perform the opposite function, with measure 15, the complexity of which has already been discussed, representing the furthest remove from the factory cycle pulse in the entire piece. The quarter note that elides [e] and [a`] at measure 16 is not long enough to reestablish the quarter-note pulse. Therefore, it does not satisfactorily complete the factory cycle [e], which necessitates the holding of the D2 chord and D Lydian collection for an extra measure. Only with the dotted half note found two measures later is Zappa able to foreground the home “harmonic climate” G2/Bb2.



Example 10. Measures 14-16 of “The Black Page #1”

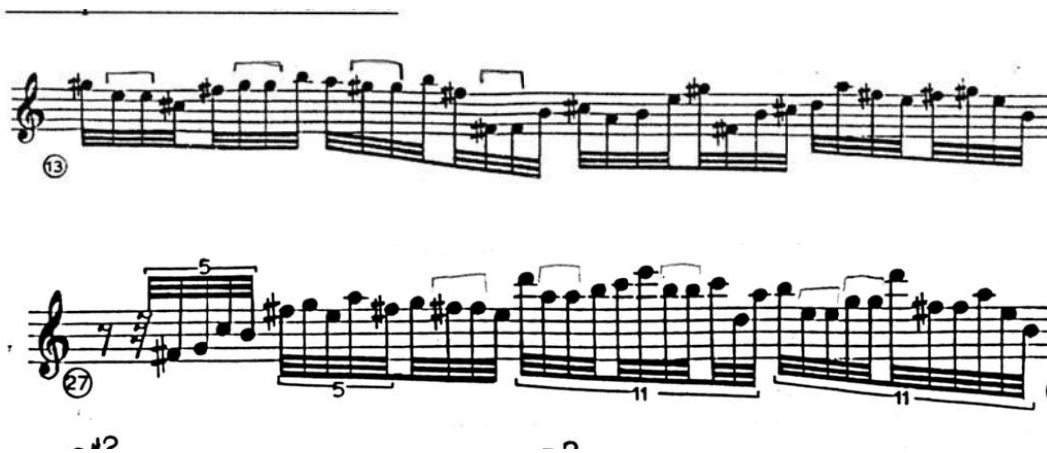
Now that the form of “The Black Page #1” has been elucidated, it will be necessary to determine whether there are any additional features that contribute to the unification of the musical material besides the ubiquitous “factory cycle phrasing” process and the uniform pitch and harmonic content. There is in fact one motivic structure that permeates the score, appearing at least once, although typically more often, every factory cycle phrase. This motive will be labeled motive z. Motive z is defined as a doubly articulated pitch in even note values, in other words a “repeated note” motive. One important feature of motive z is that it only occurs within rhythmic groups (a sixteenth-note quintuplet, for example) in which every subdivision of a beat is articulated by an attack. What first distinguishes motive z as a musical feature is that there are no similar motives that consist of a pitch being consecutively articulated three, four, or five times in the piece. Motive z asserts primacy in measure 1 immediately after the introductory quarter note (Example 11a). Zappa emphasizes the first appearance of motive z by placing it at the beginning of the rhythmic group of four thirty-second notes. Throughout the rest of the piece, however, motive z will never again occur at the beginning of a rhythmic group, instead occurring within a grouping. Note, for example, the appearance of motive z at [a`], which is metrically displaced a thirty-second note from its occurrence in [a] (Example 11b). This placement of motive z provides an important unifying role between [e] and {[f] [f]}, the most virtuosic passages in the piece (Example 11c), where both phrases include long streams of even-note values. Besides its introductory function at [a], motive z also performs a kind of terminative function at measure 28 in preparation for the final [f] cycle (Example 11d). Here, an emphatic statement of motive z is found at the end of a grouping, as part of a large triplet group. Significantly, this is the only occurrence of motive z in note values larger than a sixteenth note.



Example 11a. m. 1 [a]



Example 11b. m. 16 [a']



Example 11c. m. 13 and m. 27



Example 12b. “Be-Bop Tango” mm. 7-8

Because “The Black Page #1” involves diatonic pitch collections, it is difficult to give an overview of Zappa’s preference for certain intervals over others beyond general remarks about the preponderance of perfect fourths and fifths in the piece. A better way to approach Zappa’s intervallic concept is to examine his variation procedures, in particular those applied to the very limited number of measures that are direct variants of earlier material. The analytic method to be employed will utilize comparisons of pitch intervals and will also include considerations of contour segments (CSEG).⁷⁰ This method can be demonstrated first on [DF] and [DF`] (Example 14). These two segments represent the only significant break from the Lydian pitch material utilized for the rest of the piece, as they are alterations of the Lydian mode of the sounding chord. First, it can be easily witnessed that the last sextuplet of [DF] cannot be related to the corresponding sextuplet in [DF`], as the only shared feature between them is rhythm. The sextuplet of [DF] is almost exclusively made up of perfect fourths, and is perhaps a comment on the basic preference for that interval throughout the piece. The sextuplet of [DF`], on the other hand, is taken almost directly from the last septuplet of measure 4 in [b], in particular the last six pitches of that septuplet. The motive z occurrences on the G4 and F4 are retained, while the E4 and D5 frame the two motive z pitches.

⁷⁰Elizabeth West Marvin and Paul Laprade, “Relating Musical Contours: Extensions of a Theory for Contour,” *Journal of Music Theory* 31/2 (1987), pp. 225-67; Robert Morris, “New Directions in the Theory and Analysis of Musical Contour,” *Music Theory Spectrum* 15/2 (1993), pp. 205-28.

[DF]



[DF']



Example 13. [DF] and [DF']

The two quintuplets of [DF] and [DF'] are presented as close variants of each other. The strongest relationship between the two segments can be shown by the CSEGs for both segments (Figure 8). The CSEG for [DF] has been intentionally ordered without using 0 to represent the lowest note in the fragment. By doing this, the important frame provided by the pitch B4, represented by the number 3, is retained in both segments. Now, the CSEGs can be shown as nearly identical, with only two discrepancies between the segments.

[DF] <34356124>

[DF'] <34256120>

Figure 8. CSEGs for quintuplets of [DF] and [DF']

A more interval-oriented comparison is provided in Figure 9, where each interval is represented by the number of semitones and its direction, ascending (+) and descending (-). Therefore, -2 would represent a descending interval of two

semitones. Figure 9 shows a general tendency in [DF`] for larger intervals than [DF]. However, the corresponding descending pitch interval 8 or minor sixth intervals highlight a salient similarity between the segments.

[DF] +2, -2, +3, +3, -8, +1, +3

[DF`] +1, -3, +5, +1, -8, +2, -4

Figure 9. Pitch intervals of [DF] and [DF`]

A more complex variation procedure can be witnessed in reference to the [a] and [a`] cycles, which are both built from diatonic Lydian collections. Because of the shared Lydian mode between these cycles, it is tempting to test the harmonic climates theory with reference to scale degrees within the Lydian scales; in other words, to see whether certain scale degrees are used at particularly marked points (held notes, motize z, etc.). The answer seems to be no. Instead, it is the size of the intervals that is varied, evidence that nearly any pitch within the Lydian scale can perform the desired effect upon the harmonic climate, without any noticeable preferences (besides the use of scale degree seven to begin the B and C sections mentioned above). It will be necessary to divide both [a] and [a`] into their three component measures, as the variation process is not uniform from measure to measure. These smaller segments will be labeled [a1], [a2], and [a3] for [a], with the same labeling system applied to [a`]. Examples 14a to 14c provide the segments in question.

[a1]



[a'1]



Example 14a. [a1] and [a'1]

[a2]



[a'2]



Example 14b. [a2] and [a'2]

[a3]



[a`3]



Example 14c. [a3] and [a`3]

Contour is only a useful analytical tool for the very brief [a3] and [a`3] segments (Figure 10). The CSEGs have identical values in the two middle columns, while the outer values 0 and 2 of [a3] are switched to 2 and 0 in [a`3].

[a3] <0132>

[a`3] <2130>

Figure 10. CSEGs for [a3] and [a`3]

A comparison of pitch intervals is more fruitful for the first and second measures of [a] and [a`] (Figures 11a and 11b). First, we can concentrate on interval correspondences that are identical, strongly related, or substituted. These are represented in Figures 11a and 11b by underlined entries. It can be readily seen that [a1] and [a`1] are much more closely related than [a2] and [a`2]. The

most important identical entry is the semitone link between the second and third measures of both of these cycles, represented by (+1) in Figure 11a. The two segments can both be further segmented into two halves. These “halves” are articulated after the +10, +2 corresponding relations in both figures. +2 is considered a “substitute” interval for +10 in both segments because, as can be seen in Examples 15a and 15b, this interval occurs at the eighth note that is tied over from the second beat into the third beat, a distinct rhythmic motive that is present in both segments. This substitution seems to suggest Zappa is commenting on the inversive relationship between 10 and 2.

The rest of the underlined entries in Figure 11a show a general trend present also in Figure 11b; that is, both figures reveal a greater degree of similarity in the first half of the segments as opposed to the second half. In Figure 11a, the first half displays more similarity because of identical entries or substituted intervals (-12 for +7 and +2 for +10), as otherwise both segments are nearly identical in terms of ascending and descending motion. The second half, on the other hand, includes no identical intervals or noticeable intervallic pattern. In Figure 11b, the first half not only reveals identical ascending and descending motion, but also shows a pattern in regards to relative interval size. This can be seen by comparing the interval sizes from left to right up until the middle point of the segment. When the interval at [a`2] is a larger interval than the corresponding interval at [a2], it will be a smaller interval than the interval of [a2] at the next column, and vice versa. In the second half of Figure 11b, on the other hand, the interval of [a`2] is always larger than the interval of [a2], while the direction of the melody is unrelated to that of [a2]. This second half of [a`2] can be compared to the sextuplet of [DF] (see Example 14), as both emphasize the interval of a perfect fourth. Likewise, the sextuplet of [DF] was shown to have no pitch relation to the corresponding sextuplet of [DF`].

[a1] +7, -5, -2, +10, +3, -5, -3, +5, -3, (+1)

[a`1] -12, +5, -2, +2, +2, -2, -5, +2, -9, (+1)

Figure 11a. Pitch intervals for [a1] and [a`1]

[a2] +5, -7, +4, -5, -2, +10, 0, -3, -2, -2, -3

[a`2] +10, -5, +10, -2, -3, +2, +3, -7, +5, +5, -8

Figure 11b. Pitch intervals for [a2] and [a`2]

BE-BOP TANGO

Now that Zappa's diatonic melodic technique in two different "harmonic climates" has been explored, we can investigate the features of the atonal melody of "Be-Bop Tango". Given the title, it may come as a surprise that Zappa would choose such an atonal setting for what one would expect to be a stylistic synthesis of Be-Bop music and the Tango. In fact, there may be reason to question whether this title was the original designation for the piece, in particular the adjective "be-bop". This title was first utilized during the Fall 1973 tour, from which the officially released performance documented on *Roxy and Elsewhere* was recorded. The piece, however, premiered a year earlier during the "Petit Wazoo" tour as part of a larger work entitled "Farther O'Blivion", where it was sandwiched between themes later employed in "The Adventures of Greggory Peccary" and "Cucamonga". During a performance of "Farther O'Blivion" in Stockholm in the summer of 1973, Zappa referred to the middle section only as "sort of a tango". By the Fall 1973 tour, "Be-Bop Tango" was performed without the remaining "Farther O'Blivion" sections and was suitably infused with a greater be-bop character. This is achieved not only by quickening the tempo but also by loosening the interpretation of the opening eight-bar introduction (Example 15).⁷¹ On the *Roxy and Elsewhere* performance, the staccato articulation of the introductory chords is not realized strictly as on "Farther O'Blivion" but rather with a greater sense of swing.⁷²

⁷¹"Be-Bop Tango", (California: Munchkin Music ML 014, 1984).

⁷²An officially released version of "Be-Bop Tango" performed in a similar style as "Farther O'Blivion" can be found on *The Yellow Shark*, Rykodisc RCD 10560, 1993.



Example 15. Introduction of “Be-Bop Tango”

The switch to a more be-bop influenced style cannot only be the result of the jazz-like instrumental makeup of the *Roxy* band, as Zappa’s previous bands were similarly inclined towards jazz styles and instrumental configurations. The use of the word “be-bop” might rather be considered to be a clue to Zappa’s own conception of his melodic writing. Be-bop music was, at the time of its popularity, the most highly virtuosic form of jazz. Part of the appeal of be-bop was hearing a group of musicians execute difficult melodies skillfully, most often in unison statements. It is easily apparent how this aesthetic is consistent with Zappa’s own pronounced preference for “skill” in music. Further, Zappa’s melodies are almost always stated in unison or doubled at the octave by three or more instruments, leaving the impression of “several instruments all trying desperately to play the same line.”⁷³

Might, then, “Be-bop Tango” be considered a homage to be-bop giants like Charlie Parker? Not likely. While there is no evidence to suggest Zappa disliked be-bop music, there is similarly no evidence that Zappa ever made any

⁷³John Dalton, “Frank Zappa, Part II,” *Guitar*, June 1979. For more on Zappa’s penchant for strange octave doublings, see Arved Ashby, “Frank Zappa and the Anti-Fetishist Orchestra,” *The Musical Quarterly* 83, no. 4, 1999.

pronouncements on its behalf. Zappa rarely expressed fondness for any “older” or “standard” musical styles, particularly in classical or jazz music. He was not given to nostalgia beyond his doo-wop projects and those, as mentioned above, were always tongue-in-cheek. Zappa’s distrust of these styles has to do with what he calls “hateful practices”, a term used to describe any stylistic “norms” common to music of the Classic period or of other popular forms, such as II-V-I harmonic progressions.⁷⁴ Zappa preferred to align himself with composers who, in one way or another, broke with “hateful practices” (Stravinsky, Varèse, etc). In the jazz world this would likely include Thelonious Monk, Charles Mingus and, most significantly, Eric Dolphy.⁷⁵ Dolphy’s style was largely derived from be-bop, which can be attested to in part by a number of pieces dedicated to the memory of Charlie Parker. However, Dolphy made significant contributions to the emerging modern style being forged by Ornette Coleman and others: unpredictable harmonic progressions, vague tonality, and atonal improvisational excursions supposedly influenced by trends of twentieth-century European avant-garde composition. This is the same stylistic synthesis Zappa attempts in “Be-Bop Tango”; as George Duke sings in the *Roxy* performance, “this is be-bop, even if you think it doesn’t sound like that.”

These words are sung to a melodic variant of the main theme of “Be-Bop Tango” during the dance contest portion of the *Roxy* performance. This main theme appears three times in the written portion of “Be-Bop Tango”, each time, according to Zappa, “more depraved”. Example 16 displays the first appearance of the theme at measures 4-6, which establishes a melodic model for the entire piece. As can be seen, interval class 1 is particularly prominent in the melody (F to E, F# to G, G to Ab, etc.), presented linearly as both a major seventh and minor second. The entire pitch collection of the theme is similarly chromatic: set class [01234567]. The disjunct septuplet on the third beat of measure 5 seems to be Zappa’s attempt to create a kind of “pointillistic” texture with a single melodic line. Intervallic leaps of sevenths and ninths and pointillism are commonly found

⁷⁴Franks Zappa, with Peter Occhiogrosso, “The Real Frank Zappa Book,” p. 186.

⁷⁵Zappa paid homage to Dolphy in “The Eric Dolphy Memorial Barbecue”. *Weasels Ripped My Flesh*, Rykodisc RCD 10510, 1970.

elements in the works of Zappa's greatest atonal-composition influence, Anton Webern. However, Zappa distinguishes his atonal procedure from Webern's in several ways. For one, the use of repeated pitches as well as the lack of aggregate completion negates the possibility that Zappa is composing in a twelve-tone idiom.⁷⁶ Also, Zappa does not exploit subsets of the larger set in a consistent manner. Most importantly, Zappa's rhythmic process, the "factory cycle phrasing" described above, is heavily in evidence throughout. This obviously gives Zappa's melody a rhythmic characteristic unlike that encountered in Webern's music. The melody might more accurately be categorized as Zappa's interpretation of Dolphy's improvisational style: melodically disjunct, atonal, rhythmically "speech derived".



Example 16. Measures 5-6 of "Be-Bop Tango"

What, then, might we call the chromatic set employed in the main theme?

One clue is offered in this anecdote by Steve Vai:

I sat down next to him [Zappa]. "These are 'densities,'" he said, and showed me these huge, odd chord structures, eight and ten-note chords with no repeated notes . . . With regard to dissonance and the tempered scale, if you start stacking large groups of unrelated notes, you can get some horrible-sounding chords, or some lushly dissonant, exotic chordal perversions. He showed me some of the different scales he was utilizing, and the melodies, and he said that

⁷⁶Even though Zappa was very fond of Webern's music, he considered twelve-tone rows to be another "hateful practice".

when he got home, he'd type these chords into the computer [the Synclavier].⁷⁷

Besides the fact that this episode occurred at least nine years after the composition of “Be-Bop Tango”, there are other ambiguities to this statement, particularly as it does not explain how Zappa handles the “densities” in a melodic context. If we are to consider the eight-note chromatic collection of the main theme to be a “density” realized as a melody, then the two varied presentations of the theme (m. 12-14, m. 23-27) would predictably utilize the same eight-note density in the same pitch-space structure (if we are to believe that the pitch-space placement of each note is crucial to exacting whatever “dissonant” or “exotic” harmonic climate Zappa hopes to achieve). As can be seen in Example 17a, the first variant of the theme does for the most part maintain the pitch space positions from the main theme, yet, besides the rhythmic variation, it reorders the pitches from the disjunct septuplet of the main theme. The second variant, on the other hand, varies the septuplet of the main theme in the opposite manner (Example 17b). Here, the pitches formerly in the septuplet (Ab, D, E, Db, F, Eb, D) are treated with octave equivalence in mind, which allows Zappa to place the pitches in different octaves than they were heard previously, either an octave lower or an octave higher. Therefore, it is difficult to draw any strong conclusions about “densities” from these two examples, as they seem to represent two separate procedures. Also, the use of quasi-serial technique in the second example cannot be further tested or recognized because the other melodic statements in the piece do not use the same eight-note chromatic density or share another density.

⁷⁷Andy Aledort, “Zappa’s Universe: An Interview with Steve Vai and Mike Keneally,” *Guitar Player*, Feb. 1999.

The image displays a musical score for 'Be-Bop Tango'. It is divided into two sections: measures 12-14 and measures 23-27. The first section (measures 12-14) features a melody line with dynamics *f*, *p*, *f*, and *ff*. The second section (measures 23-27) includes a melody line with dynamics *f*, *pp*, and *f*, and a keyboard accompaniment with dynamics *sfz*. The score contains various rhythmic markings such as triplets and sixteenth notes, and includes performance instructions like *sfz* and *pp*.

Examples 17a and 17b. Measures 12-14 and 23-27 of “Be-Bop Tango”

Part of the difficulty in characterizing the eight-note collection as a density, as defined by Steve Vai, is that its melodic representation does involve some repeated notes when stacked vertically. As can be seen in Example 17, the pitches F, E, and D are all represented in two different octaves. This problem, however, does not apply to the keyboard chords that accompany the melody throughout “Be-Bop Tango”. Scanning the entire piece, all chords are realized as tetrachords without any repeated pitches. The eight-bar introduction (see Example 15) presents the two most commonly found chords in the piece: [0236] and [0137]. Out of the forty-six chords played in the piece, duplicates included, thirty two of them are either set class [0236] or [0137]. The most significant intervallic correspondences between these two sets are the semitone and the

tritone.⁷⁸ Considering their presentation in the introductory measures as an ascending sequence, the two chords seem to have a dissonance/consonance relationship; that is, the [0236] resolves, by semitone movement in each voice (SATB), to the more consonant [0137]. In fact, the [0137] might be better designated as an augmented eleventh chord, minus the seventh. As may be remembered from Zappa's categorizations of "harmonic aromas", the augmented-eleventh chord was classified as the chord of be-bop that would be recognized "consciously or not" by the listener. Therefore, in the atonal context of "Be-Bop Tango", the [0137] serves as the "consonant" chord, while both [0236] and [0137] as set types supply the home harmonic climate. There are other factors that support this reading; for one, [0137] only appears in four different pitch realizations, two of which are first presented in the introduction while the remaining two are direct semitone transpositions of the former. Also, though these [0137] chords do appear throughout the piece, they are most commonly encountered as the accompaniment to the main theme, thereby more "stable" as compared to the placement of other chords.

The relationship between the [0236] and [0137] chords, as established in the introduction, implies that [0236] is reliant on or subservient to [0137] in that it must resolve by semitone to the nearest [0137]. Surprisingly, this relationship is not maintained at all in the rest of the piece (with the trivial exception of the return to the opening chords at measure 20.) Rather, [0236] takes on a life of its own outside of [0137] and is much less systematically employed in the piece. Unlike the [0137] chords, [0236] is presented in eight distinct pitch realizations, and these eight forms are not related by predictable transformations as were the [0137] chords.

[0236] seems to interact more with the remaining tetrachordal set-classes in the accompaniment, most of which are likely derived from the [0236], though others are derived from the [0137]. None of these remaining set-classes are

⁷⁸[0137] and [0236] also share ic2 and ic4. The key difference between the two sets is the absence of the perfect fifth in set class [0236]. [0137] is a special tetrachord in that it is one of the two all interval tetrachords.

significant in themselves, as most are created by split transformations.⁷⁹ Examples 18a and 18b display the typical split-transformation procedure, as applied to [0236] in 18a and as applied to [0137] in 18b. In Example 18a, the chord on the third beat exhibits the typical structure of [0236] chords: a major sixth in the left hand and a major second in the right hand. The first chord of the measure, of set-class [0126], is obviously derived from the [0236] chord, as the right hand maintains the interval of a second (now minor) while the sixth in the left hand is transformed into a major third by moving the A# up two octaves. The split transformation from the first chord to the second chord involves the upper three voices descending three semitones and the lower voice F# moves by interval class 1 to the F natural above it. That chord is then split transformed into the [0236] on the third beat by having two voices move by interval class 1 (F to F# and G# to the A two octaves below) while the other two voices (G and A) shift down four semitones. Example 18b allows us to witness the same procedure applied to the two typical [0137] chord structures, the first consisting of a perfect fifth in the left hand and a major second in the right hand and the second consisting of a first inversion triad in the right hand and a single note in the left hand. In the first split transformation, from [0137] to [0237], the top three voices ascend to whole tone while the bottom voice ascends by semitone. The second transformation from [0137] to [0156], on the other hand, is almost a carbon copy of the second transformation of Example 18a. Two voices move by interval class 1 (D# to D and A to the G# an octave below it) while the other two voices move down in thirds.

⁷⁹Shaughn O'Donnell, "Transformational Voice Leading in Atonal Music," Ph.D. dissertation. City University of New York, 1997.



Example 18a. Split transformations



Example 18b. Split transformations

Before abandoning the concept of “densities” as a useful tool for considering “Be-Bop Tango”, the final chord of the piece, the only aberration from the tetrachordal sets previously heard, offers a fascinating case study (Example 19). This chord fits well with Steve Vai’s definition of a density: an oddly-structured chord consisting of no repeated notes. In this case, the chord includes the two melody notes A and C to create set class [01234568]. As will be remembered, the main theme consisted of a similar eight-note “density” [01234567]. Are these two collections intended to be related? Is it significant

that both “densities” are capable of generating both [0137] and [0236] sets? It is difficult to be certain without a more specific explanation from Zappa himself. The more salient features of “Be-Bop Tango” are the large and small-scale chromatic processes and rhythmic transformations.

The image shows a handwritten musical score for three staves. The top staff begins with a treble clef and a key signature of one flat (B-flat). It features a melodic line with a long slur over measures 43 and 44. Dynamic markings include *ffp* and *fffz*. The middle staff has a bass clef and contains a complex chordal texture with many notes, also featuring a long slur across measures 43 and 44. The bottom staff has a bass clef and contains a simpler melodic line with a long slur across measures 43 and 44. The measure numbers 43 and 44 are written below the staves.

Example 19. Final sonority of “Be-Bop Tango”

LARGE-SCALE CHROMATICISM

The projection of chromatic sets is first established by the introductory chords (see Example 15 above). Figure 12 displays the pitch content in each voice for the progression as interpreted in a five voice texture SATB and M (melody, the final eighth note in each measure). The complete progression presents linear statements of set class [0123] in all voices.

M:	Gb	G	Ab	A	[0123]
S:	Eb	D	F	E	[0123]
A:	Db	C	Eb	D	[0123]
T:	E	Eb	F#	F	[0123]
B:	G	Ab	A	Bb	[0123]

Figure 12. Chordal progression of introduction

After the introduction, set class [0123] performs an important function on the local level in the first four “factory cycle” segments, as each of these segments begins with linear statements of set class [0123]. Figure 13 provides an overview of the movement, representing each factory cycle melodic segment with a bracketed numeral. The underlined numbers are occurrences of the main theme.

Though form is not a particularly important concern for our discussion of “Be-Bop Tango”, the piece can be roughly divided into two halves, with [6] serving as an interruption between the two halves. What [6] interrupts is the chromatic process by which aggregate completion is achieved at [7] (see Figure 13). The two segments preceding [6] are both on the verge of complete chromatic saturation, missing only one pitch of the aggregate: E in [4] and, more importantly, A in [5]. When complete chromaticism is achieved at [7], it is heralded by the long-held note A. The pitch A remains as the long-held note for the next two segments, even when complete chromaticism has been abandoned at [9].

Not only are the long-held notes important in highlighting local chromatic processes, but they also serve to project chromaticism at the deepest structural level in the piece. As Figure 13 shows, the long-held notes chromatically descend in segments [1] to [7] from C# to A, with the conspicuous absence of C natural, which should have occurred after the C#. Zappa fills in this “missing” note with the final note of the piece at [10]. The resultant set class projected by the long-held notes is [01234]. As this set adds one chromatic pitch to the [0123] sets previously encountered, it offers a plausible explanation as to why the pitch A is given such emphasis in the piece, since it is the pitch that causes the expansion of chromatic space.

<u>Symbol</u>	<u>Measures</u>	<u>Collection</u>	<u>Long-held note</u>
[1]	4-6	[01234567]	C#
[2a]	7-8.2		NA
[2b]	8.3-11	[0123679]	C# (spelled Db)
[3]	12-14	[01234567 (9)]	B
[4]	15-16	[0123456789t]	Bb
[5]	17-19	[0123456789t]	Bb
[6]	23-27	[01234567]	NA
[7]	31-32	[0123456789te]	A
[8]	33-34	[0123456789te]	A
[9]	39-41.1	[0123456]	A
[10]	41.2-44	[0123456789]	C

Figure 13. Overview

MOSAIC PROCESSES

In “The Black Page #1”, factory cycle phrases held little or no motivic material in common beyond motive z. It was partly this feature that helped distinguish the phrases from each other to demarcate formal sections. In “Be-Bop Tango”, all the factory cycle phrases are highly integrated motivically, contributing to the piece’s relatively loose-knit structure. The melodic material of “Be-Bop Tango” is rather a process of continuous motivic reiteration and transformation. There is a basic hierarchy of factory cycles, in which phrases are grouped together because they share the same collection or theme ([1] [3] [5]), they end with the same motive ([1] [2] or [3] [4]), or they begin with the same motive ([7] [8] or [9] [10]). A more interesting endeavor is to engage the processes of motivic transformation throughout the entire piece.

The basic compositional procedure Zappa utilizes is what might be termed a mosaic approach to melody. If a factory cycle is viewed as a mosaic, each factory cycle beat (quarter note) serves as a tile in the mosaic where a motive can be placed. When one cycle ends and progresses to the next, the individual tiles (motives) of the previous cycle can either be: 1. reused in their entirety but metrically displaced to a different beat; 2. transformed by rhythm and/or pitch; 3. transformed by rhythm and/or pitch *and* metrically displaced; 4. abandoned entirely. The new cycle may also create a new motive, which will be treated in the same manner. The fourth option is rarely observed between adjacent cycles, but is of course found between segments separated by a significant number of measures. Therefore, [1] and [10] might share little in common yet [8] can share motives of both [1] and [10].

It would be quite possible to trace the path and transformations of every motive in the piece. To avoid redundancy, however, we can concentrate on some of the more salient examples of each of the four categories above. The best example of a cycle that abandons motives is [5]. [5] utilizes only one motive that was previously encountered: the thirty-second note upbeat pattern found in [4]

(Example 20). The reason [5] is only able to utilize such a short motive is because [5] is the only segment thus encountered to use large tuplets across two beats, whereas the motives of previous cycles last only one beat. The transformation process simply involves placing the thirty-second note motive within the large tuplets or adding an extra thirty-second note to the motive. Interval-class 1 is preserved in each occurrence of the motive except for the last, which substitutes a tritone instead. After [5], both the large triplet and the 32nd note motive are abandoned.

The image shows two staves of handwritten musical notation. The top staff is labeled with a handwritten "[4]" above it. It contains a septuplet of eighth notes, with a circled sub-motive consisting of three eighth notes. The bottom staff is labeled with a handwritten "[5]" above it. It contains a large triplet of eighth notes, with a circled sub-motive consisting of three eighth notes. Dynamics markings include *mf* and *ff*. Measure numbers 17 and 18 are indicated below the staves.

Example 20. [4] and [5] of “Be-Bop Tango”

An example of an exact reuse of a motive occurs between cycles [2] and [4] (Example 21). [2] introduces the motive on the downbeat, a conjunct septuplet with an embedded motive *z* occurrence. When this motive appears at [4], it has been metrically displaced to the third beat, thereby in a much less prominent position. All other appearances of this motive vary the motive by either the second or third procedures described above.

[2a]



[4]



Example 21. [2a] and [4] of “Be-Bop Tango”

[6] is an interesting segment because, besides being a variant of the main theme, it presents two new motives in their nascent state: one motive that, when transformed, connects to a process already unfolding (Example 22). The motive in question is the quintuplet on the fourth beat of measure 26, identified above as a serial presentation of the pitches of the main theme [1]. When the pitches of the quintuplet appear on the first beat of [7], the motive has been metrically displaced by a sixteenth note. This new form of the motive is part of a larger family of motives that include a rest on the first beat of a factory cycle phrase ([4] [7] [8] [9] [10]). This rest always occurs at the beginning of a rhythmic grouping subdividing one quarter note. The systematic transformational process involves increasing the complexity of the rhythmic grouping in which the rest occurs: at

[4] within four sixteenth notes, at [7] and [8] within a sixteenth note quintuplet and at [9] and [10] within a 32nd note septuplet.

The other important new motive of [6] is the septuplet with two rests within it, first encountered at measure 27 (Example 22). In its first two occurrences, this motive is almost entirely defined by rhythm, presented only as a single note D or as the cluster chord at measure 28. This cluster chord redefines the placement of the rests within the septuplet (at the second and fourth positions), which then serves as the model for the final rhythmic form of the motive utilized in [7] and later at [9].

[6]

Musical score for Example 22, [6] of "Be-Bop Tango". The score is written for piano and includes measures 23 through 30. The upper staff (treble clef) contains the melody, and the lower staff (bass clef) contains the accompaniment. Measure 23 features a triplet of eighth notes marked with a forte (f) dynamic. Measure 24 has a piano (p) dynamic. Measure 25 is marked with a piano (p) dynamic. Measure 26 is marked with a forte (f) dynamic and is circled in red. Measure 27 is marked with a sforzando (sfz) dynamic and is circled in red. Measure 28 is marked with a sforzando (sfz) dynamic. Measure 29 is marked with a sforzando (sfz) dynamic. Measure 30 is marked with a sforzando (sfz) dynamic. The piano accompaniment includes a "LOW CLUSTER" in measure 27 and a "DRUM FILL" in measure 30. The score includes various musical notations such as triplets, slurs, and dynamic markings.

[7]

Musical score for Example 22, [7] of "Be-Bop Tango". The score is written for piano and includes measure 31. The upper staff (treble clef) contains the melody, and the lower staff (bass clef) contains the accompaniment. Measure 31 is marked with a sforzando (sfz) dynamic and is circled in red. The score includes various musical notations such as slurs, ties, and dynamic markings.

Example 22. [6] and [7] of "Be-Bop Tango"

The mosaic process can also involve the rhythmic transformation of a motive that is primarily identified by a pitch characteristic, such as general

melodic contour. For example, the melodically disjunct septuplet of [1] undergoes a process of rhythmic transformation but maintains its generally disjunct contour. At [3] and [4] it has transformed into a sextuplet. Later, at [7], it is presented as a quintuplet. Therefore, the rhythmic transformations are consistent with a process of simplification. Because the rhythmic grouping changes at each occurrence, it is not possible to accurately describe the pitch transformation process between the motives as was done in “The Black Page #1”. This generally free approach to pitch, along with the mosaic procedure described above, suggests that “Be-Bop Tango” is a prime example of Zappa “drawing music”.

CONCLUSION

The three pieces in this study, obviously only a small sampling from Zappa's enormous output, have been selected in order to address several concepts and terms that relate to Zappa's music. These concepts should be applicable to a much larger portion of Zappa's oeuvre, particularly to the guitar solos and instrumental pieces. The extent to which they will be applicable will likely vary from piece to piece, yet certain concepts, such as the relationship between a melody and its harmonic climate, are important considerations in any piece by Zappa. Other terms, such as factory-cycle phrasing, are applicable only to a small yet significant number of instrumental pieces, such as *Mo 'n Herb's Vacation* and "Manx Needs Women". Because all of the pieces examined in this study were composed between 1972 and 1976, any stylistic development in Zappa's music from his early work with the Mother's of Invention to later Synclavier works such as *Civilization Phase III* has not been addressed. Also, it has not been gauged how Zappa's instrumental works are similar or dissimilar to his song output in regards to musical language. Future scholarly work in these areas might provide worthwhile insight into the endlessly imaginative mind of Frank Zappa.

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