Playing Outside: Excursions from the Tonality in Jazz Improvisation

Volume I of III:
Introduction & Chapter 1

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I take full responsibility for the text. notation and analysis found in this thesis. However. there are many people who have helped me on my journey…

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Declaration

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Abstract

This thesis examines strategies employed by jazz musicians when they temporarily leave the underlying tonality whilst improvising.

The Introduction defines the use of terms such as "outside" and examines texts from the literature. Further. a chronology of the evolution of "playing outside" is proposed.

Notation and analysis of twenty short excerpts is given in Chapter 1. along with summary material. This summary material groups "out" playing into three sets: motivic. scalar and spatial. Issues such as common scale choices. placement and the use of compensatory material are also examined.

Chapter 2 contains notation and analysis of part of John Coltrane's solo from "Acknowledgement" (from "A Love Supreme"). The analysis reveals a high level of premeditation in this piece. from the choice of the motif to the ordering of transpositions in bars 137-172. Further. two possible sources for these bars are suggested: (a) a construction of transpositions designed to cover the chromatic set and (b) the Mother and Grandmother chords to be found in Slonimsky's "Thesaurus" (1947). The latter possibility builds upon and supports the work of Demsey (1991). At the end of this chapter is an examination of three pieces by Eric Dolphy. followed by postulations regarding similarities between Dolphy's composition "245" and Coltrane's "A Love Supreme".

Chapter 3 concerns "Chain" strategies employed by Robert Irving III on Miles Davis' albums "Decoy" (1984) and "You're Under Arrest" (1985). These strategies are shown

to have spatial origins. but to be generally employed in order to maximise the contrast between adjacent chain elements against the underlying tonality.

Chapter 4 examines Steve Coleman's published "Symmetry" and "Sum" systems and assesses their use in "Cross-Fade" (from "Black Science" (1990)). These systems are shown to be natural extensions of Steve Coleman's musical philosophy. Notation and analysis shows that they are highly integrated within his performance and that some elements of his improvisations are premeditated.

A final set of conclusions is drawn in Chapter 5. along with ideas for future projects. Related appendices follow.

Abbreviations, Symbols and Conventions

I have used many abbreviations and symbols in my annotation of the music with regard to chords. scales and instrument design. Most are conventional to the jazz idiom. but I present them here for clarity:

7Alt	(Altered) dominant 7 with b9 and b13 (chord)
Aeo	Aeolian mode (scale)
AQ	Altered Quartal triad (chord)
Aux Dim	Auxiliary Diminished (scale)
B	Black note (description of key colour on a keyboard)
Dim	diminished (scale)
Dor	Dorian mode (scale)
Loc.#2	Locrian.#2 (=7th mode of Jazz Melodic) (scale)
m.p.	minor pentatonic (scale)
Mix	Mixolydian mode (scale)
Penta	(Major) Pentatonic (scale)
Phr	Phrygian mode (scale)
Q	Quartal triad (chord)
Sup Loc	Super Locrian (scale) – 7th mode of Jazz melodic minor
W	White note (description of key colour on a keyboard)
W.T.	Whole Tone (scale)
o	diminished chord
ø	half-diminished chord (minor 7th. b5)
Δ	Major seventh chord

The commonly-used scales listed here. as well as others described in this thesis. are defined in Appendix 1. In the notation in this thesis. notes that have crossed noteheads represent uncertain pitches. I have smoothed out some subtle rhythmic detail in the interest of clarity. Thus. finest rhythmic detail is generally at the level of a semiquaver.

Of course. the number of events in a bar may require this level of detail to extend to the level of quintuplets or sextuplets.

Further. most of the Figures and Tables in this thesis employ the C harmonic chromatic scale of C. Db. D. Eb. E. F. F#. G. Ab, A. Bb and B (as defined by Taylor (1990) (pp. 30-31). etc.). This is because I have found that the advantages of being able to read common tones outweigh the advantages of enharmonic conventions that are so useful in the notation and analysis of strictly tonal music. This strategy has also aided me in undertaking reliable computer searches.

Also. the reader should be aware that some symbols are used with more than one meaning. Firstly. the symbol "#" is used to mean both "sharp" and "number" in this thesis. For example. "#" meaning "number" usually occurs as a header in a table. whereas "#" meaning "sharp" usually occurs in the text. Notes. chords and scales (such as Loc.#2 above) always use "#" meaning "sharp". Secondly. the symbol "b". although usually used to mean "flat" (e.g. Gb. C7b9. bII). is also employed in the annotation of the notation to mean pattern "b" (i.e. after pattern "a". and before pattern "c". "d". etc.). Lastly. the symbol ">" is not only used in the mathematical sense to mean "greater than". but also to indicate cadential movement between chords (e.g. G7 > C. V > I. etc.). However. I feel that these distinctions are generally made clear by the context.

Introduction

The development of jazz is driven by its practitioners searching for new material and techniques based upon. yet reaching beyond. the conventions of their predecessors and contemporaries. In this sense. all such new. subtle developments and extensions of the jazz language may be described as being "outside" the (continually expanding) core vocabulary. Such new events are what may startle and repel – or excite and engage – a listener.

A definition of "outside"

However. this thesis examines a more restricted arena of the "outside" in jazz improvisation. That is. it reveals and defines strategies that jazz musicians employ when temporarily using material outside of the conventional chord-scale relationships[1] of a given chord progression. As such. it concurs with the definition of "outside" to be found in the New Grove Dictionary of Jazz:

> "**Outside** [out]. To play "outside" or "out" is to depart. in improvisation. from the harmonic structure of the theme. The term came into use in the early 1960s. in conjunction with its antonym "inside." to describe the playing of musicians who brought into performances of hard bop and modal jazz some of the harmonic license of free jazz..."[2]

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[1] The term "chord-scale relationship" is used to suggest the strong interrelationship between chords and certain scales in modern jazz: these relationships were first defined by Russell (1953). as is recorded by Martin (1997). p. 8. Such chord-scale relationships commonly operate independently of the key of the piece concerned. Further. these chord-scale relationships are not fixed in modern jazz. Haerle (1978) neatly reveals the conventions (developed in the late 1950s) of "basic scale choices": i.e. choosing one scale from a group that all "fit" equally well with the goal of affecting the mood of a jazz performance (pp. 2-17 to 2-20).

[2] Kernfeld (1988). p. 946

This description may be seen to prescribe accurately the boundaries of the terms "outside", "out", "inside" and "in" used within this thesis.[3] However, it might be assumed from such a definition that excursions from the underlying tonality are simply "free": that is, that they might be seen to be devoid of, or even antagonistic towards the musical structure.[4] In fact, as we will see in the excerpts examined below, the "out" strategies used by jazz musicians are usually highly organised: in an order of complexity equal to more well-defined "in" strategies. Further, analysis reveals that these strategies nearly always employ material derived from either (a) the piece in which they appear or (b) conventional (i.e. non-"free") jazz methodology.[5] Further, these strategies sometimes form part of an extended, coherent, hierarchical (and personal) methodology of "in" and "out". And, as we shall see in the case of Steve Coleman (Chapter 4), the musician concerned may even decide to publish their personal theory.

In seeking to discover and describe such organised "out" strategies, this thesis is an extension of some work that I had undertaken before enrolment at City University. My efforts resulted in a short paper regarding "playing outside" being published in 1997 in the *Annual Review of Jazz Studies*.[6] This paper describes a pedagogical journey of a jazz musician from beginner through to "playing outside". Further, it shows that all commonly-used jazz scales are most "out" when transposed to the bII or VII keys[7]. Also, I included three speculative "maps" for "playing outside" (the third of which is similar to Steve Coleman's "Symmetry" system - see Chapter 4). Thus, the postulations made in

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[3] In this thesis, these terms are always written with inverted commas in order to assert this convention for the duration of the text.

[4] Such an assumption would be similar to the misunderstanding that "free" jazz (in general) is based in a musical concept of "total freedom". This is outlined by Jost (1974), p.8.

[5] An assumption of this thesis is that we may make a division in jazz music between "commonly-used" scales and other (rarer) scales. Definitions of the commonly-used scales may be found in Appendix 1.

[6] "How Weird Can Things Get? (Maps for Pantonal Improvisation)". *Annual Review of Jazz Studies*. 8 (ed. Martin, Henry), pp. 203-226

[7] bII means the flattened second degree of the Major scale (e.g. Db in the key of C). VII means the natural seventh degree (e.g. B in the key of C). Note that, in this thesis, such use of bs and #s refer to alterations of the Major scale at all times. Thus, for a piece in the key of C minor, III

that paper are based in either (a) mathematical truths or (b) my personal experiences and theories. and. therefore. the mental "maps" that I presented were only loosely grounded in common practice. This thesis. by contrast. is firmly based in analyses of real performances by jazz musicians. In adopting this approach. it is my intention to assess more accurately the types and range of strategies employed by musicians. Further. the results of this new research have provided sufficient momentum to encourage me to undertake further searches for quintessential scales. motifs and strategies for "out" playing. in the spirit of my 1997 paper. The results of these searches I hope to publish elsewhere.

Thus. I have undertaken my research by collecting, notating and analysing a selection of examples of "playing outside" in jazz improvisation. Most of these examples. taken from various audio recordings and television broadcasts. are explored in Chapter 1 ("Twenty Examples of "Playing Outside""). Whilst these excerpts are notated from a diverse list of individual performances. we will see some common core strategies and processes. and these are described in the summaries that follow them.

Chapters 2. 3 and 4 each consist of a single separate example of "playing outside". The strategies employed in each of these three cases may be seen to relate directly to those described in Chapter 1. However. more extended and complex analysis was required for each of these examples. and. thus. they have each been assigned a separate chapter. Further. each of these three examples may be seen to exhibit structures that reveal relatively sophisticated. coherent. hierarchical (and personal) methodologies of "in" and "out". Also. the duration and influence of the "out" strategy upon the pieces concerned is greater than that to be found in most of the examples in Chapter 1. I will now briefly describe each of these three chapters.

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refers to E natural and not Eb. which would be described as the bIII. This follows the conventions set out by Mehegan (1959a).

Chapter 2 describes the "out" strategies employed by John Coltrane in his solo on "Acknowledgement", Part I of the "A Love Supreme" suite. Further, it suggests two possible sources (one of which is Slonimsky's "Thesaurus of Scales and Melodic Patterns" (1947)) for the list of transpositions employed by Coltrane at bars 137-172, where he plays the central motif of the piece through all 12 keys. Incorporated within this chapter is a section describing three compositions by Eric Dolphy which have numbers in their titles ("245", "17 West" and "111-44") and I show that the title of each of these pieces is encoded within the music. Finally, I suggest a connection between one of these pieces ("245") and the core motif and key structure of "A Love Supreme".

Chapter 3 describes portable chromatic harmonic strategies (which I call "Chains") employed by keyboardist Robert Irving III whilst he worked with Miles Davis (specifically with regard to the albums "Decoy" (1984) and "You're Under Arrest" (1985)).

Chapter 4 describes the "Symmetry" and "Sum" systems employed by alto saxophonist Steve Coleman, and assesses their use in the pieces "Cross-Fade" (1990) and "Drop Kick" (1993).

Texts

There are several texts that describe "playing outside" (although this term is not universally used), all of which have influenced my analysis and conclusions to a greater or lesser extent. These are organised below into two sets: 1. Teaching texts and 2. Historical/musicological texts. Further texts, important to my research for Chapters 2 and 4 (e.g. Porter (1988), Slonimsky (1947), Coleman (1995, etc.)) are described in those chapters.

1. Teaching texts

These texts are ostensibly designed purely to educate the aspiring jazz musician in methods of "out" playing, but they are also interesting in that they reveal the process that each author has taken to understand this field. The notated examples provided by these texts fall into two clear groups: (a) theoretical examples and (b) examples taken from recordings. Russell (1953). Haerle (1978). Van Eps (1982) and Gardner (1996) show exclusively theoretical examples in notation. These examples are designed by the writers concerned to demonstrate a particular strategy and are designed to stimulate the reader into activity without over-prescribing the result. Similarly, most of Liebman's (1991) book uses theoretical examples, but some short notated excerpts of jazz performances, as well as more extended notation and analyses of three of his own solos, are also included. In the case of Levine (1995) all but one of the examples are drawn from actual performances.

By far the earliest text which considers playing "outside" is George Russell's "Lydian Chromatic Concept of Tonal Organization" (1953). This text is crucial to jazz theory in a number of ways. Firstly, as noted above, it offers the earliest description of conventional chord-scale relationships central to modern jazz.[8] Russell calls these scales the eight "Lydian" scales.[9] Secondly, as its title suggests, the text seeks (a) to create a fully chromatic model of jazz improvisation, and (b), as a teaching document, to promote an open, creative perspective on notes both inside and outside of the given, "Lydian" scale sets. Importantly, Russell's book argues that "out" playing may be regarded as rational an activity as "in" playing. Further, Russell shows that the chromatic scale may be

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[8] Martin (1997), p. 8

[9] With regard to the relevance of Russell's book today, we should acknowledge that his relatively complex choices of scale and key nomenclature are not now usually employed by musicians or more recent theory texts, and, further that some of the examples given in Russell's book contain confusing errors. I understand from *Jazzwise* (a mail order company specialising in jazz books and videos) that Russell is hoping to update and reissue his book soon.

grouped into logical sets which may help a musician and/or theorist navigate such "out" territory. To achieve this. Russell describes improvised melodies as falling into two camps: "Ingoing" and "Outgoing". "Ingoing" melodies use chord-scale relationships (the "Lydian" scales). For example. Russell defines an "Outgoing Vertical Melody" as being a melody that uses intervals not found within these Lydian scales.[10] Further. such an "Outgoing Vertical Melody" may be realised either as "...a thematic sequence of intervals..." or "...an absolute or chromatically enhanced scale of any other Lydian Chromatic scale [i.e. one of the Lydian scales. but transposed]." As the reader will see. these descriptions are analogous to my use of the terms "motivic" and "scalar". which I use to describe the common strategies discovered in the excerpts of Chapter 1. All of Russell's examples are apparently theoretical. and. in the case of that given for the "Outgoing Vertical Melody" is a transposition to the bII. I will return to this example later.

The resurgence of interest in jazz in the 1980s gave birth to a great many college courses. reference books and teaching texts.[11] Many of these teaching texts are organised in a modular manner. designed to transmit jazz theory to students in defined stages.[12] Indeed. many such jazz primers contain a distinct section on "playing outside". such as Haerle (1978). Van Eps (1982). Liebman (1991). Levine (1995) and Gardner (1996). Further. in the case of Liebman (1991). we now have a text which is entirely dedicated to the goal of incorporating chromatic material within a more conventional. tonal approach. This is in direct contrast with George Russell's (1953) work. in that Russell includes "in" and "out" within a complete chromatic theory.

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[10] Russell (1953). p. 26
[11] This is true of both the United States and the United Kingdom.
[12] Some might say that this is at odds with conventional methods of learning to play jazz.

Haerle includes a short. distinct lesson called "Playing Outside the Harmony".[13] This is partly anticipated by the study of the use of chromatic embellishments and non-scale tones in the immediately previous two lessons. Although the text element of this chapter is relatively "open" in that it suggests a wide variety of "out" strategies. the notated. theoretical examples are relatively "closed". Haerle presents two main strategies. both of which rely upon familiarity of material for their success. Firstly. he suggests playing a given motif up or down a semitone (and encourages a flexibility of placement of such "out" sections). giving an example in notation.[14] Next. to quote Haerle. a "...melody that proceeds on its way freely without being concerned with the original harmony..." is shown.[15] However. this 30-note melody clearly groups "in" and "out" material of the underlying mode and uses several real sequences. Thus. these initial examples mostly use what I will define later as motivic "out" playing. and do not match the "free" ambitions of the text. Further. let us note that both of these examples are resolved by the use of complete or nearly complete listings of the "in" modes. These lists compensate for the excursion from the tonality. This compensation characteristic may be seen in many of the examples studied in this thesis (see conclusion of Chapter 1). Secondly. the student is asked to play a "free. non-tonal chromatically modulating melodic line" and then repeat it with a II V I progression beneath as evidence of its "acceptability".[16] In the context of the complexity of the real examples in this thesis. it might be argued that Haerle's design of his examples neatly reduces the radical nature of such excursions. and that he seeks to mitigate "out" playing in order to include it easily within a conventional jazz language.

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[13] Haerle (1978) p. 3-19 to 3-21 (Chapter III. Lesson 8)
[14] Haerle (1978) p. 3-19. Example 1
[15] Haerle (1978) p. 3-19. Example 2
[16] The II V I progression is. in this case. Cm7. F7. Bbmaj7. Where I use roman numerals to describe progressions in this thesis I use upper case. irrespective of whether the chords are Major or minor.

Like Haerle. Van Eps (1982) examines the possibilities of shifting a tonality up and down a semitone (i.e. a single fret on the neck of his guitar). By contrast with Haerle. however. he encapsulates the set of three keys as a "triplex". and incorporates the strategy into his larger "Satellite Concept".[17] This has the effect of reducing the subjective importance of the tonic in the concept. This is somewhat similar to Steve Coleman's approach in designing his "Sum" and "Symmetry" systems (see in Chapter 4 of this thesis).

Gardner (1996) focuses on "Outside Pentatonics". and his examples nearly all use the bII transposition.[18] In fact. Gardner employs {0. 2. 5. 7} subsets of the Pentatonic scale. which. as four-note sets. have the advantage of being easily placed (and read) in bars of eight quavers.[19] Further. although Gardner makes no mention of the fact. let us note that these sets are highly polarised under random transposition. By the term "highly polarised" I mean that transposition of these {0. 2. 5. 7} sets in and out of an underlying Pentatonic (or Dorian) tonality results in a relatively high contrast of notes that are either "in" or "out".

In a sense. it is Liebman's (1991) and Levine's (1995) texts that are most directly relevant to this thesis in that they contain notated examples of real solos. rather than just theoretical examples. However. in their analyses of performances. these texts reveal that definitions of "in" and "out" vary across the literature (just as they might be expected to do across the jazz world). Both authors are keenly aware of such issues. Levine suggests that we should "...bear in mind that what's considered outside is subjective and changeable."[20] and Liebman notes that "...yesterday's dissonance is today's consonance.

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[17] Van Eps (1982). pp. 97-122: as we shall see. this is related to Steve Coleman's "Symmetry" system. which I examine in Chapter 4.
[18] Gardner (1996) pp. 319-320
[19] In this thesis. the naming of pitch class sets follow the conventions of Forte (1973).
[20] Levine (1995). p. 183

while today's dissonance is tomorrow's consonance."[21] Such shifts in perspective may be seen to operate at both the personal or social (stylistic) level.

Before examining the sections that contain examples taken from recordings, let us consider Liebman's (1991) important book in general, since it is the only text dedicated to the subject. As a teaching text, "A Chromatic Approach to Jazz Harmony and Melody" is encouraging to the beginner (carefully employing phrases like "Chromaticism does not negate the use of diatonicism."[22]), stimulating to the more experienced and provides many ideas for incorporating chromaticism into a conventional diatonic approach. On the evidence of this text, for Liebman "playing outside" seems defined by the use of any material or strategy that is not purely diatonic: from single chromatic passing notes to fully abstract melodic and harmonic constructions.[23] This book has rightly become a core text for musicians wishing to enlarge their tonal repertoire into the chromatic arena, and it receives an endorsement from no less a musician than Pat Metheny on the rear cover.

However, although the book is wide-ranging and provides accurate historical context for many of the strategies, it is clearly an essentially personal collection of theories and examples of chromatic additions and alterations to conventional jazz material.[24] In this sense, the book is a natural extension of Liebman's playing, and, as a notebook of ideas.

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[21] Liebman (1991), p. 15
[22] Liebman (1991), p. 9
[23] Some of the melodic and harmonic structures described by Liebman are not placed against a tonality (e.g. IIIC "Non-tonal Chromaticism", pp. 30-31 and XVI "Line Compendium", pp. 145-162), and, since these structures cannot be seen "...to depart, in improvisation, from the harmonic structure of the theme," as defined above in Kernfeld (1988), they describe music outside the boundaries of this thesis.
[24] The relatively short section IIIB, "Superimpositions in Various Harmonic Situations" (pp. 17-29), might be seen as having most in common with the examples and discoveries presented in this thesis. However, since Liebman's examples are personal and theoretical, they do not represent the range of realisations of the strategies examined here. Further, this section is quite repetitious: Liebman himself notes that the chapter contains "multiple explanations" (p. 17). Further, the separation of examples into the three subsets of "Diatonic", "Modal" and "Pedal Point" does not lead Liebman to suggest different approaches for these. Rather, they are treated as essentially

has great value as a role model.[25] Indeed. Liebman himself says that "A Chromatic Approach to Jazz Harmony and Melody" is not designed as "a text book" per se. but rather "...a workbook to challenge the artist to develop his or her own way."[26] Close examination of the examples reveals many sections to be driven by a theoretical extension of a personal aesthetic. and are included to encourage the student musician reader rather than describe common jazz methodology.[27]

As noted above. Liebman includes examples taken from jazz recordings. and these fall into two groups: (a) thirteen excerpts of performances by other artists (Chapter VII. pp. 70-75) and (b) self-analyses of three of Liebman's own solos (Chapter VIII. pp. 83-105). However. the former thirteen examples are given little analysis and. whilst some effort is used to employ terms from elsewhere in the text. their complexities are not attended to. The self-analyses of the three Liebman solos ("Softly In A Morning Sunrise". "Gargoyles" and "Third Visit") each deserve separate consideration.

In his description of his solo on "Softly In A Morning Sunrise" (pp. 83-90)[28]. Liebman points out that at the time of this recording his main strategy was "chromatic sideslipping".[29] In this regard he then describes the use of the "...key of concert B over a C pedal" at "...the outset of the solo." but I cannot find this. There is. however. the use

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similar contexts with various chord progression sets relevant to each "style". Also. no attempt is made to analyse and define any difference in the melodic results of these various contexts.

[25] That this is a personal text is neatly demonstrated by the choice of the word "A" in the book's title.

[26] Liebman (1991). p. 7

[27] This is most clearly illustrated in sections such as IIIC "Non-tonal Chromaticism"(pp. 30-31). IIID "Voicings" (pp. 32-44) and XVI "Line Compendium" (pp. 145-162). I have found no examples of these sorts of approaches in the music that I have notated and analysed for this thesis. Rather. musicians in general employ highly organised strategies more in line with Liebman's suggestion in his preface that "...using the accustomed sounds of diatonicism as a basis. these chromatic ideas should reflect the same order and logic associated with tonalism throughout the history of music" (p. 7). However. as we shall see. Liebman uses freer strategies (such as those found in the sections noted above) to great effect in some of his solo work. notably "Third Visit" (see below).

[28] These. and the following page numbers in brackets refer to Liebman's book (1991).

[29] Haerle (1978) describes "chromatic side-slipping" (pp. 2-16 to 2-17). Interestingly. all of his examples consist of chromatically descending progressions.

of some Bb7 and Bb Mixolydian (i.e. Bb. not B) material *before* the solo over a C pedal. However. this would not seem to represent the "half step relationship" which he describes as being "immediately observable". and indeed. this actually represents the "last 8 bars of [the] melody". The only section similar to Liebman's description that occurs *within* the solo is a B diminished upward list at bar 17 (top of p. 85). the 9th bar of the solo. This is actually fairly conventional. acting as a C Auxiliary Diminished scale, commonly used over C7b9 chords. and has no C pedal beneath it. Other lines which Liebman points out for their chromatic value. such as the "second eight bar section of the fifth chorus". have the implied chords arranged into the piece: i.e. the piano accompanies the saxophone's "excursions". Interestingly. "chromatic sideslipping" is most clearly seen in the piano part (played by Richard Beirach).

Liebman describes his solo on "Gargoyles" (pp. 91-94) as only departing "...from the B tonal center in bars 107-108 where there is an E major pattern sounded" (p. 91). Actually. this event (commencing at beat 4 of bar 107 and ending at beat 2 of bar 108) is formed exclusively by an F# Pentatonic scale (there are no E or B notes here). thus creating a (conventional) Bmaj7/B Ionian tonality with the B bass pedal. Indeed. the only truly dissonant event in this section is to be found in the piano part. Whilst ostensibly accompanying Liebman with a conventional Bmaj7 voicing. Richard Beirach includes an additional A natural note (Liebman annotates this chord "Bmaj7. add b7. no 5"). Liebman's final sentence of the analysis includes the phrase "[this] solo is not as chromatic as it appears." presumably because it is written without a key signature.

By contrast with the former two solos and analyses. "Third Visit" (pp. 95-105) is a tour de force. and the excellent analysis is rightly described as "...the summary of [the]

book."[30] Both the head and solo very clearly illustrate Liebman's "superimposition" techniques that are at the heart of the text.[31] Intriguingly, Liebman includes a new theoretical model in this analysis: "repeated pitch", suggesting that such pitches "...might cause a sense of a temporary key centre."[32] However, although this composition has a clearly defined head, the piece is divided into a set of tonalities by instrument and there is high degree of flexibility of duration of these tonalities in the solo section. This means that this piece is very difficult to analyse accurately. Thus, within the terms described above, we must regard this improvisation as essentially "free" and not an example of "playing outside": thus, this interesting piece operates outside the boundaries of this thesis.

Levine, like Liebman, uses many examples of "out" playing sourced in recordings, and incorporates these into the short chapter on the subject.[33] Like Haerle (1978), he suggests playing up or down a semitone. Indeed, he presents two good examples of playing down a semitone: Examples 8-8 and 8-11 (pp. 188 and 189)[34]. These seem to me to be rare gems. I have not found such good examples of this strategy in all of my research. However, although his analyses are generally very clear and carefully organised to create a flowing chapter. I find myself in disagreement with a few of them (I have sought out the relevant recordings and have notated and analysed all of the excerpts).[35]

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[30] Liebman (1991), p. 98: I do not mean that this piece is in some way artistically superior to the former two solos. Rather, it is simply a better example of Liebman's concept for the book in general.

[31] Liebman writes about this in the preface, p. 7.

[32] This definition is from the Glossary, p. 173. I cannot find another reference to this theory in the book.

[33] Levine (1995), pp. 183-192

[34] These page numbers, as well as those in the footnote below, refer to pages in Levine's book (1995).

[35] Here are my disagreements. The single "out" note in Example 8-4 (p. 186) would seem to be just as likely an error on the performers part than a chromatic excursion, given that these three bars are characterised by arpeggios of chords derived from the underlying chord-scale relationships of the piece. In example 8-9 (p. 188), Levine detects an A7 tonality, yet Freddie Hubbard seems to me to be using a conventional Eb Super Locrian scale (with a passing, chromatic Ab) over the Eb7 chord (Levine defines the use of this scale over an altered dominant

My disagreement with parts of Liebman's and Levine's analyses is evidence of Levine's assertion at the start of his chapter that "...what you hear as "outside" someone else will hear as "inside" and vice versa."[36] Further, I have taken these differences as a warning in my pursuit of this thesis. After all, they represent the fact that a variety of perspectives may be had of the same musical material. This has encouraged me to consider carefully several options when analysing each the excerpts presented below. In choosing between such options, I have favoured simpler or more conventional descriptions. Where I have been unable to choose between a pair of likely possibilities, I have presented both, with a description of which I think the best.[37]

2. Historical/musicological texts

There are several important musicological texts which describe the development of material used in jazz away from the conventional chord-scale relationships of the music: Jost (1974), Budds (1990), Dean (1992) and Berliner (1994).

Jost (1974) paints several "style portraits", moving from an examination of the modal jazz of Miles Davis and Coltrane to the work of The Art Ensemble of Chicago and Sun

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chord at pp. 70-72). Example 8-12 (p. 189) is described as using an F bebop dominant scale (an eight-notes scale: F Mixolydian with an additional E natural note) over a Cm7 chord, whereas this might also be described as a C Dorian subset with an interpolated chromatic passing note (E natural). The four-note figure that suggests "Ab" could equally be from Db Dorian (bII). In example 8-14 (p. 191), Levine finds Amaj7 and Fmaj7 material superimposed over a Bb7 chord by Freddie Hubbard. However, the music in the notation fits the scales of Bb Super Locrian and Bb Lydian.b7. Further, in the final bar, Hubbard is credited with using a Bbmaj7 tonality over an Eb7 chord. I suggest that this in fact represents the employment of a subset of an (unresolved) Eb Lydian.b7 scale with interpolated D natural notes. Such an analysis has the advantage that it recognises the transposition of the scale used by Hubbard in the previous bar, paralleling the movement of the underlying chords.

[36] Levine (1995), p.183

[37] For example, the two possible sources that Coltrane may have used in devising bars 137-172 of "Acknowledgement" (see Chapter 2).

Ra[38]. Jost's description of John Coltrane's "A Love Supreme" was invaluable in my examination of "Acknowledgement" (see Chapter 2 of this thesis).

Budds (1990) describes the "Expansion of Musical Resources and Techniques" [his subtitle] in the jazz of the 1960's. Budds argues that all of these expansions are logical. natural extensions of existing theory and extra-musical influences.[39] However. this passionate text does not deal with "out" playing in a technical sense.

Dean (1992) briefly examines bitonal and polytonal improvisation in his chapter on "Pitch Usage". but this area is clearly less interesting to him than the "freer" strategies that dominate his book. He describes such bitonal techniques as "[giving] the impression of coexisting blocks of material. which do not completely blend..." and suggests that such an improvisational feature may "...become predictable and even irritating."[40]

Berliner's book (1994) excels in describing the mental strategies employed by musicians in performing jazz. and it is in the wake of this important text that my thesis attempts to "get inside the head" of the musicians concerned and describe the "out" strategies which they employ. However. Berliner's sections on "playing outside" do not enter the theoretical space occupied by this thesis.

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[38] Jost (1974). p. 10
[39] See especially pp. 97-144 regarding "Extra-musical Connotations"
[40] Dean (1992). p. 58

A proposed chronology of the evolution of "playing outside"[41]

It is in the bebop period that I have found the earliest example of "out" playing (i.e. Charlie Parker's "Scrapple From The Apple" (1947)).[42] This is a little earlier than the hard bop period (established in the mid-1950s)[43] mentioned in the definition of "Outside" from Kernfeld (1988), shown above. However, on this evidence, the history of "playing outside" can still be seen to be much shorter than the history of jazz in general. This early example is rare, however: bebop, in representing a high point in its use of conventional chord-scale relationships and voice-leading technique, is music highly focussed upon resolved melodic structures.[44] However, despite the rarity of the excerpt from "Scrapple From The Apple", there are two harmonic structures common to the bebop style in general that may be seen as important to, and prototypical of, many later "out" strategies. These are (a) the use of chord-scale substitution and (b) the interpolation of additional II V (etc.) progressions into popular song and conventional blues progressions. The first of these structures (chord-scale substitutions) often takes the form of a "tritone substitution", where a V chord is replaced by a bII chord (not necessarily of the same quality).[45] Because the second structure (harmonic interpolations) adds interest to a jazz performance without replacing (i.e. substituting) the original harmony it is more in line with the definition of "outside" playing used here, and, thus, is more directly anticipatory of such activity.

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[41] This proposed chronology of "playing outside" is based upon some of the discoveries of this thesis and the historical context provided by the historical/musicological texts described above. It is necessarily simplistic, but is included in the hope that such an overview may help guide the reader though the material in the following chapters, partly since this material is not presented in a strictly chronological manner.

[42] The relevant excerpt of this piece is examined in Chapter 1. It has been suggested to me that James Moody was also a similarly early practitioner of "out" playing, but I have been unable to find an example.

[43] See Gridley (1988b), pp. 481-482 and Collier (1988), p. 598 for descriptions of the start of the hard bop period.

[44] The importance of voice-leading technique in the work of Charlie Parker has been made clear by Martin (1996).

The modal jazz of the 1960s represented a minimalist development in jazz. inheriting what Gridley neatly describes as the understated and economical qualities of the "cool" school.[46] As such. it represented a calm. ascetic foil to the frenetic complexities of both the bebop that preceded it and much of the "free" jazz that developed alongside it.[47] In contrast with bebop. modal jazz was the landscape within which "out" playing had the best opportunity to thrive. This is because. firstly. modal jazz is characterised by extended chord durations that are in direct contrast to the rapidly changing scale sets of bebop. This is the reason why some educators. such as Beirach (1984). retrospectively describe modal jazz as the ideal stylistic arena for developing the skills of "out" playing in student musicians.

Secondly. there was an amount of stylistic "baggage" retained from bebop that is detectable in several of the "classic" modal performances. For example. Kernfeld notes that on the first recording of "Milestones" (1958) Miles Davis adheres strictly to the mode in his improvisations. However. the saxophonists (John Coltrane and Julian "Cannonball" Adderley) "...explore more freely."[48] I suggest that the relative complexity of bop chord progressions (especially turnarounds) and their related scale sets acted as a stimulus for their inclusion. That is. the modal context was perceived as insufficiently interesting. and thus the musicians felt driven to include (familiar) material "outside" of the carefully prescribed underlying tonality. Such activity increases what we might call the harmonic "density" of the piece (i.e. chord-scale relationships per duration). Let us note that these interpolations mostly occur at cadence points. We will see a similar increase in harmonic density caused by (a) superimposition of familiar

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[45] See. for example. Haerle (1980) p. 39 and Levine (1995) pp. 260-271 for descriptions of tritone substitution.
[46] Gridley (1988a). p. 244 and 245
[47] This parallel development is well described in Collier (1988) "The Rise of Free Jazz" and "The Modal Alternative: Davis and Coltrane" in "Jazz (i)". VI. 1 & 2. in Kernfeld (1988). pp. 600-601.
[48] Kernfeld (1988). p. 785. "Milestones" is from the album "Milestones" (1958) Columbia CL1193.

bebop cadential material and (b) extended anticipation when we examine part of another classic modal performance in Chapter 1: "So What?".

Thirdly. as intimated above. there was another music developing alongside modal jazz that gradually began to feed into the language of relatively conventional musicians as it developed sufficient musical credibility (and political importance) to do so: namely "free" jazz. The organisation and incorporation of material from "outside" the underlying tonality gave such musicians the opportunity to engage in the radicalism of "free" jazz without jettisoning the familiarity of the chord progression or. by extension. the conventional repertoire. Let us note that such organisation of "out" material into discrete sets and structures (such as the bII transposition: see below) may justify the inclusion of such "out" material within a performance in the mind of a musician. That is. such organisation allows "out" playing to be rationalised as a subset. or. alternatively. an equal partner. of "in" playing.[49] Over time. this grouping of "out" material into coherent sets and procedures permitted a move away from the wake of bebop and into a new landscape. more similar to that of the "free" jazz musicians.

Further. there is another strategy that seeks deliberately to ignore such a high level of tonal organisation with regard to "out" playing. and. thus is closer to the true spirit of "free" jazz. This is what I have described as "spatial" out playing. Here strong tonal organisation gives way to the use of familiar hand shapes driven by the physical structure of the instrument itself.

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[49] During my research. in asking musicians how they perceived "out" playing. I found that they fell into two distinct groups. On the one hand. some musicians described such activity as "integrated" and "...part of the style..." (these are Dave Blackmore's words – see "Fields of Fire" in Chapter 1). and were keen to downplay its strangeness. On the other hand. others saw it as "breaking the rules". "illegal" or even "naughty" (trumpeter Jim Howard) (personal conversations). However. this polarity of perspectives does not always reflect how much the musicians concerned used "out" strategies in their playing at the time.

As defined above. this thesis examines examples of musicians temporarily leaving the conventional chord-scale relationships of a given chord progression. Thus. the music of the "free" school (where there is avoidance of the use of stable chord progressions) may be seen to be outside the limits of this thesis. However. there is no doubt that "playing outside" (in the terms defined here) was influenced at least in part by the work of these musicians.

If the density of bebop was the stimulus for the inclusion of "out" material into modal jazz. then it was interest in the structure of modes and scales which developed in the 1960s that was the driving factor for the organisation of such "out" material. Two important characteristics came to the fore at this time: the iconic use of the I and bII key relationship and a development of preferences for certain "in" scales to act as "launch pads" for "playing outside". The visual contrast to be seen at a keyboard between any white note mode and its bII transposition highlights both of these characteristics. It seems no coincidence to me that the core scales of some modal classic compositions. such as Miles Davis' "So What?" and "All Blues" consist entirely of white notes.[50] "So What?" may be seen to achieve what I call "Chromatic Saturation" (i.e. it covers the chromatic scale) in its choice of modes: D Dorian and Eb Dorian. Further. these modes may be seen to form a I and bII structure. Let us recall that John Coltrane used exactly the same harmonic structure (and the identical key) in his piece "Impressions".[51] Such a I/bII relationship may also be seen to occur in the D7#9 to Eb7#9 cadential section of "All Blues". Let us also note that the Dorian mode. so favoured by modal composers. may be characterised as a completely resolved scale: i.e. it may be seen to form a m13(9.

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[50] Both of these pieces are from "Kind of Blue" (1959) Columbia 1355. These pieces spend most of their duration in D Dorian (Dm7) and G Mixolydian (G7) respectively. This white note characteristic may perhaps be explained by the fact that. according to Collier (1998). it is likely that pianist Bill Evans "...was as responsible for [the pieces] as Davis" (p. 601).

[51] From "Impressions" (1961-3) Impulse 42.

11) chord.[52] Such a completely resolved chord is rare: the only other possible such resolved (white note and seven-note) chord may be derived from F Lydian (producing an FMaj13#11 chord). The dissonant effect of transposing any such chord-scale relationship up a semitone is thus further emphasised. We will see that the Dorian mode (and its related subset. the minor pentatonic scale) is commonly used as a launch pad for "playing outside" in the examples studied in this thesis. Further. if the Blues scale is used as the tonic scale. then this is often converted into the simpler minor pentatonic at the bII transposition. Finally. the Dorian mode may be seen to easily generate four resolved {0. 2. 5. 7} sets (etc.). which. under chromatic transposition away from the home key. have the characteristic of showing the highest possible degree of "polarity". as noted above.

Thus. transposition and focus of "out" material is usually chromatic. and upward. However. Haerle (1978) and Levine (1995) both suggest playing up or down a semitone from the prevailing key. The transposition of a scale up or down a semitone will result in the same number of common and uncommon notes: I examined this characteristic in my paper "How Weird Can Things Get?" (1997). Most musicians seem not to be aware of this equivalence.[53] In my 1997 paper I also noted that transposition to the #IV (tritone) is equally dissonant. However. from the evidence of the research undertaken for this thesis. such a strategy would seem to be rare: I have found only one clear example (see Phil Wood's "Consternation". examined in Chapter 1). In fact. as we shall see. musicians mostly employ the bII. and this use extends into more complex systems. I suggest that this emphasis upon the bII as the transposition of choice for playing outside is due to a number of factors.

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[52] I.e. a chord built in thirds from the bass up: D F A C E G B. Most other modes of the major scale produce chords that have (dissonant) minor 9th intervals. See Levine (1995) p. 31-35 for an excellent description of this characteristic.

Firstly. and most importantly. the bII became a conventional tritone substitute for the V in the development of the bebop style. and thus an "out" section based upon the bII will seem to act cadentially when the "in" material is returned to.[54] This functional choice of the bII is also apparent in "side-slipping". which is usually chromatically downwards.[55]

Secondly. experimentation with transposition of quartals in the modal period (by artists such as McCoy Tyner) may have had a further. affirming action upon the bII as "most dissonant" in the minds of musicians. I make this suggestion because a bII quartal performed over a I bass note (e.g. DbQ/C) does not belong to any commonly-used scale used in jazz (see Appendix 1). By contrast. any other transposition of the quartal chord over a given bass may be seen to have its own parent scale (e.g. EbQ/C may be seen to "fit" C Phrygian. C Locrian and even C Super Locrian).

Thirdly. I suggest that the use of the bII has simply become a part of the tradition of such activity. passed on as a strategy that is easy to remember from musician to musician and teacher to pupil. This idea of transposing up a semitone may be traced back as far as Russell's (1953) book. To demonstrate his "Outgoing Vertical Melody" (described above). he chooses the I/bII (and highly visually contrasted) example of a "Gb Lydian scale upon an F major 7th chord" (p. 26). Note that this Gb Lydian scale is the bII of the white note (and. as noted above. fully resolved) F Lydian scale. The notation of this example is given on p. 25 of his book and is a relatively short "out" example amidst pages of text and follows much relatively resolved material. I wonder what influence this historically early and visually immediate example may have had upon the practitioners mentioned above in the development of "playing outside".

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[53] All of the (10 or so) personal conversations that I undertook with professional jazz musicians revealed this to be so.
[54] See. for example. Haerle (1980) p. 39 and Levine (1995) pp. 260-271 for descriptions of tritone substitution.
[55] Haerle (1978). pp. 2-16 to 2-17

Chapter 1

Twenty Examples of "Playing Outside"

In this chapter I will examine twenty excepts taken from audio recordings and television broadcasts. What these excerpts have in common is that they all show musicians leaving the underlying tonality (according to the definition of "outside" provided by the Introduction). By "tonality", I mean the chord-scale relationships conventional to jazz. A chord-scale relationship is the association of a scale (such as C Dorian) used to improvise a melody over a given (and not necessarily stated) chord (e.g. Cm7). Any scale that includes the notes of the given chord may be seen to be "correct" (i.e., although C Dorian is a commonly-used scale for a Cm7 chord, other scales such as C Pentatonic, C Blues, C Aeolian, etc. are also seen to "fit"). Furthermore, most of these excerpts represent the only (or one of a very few) section of "out" playing on each tune. I have collected, notated[1] and analysed these excerpts during the period of my registration as a student at City University (1998-2001). They have come from a variety of sources:

- Recordings in my collection
- Recordings recommended and sometimes kindly lent to me by my supervisor, Dr. Gerry Farrell and other friends and colleagues
- Recordings bought at concerts that I have attended where "out" playing was apparent
- Chance hearings of broadcasts on the radio (Radio3 and Jazz FM)[2], leading to CD purchase and analysis

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[1] All of these excerpts were transferred to cassette and then notated using a Sony Walkman.
[2] I wish here to reiterate my thanks to the staff at Jazz FM who helped me find the details of a track for which I had missed the announcement (i.e. Down To The Bone's "Urban Jazz").

Thus, this collection of excerpts is a limited, personal set and by no means could be said to represent all "out" playing in all styles. The representation of instruments is as follows: Organ/Piano (12), Saxophone (7), Guitar (3) and Trumpet (1). Further, I undertook the search for material for this study with a list of particular artists, pieces and styles in mind since I thought that (a) I would be likely find "out" playing there and (b) musicians and pieces on this list would likely be known to a reader. The analysis of "So What" is the result of a desire to assess how strictly the musicians on that recording adhere to the modes upon which the piece is based, and thus define what liberties they take with this material. This was undertaken partly in pursuit of the chronology of the evolution of "playing outside", discussed in the Introduction above. Further, the excerpt of Hilton Ruiz's performance of "Puerto Rican Children" is included because I wished to describe at least one example of a chromatic Latin piano performance. I found it more difficult than I expected to find examples of "out" playing in the work of some musicians that I specifically targeted in my listening. For example, it took a longer time than I had anticipated finding an example of Charlie Parker leaving the home key (eventually found in "Scrapple From The Apple"). Furthermore, I had not anticipated that the "out" section found in Keith Jarrett's "The Way You Look Tonight" would be so rare for this artist: I spent much time listening to his performances of jazz standards with Gary Peacock and Jack DeJohnette.

Each of the twenty excerpts has been included because either it especially clearly illustrates a commonly-used strategy, or because it shows a musician extending such a strategy in an individual (sometimes site-specific) manner. Indeed, although many of these excerpts have strategies in common with each other, they all demonstrate a particular approach with regard to musical context. All of these examples are unique, in the same way that the jazz solos in which they can be found are unique.

In undertaking these analyses I have tried to derive the strategies undertaken by the musicians concerned. This has necessarily involved trying to put myself "in the mind" of the performer at the moment of improvisation. Clearly this is subject to interpretation through my own experiences. To counteract such bias, it might seem sensible to ask the musicians concerned. However, on the occasions when I have done this the information received (a) was inconsistent with actual performances and (b) often said more about a musician's general/current approach and/or philosophy with regard to "out" playing than the specific performance that I was examining.

The excerpts in this chapter are ordered alphabetically by track title. In order to focus the reader, I will now present an outline of the three core types of "out" playing that will be seen in the analyses. I have named these three core types of "out" playing "motivic", "scalar" and "spatial".[3] I will now define these, one at a time, and show a simple, common, melodic example. Note that these examples are theoretical. Let us imagine a short, two-bar space for improvisation over a Cm7 chord.

- **Motivic**

The motifs used in motivic "out" playing tend to be fairly short, and are usually based on chord tones. In the example below, the Cm7 chord is used to generate a short motif, and this is then transposed up a semitone to form a Dbm7 arpeggio over a maintained C minor tonality. The Cm9 voicing is a typical realisation of a Cm7 chord instruction: here harmonic rhythm has been simplified for clarity.

[3] My supervisor, Dr. Gerry Farrell, patiently helped me understand the possibility that such "spatial" strategies might exist, for which I am grateful.

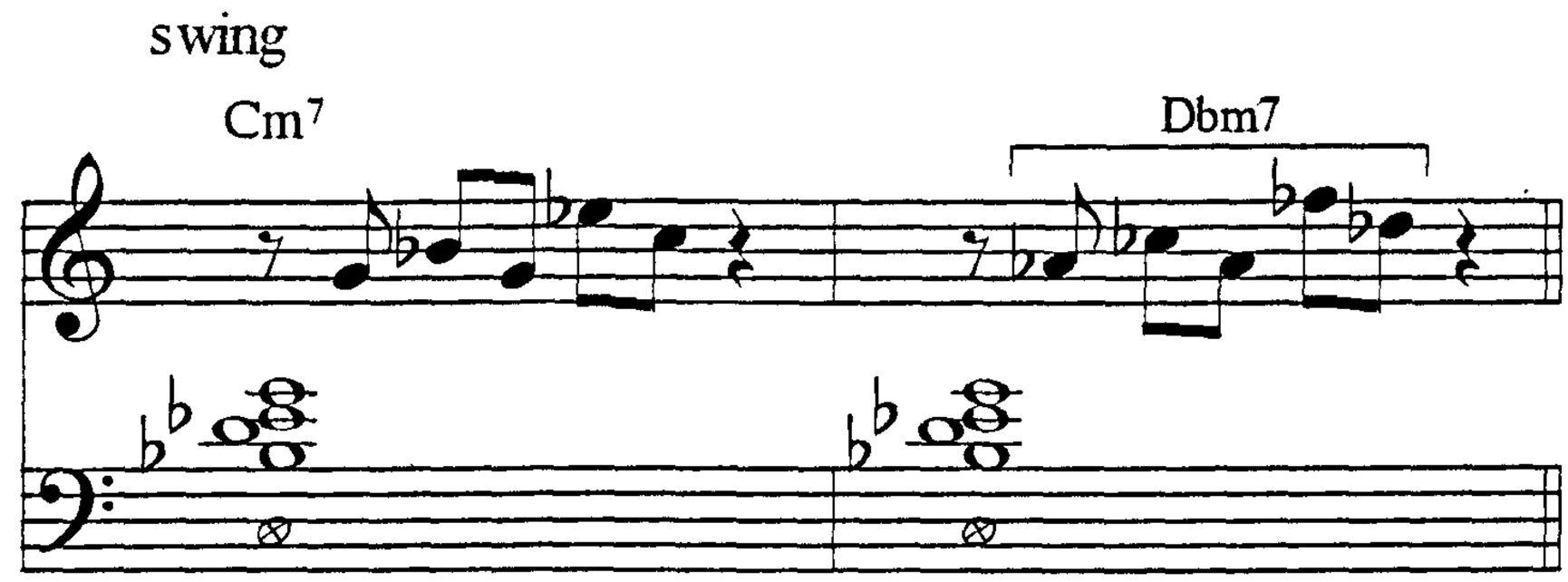


Fig. 1-1 Example of motivic "out" playing

Note that in this example the entire Cm7 arpeggio has been spelt out, and that the Dbm7 arpeggio shows no variation whatsoever. In the excerpts examined below we will see that motifs, although often transposed up a semitone, are sometimes subtly varied with regard to rhythm, placement (in terms of start beat in the bar) and pitch content (for example the last note may differ to add interest).

- **Scalar**

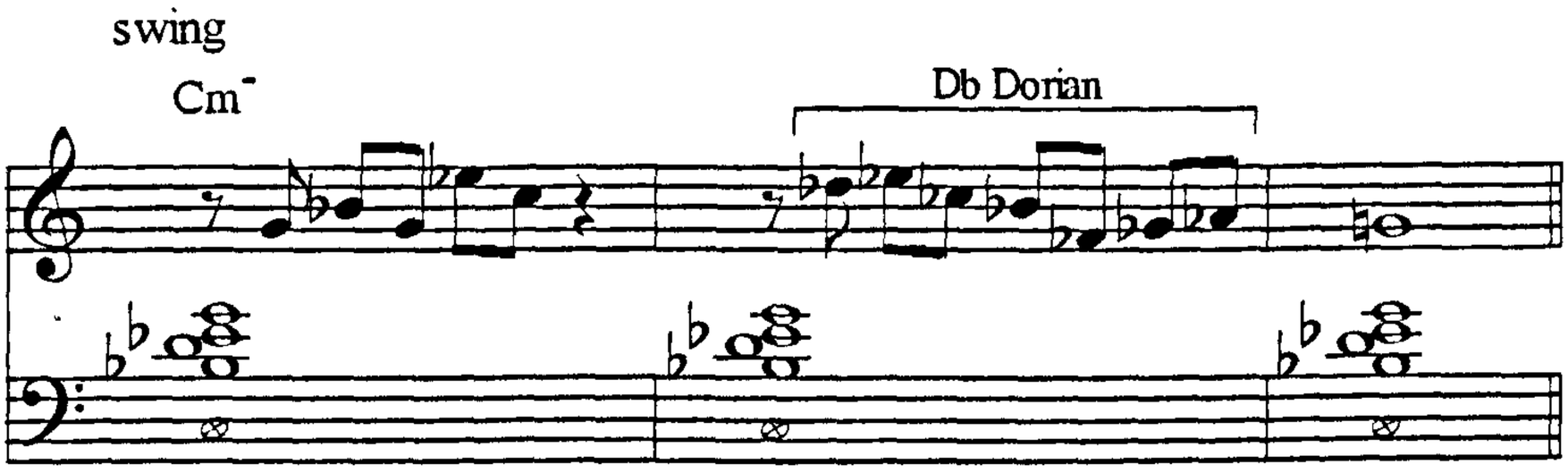


Fig. 1-2 Example of scalar "out" playing

Here the second bar consists of material from a scale distant to the underlying chord-scale relationship. Note that this scale (Db Dorian) is, as in the motivic example above. a semitone above the underlying tonality of C minor. Further, note the higher frequency of notes in the second bar than that in the example above for motivic "out" playing. This, as we shall see. is typical, and is perhaps based on the idea that the more notes heard from the "out" scale, then the more likely it is to be defined in the listener's ear as a coherent set (and, thus, a deliberate act). Of course, although I have annotated the "out" bar with the description "Db Dorian", this section might just as well be labelled "B Ionian" (etc.). However, as we shall see, the use of the bII transposition for "out" material is extremely common. Clearly, scalar "out" playing has the advantage over motivic "out" playing in that verbatim transpositions of played motifs do not have be undertaken "on the fly" by the musician. The G note in the third bar forms a {*x*, *x*-1. *x*+1} set with the preceding Gb and Ab notes. The *x*-1 and *x*+1 elements of such a three-note local chromatic set both act in a voice-leading fashion towards the note *x*. As we shall see in the conclusions of this chapter, many musicians employ such a {*x*. *x*-1, *x*+1} set at their point of return to the underlying tonality.

- **Spatial**

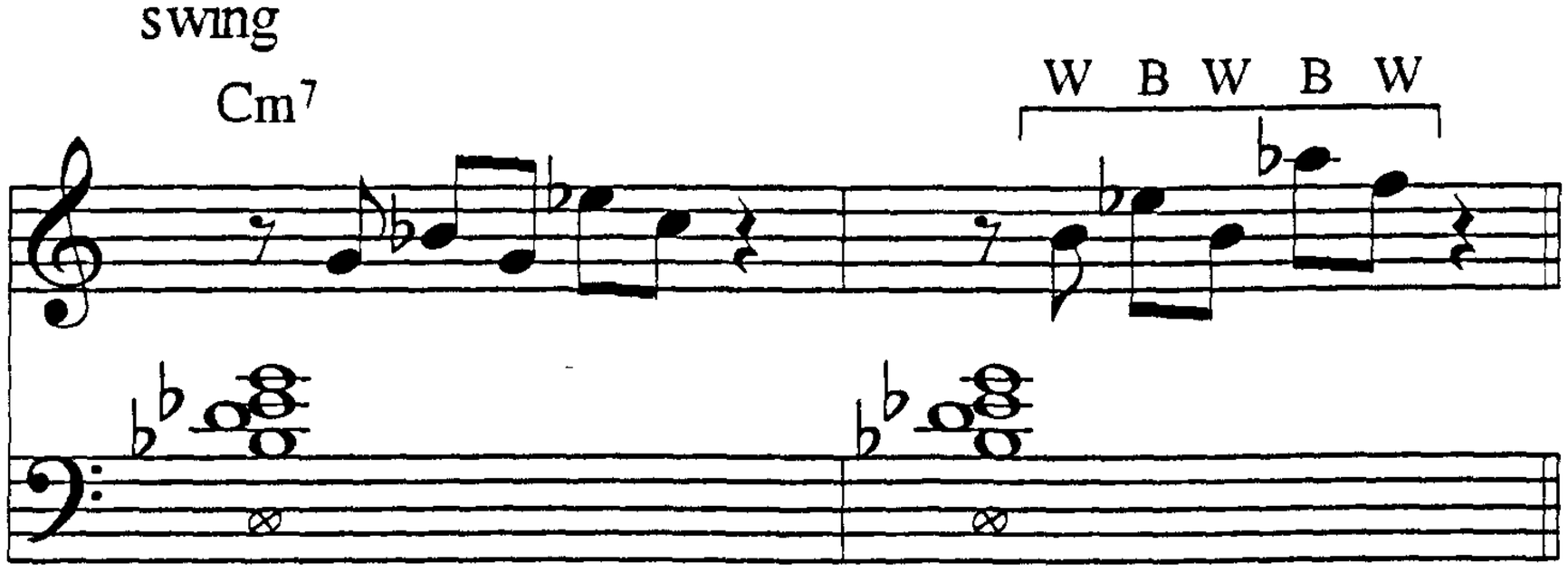


Fig. 1-3 Example of spatial "out" playing

Here the contour of the melody is maintained. but not the interval (or scale) structure.[4] By contrast with the motivic and scalar types. here we are less likely to find a "semitone up" strategy as such. Further. note that the "out" bar is characterised by a mix of notes from within and outside C Dorian. This (keyboard) performance may be seen as the result of the application of the hand shape remembered from the previous bar. In the examples below. musicians will be seen to use well-rehearsed hand shapes specific to the instrument concerned. recalled from both within and outside the piece concerned. For example. we will see visually similar chords and arpeggios performed at the keyboard. melodic patterns played on various strings (but the same fret) of a guitar and rapid saxophone runs that do not employ the side keys. Because it is instrument-specific. spatial "out" playing is the most diverse of the three types.

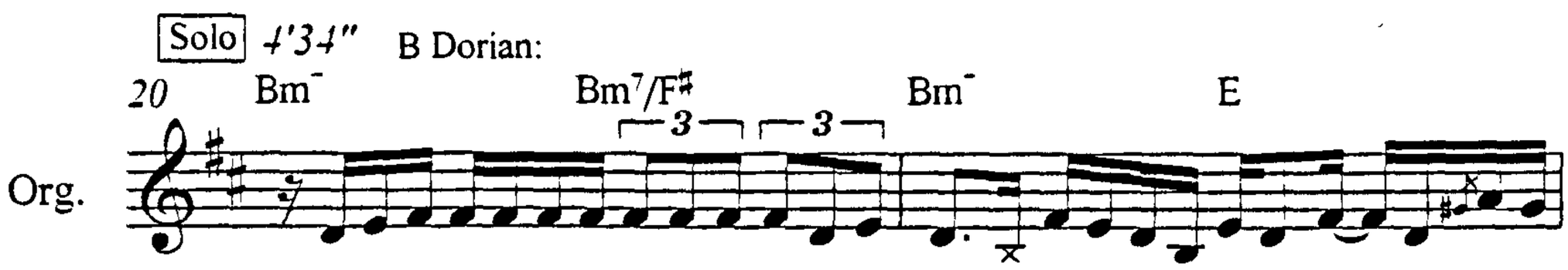
It is possible. of course. that a section of music may include a motif under transposition that is sufficiently altered (and/or extended) that it might be seen as an example of scalar "out" playing. In a similar way. a seemingly spatial "out" section might simply be the result of a chromatically altered version of a motivic or scalar approach. However. we shall see that these three types of "out" playing are generally highly distinctive within the excerpts under examination.

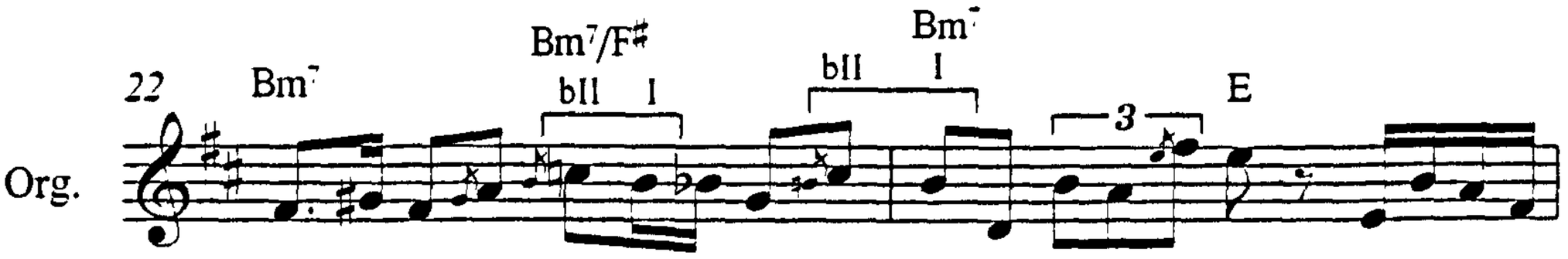
[4] Jost (1974) describes the improvisations of Albert Ayler in a similar way (p. 125).

A Go Go

from "John Scofield A Go Go"
(1998) Verve 539 979-2

John Scofield





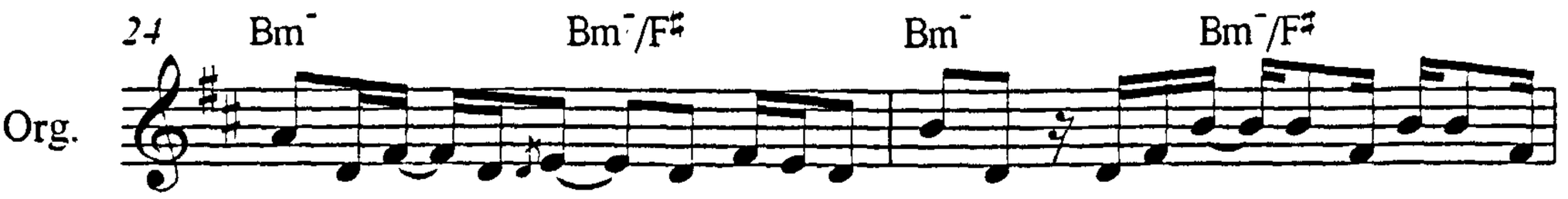
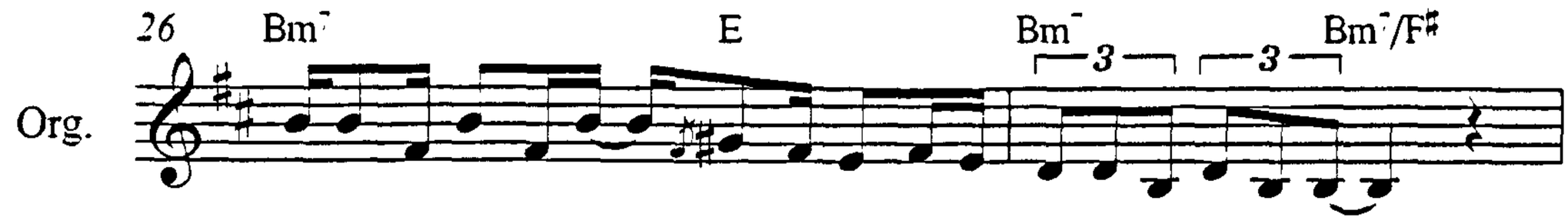
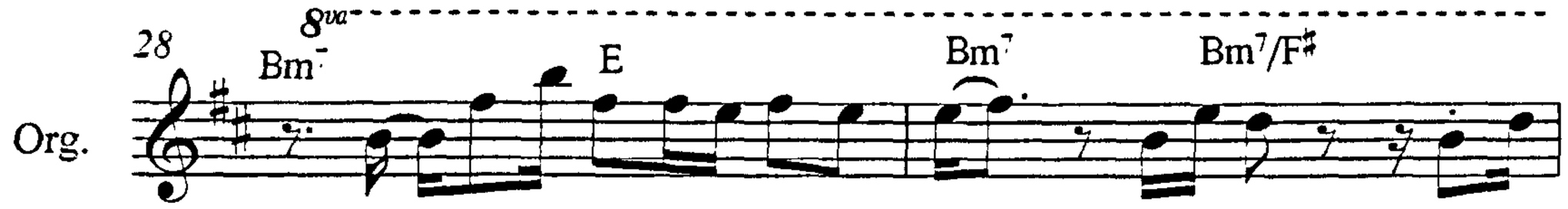
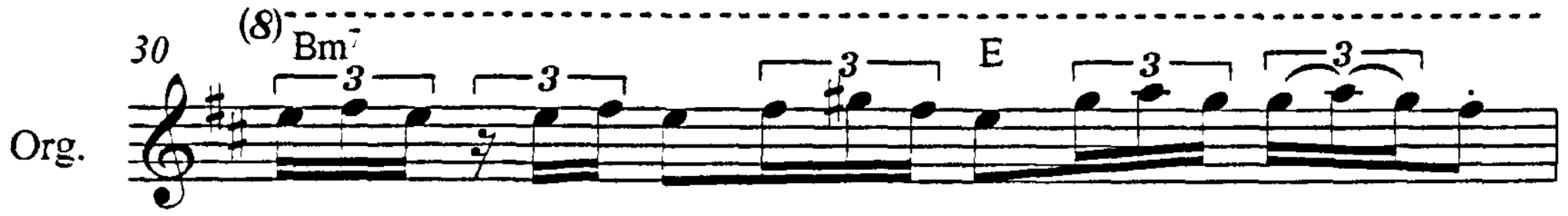
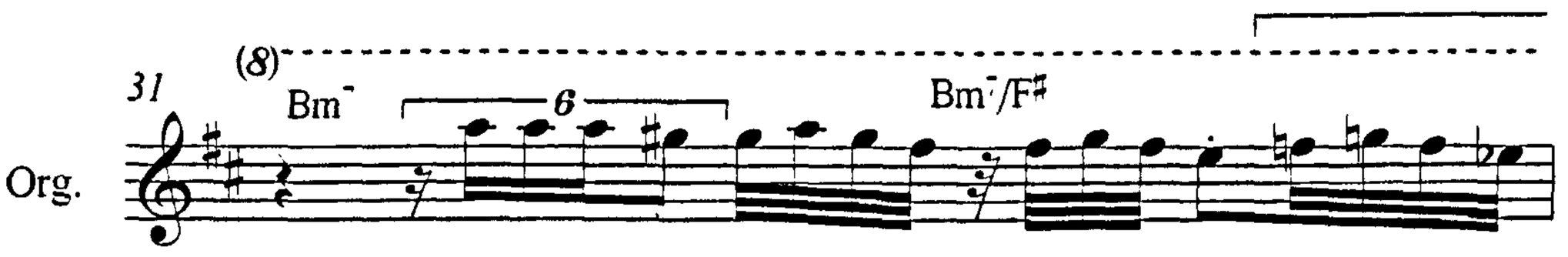


Fig. 1-4 "A Go Go" - John Medeski









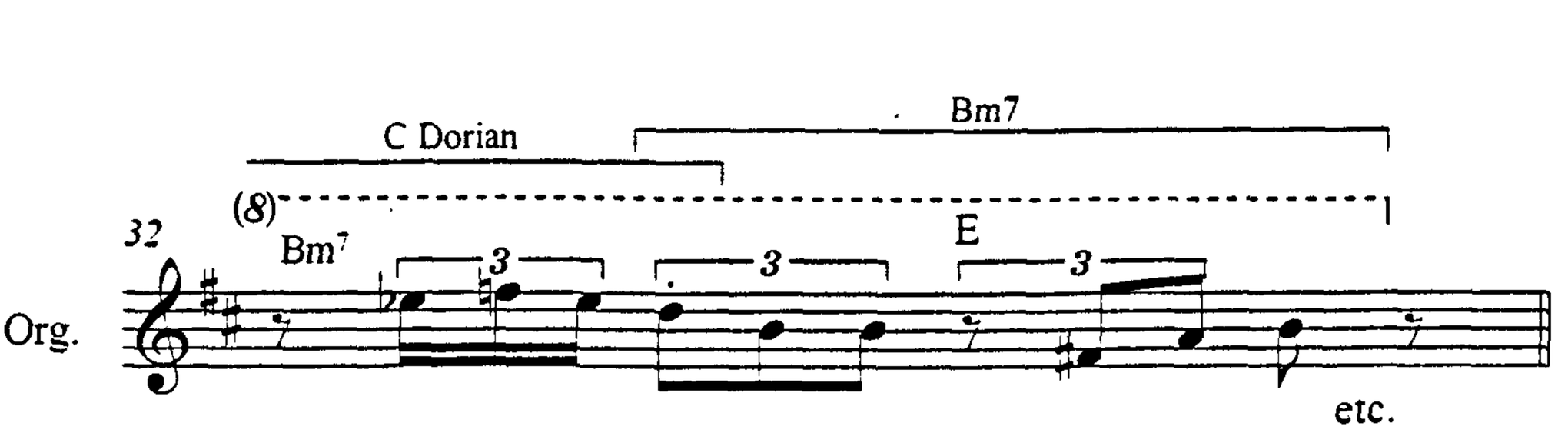


Fig. 1-4 "A Go Go" - John Medeski

"A Go Go" – John Medeski (Fig. 1-4)

(from "John Scofield A Go Go" (1998) Verve 539 979-2)

The chord progression for this piece is entirely within B Dorian (no C#). Medeski's solo uses the same material: he mostly employs B minor pentatonic, with some additional G# notes (bars 21-22). Similarly to the chord progression. Medeski does not use any C#s in his solo.

Outside

At beat 3 of bar 22. Medeski uses a C natural. This also happens at the eighth quaver in this bar. These occurrences (reinforced by the absence of the C#) suggests that Medeski may be using a scale of B. C. D. E. F#. G# and A (which is B Dorian.b2. also known as the 2nd mode of A Jazz melodic minor). Let us note that both of these C natural notes are preceded by B natural grace notes, and that they both resolve to B natural (the tonic) after a quaver's duration. Thus Medeski emphasises the dissonant quality of the C natural with regard to the home key of the piece (i.e. C is the bII of B minor).

Even though it is not explored further than the single note C a bar 22. I suggest that Medeski is using these single C notes as a reference to the bII scale. Thus the C acts as a summary of that bII scale, and its function against the home key of B minor. In support of this hypothesis. let us note the later use of a C Dorian subset {D. Eb. F. G} in bars 31-32. This is a continuation of a sequence that can be read at two distinct levels. Let us call these two levels *a* and *b*. The relationships of these sequences are shown in Figure 1-5 as *a*. *a1*. *a2* and *a3*. and *b* and *b1*. Note that *a2* is not a verbatim transposition of *a* (*a2* would require a Gb as its second note for this section to be a "real sequence". However.

this would represent a temporary return to the home key). Further. note the shift in scale steps for B and C Dorian respectively, maintaining the descending start note pattern of G#, F#. F and Eb (marked with *s).

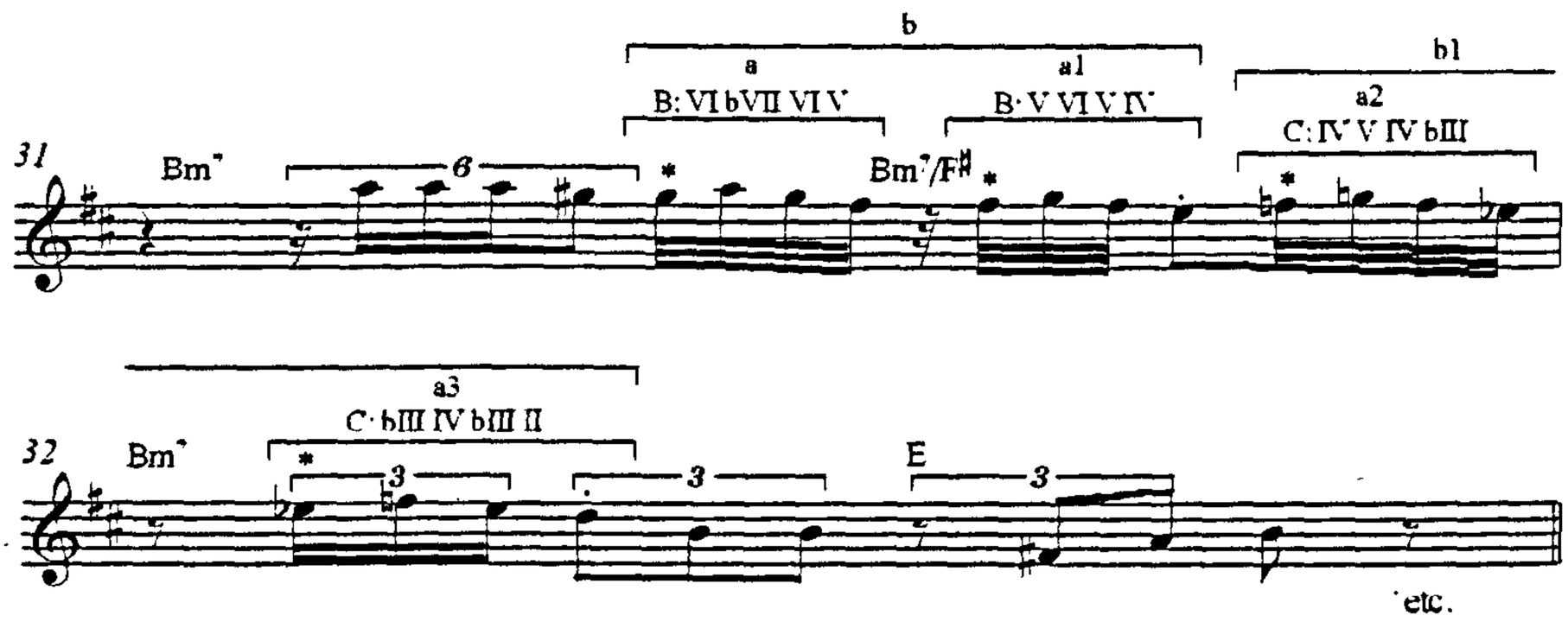


Fig. 1-5 Real Sequences at bars 31-32 of "A Go Go"

Note the lack of the C from this scale (already "used" as an iconic note in bar 22 above), and A (a common tone between B Dorian and C Dorian). We might even argue that the D at beat 2 of bar 32 (the other common note between B Dorian and C Dorian) is actually part of the Bm7 that follows (note its staccato value), and not part of Medeski's C Dorian "out" sequence. Thus we might say that this reduces the list of C Dorian notes used to a mere Eb. F and G, a subset of C minor pentatonic. Thus, although Medeski uses only part of the scale, this analysis suggests that he is thinking of C minor pentatonic as the "out" scale to the tonic scale of B minor pentatonic (with additional G# notes sourced in the E chord from the progression).

Thus the Bm7 arpeggio starting at beat 2 of bar 32 compensates the "out" section of *b1*. This arpeggio is interesting in that (a) it contains three B naturals. the last of which is the end of the phrase and (b) the other pitches {D, F#, A} occur once only.

A Story Within The Story

Live at Shepherds Bush Empire. London
(3 nights in) May. 1998
broadcast "Jazz on 3": BBC Radio 3

Pat Metheny/Lyle Mays

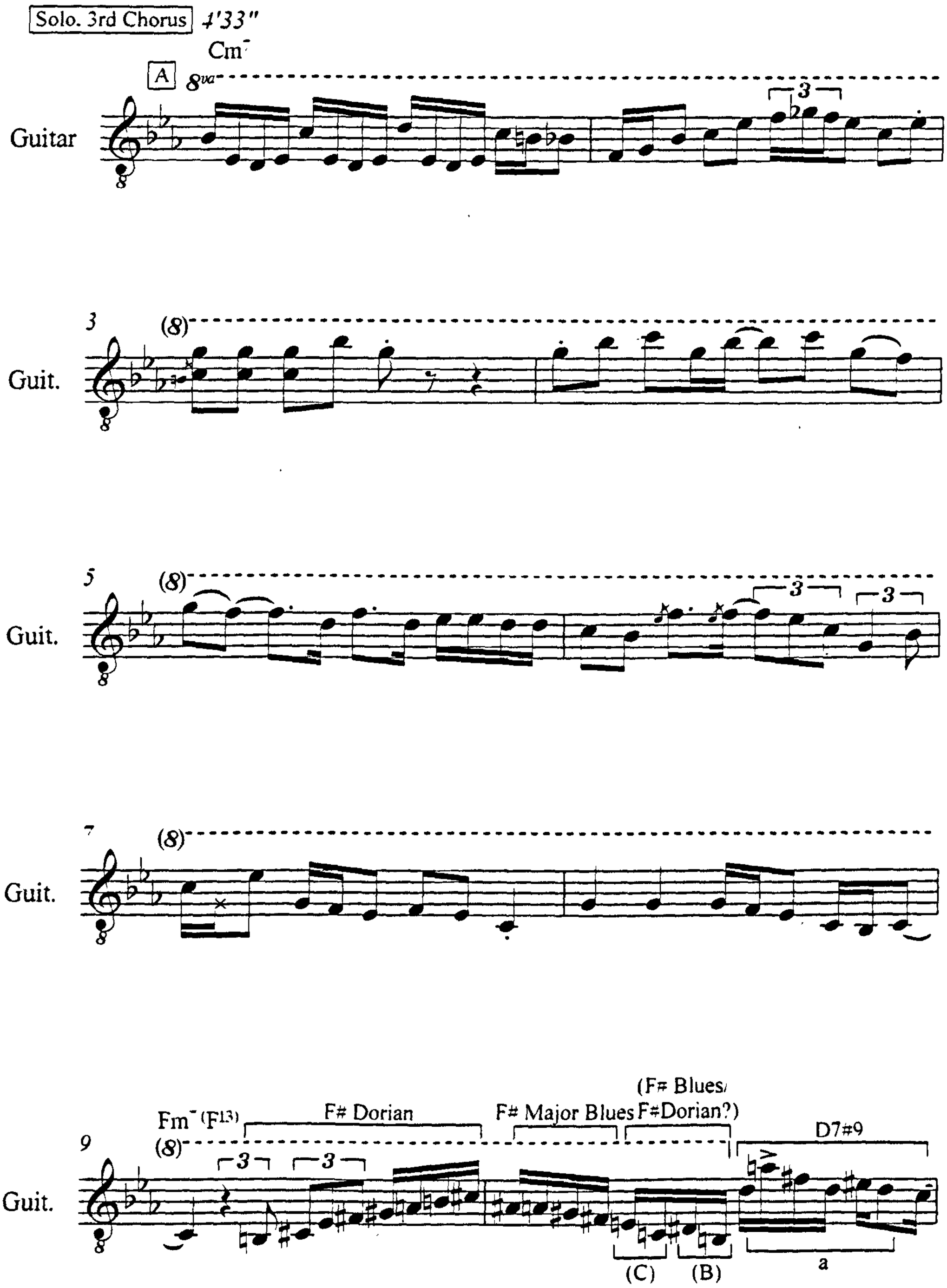
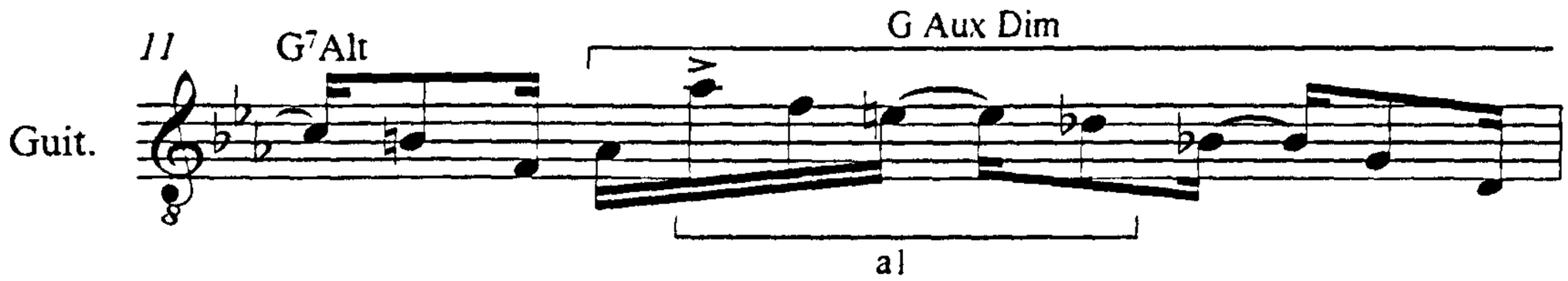
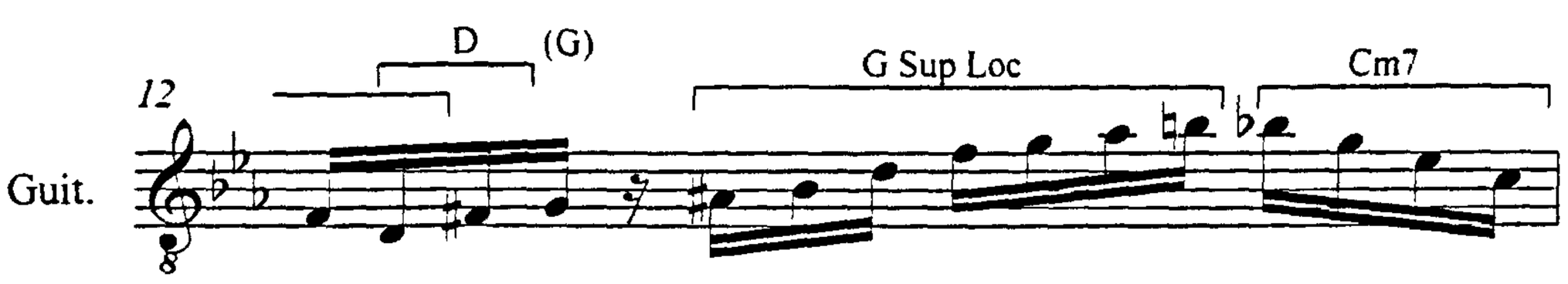
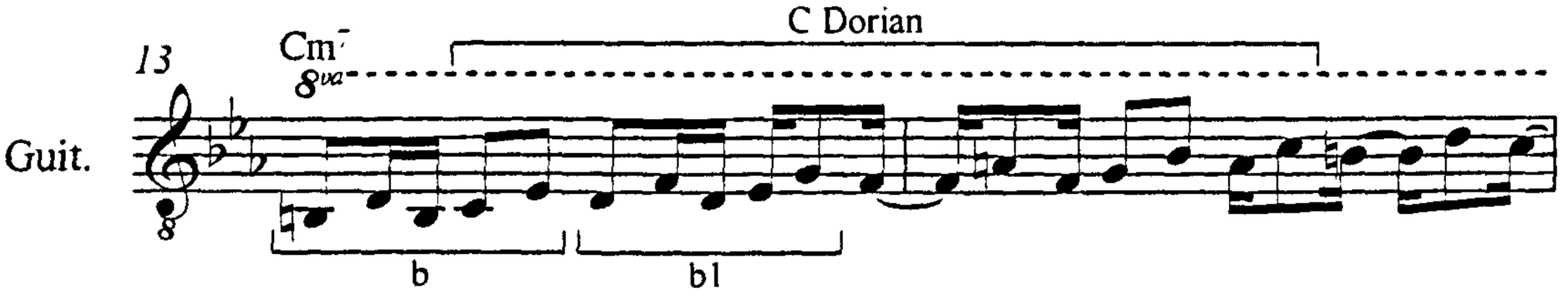
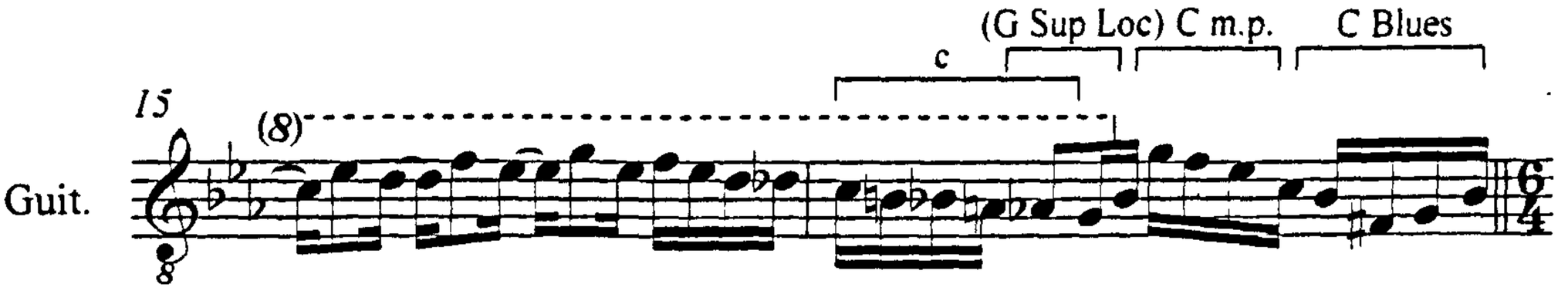


Fig. 1-6 "A Story Within A Story" - Pat Metheny









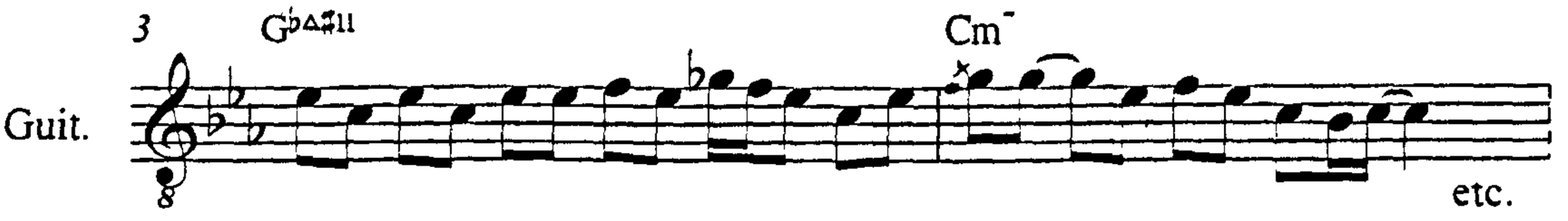


Fig. 1-6 "A Story Within A Story" - Pat Metheny

"A Story Within The Story" – Pat Metheny (Fig. 1-6)

(Live at Shepherds Bush Empire. London. (3 nights in) May 1998: broadcast "Jazz on 3": BBC Radio 3)

This excerpt is the 3rd chorus (of 3) of Metheny's guitar solo.

Outside

The first 8 bars of this excerpt (over Cm7) show Metheny generally adhering to the C minor pentatonic scale. with occasional D notes (i.e. C Dorian: no As. however). and a couple of chromatic neighbour notes (bar 1: B natural: bar 2: Gb). For the following two bars of Fm7. Metheny uses a striking selection of F# material (i.e. a semitone above the underlying F tonality). Bar 9 sees an upward F# Dorian pattern (note that there is no D# at this point – the same VI "missing" from C Dorian above). This scale then mutates into an F# Major Blues descending pattern in the first beat of bar 10. The second beat of this bar sees a small sequence: E. C: D#. B. This sequence is also based in F# and might be seen as (a) an F# Blues segment with an additional D# (VI). or (b) a corrupted F# Dorian with an interpolated. bluesy C natural. Unlike bars 1 to 8. then. here we do find the VI of F# Dorian (D#). The sequence (III and I of a C. then a B. major triad) is designed to reach the following note: the D natural at the start of beat 3. This D note signals the start of a D7#9 pattern. which acts as a V for the upcoming G7Alt chord at bar 11. Note the sequence of *a* and *a1* across bars 10 and 11(ignoring the D in *a*). and that both *a* and *a1* start with an accented (aggressively picked) note. This adds coherence to this long phrase. and points out the contours of the melody.

In bar 11. after a two-note (B and F) statement of the G7Alt chord. Metheny moves to the G Auxiliary Diminished scale. This phrase ends in bar 12 on the note G. this note anticipated by an F# (this note is outside of G Auxiliary Diminished). This suggests that the start of bar 12 contains a further reference to a D chord. functioning (as in bar 10) as a V to an upcoming G (Super Locrian) scale that completes these two bars of G7Alt. Metheny anticipates the Cm7 chord at bar 13 with an arpeggio in the last beat of bar 12.

Thus. within the space of four bars. Metheny has employed two distinct systems of "out" playing. Firstly. he has placed F# material in a space where we would expect an Fm7 tonality. Secondly. he has interpolated an additional progression (D7 > G7 > Cm7) to create movement towards the expected Cm7 chord at bar 13. seemingly as compensation for the excursions into F#. This interpolated cadence is highly conventional. and is further compensated by (a) the sequence of *a* and *a1* and (b) the ascending/descending contours of the G Super Locrian and Cm7 arpeggio in bar 12. I suggest that the duration of this cadence and the relative clarity of this Cm7 arpeggio at the end of bar 12 is what encourages Metheny to use a B natural to the expected Cm7 (C minor pentatonic) tonality at bar 13 in order to add interest. This B note promotes a sequence that starts in this bar (marked *b* and *b1*).

The chromatic line marked *c* in bar 16 moves from C to G (the I and V). and leads to a further interpolated cadence: G Super Locrian > C minor pentatonic. Metheny maintains a level of density of a distinct scale type per beat by using a C Blues pattern in beat 4 of this final bar before the B Section. The B Section sees Metheny return to a more conventional approach re scale choice.

Let us note that this series of striking events occurs after 8 bars of Cm7. right at the change to Fm7. Nowhere else in my research have I found "out" playing at the move to

the IV in a progression. Let us also note that this section acts as a moment of high drama leading into the first B section (following bar 16 of this excerpt).

Live and Studio Versions[1]

There is no similar "out" material in the studio version of this piece. However. there is some use of interpolated dominant chords: for example. C Super Locrian before the Fm7 chord at the 9th bar. and similarly. use of G Locrian before the Cm7 chord at the 13th bar. (both in the 2nd chorus). Despite this. the 3rd chorus on the studio version (the 3rd of 3 - at 4'38": the equivalent of this live excerpt) does not contain the F# Dorian and F# Major Blues scales at bars 8 and 9: indeed it does not contain any part of this build-up to the B section.

[1] The studio version of this track is available on "Imaginary Day" (1997) Warner Brothers 9362-46791-2.

Au Private

(Au Privave)

from "Jimmy Smith's Houseparty"
(1957-8) Blue Note 84002

Charlie Parker

2nd Solo.
4th Chorus

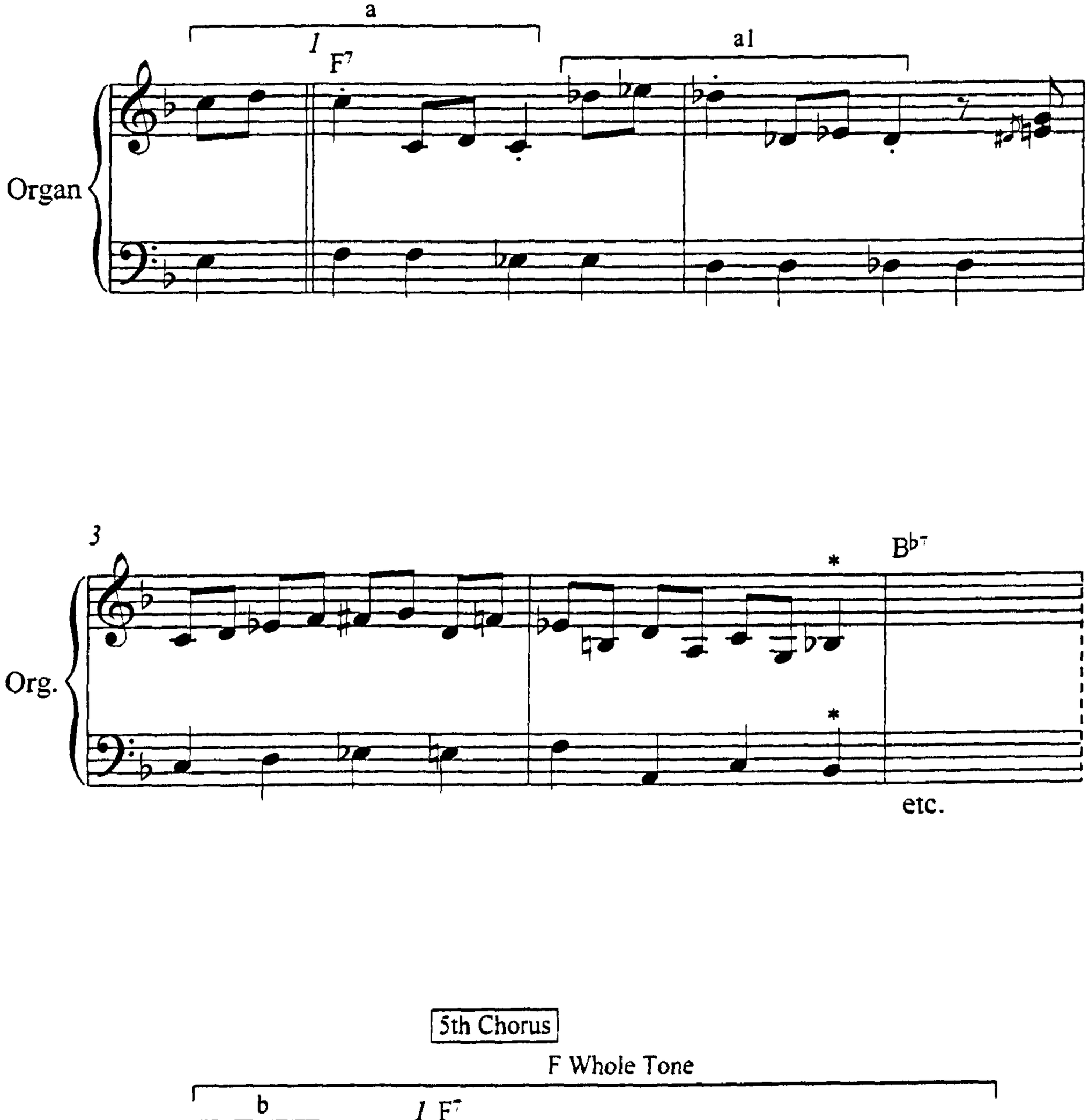


Fig. 1-7 "Au Private" - Jimmy Smith

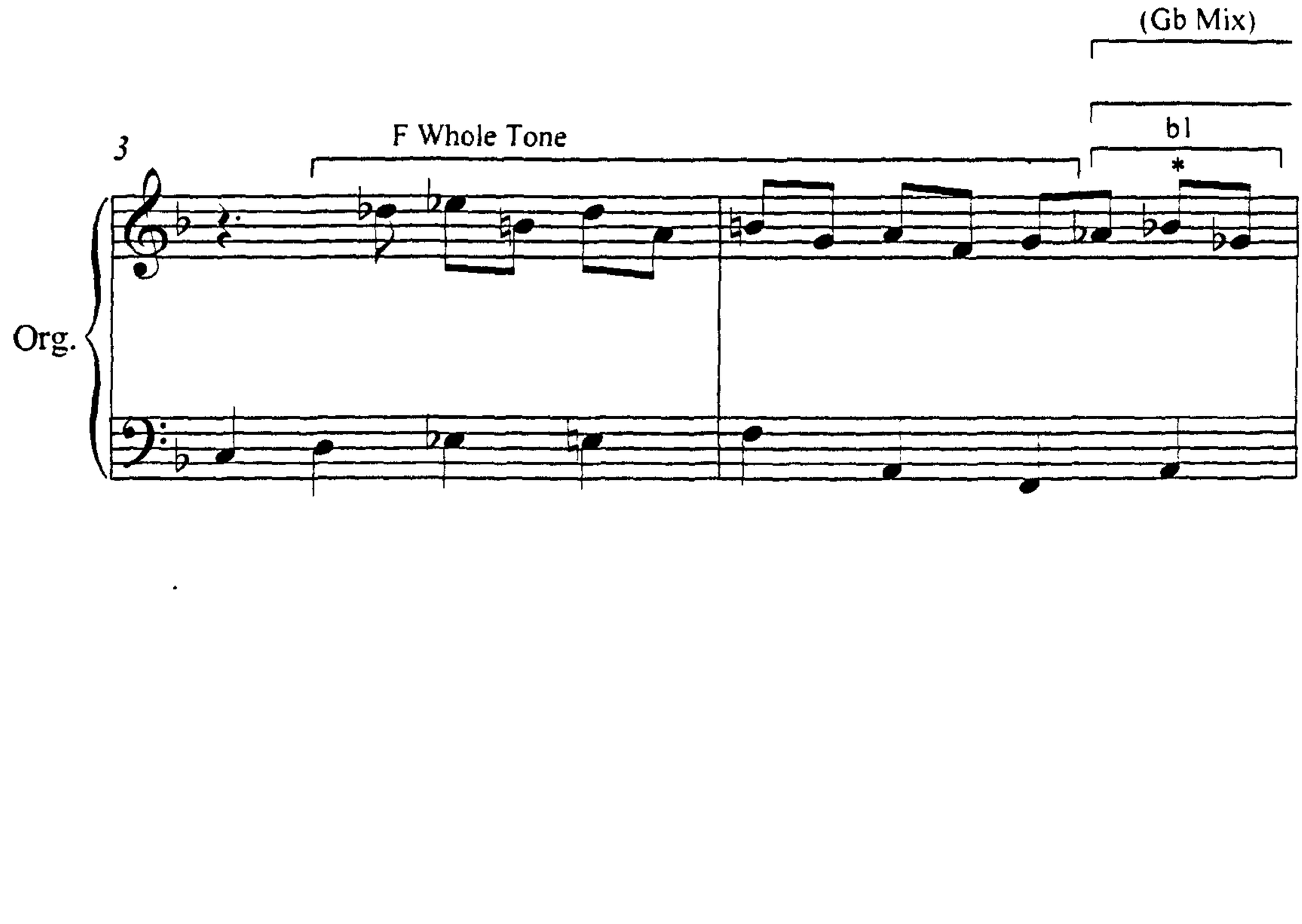


Fig. 1-7 "Au Private" - Jimmy Smith

"Au Private" – Jimmy Smith (Fig. 1-7)

(from "Jimmy Smith's Houseparty" (1957-8) Blue Note 84002)

This (retitled/mistitled) blues composition by Charlie Parker sees Smith use a combination of conventional chord/scale relationships and Blues scales for the majority of his solos.

Outside

2nd Solo, 4th Chorus

At *a* Smith plays a six-note phrase using the notes C and D (the V and VI of F). This phrase is built from two three-note motifs, positioned an octave apart. He then repeats this phrase verbatim (same rhythm. same placement). but up a semitone as *a1*. This generates the non-scale tone of Db. as well as the (conventionally resolved) tone of Eb. However. let us note that now the entire motif sounds "out". Note the use of the notes C and D at the start of bar 3. which resolve the dissonance of *a1*. Further. note Smith's anticipation of the upcoming chord of Bb with the note Bb (marked *) as the last beat in bar 4.

5th Chorus

Here we see Smith using another regular pattern to generate out material: the Whole Tone scale. performed as a sequence of Major 3rd intervals. The use of F Whole Tone over the conventional F7 alters this chord to a 7#11b13 quality (bars 1-4). Similarly. the

use of Bb Whole Tone over Bb7 creates a 7#11b13 tonality (bars 4-6). Note that each time Smith starts this pattern he does so with a specific melodic contour (marked *b* and *b1* in the notation). A benefit of this particular contour is that the tonic note of the Whole Tone scale concerned is uppermost in that particular melodic pattern (marked * in *b* and *b1*). I have named these Whole Tone scales ¨F¨ and Bb¨ in order that they may be more easily seen to extend the underlying F7 and Bb7 progression to F7#11b13 and Bb7#11b13 chords, increasing tension (a common use of the Whole Tone scale in jazz). Note that these two scales are mutually exclusive.

Further, let us note that the particular set of circumstances at the end of bar 4 creates a Gb Mixolydian pattern (bar 4-5), which, as bII of the entire piece, acts as a kind of preparation for the Bb7 chord at bar 5. We might generally expect Cb Mixolydian, of course, that is, the bII of Bb. In fact, the use of Bb Whole Tone scale might be viewed as a bII all of its own. This is because Bb Whole Tone = Gb Whole Tone (just as F Whole Tone = B Whole Tone) and, as noted above, Gb is the bII of the piece (see Figure 1-8).

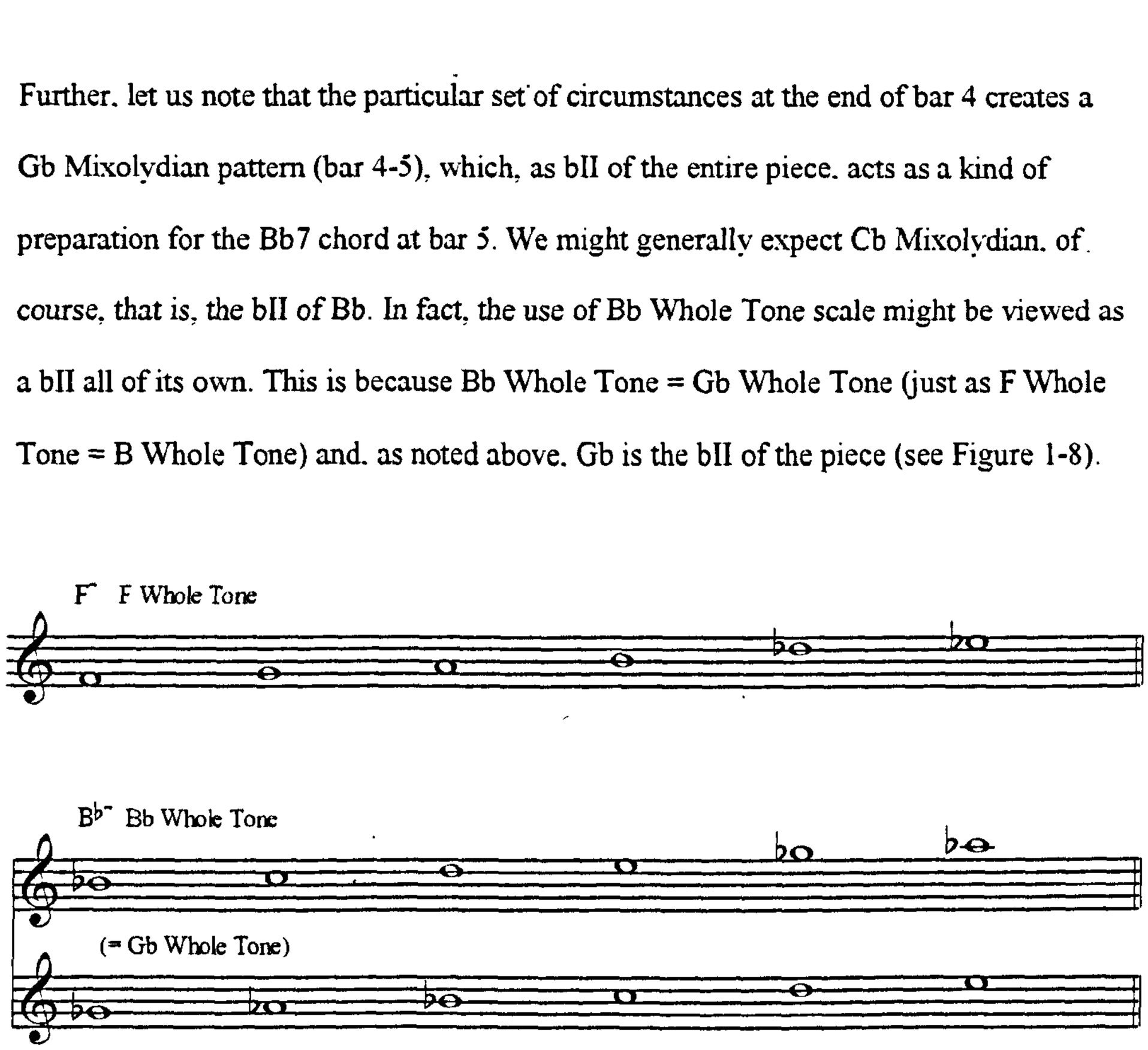


Fig. 1-8 Whole Tone Scales used in ¨Au Private¨

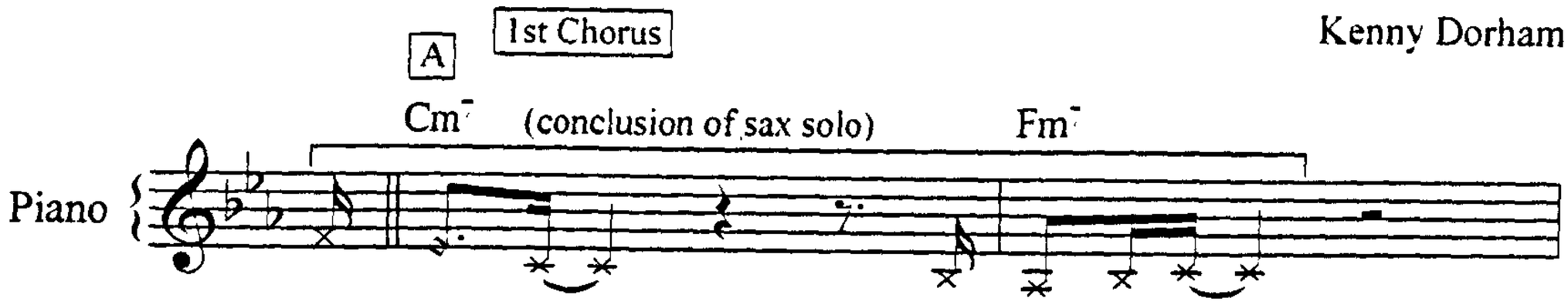
Thus, although Smith¨s melodic structure imparts a feel of Bb in the melody (confirming what we hear in the bass), this use of Bb Whole Tone may be seen to act as a bII

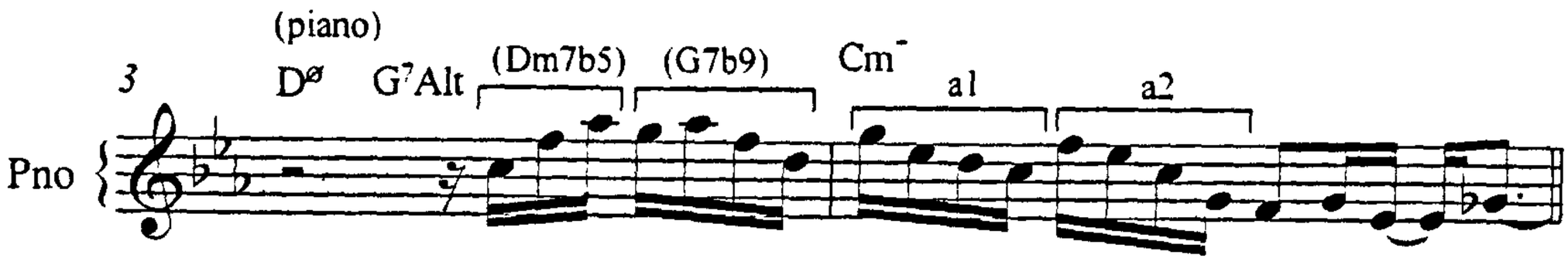
preparation for F7 at bar 7. confirming the expected return in this blues progression. Further. let us note that Smith is achieving chromatic saturation with the use of these two scales.

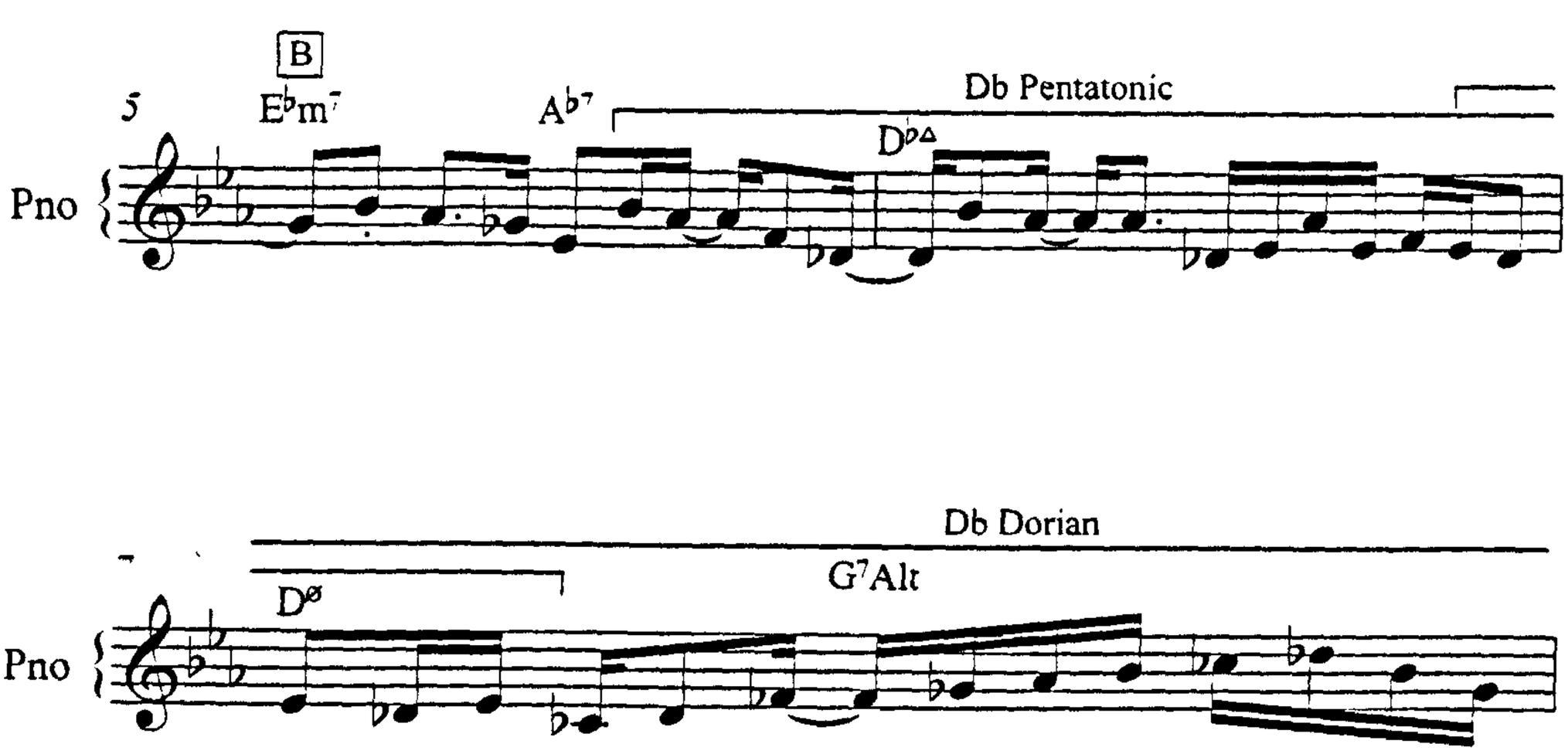
Blue Bossa

Festival de Jazz
Vitoria-Gastiez. Spain. 1998

Kenny Dorham







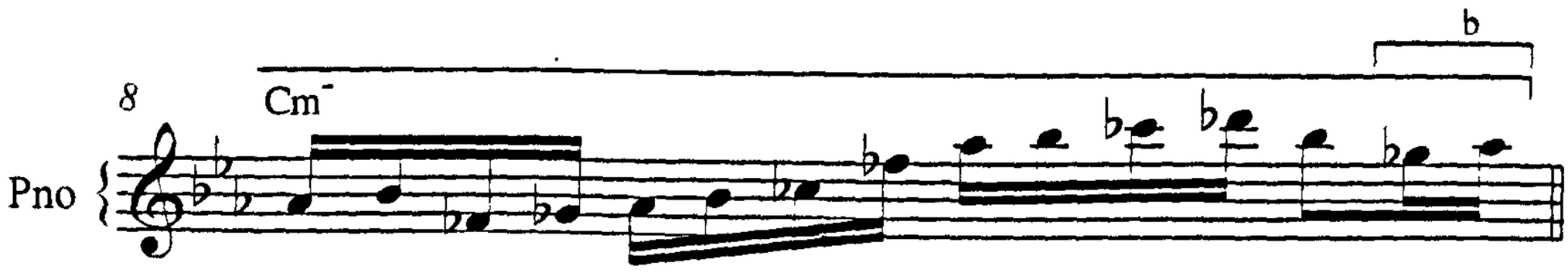


Fig. 1-9 "Blue Bossa" - McCoy Tyner

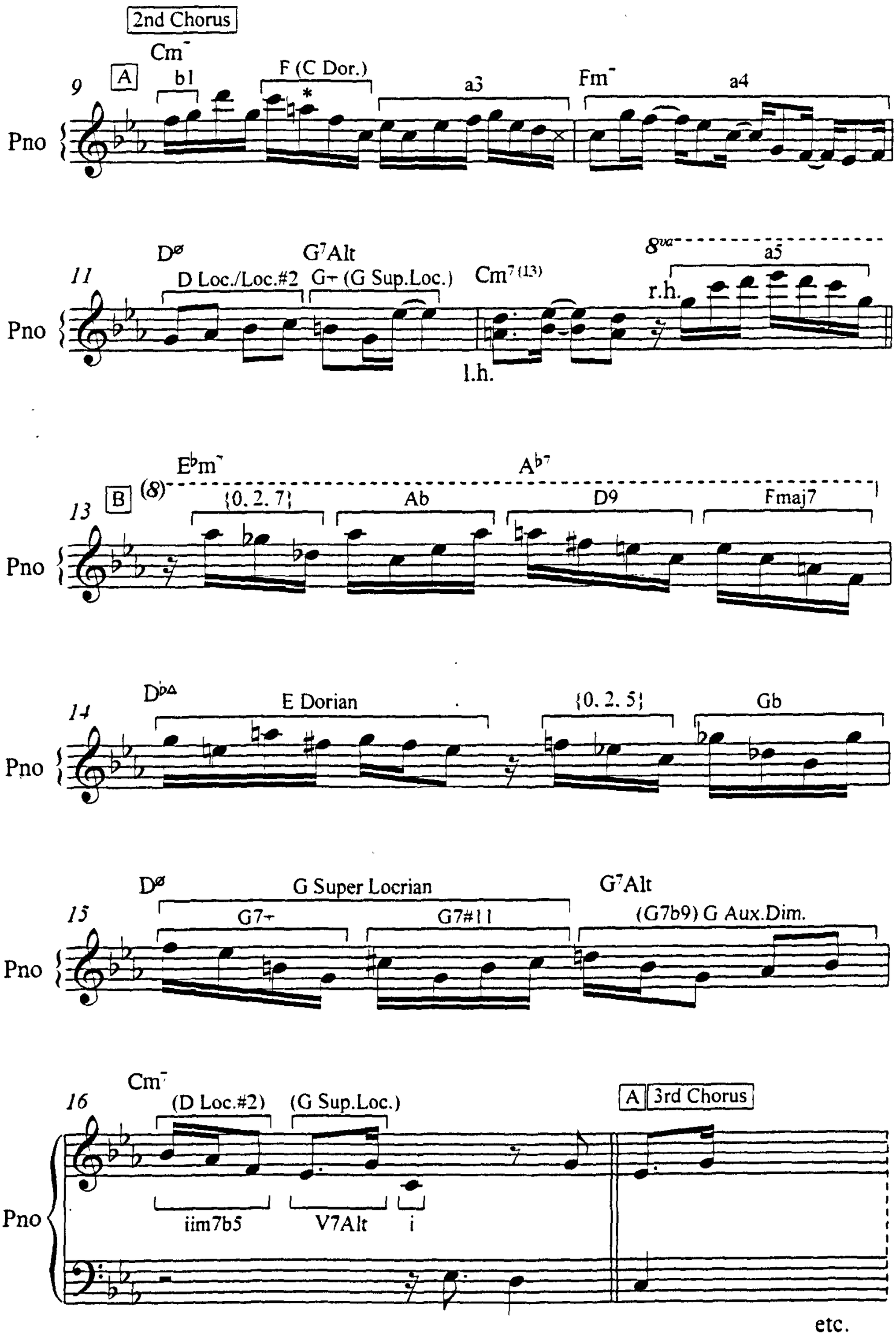


Fig. 1-9 "Blue Bossa" - McCoy Tyner

"Blue Bossa" – McCoy Tyner (Fig. 1-9)

(from "Festival de Jazz. Vitoria-Gastiez. Spain" (1998) TV broadcast)

Tyner's solo shows an interpretation which both compresses and extends the cadences of Kenny Dorham's composition. For example, bar 3 sees the first half of the bar left empty. and then a compressed Dm7b5 > G7b9 cadence is thrust into the remaining two beats. The following bar (4) of Cm7 is built upon a set of five notes: {C. D. Eb. F. G}. Four-note subsets are listed downwards (marked *a1* and *a2*). then followed by a 3-note subset melody (F. G. Eb). This leads to the Gb confirming the Ebm7 chord at bar 5. As we shall see. this use of four-note subsets from the core set of five notes forms the basis of much of Tyner's material over Cm7 (the most frequent chord) in this excerpt. It is noteworthy the amount of importance that John Coltrane (with whom Tyner played for many years) placed upon similar four-note sets in his own work.[1] However. this high level of use is not extended to the remaining choruses of his solo.

Outside

Bar 6 sees Tyner use a Db pentatonic scale over the Dbmaj7 chord. which is conventional enough (the choice of Db pentatonic (a 5-note scale) over Db Ionian or Db Lydian (7-note scales) clarifies the key change). However. this Db pentatonic scale cleverly mutates into a Db Dorian scale (the requisite Fb and Cb notes occurring early on in the ascending list). Tyner continues in this mode for the following two bars (using all of the notes but for Eb – perhaps because of its importance in C Dorian?). mostly playing ascending scalar patterns. asserting this dissonant mode. The eventual release from this tension occurs at exactly beat 1 of bar 9 (i.e. the start of the 2nd Chorus). Tyner

focuses upon this change by the use of a "{x. x-1. x+1} set" (marked *b* and *b1*). At *b* we hear a Gb and Ab. and at *b1* we hear this two-note pattern a semitone lower (F and G). This creates a distinct impression of modal shift in the ear of the listener. confirming the movement of the bass line to C. This is emphasised by the choice of rhythmic value and contour for these two notes with respect to their surroundings. Further. I believe that the fact that these pairs are only black notes at *b* and only white notes at *b1* emphasises this shift in the mind of the performer.

In bar 9. Tyner uses an F arpeggio. This suggests that C Dorian is a key resource for the chord of Cm7. This matches the use of the {C. D. Eb. F. G} set noted above. Indeed the sections marked *a3* and *a4* that follow see Tyner using this {C. D. Eb. F. G} set. At *a4*. however. it is used knowingly as a subset of F Dorian: {**F, G,** Ab. Bb. **C, D, Eb**} (subset marked in **bold**). Perhaps this reveals Tyner's interest in this particular 5-note set in the piece. Another four-note cell (marked *a5*) occurs at bar 12 following a conventional cadential melody in bar 11.

The B section begins with a resolved {0. 2. 7} set. This is an inversion of an Ab quartal chord (AbQ). The use of quartal harmony is something for which Tyner is renowned. and it is not surprising to find elements of quartal harmony within his melodic work. In fact. upon reflection. we might note that the four-note melodic sets described above are formed from a GQ (or DQ). with an additional Eb (true for *a1* to *a5*). Thus. we might not be surprised to see the (semitone higher) AbQ used at bar 13.

The following 5 beats show a more abstract quality. although we can clearly see common chordal patterns by beat: Ab. D9. Fmaj7. and E Dorian. Although Ab and D9 are probably related to the Ab7 chord (i.e. a plain Ab triad and Ab7b9b13. sharing no common scale). the Fmaj7 and E Dorian patterns that follow are more obtuse. The

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[1] See Liebman (1997).

Fmaj7 pattern. particularly. seems like a deliberate quasi-random "grab" at a (known) shape outside the scale of Db Ionian (Db Ionian is the mode at the core of the Ebm Ab7 Dbmaj7 progression of this B section). Note that this Fmaj7 and E Dorian material mostly consists of white notes. and that the only note which is black is the F# in beat 1 of bar 14. Further. let us note that the underlying tonality at this point (Db Ionian) consists mostly of black notes. Thus. I suggest that Tyner is deliberately using white notes on the keyboard because they are visually polarised with the underlying tonality. Thus. in the use of these Fmaj7 and E Dorian patterns we can see an example of spatial "out" playing. That is. here Tyner uses a pair of well-rehearsed hand shapes simply to propel the music forwards. with disregard to the precise harmonic context. The (black) F# note may be read as a by-product of a (Dorian) extension of the white structure that is E minor pentatonic. We should note that this example of spatial "out" playing occurs in the B section. where the underlying tonality (Eb Dorian) and its complement set (E minor pentatonic) are so visually contrasted.

This out section is then followed by a resolved Major 9th cell (marked {0. 2. 5}). The choice of this set as a resolved pattern reminds me of Coltrane's use of this (ubiquitous) cell in "A Love Supreme". a seminal recording to which Tyner contributed (see Chapter 2).

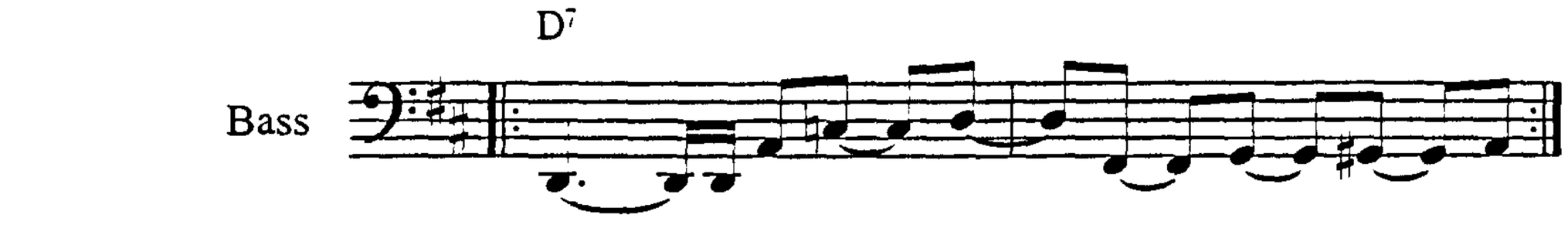
In beat 4 of bar 14 Tyner plays a Gb triad which stresses the dissonant IV of Db. However. the final Gb note acts an upper chromatic neighbour to the F natural that commences the frenzy of G7 events that make up bar 15. Thus. this arpeggio would seem to be an unfulfilled chromatic sideslip to the Dm7(b5) chord at bar 15. Further. let us note that. although dissonant. this Gb triad is more located within the conventional chord/scale relationship (Gb being the IV of Db) than the "spatial" Fmaj7 arpeggio found in bar 13.

As noted above. bar 15 is a virtuoso revelation of material over a G7 chord: note that the analysis follows beat values in the bar. Bar 16 sees Tyner ignore the Cm7 chord in the conventional progression. Here he inserts a iim7b5 > V7Alt cadence (perhaps as compensation for its being driven out of the previous bar?). Note that the scale materials for this cadence are almost identical to those that I suggest are the resource for bar 11 (i.e.: D Locrian.#2 and G Super Locrian). We can see that Tyner creates a great deal of tension towards the close of both of the choruses shown in this excerpt. In the case of both cadences (bars 8-9 and 16-17). Tyner has effectively reduced the number of bars of Cm7 from two to one (i.e. only the first bar in the next chorus uses material resolved to Cm7). In bar 8 he uses Db Dorian, and in bar 16 he uses a iim7b5 > V7Alt cadence. Thus. he creates a great impetus with the tonic chord at the start of the each new chorus. driving the piece forwards.

Chank

from "John Scofield A Go Go"
(1998) Verve 539 979-2

John Scofield



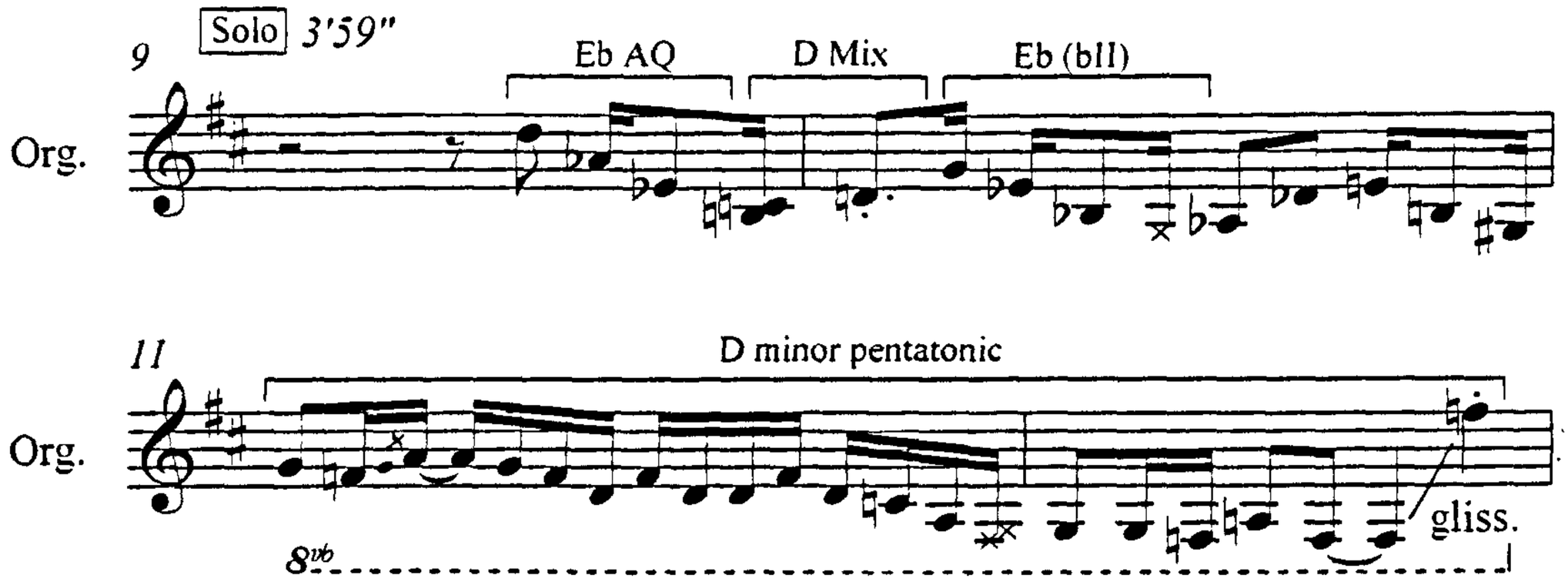


Fig. 1-10 "Chank" - John Medeski

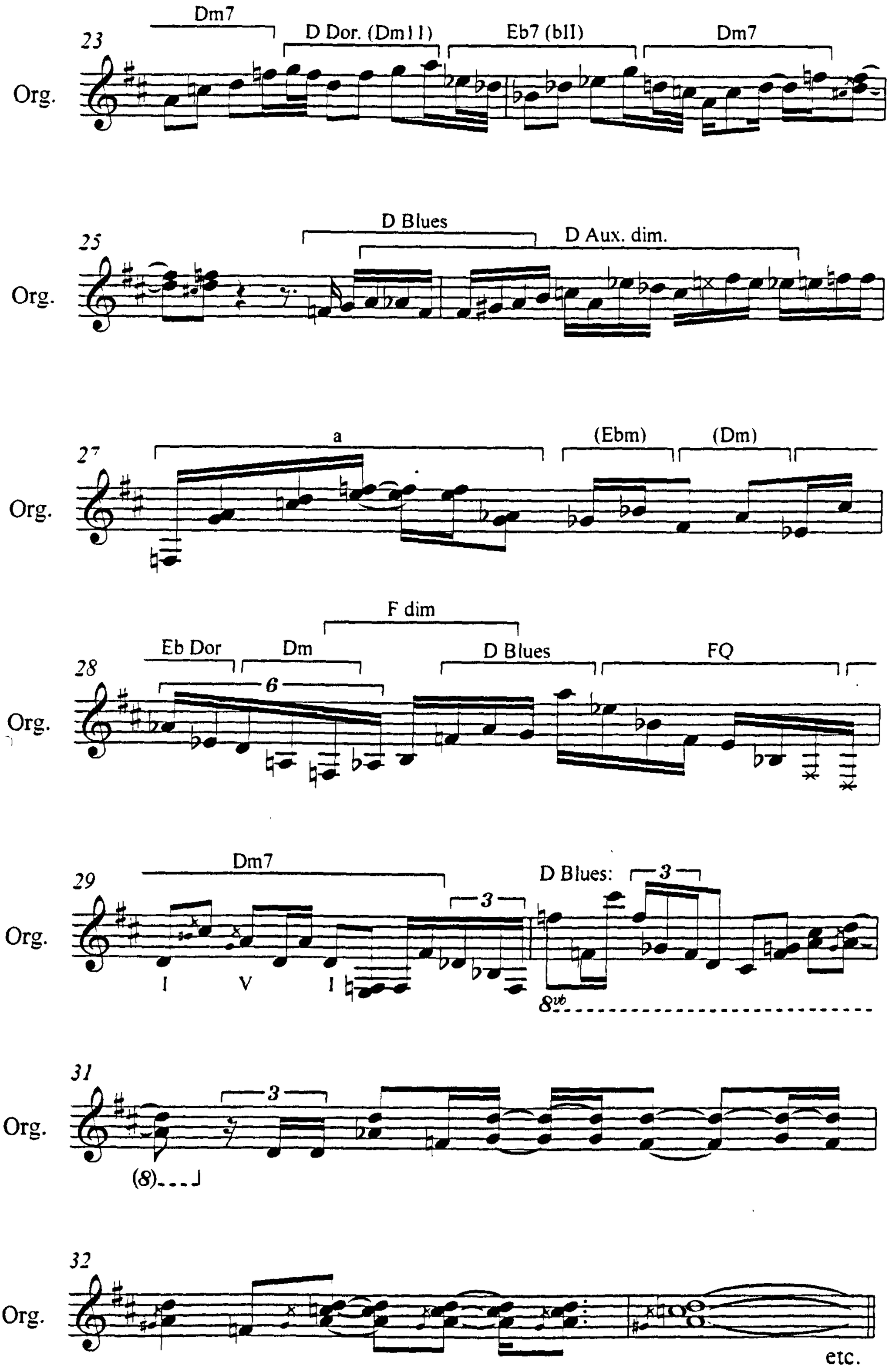


Fig. 1-10 "Chank" - John Medeski

"Chank" – John Medeski (Fig. 1-10)

(from "John Scofield A Go Go" (1998) Verve 539 979-2)

This piece is essentially based upon a D7 vamp with a Motown style bass line (see first line of notation).

Outside

This excerpt shows part of John Medeski's organ solo. which shows a range of uses of the bII as "out" material against a I vamp.

The initial tonic D in bar 9 is immediately redefined by its use as the start of an Altered Quartal arpeggio (EbAQ). The 2-note cluster of B and C natural at the end of this bar should be seen as a deliberate act. I believe – there are many of these to be found in this excerpt (see below). Like Thelonious Monk's minor second chords. they have a specific role.[1] Here they reassert the D Mixolydian core scale. This crushed pair neatly anticipates the arrival of the D on beat 1 of bar 10. stressing the tonic key. Beat 2 of this bar is built upon an Eb triad (I believe that the ghosted note at the end of beat 2 is a second G). This dissonant section is extended by Ab and Db notes. repeating the Perfect 4^{th} interval of the Eb and Bb in beat 2. This emphasis upon quartal material is continued: beat 4 sees a complete B Quartal. moving the tonality back to D Mixolydian. Note the use of contour to control the consonant/dissonant elements of this bar: the Eb material is downward. whereas the D material is mostly upward. I suggest that bars 9 and 10 might be seen as an example of motivic "out" playing in that the majority of the intervals between notes in the scale of D Mixolydian. and those outside that scale. are Perfect

4ths. Thus, although there is no clear sequence in the conventional sense, the *interval* of a Perfect 4th is here being used as a "motif" of sorts.

Bars 11 and 12 are built upon local movement within the D minor pentatonic scale, culminating in a high F (bIII). This scale is expanded at bar 14 to include G# (as a grace note), forming the D Blues scale. This scale is only then further expanded at bar 17 to include E as a crushed note with the octave F.

After rapid D Blues scale patterns in bars 19-21, Medeski plays a Dm7 arpeggio (bar 22) that repeats up an octave (bars 22-23), then alters to become a Dm11 pattern (bar 23). At the close of bar 23, and moving into the first two beats of bar 24, he moves the pattern up a semitone (and alters it) to become an Eb7 arpeggio. Finally, he returns to the Dm7 arpeggio, resolved with a chord of D and F.

That this bII pattern is altered in this sequence to become Eb7, and not Ebm7, might be explained by the occurrence of the Eb triad that we heard in bar 10. This suggests that Medeski sees Eb7 as the bII (quite logical, since D7 is the I chord of the piece). Thus, we can say that although Medeski uses D minor pentatonic and D Blues scales for most of the "in" sections of this piece, a stricter adherence to the chord occurs when moving "out" a semitone up. This is why the sequence in bars 23-24 is not "real", but slightly altered. So, in this particular context, Medeski freely used the Blues scale over the I7, but restricted himself to the chord tones of the bII7.

Bars 25-26 show an intriguing run that starts in D Blues, then mutates to D Auxiliary Diminished (which implies D7b9#9#11), yet commences and finishes on two Fs, an octave apart. Note the repeat of the final F, and the use of a low F to commence the next bar (27). When I first heard the notes in bar 27 I assumed that they represented a purely

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[1] See Kurzdorfer (1997).

abstract "grab" at the keys. However, looking at the notation, there is clearly a high level of integrity between these notes (marked *a*) and the D Blues scale – aside from the E at the fourth semiquaver of the bar (which is the II, after all). Thus, the phrase at bars 25-26 in fact starts "in" D Blues and moves progressively "out" to D Auxiliary Diminished.

There now follows a complex section which sees Medeski furiously switching between "in" and "out" material. Again, the speed of this section initially suggested that Medeski is just "letting go" and is improvising in a "spatial" manner without reference to the tonality or material relevant to the piece. However, as we shall see, he is clearly inventing his melody with reference to chords and scales already heard in the piece (Dm and Eb). The second half of bar 27 consists of an Ebm subset sideslipping to a Dm subset, leading to a short Eb Dorian section which continues into bar 28. This is then resolved by a descending Dm arpeggio which transforms into an upward Fdim arpeggio (note that this may be described as the upper part of a Ddim7 chord). The Ab in the Fdim chord takes on a new function as the bV in a short D Blues section, and this then gives way to a long, downward FQ arpeggio (note that this chord exists within Eb Pentatonic). Bar 28 is clearly performed with both hands.

The Dm7 arpeggio at bar 29 is compensatory to the complex section that precedes it at several levels. Firstly, it confirms the home tonality. Secondly, it shows a return to quaver values, and reintegration of the soloist with the rhythm section. Thirdly, note that the I and V of Dm7 are firmly placed upon beats 1, 2 and 3. There is a small reference to Eb7 at the end of bar 29 in the form of the notes Db and Bb, but then Medeski settles down again into D Blues, using riffs similar to those heard in bars 20 and 21. Note the use of the highly resolved {V, bVII, I} chord at the close of this excerpt.

Consternation

from Tito Puente and his Latin Ensemble
"Salsa Meets Jazz" (1988)
Concord Picante 354

Tito Puente

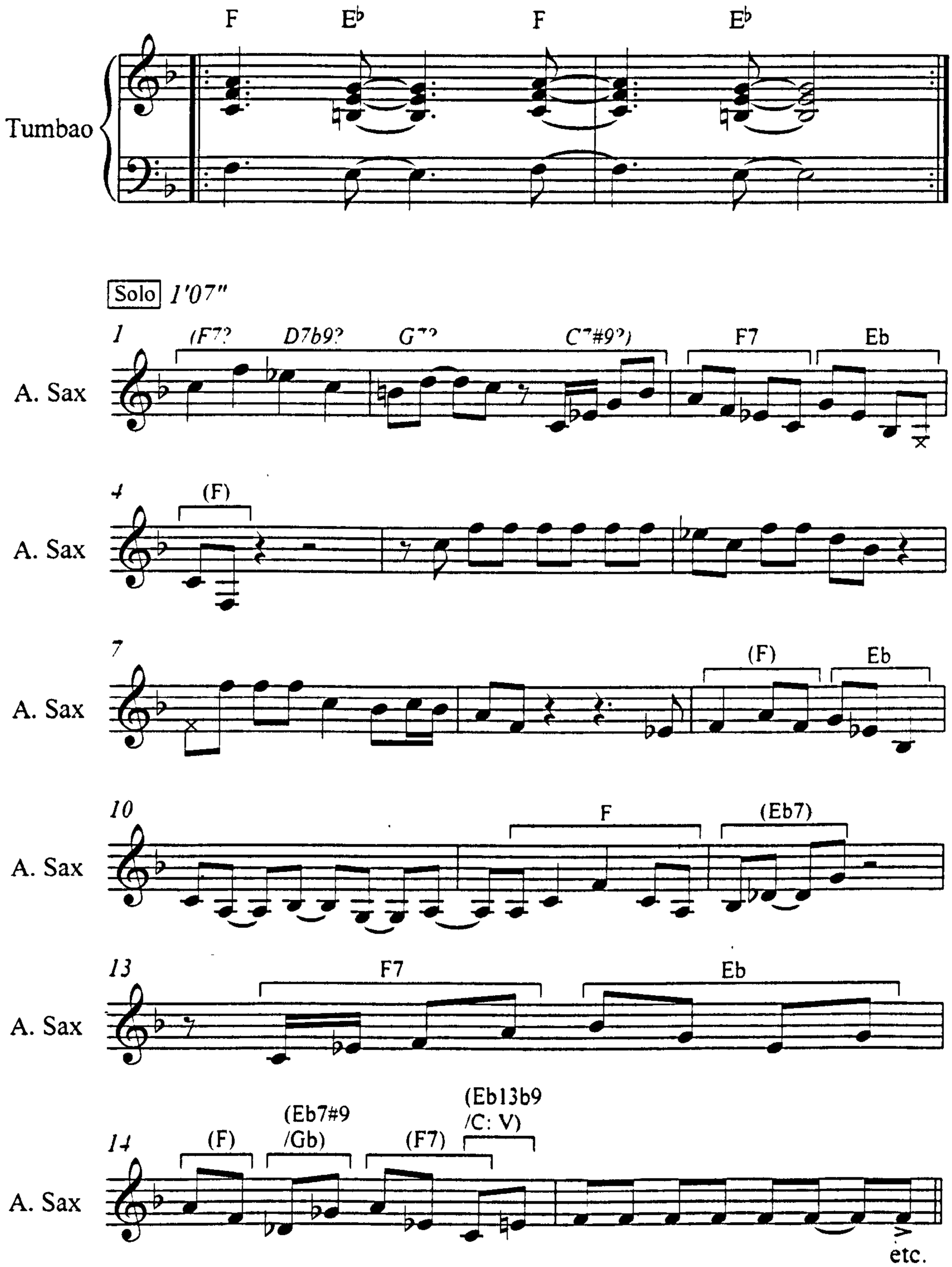


Fig. 1-11 "Consternation" - Phil Woods

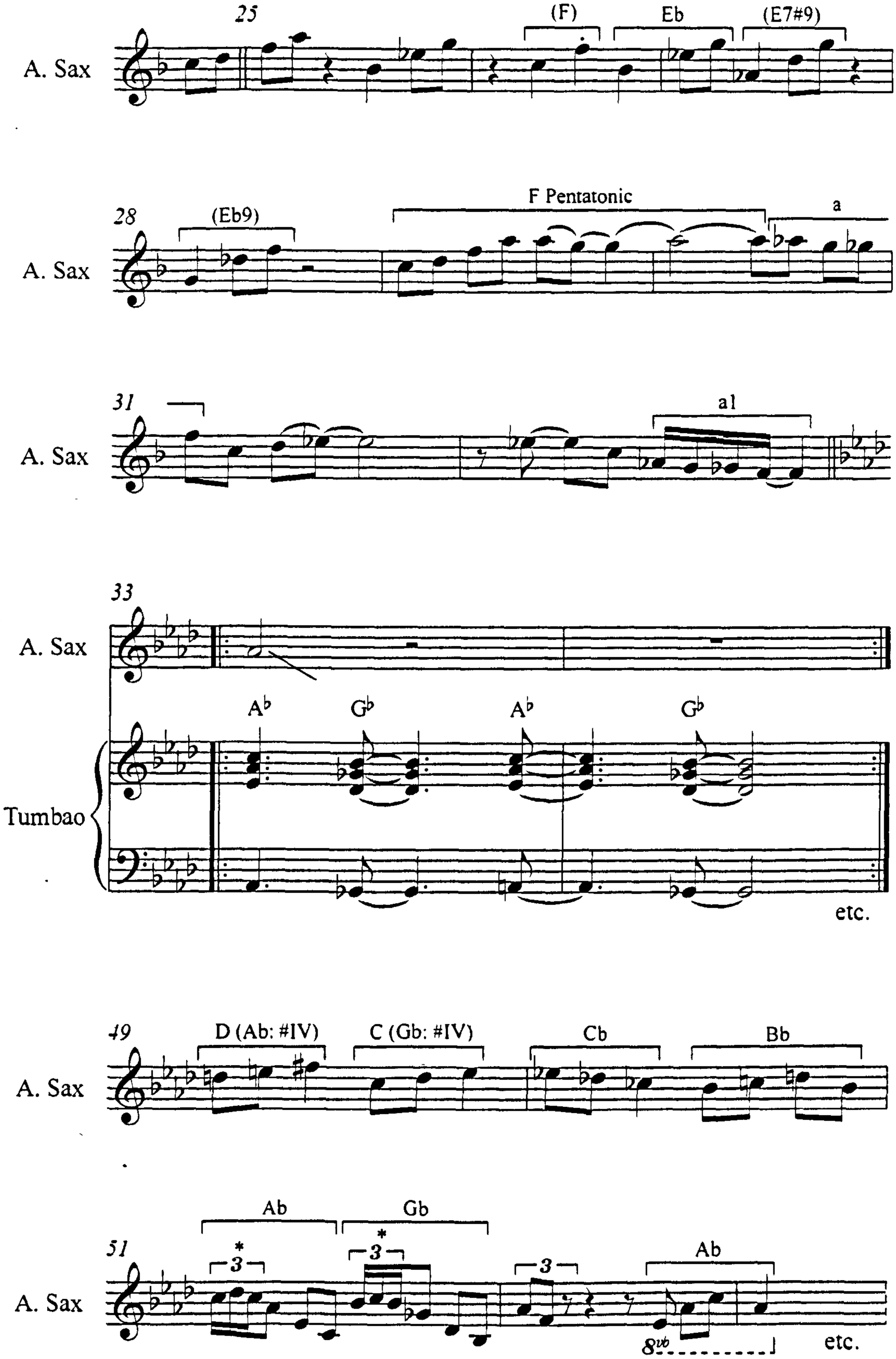


Fig. 1-11 "Consternation" - Phil Woods

"Consternation" – Phil Woods (Fig. 1-11)

(from "Salsa Meets Jazz" Tito Puente and his Latin Ensemble (1988) Concord Picante 354)

This piece is typical of many of Tito Puente's compositions in that it has several sections. each using a complex progression. However. we will examine Phil Woods' solo over a fairly straightforward F to Eb tumbao (which transposes in this excerpt to Ab to Gb at bar 33).

Bars 1 to 15

Bars 1 to 15 are characterised by Woods' use of melodic patterns based upon F and Eb chord tones. These are mostly adjacent. commencing with all. or part. of an F (or F7) chord placed at the start of a bar. with an Eb (or Eb7) pattern following immediately afterwards. Similarly. they almost all occur on an *odd* bar number. that is. at the start of each tumbao. Note that this structure obeys strict minim values in nearly all cases. This provides syncopation with the rhythm of the tumbao itself. which is characterised by a dotted crotchet value for the first chord. bringing the second chord forward by a quaver.

An exception to this approach occurs at bars 11 and 12. where the chordal material is extended in time by Woods. the F lasting for the entire bar. and the Eb7 subset lasting for the first two beats of bar 12 (note that the accompanying tumbao maintains its original rhythm). Another exception is at bar 14. where the "in" arpeggios of bar 13 are answered by subtly enriched chords. now moving at the rate of one chord per beat. Here Eb is extended to become Eb7#9 (possibly actually a bII - i.e. a Gb - subset?) and

Eb13b9 (although this could equally be heard as a subset of a C triad. the V leading to the line of tonic Fs in bar 15).

Most of the rest of this excerpt uses F Mixolydian. However. there is a B natural at bar 2 that encourages me to suggest that Woods may be interpolating a // F7 D7b9 / G7 C7#9 // progression over these first two bars. I wonder if dissatisfaction with the result of this against the insistent tumbao encourages him to adhere mostly to arpeggios of the chordal material.

Bars 25 to 32

Here we see further displacement and extension of the arpeggios of F and Eb. as well as the interpolation of an E7#9 chord. This enlargement of pitch material is also represented by the use of a four-note chromatic line. starting in bar 30 (marked *a*). which then repeats down an octave. twice as fast. in bar 32 (marked *a1*). Most of the rest of this excerpt uses notes from F Mixolydian. but note the strict (and complete) use of F Pentatonic at bars 29-30. Thus. we can see that Woods gradually extends the range of additional notes and temporal displacement as the solo progresses. and. similarly. gradually reduces the "in" material.

Outside

Note that the tumbao moves up a minor third at bar 33 (i.e. now using the chords of Ab and Gb). It is bars 49 and 50 that have especial interest with regard to playing outside. At bar 49 Woods plays a short motif using the first three notes of the key of D. then transposes this down a tone to the key of C. This use of the keys of D and C is

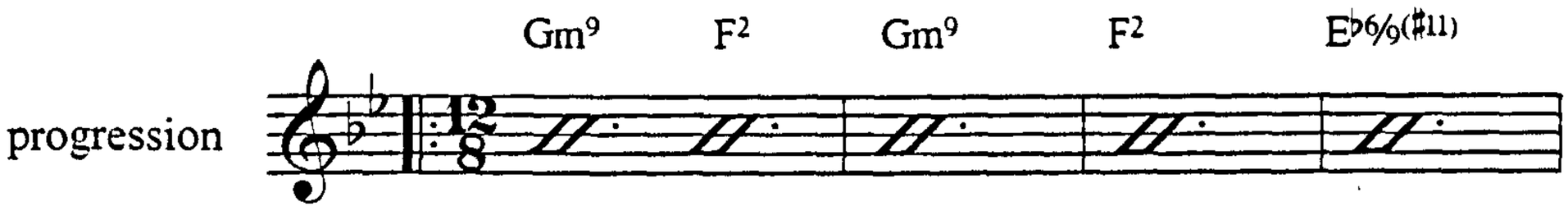
particularly interesting in that they are distant to the actual chords by an interval of an Augmented 4th. Note that the interval of a Major 2nd found between Ab and Gb is maintained by Woods in using D and C. The "outness" of this particular bar is offset by its minim based structure (as heard earlier at bars 3. 9 and 13). Although. as noted above. the use of material sourced in the key an Augmented 4th away from the tonic is theoretically as dissonant as use of the bII or VII. this is a very rare event; in the course of my research. I have not found a single other example of this approach.

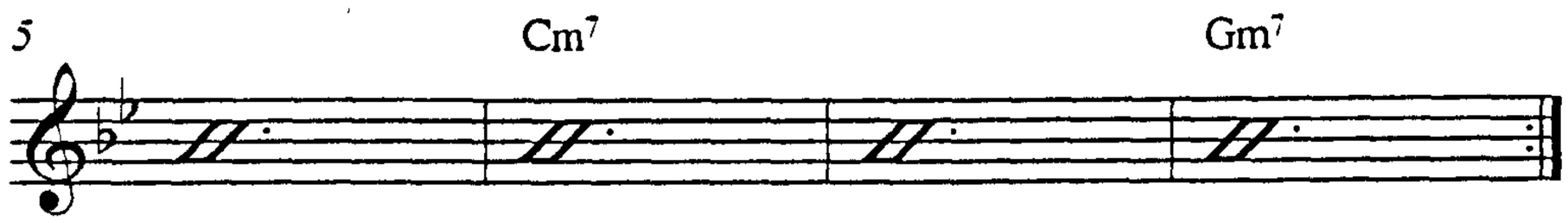
At bar 50. Woods descends further to the key of Cb. then to the key of Bb. The predictability of this descent is offset by the slight alteration of the motif (in Cb the motif is altered to a descending form. and in Bb. we see an addition of the tonic as a fourth note). At bars 51 and 52 we hear Woods arriving back at Ab and Gb. In bar 51 we hear Ab and Gb arpeggios. played as a real sequence – this is unprecedented. and. I suggest. is a compensatory feature. Further. at bar 52. Woods plays an Ab arpeggio that closes on the Ab – again. this tonic close has not been a feature of the previous bars. and shows a desire to stress the "home" material.

Fields of Fire

from "Fields of Fire" (1996)
FMRCD30-E0585

Dave Blackmore





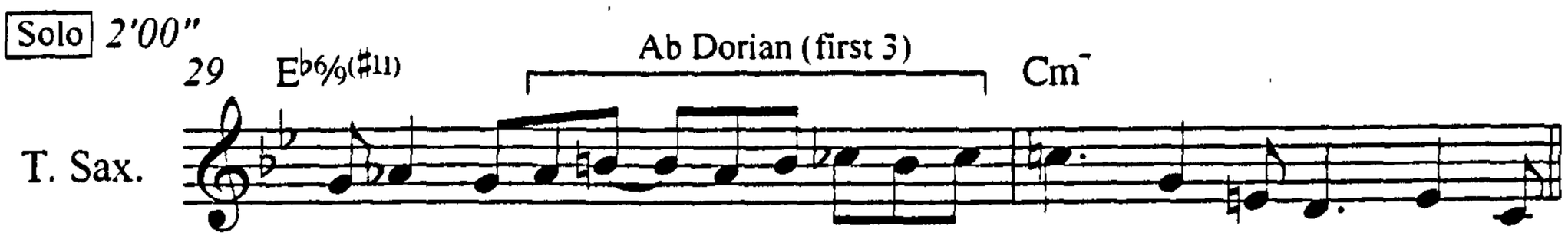
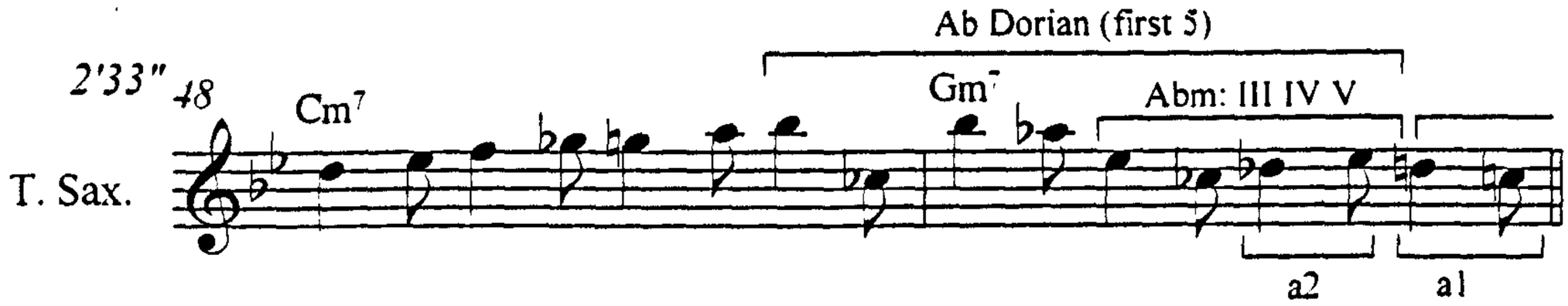
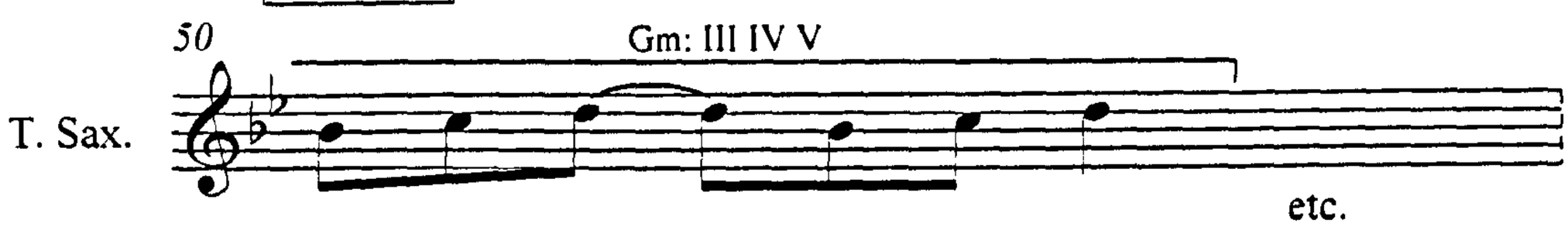
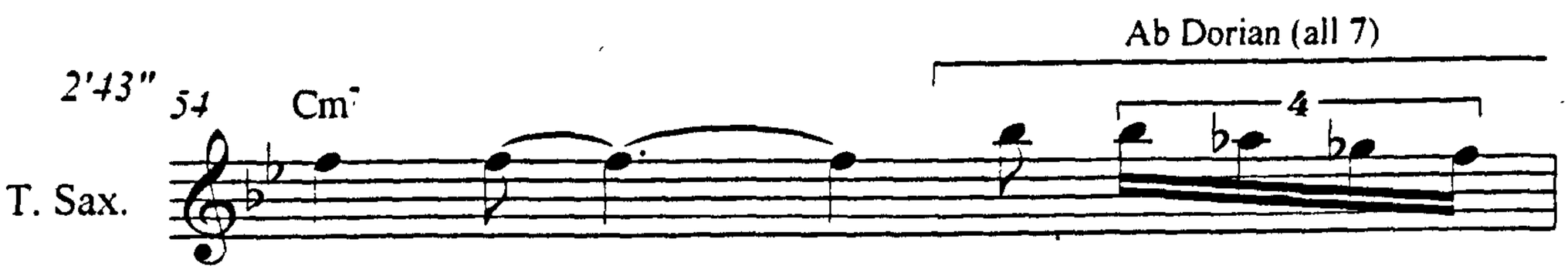


Fig. 1-12 "Fields Of Fire" - Dave Blackmore



next chorus





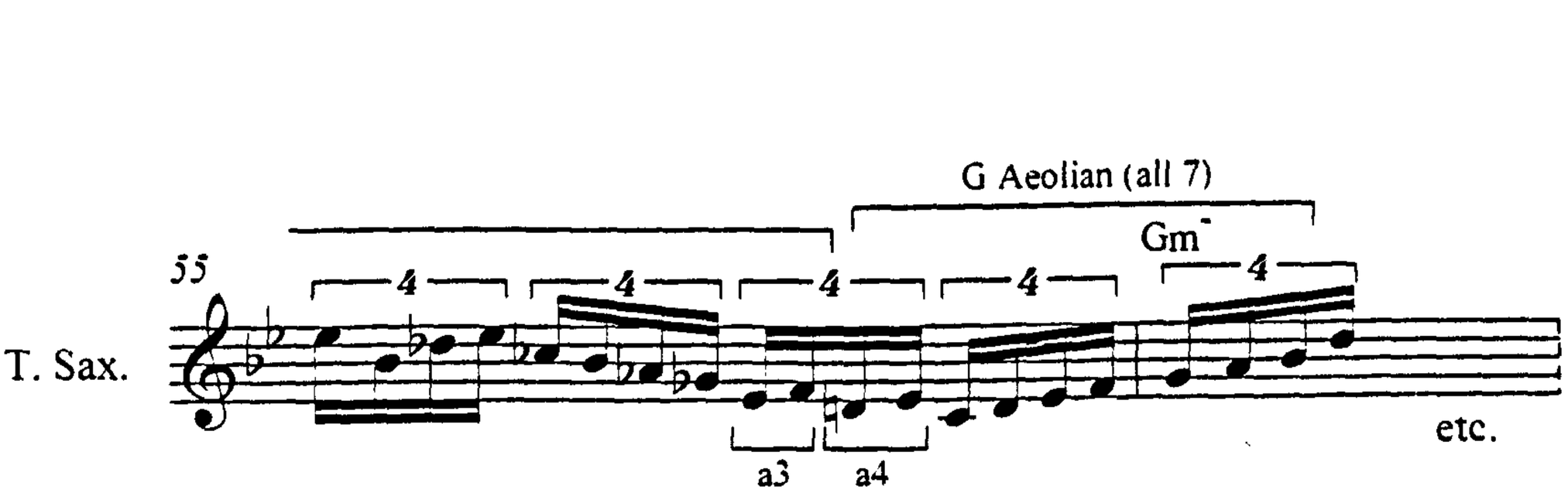


Fig. 1-12 "Fields Of Fire" - Dave Blackmore

"Fields Of Fire" – Dave Blackmore (Fig. 1-12)

(from "Fields Of Fire" (1996) FMRCD30-E0585)

This piece is an example of a fusion of (British) folk and (American) jazz musics. It is built on a core (folk) scale of G Aeolian; indeed the chord tones of the entire progression derive from this scale. Further. Dave Blackmore's solos also mostly use G Aeolian.

Outside

As we shall see, there are several examples of the use of the "a semitone up" strategy in Dave Blackmore's solo. However, these are (or seem to be) derived from an Ab Dorian scale, i.e. not the (folk) Ab Aeolian. That is, Blackmore apparently transposes up a semitone, and changes the quality of the scale. Let us remind ourselves of these scales. especially noting that the only difference between the Aeolian and Dorian modes is the 6th step (Figures 1-13 to 1-15):

Fig. 1-13 G Aeolian

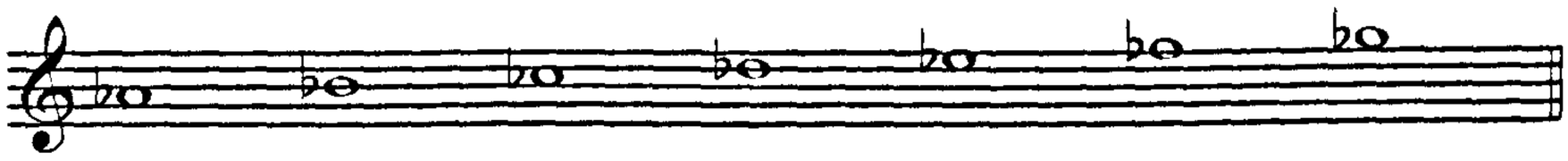


Fig. 1-14 Ab Aeolian

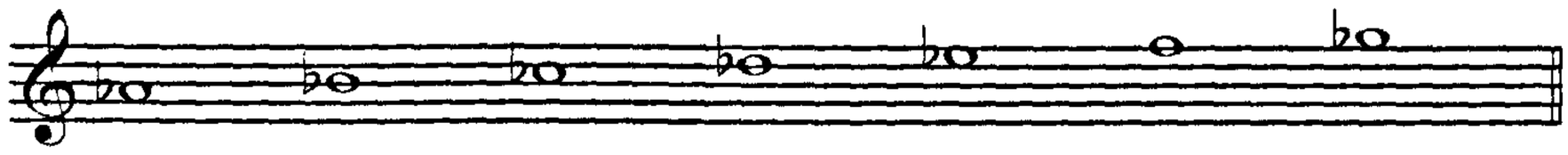


Fig. 1-15 Ab Dorian

In fact, there are four examples of material "a semitone up" from the home key of G Aeolian to be found in Blackmore's solo: at bars 29, 39-40, 48-49 and 54-55. The examples of Ab scale use at bars 29 and 48-49 are inconclusive with regard to the scale quality (here he uses only the first 3 and 5 notes respectively of the Dorian (/Aeolian) scale). However, at bars 39-40 and 54-55 Blackmore uses the entire Ab Dorian scale. Note that this final example is followed by an upward, compensatory, "listing" of the G Aeolian scale (bars 55-56), and that the characteristic Eb occurs at near the start of this listing (within *a4*).

Let us also note that Blackmore uses "{x, x-1, x+1} sets" at bars 40-41 (*a* and *a1*), bar 49 (*a2* and *a1*). *a* and *a1* act prolongationally.[1] These local pairs of notes clearly indicate to the listener the shift from the key of Ab to that of G, confirming the bass line. Note that *a1* is common to both of these cadences. Further, note that both of these examples show the same contour: a pair of notes moving up, followed by a pair of notes moving down.

Interestingly, something along these lines occurs at the end of bar 55 (marked *a3* and *a4*). However, here not only the previous contour is disrupted, but also the interval of the initial Eb to F (Major 2nd) is altered to become the D to Eb (minor 2nd). Of course, Blackmore could have played D to E natural (or E natural to D), which would have made for a G Dorian "in" scale. What this suggests is that Blackmore's choice of scales

[1] I use the word "prolongation" in this thesis in its usual meaning of an increased duration. Although the use of the term has been made famous in music theory by Lerdahl and Jackendoff (1983), I am not here referring to their specific theories.

(G Aeolian. Ab Dorian) takes precedence over his use of such "{x. x-1. x+1} sets" as cadential devices.

I had a private conversation with Blackmore at the concert at which I purchased this recording during which he described his "out" strategy as focusing upon the bII. From this, as well as the evidence of the above notation and analysis, I am fairly confident that he was thinking of Ab Dorian in this performance, and not another mode of this scale (Db Aeolian. for example).

I suggest that this use of Dorian as the "out" scale is a result of the search for an iconic, quintessential solution to "out" playing. That is, because he has used Dorian mode in most circumstances where he has undertaken "out" playing, Blackmore uses the Dorian at bII. no matter that here the prevailing mode is different (albeit that Aeolian and Dorian are similar minor modes).

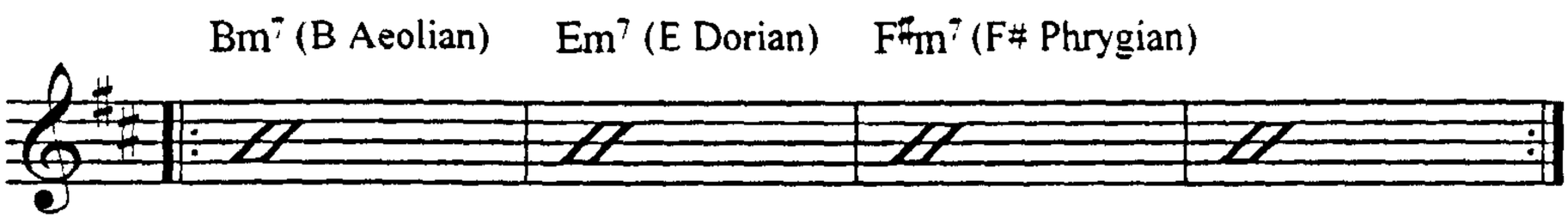
Live and Studio Versions

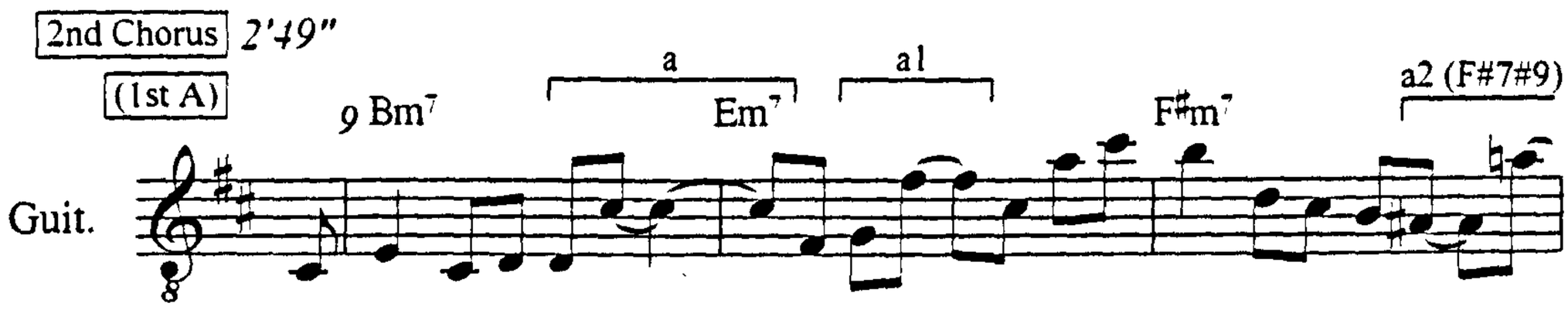
The live version of this piece that I heard at Dave Blackmore's concert was notable for many excursions from the underlying mode, and it was this that prompted me to purchase a CD and to ask him about his strategies. Unfortunately. I did not record the concert. and so a direct comparison is not possible. However, my first impression upon listening to the studio version of "Fields Of Fire" (about half an hour after the end of the concert) was that there was a more limited number of excursions on the CD. Further. these excursions, like the recorded performance in general. were more restrained by range and duration when compared to the live version.

Fly By Night

from "Standing Together"
(1998) GRD-9906

Tim Heintz. Steven Dubin & Paul Brown





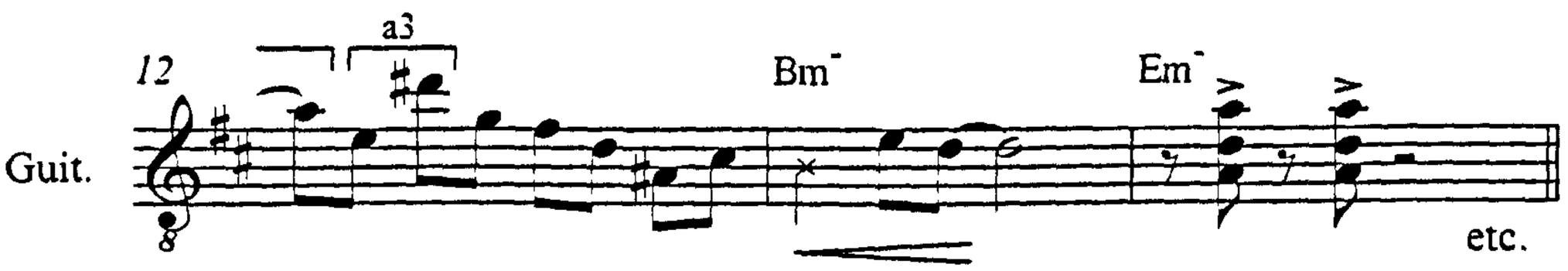


Fig. 1-16 "Fly By Night" - George Benson

"Fly By Night" – George Benson (Fig. 1-16)

(from "Standing Together" (1998) GRP-9906)

In this piece Benson employs three scales: B Aeolian (over Bm7). E Dorian (over Em7) and F# Phrygian (over F#m7). Note that these are all modes of each other. having the "parent scale" of D Ionian. That Benson is genuinely thinking of three distinct scales is evidenced by the frequent use of the tonic note of each scale at each relevant chord.

Outside

Benson employs one short section of "out" playing in this recording, which has its roots in a Major 7th interval motif first performed at the end of bar 9 of the 2nd chorus (marked *a*). Followed by a single note F#. this motif is then transposed up a Perfect 4th. and shortened in duration in bar 10 (marked *a1*). At bar 11 we hear the interval again (marked *a2*). but this time altering the conventional chord of F#m7 into F#7#9.Note that the lower note. the A#. is held for a full crotchet value. This is then immediately followed in bar 12 by a further upward transposition of the motif to the key of E (marked *a3*).

Despite the fact that the two notes that this latter transposition provides (E and D#) both occur within F# Dorian (a conventional scale for the chord of F#m7 found here). in the context of this piece this particular transposition of the motif seems the most dissonant of those heard so far. Note that the motif gradually becomes shorter in duration. moving from two and a half beats (*a*) to one beat (*a3*). Further. tension is also built up by the fact that the motif has been gradually transposed up in pitch. Thus. we hear an increasing dissonance of the motif against the underlying tonality. Further. the dissonance of the

final transpoisiotn is emphasised by a small rhythmic surprise. That is. the upper note of all of the transpositions of the motif occurs on an offbeat – except the last (*a3*).

Spatial Considerations

Having analysed these transpositions of the motif from a purely tonal perspective. let us now recognise that this particular set of transpositions may have its source in the physical structure of the guitar. Guitars are usually tuned E. A. D. G. B. E. Note that the motif at *a* begins on a D note. *a1* begins on a G. and that these two motifs are adjacent in the music. Further. *a3* begins on an E. Thus. these three occurrences of the motif may be seen to be playable at the same fret on the guitar neck. Further. in this model the motifs gradually move from the lower to the higher strings. We might then expect the motif marked *a1* to begin on a B note. rather than the A# annotated in the score. Of course. this chromatic shift might be a deliberate attempt to avoid the tonic note of the piece (in the spatial model Benson will have arrived there by default). However. let us also note that the note immediately before this A# in the notation is in fact a B. Thus. Benson includes this note within the melody between *a1* and *a2*. but does not allow it to begin a transposition of the motif.

At bar 13 there is what sounds to me like a "punch in" on the recording. It occurs to me that perhaps because of the use of this (rare) spatial approach in his solo (which might necessitate a change of mental focus). Benson lost his way after this "out" section. and. thus. the recording engineer had to drop him into the tape at this point. Whether this is correct or not. note the relatively simple. and thus perhaps deliberately compensatory. nature of the music in bars 13-14.

Fortress Around Your Heart

from "Bring On The Night" (1985)
Live in Paris - video

Sting

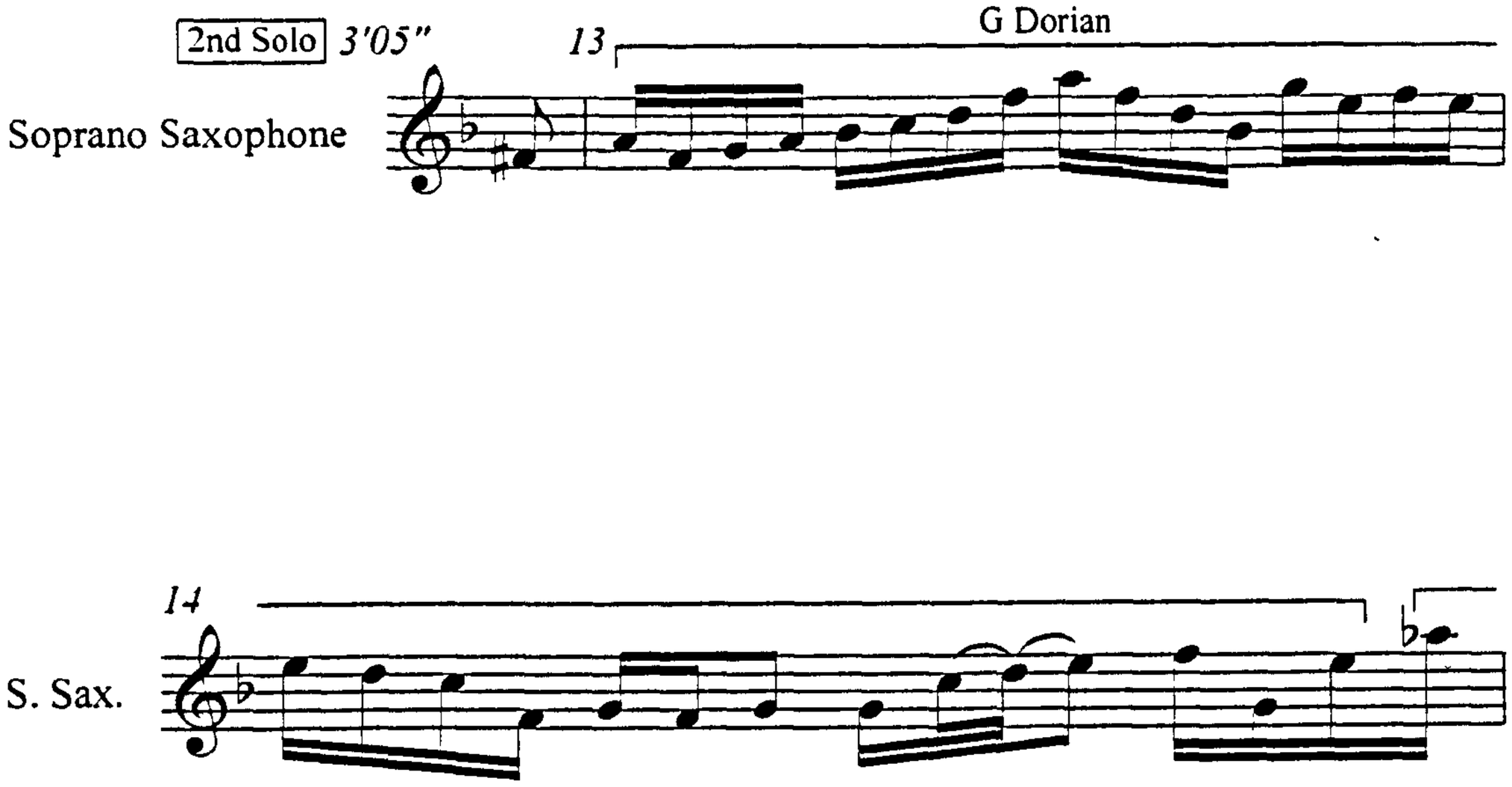


Fig. 1-17 "Fortress Around Your Heart" - Branford Marsalis

"Fortress Around Your Heart" – Branford Marsalis (Fig. 1-17)

(from "Bring On The Night" (1985) Live in Paris - video)

This excerpt is from Marsalis' most extended solo in this recording of a live concert with Sting in Paris. 1985. The group was assembled by Sting for his first solo album after the demise of "The Police". Although (a) many parts of this video use dubbed music and (b) there is much creative video editing of the performance of "Fortress Around Your Heart". I am confident that the audio segment is from this concert stage.

Most of Marsalis' contributions to the music (and indeed. the majority of this solo) are tonal. with the occasional (solitary) chromatic element. This is also true of the studio version of this piece. Thus the "out" section in the excerpt shown here is quite a surprise. especially given the pop context.

Marsalis mostly improvises in a supportive manner whilst other melodies are playing on this track (usually Sting's vocal). In order to be clearly heard as a contributor to this dense. electric mix of guitars and keyboards. he often ends his melodies on the II. IV. VI and bVII tones. choosing these in preference to the I. bIII and V. That is. he avoids the use of notes that would be likely to double another instrument at point of resolution. For example. in this piece in G minor. he ends on a sustained E natural (the VI). Similarly. *within* his melodies Marsalis uses (Dorian) scale tones fairly equally: he does not emphasise the I. bIII and V.

Outside

Bars 13 and 14 are representative of the majority of Marsalis' solo. However. on the last semiquaver of bar 14. he plays a complete Ab minor pentatonic pattern (this is the complement set of G Dorian, and shows a high degree of selectivity regarding the polarisation of "out" material). Once he has played the last of the five notes from Ab minor pentatonic, Marsalis plays a single note G, temporarily reasserting the home key, and punctuating the "out" section. Immediately after this G note is an Ab Dorian pattern (apart from an off-beat, chromatically interpolated E natural, marked *). Note the G triad subset (I and III) formed by the notes G and Cb (see below). So far, then, Marsalis' "out" material is restricted to the bII transposition.

The following tremolo pattern of C and F (starting on beat 4 of bar 15) signals, I believe, a return to G minor pentatonic. Although these two notes hardly constitute a scale, this pattern (a) includes a note (C natural) that indicates a *difference* between G Dorian and Ab Dorian (see Figure 1-18) and, (b) is consistent with many other "in" patterns that Marsalis uses when soloing with Sting.

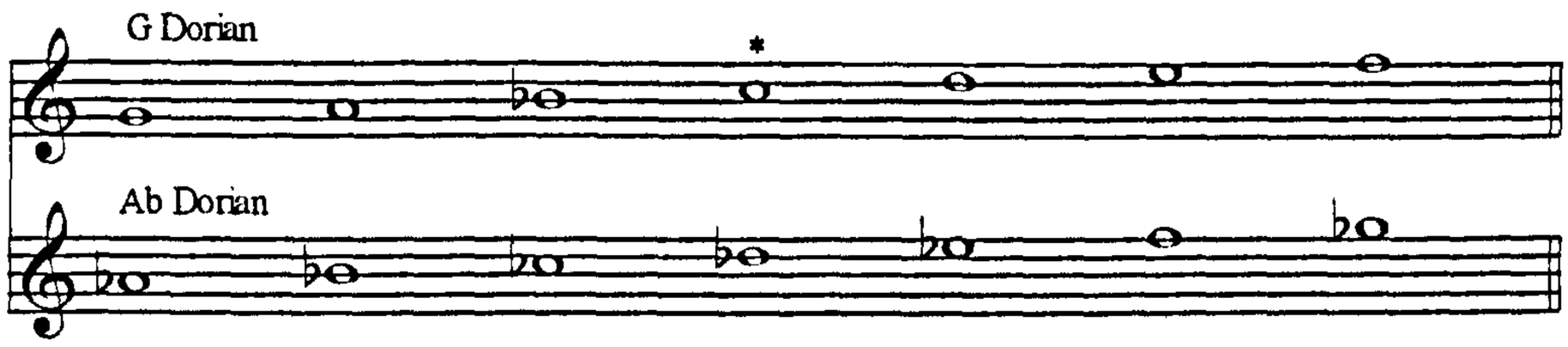


Fig. 1-18 G Dorian and Ab Dorian – Showing that C Natural only occurs in G Dorian

Thus. it is clear that Marsalis is concerned with providing the listener with *just enough* concrete harmonic evidence of a return to G Dorian. However, let us note that these two notes. C and F, are repeated several times. Thus, here we have a case where

compensation of the "out" phrase is not produced by a motivic or (a more complete) scalar statement in the jazz tradition, but, rather the repeated emphasis of a limited set of "in" material. It seems to me that this repeated pair of notes represents Marsalis "treading water", so to speak, as he mentally prepares the final cadence of his solo, which we will examine next.

Bar 16 continues with Marsalis performing what seems to be a subset of Cmaj7, an unusual harmonic/melodic choice at this stage of an improvisation, given what has occurred previously. The last two notes of this arpeggio form a subset of a G triad (I and III). This pair of notes was also heard in bar 15, as noted above. These occurrences of G major against a G *minor* tonality stand out quite clearly. Although that found in bar 15 is within a rapid set of semiquavers, its upward contour makes it easy to hear. Similarly, the occurrence in bar 16 is at the close of a phrase.

The excerpt concludes with a compensatory return to a simple Gm arpeggio, which stresses the *minor* 3rd note (Bb) by its placement at beat 1 of bar 17 (start of the next section). This is a very high level of compensation when we recall that Marsalis usually prefers to end melodies on the II, IV, VI or (b)VII, and tends to avoid such direct use of the I (b)III and V in this context.

Spatial Considerations

It was noted above that the Cmaj7 subset in bar 16 was an unusual choice. I suggest that it is, in fact, the result of Marsalis "letting go", and just playing a quasi-random pattern with his fingers to close the phrase, before stating the Gm arpeggio which leads into bar 17. This idea is supported by the fact that all of the notes of this arpeggio can be played on the (Bb soprano/tenor) saxophone without recourse to the side keys (generally

labeled L1 to L7, R1 to R6 and X)[1]. Here is the Cmaj7 subset, with associated fingerings (Figure 1-19). Please note that Figure 1-19 is a tone up from the notes in the notation, as the soprano saxophone is a Bb transposing instrument. The symbol "O.K." stands for "Octave Key"

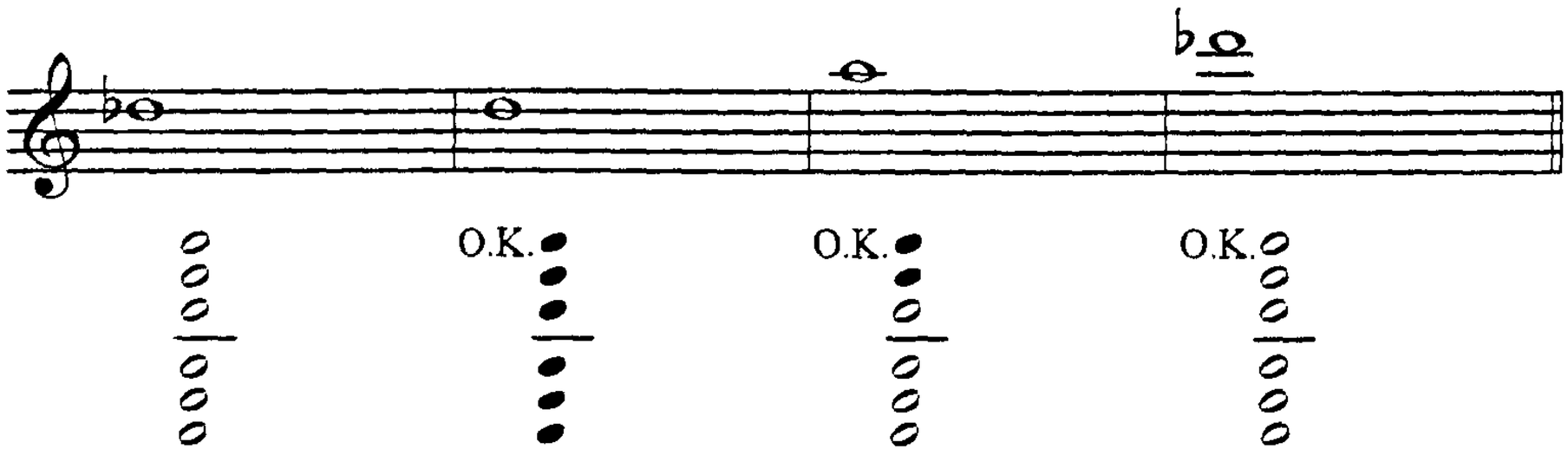


Fig. 1-19 Probable Fingering of Cmaj7 in "Fortress Around Your Heart". bar 16

We can see from this that no side keys are required for the performance of this pattern, and, further, that simple movements effect the transition from one note to the next.

This suggests further analysis of the role of the side keys on the saxophone in general and their use in this piece specifically. Here is some notation which shows which notes on the saxophone (a) do not require side keys, (b) absolutely require side keys, and (c) can be produced with or without side keys (Figure 1-20):[2]

[1] See, for example, Mel Bay (1983).

[2] Where the use of side keys is optional, conventional technique sees the saxophonist choosing the best option with regard to context. Here fingering is decided so as to reduce the number of movements between notes. This is especially important in the performance of trills, etc.

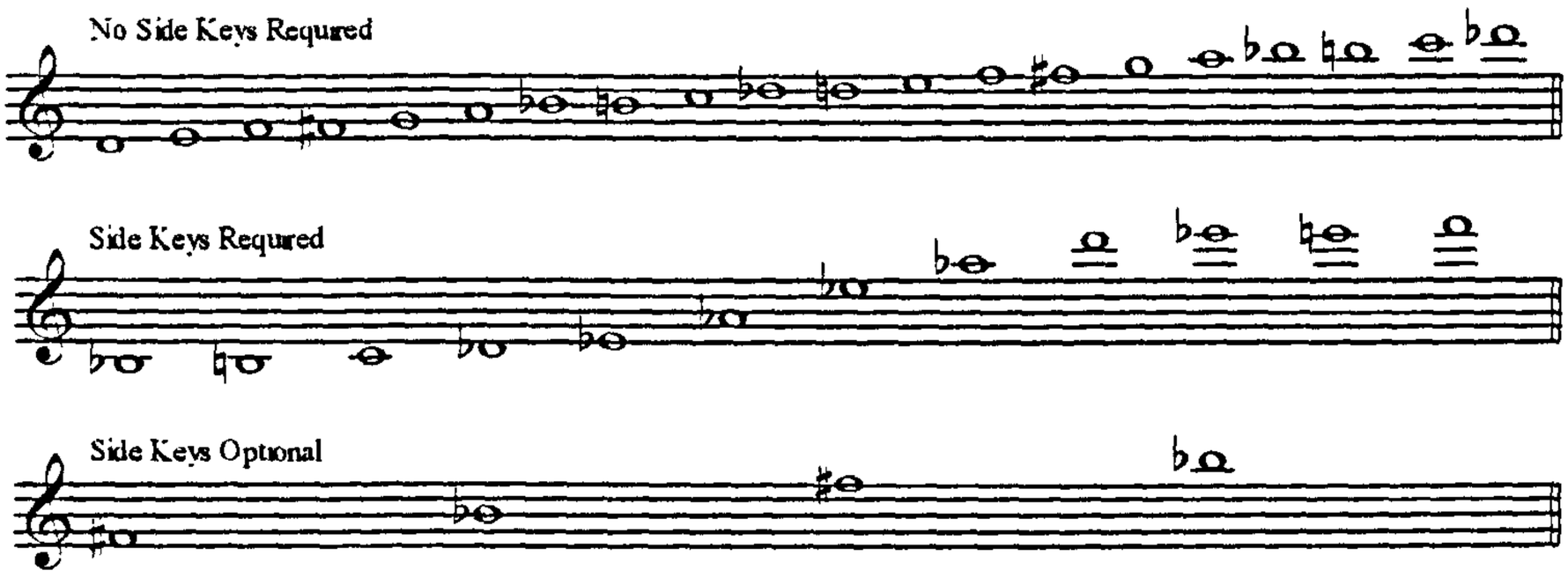


Fig. 1-20 Side Key Use in Saxophone Fingerings

An examination of the excerpt using these data reveals that the majority of this piece is played without the need for side keys (Figure 1-21). Here any note that absolutely requires the use of side keys is marked with an *.

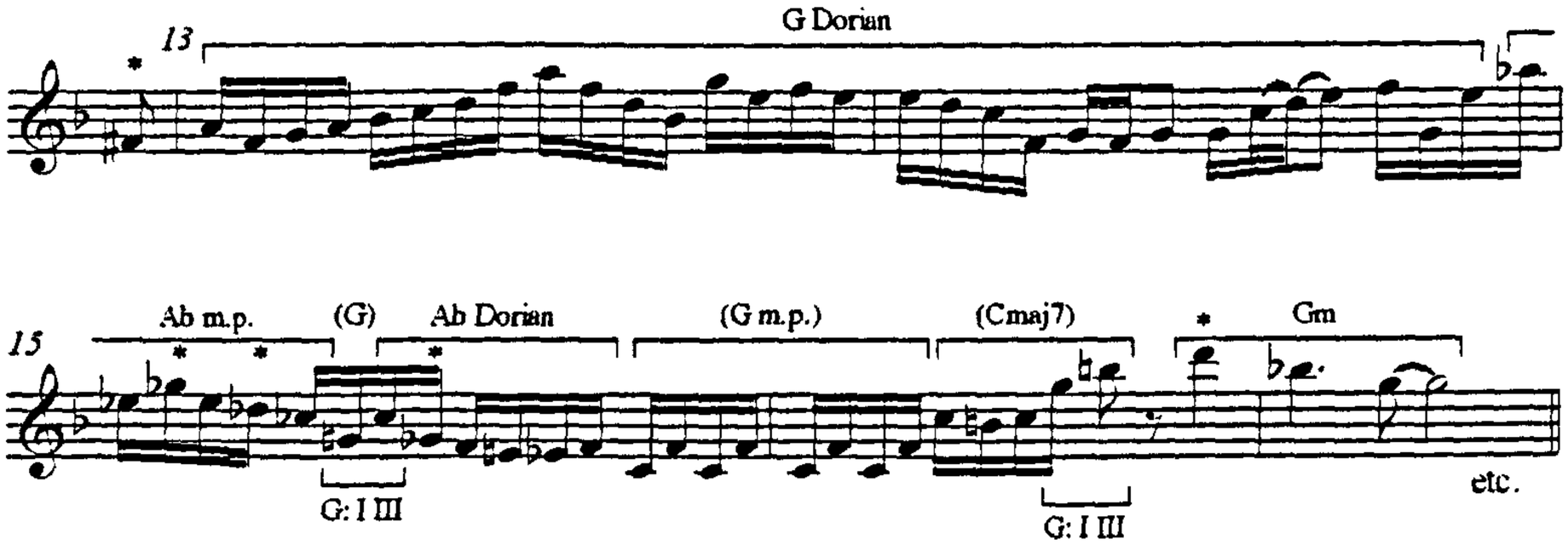


Fig. 1-21 Use of Side Keys in "Fortress Around Your Heart" (excerpt)

Here we can see that there are only 5 cases of notes that absolutely require the use of side keys. The first is the anacrusis to the G Dorian phrase, the following three are within the Ab "out" sections, and the final one is the result of the (deemed necessary) Gm triad. Generally speaking, this low frequency (5) is due to the fact that the piece is essentially in G Dorian. and the A Dorian scale (the equivalent for the Bb saxophone)

can be performed without recourse to the side keys. Thus, we can argue that Marsalis may here partially associate the use of side keys with "out" activity, whereas "in" activity does not use side keys.

Further, only some of the notes that do not require side keys may be produced simply by lifting fingers off/placing fingers on the instrument (i.e. without swapping fingers) – see Figure 1-22.

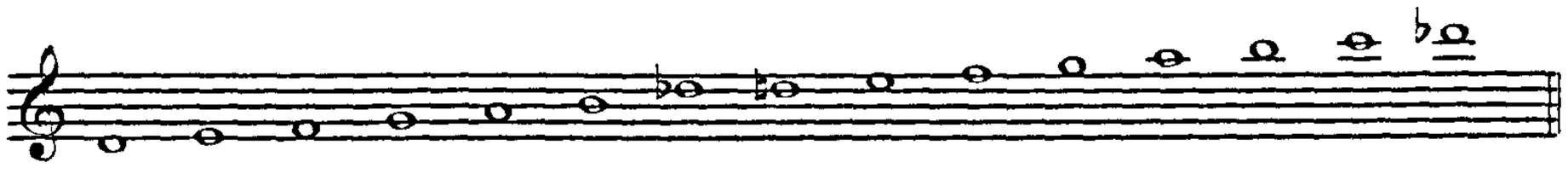


Fig. 1-22 Notes That Can Be Produced by Lifting/Placing Fingers (i.e. No Swapping)

In fact, it is from this list that the Cmaj7 subset pattern is derived. If we examine the excerpt for *all* sections that include movements within the list of notes in Figure 1-22, we find further evidence for the idea that "in" material may be associated with an avoidance of the side keys (Figure 1-23). In this Figure, the brackets show sections of notes that can be performed without (a) use of side keys and (b) merely by lifting or placing fingers (no swapping).

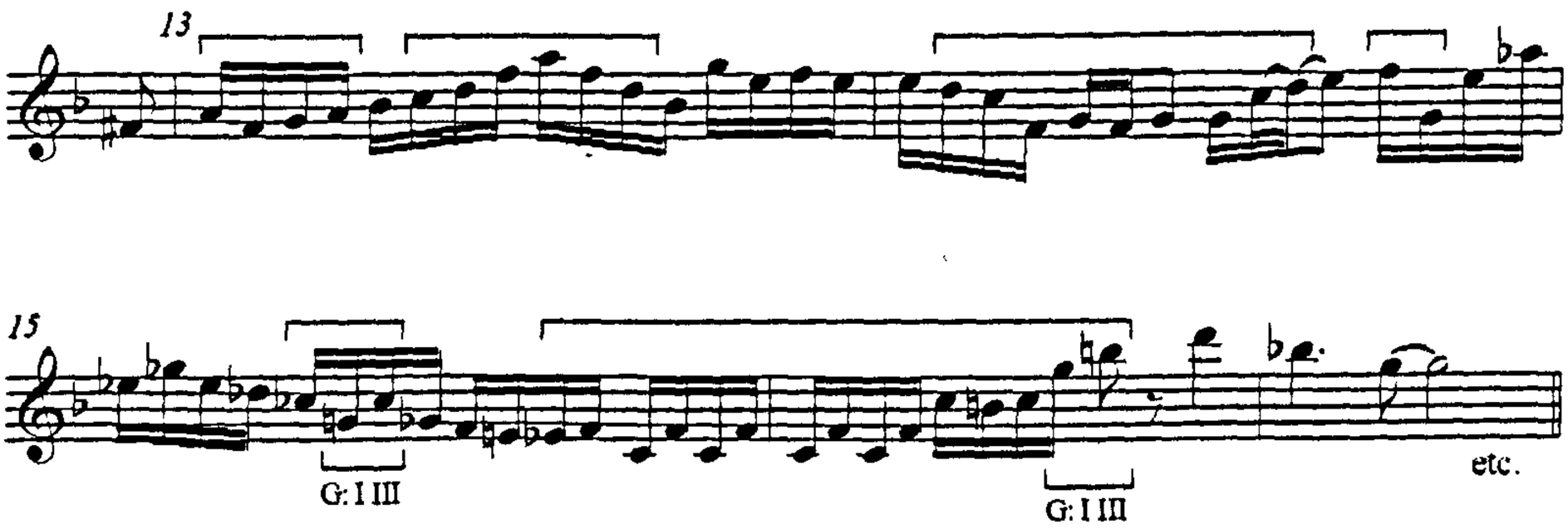


Fig. 1-23 Occurrences of Lifting/Placing Fingers in "Fortress Around Your Heart" (excerpt)

Note that the cases of (a) the G: I and III and (b) the C and F pattern both fall under this description. as well the Cmaj7 subset discussed above.

Thus. we can see that although the Ab minor pentatonic and Ab Dorian sections are presented in an iconic manner (i.e. with little compensation/cadential material to follow). the conscious withdrawal of tonal control over the instrument shown at beat 2 of bar 16 seems to require compensation (in the form of the Gm arpeggio in bar 17).

Finally. let us note the high frequency and location of the note B natural in these "out" sections. These characteristics lead me to suggest that although Marsalis is engaging in a fundamentally spatial activity. he is also focussing this activity upon the highly dissonant B natural (which is the natural III against the underlying minor tonality).

Live and Studio Versions[3]

As mentioned above. there is no equivalent section of this kind of "out" playing anywhere on the studio version of this piece. Perhaps this is not surprising. given that Sting is essentially a pop artist. and that this album was his first "solo" recording to follow the demise of "The Police". and was likely to be under the tight control of both Sting and his producers (i.e. more so than this live performance).

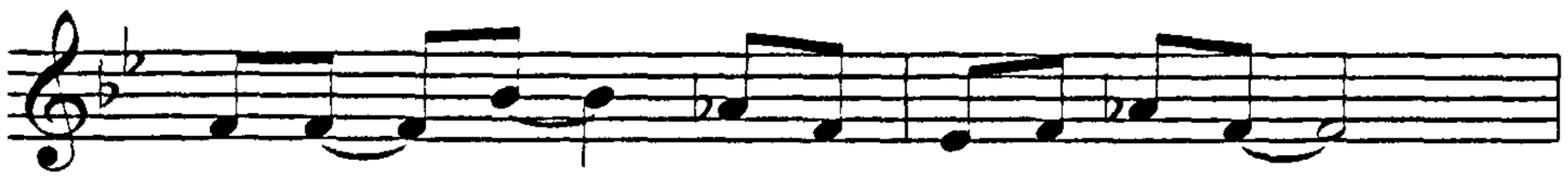
[3] The studio version of this track is available on "The Dream of the Blue Turtles" (1985) A&M 393 750-2.

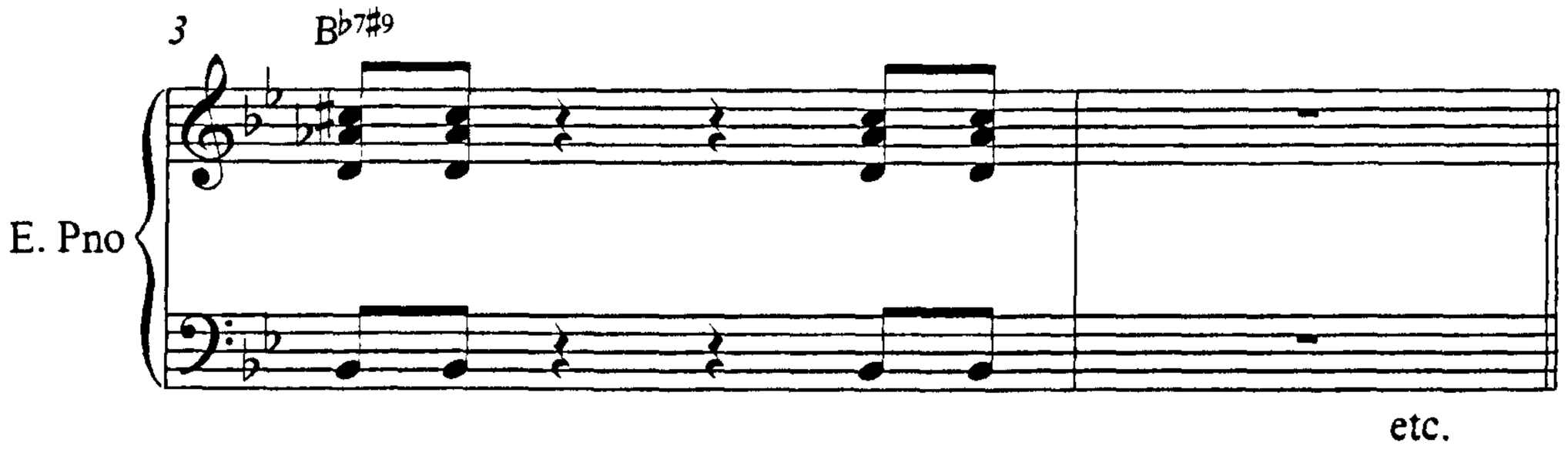
Hottentot

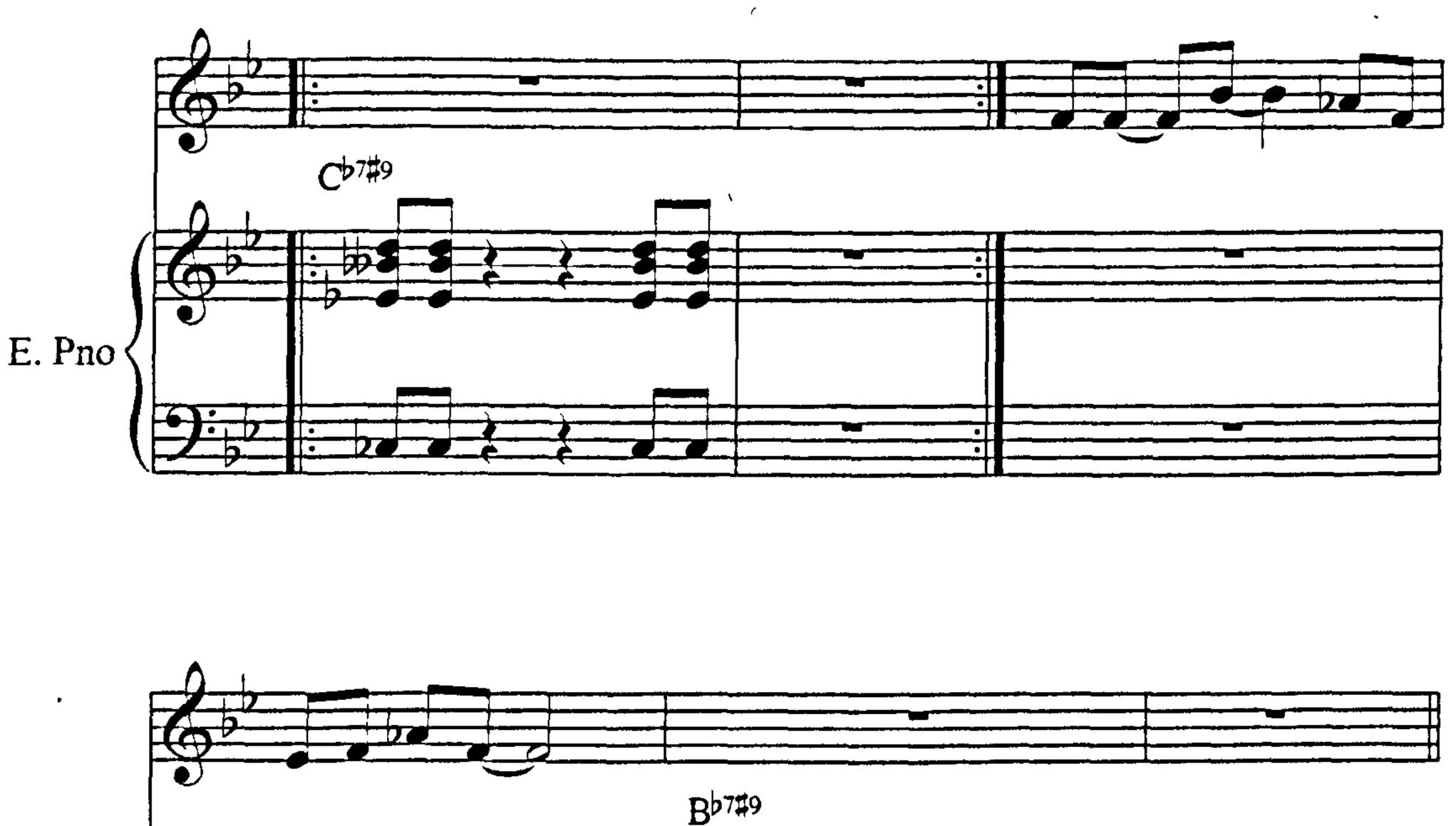
from "John Scofield A Go Go" (1998)
Verve 539 979-2

John Scofield

Head







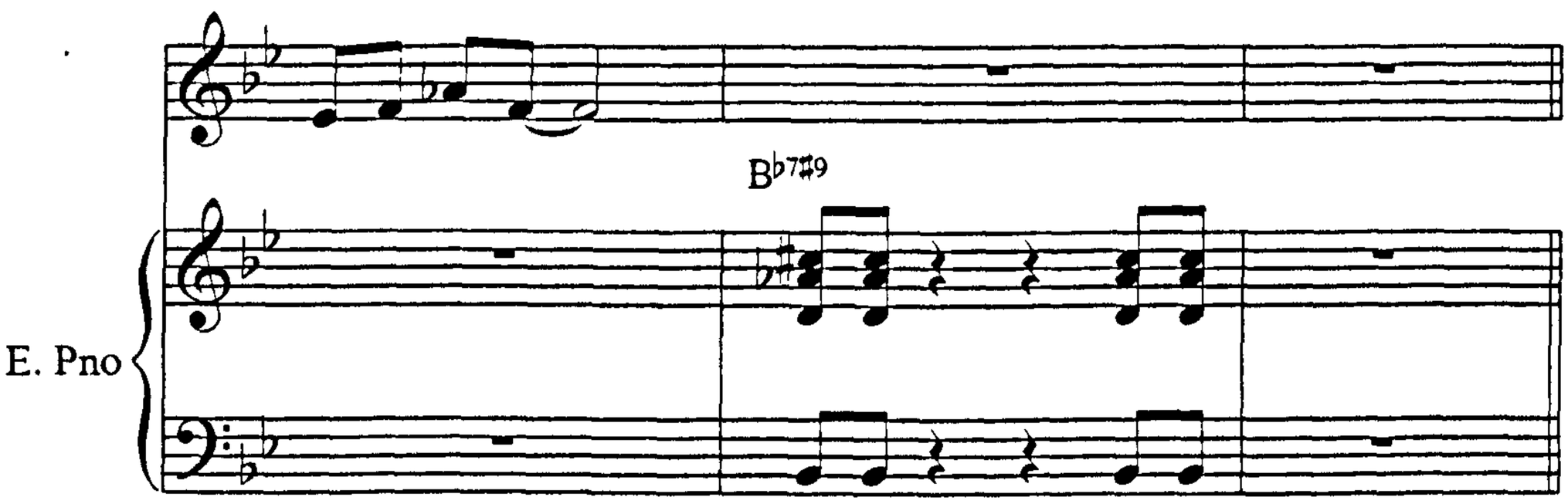
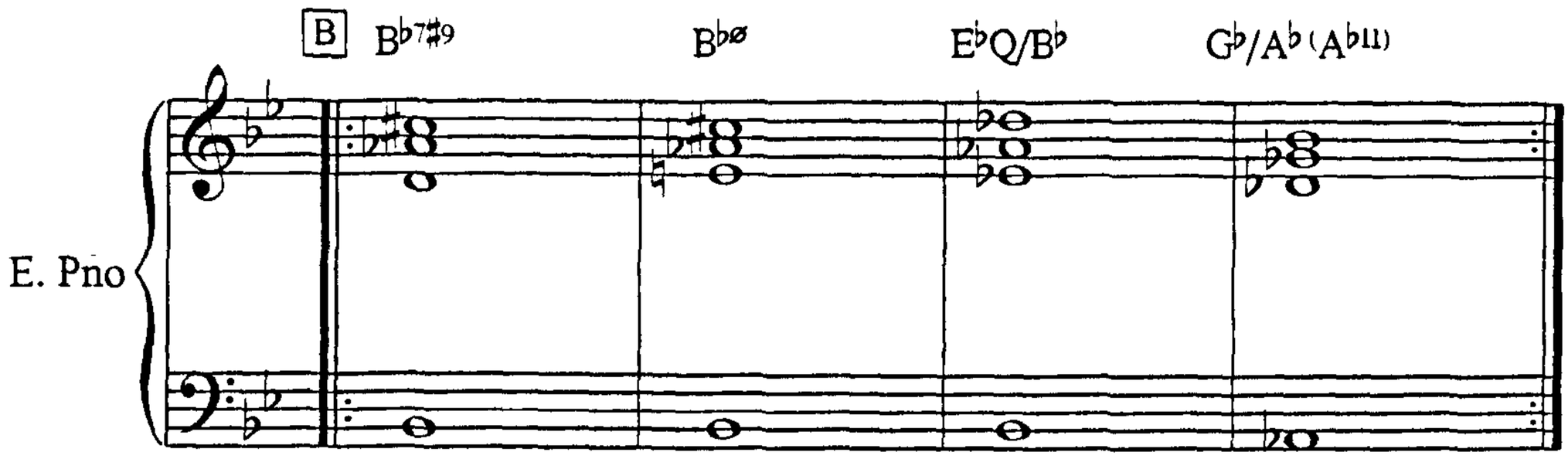
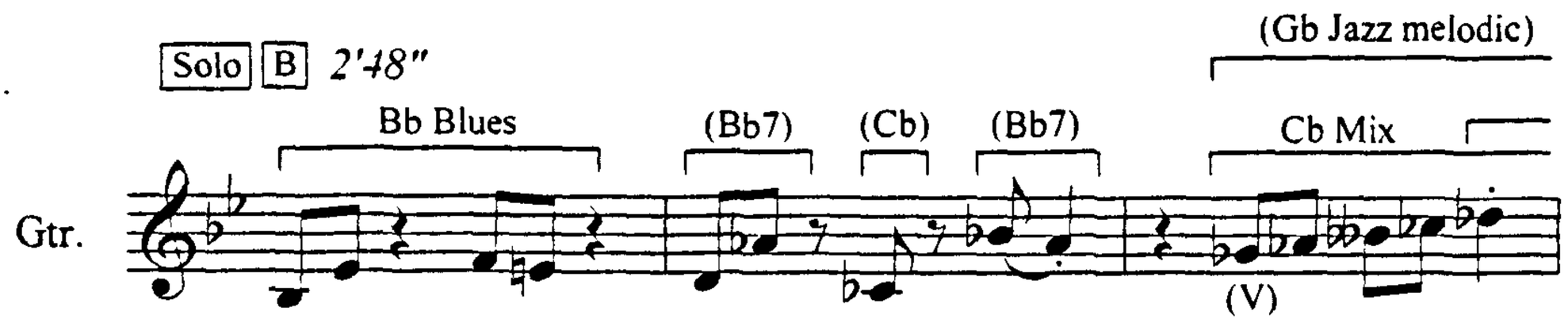
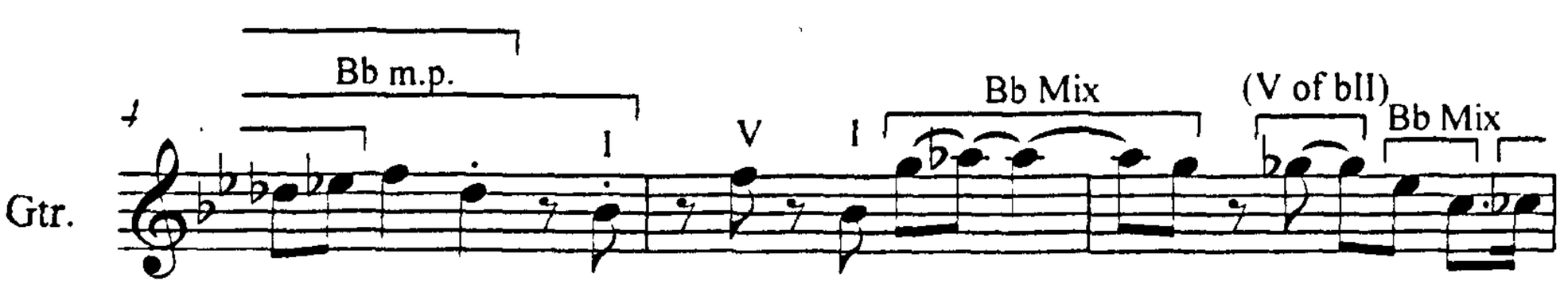


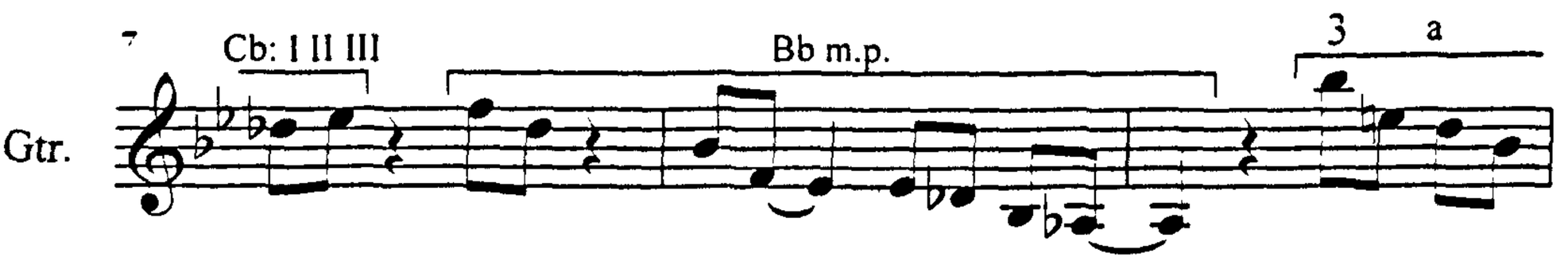
Fig. 1-24 "Hottentot" - John Scofield



etc.







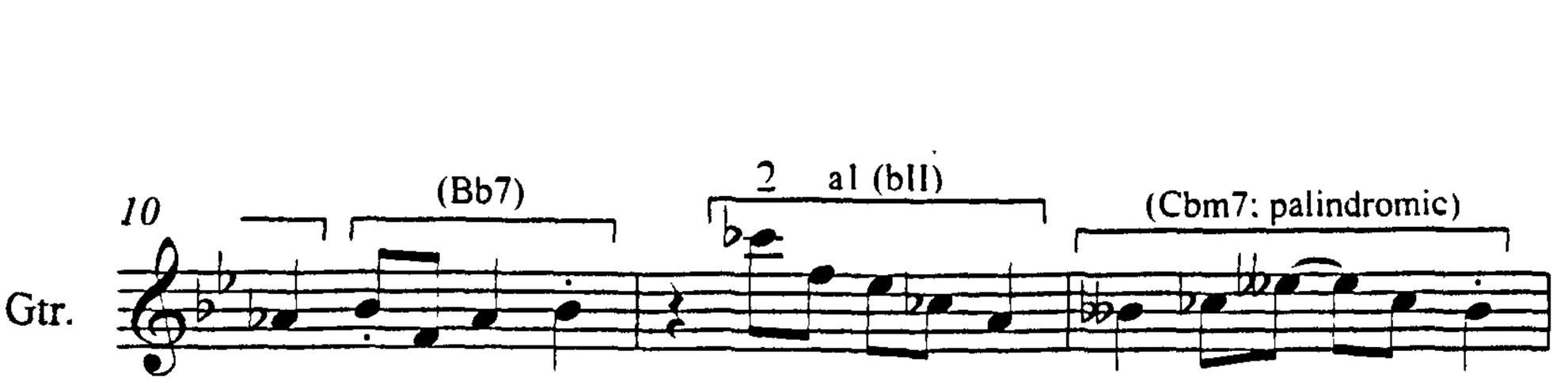
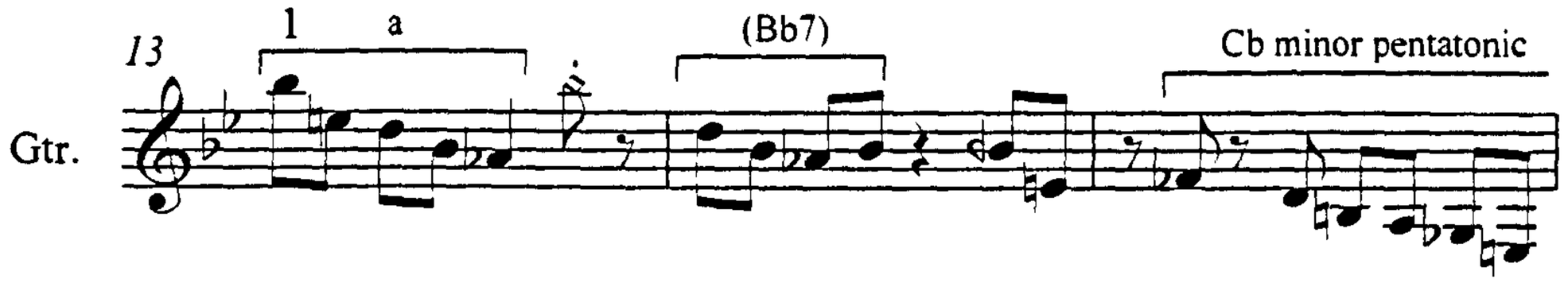
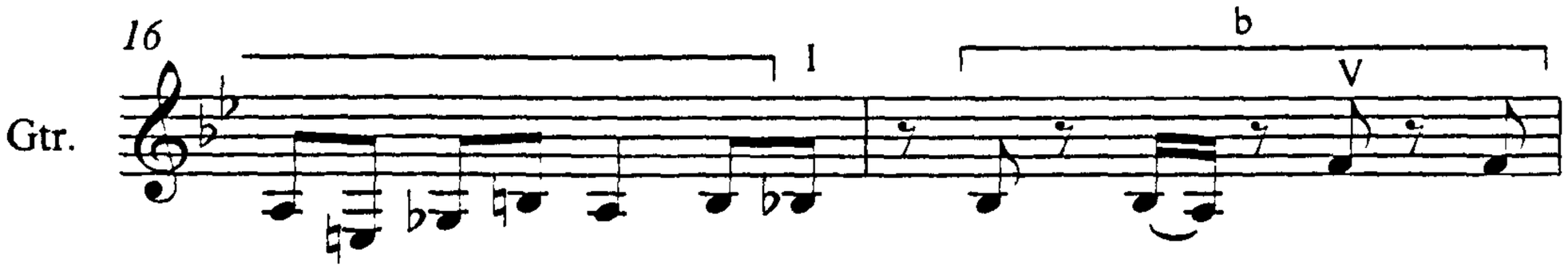
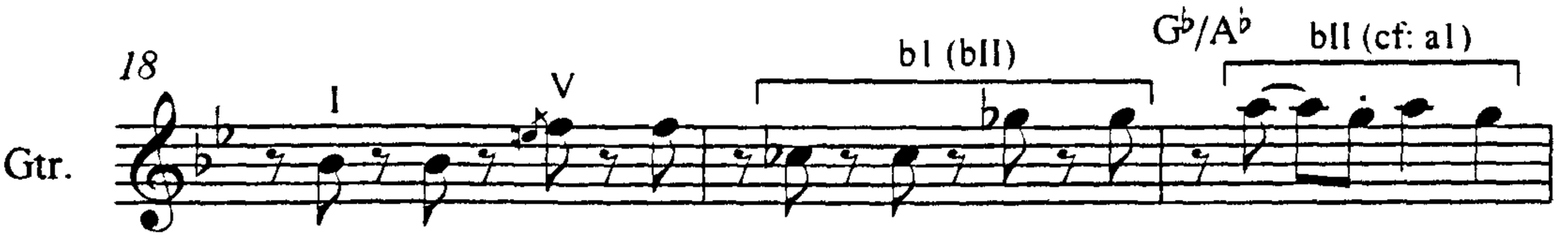
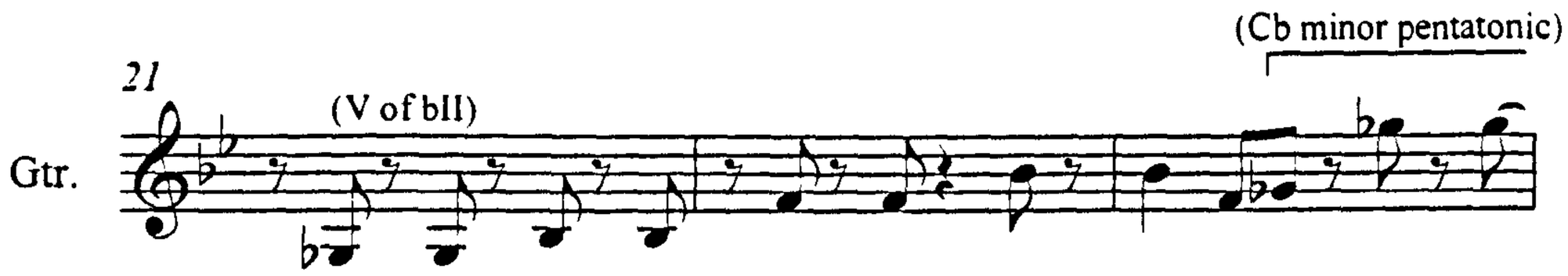


Fig. 1-24 "Hottentot" - John Scofield









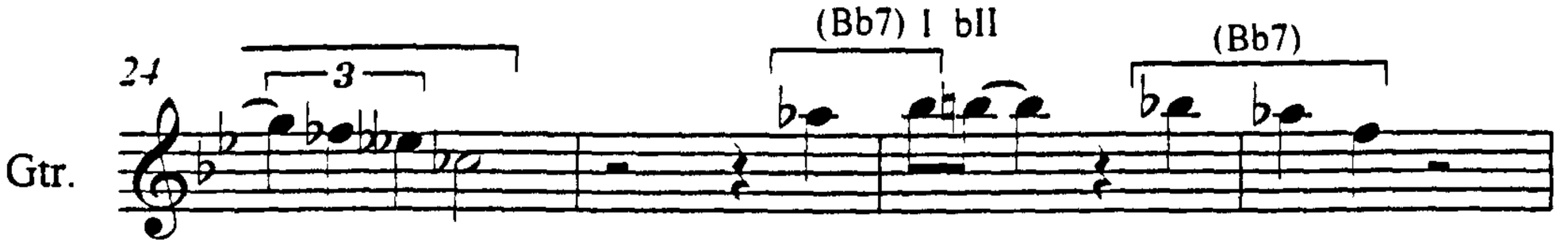
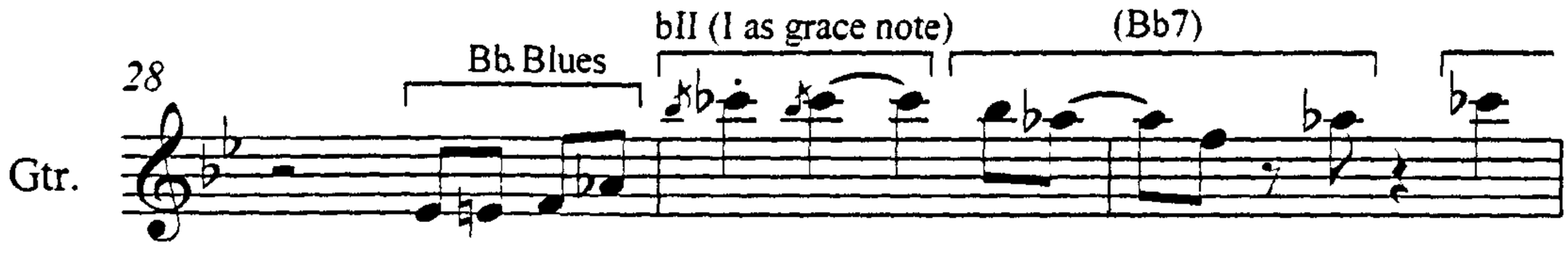
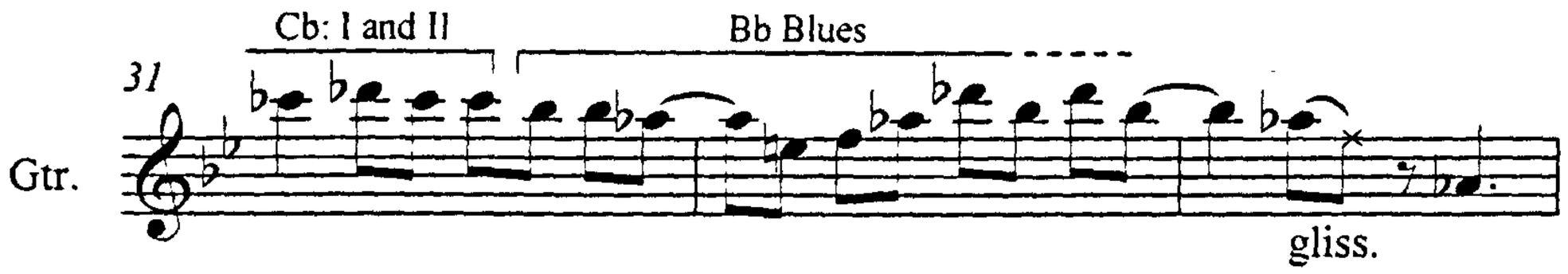
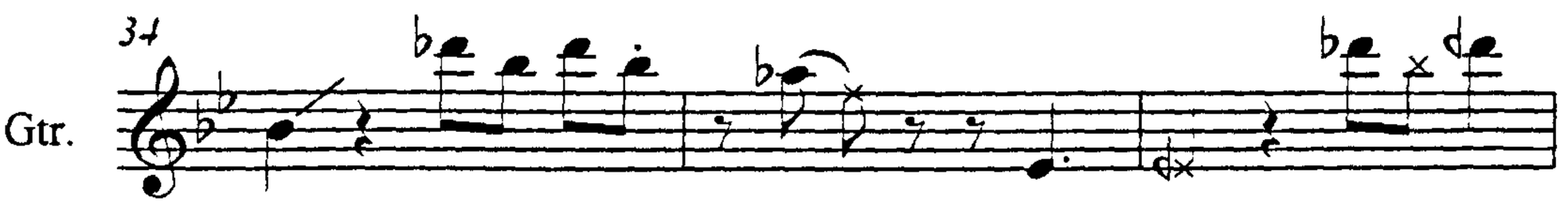
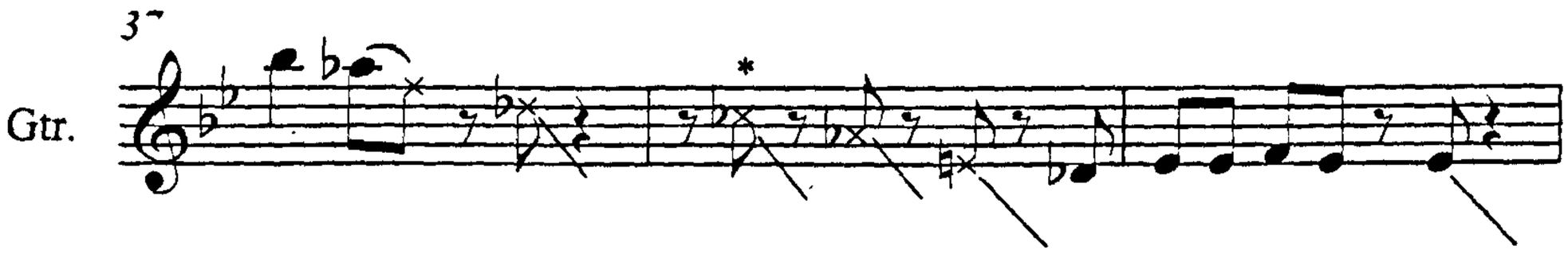


Fig. 1-24 "Hottentot" - John Scofield









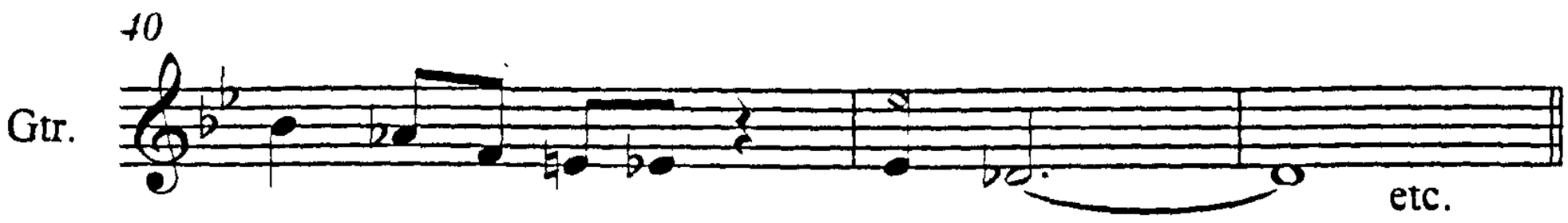


Fig. 1-24 "Hottentot" - John Scofield

"Hottentot" – John Scofield (Fig. 1-24)

(from "John Scofield A Go Go" (1998) Verve 539 979-2)

This piece is based upon a Bb7#9 vamp with a melody structure of two-bar phrases followed by a two-bar rest. There is also a limited use of this vamp at the bII: that is, as Cb7#9. However, this composed "up a semitone" section does not include a melody, and this interpolation adds a sense of uncertainty and tension for the remainder of the piece (it never reappears). This Cb7#9 section returns to the tonic Bb7#9 by a simple statement of the theme and vamp. Scofield's solo for the majority of the piece uses material derived from the (conventional) Bb Mixolydian, Bb Blues and Bb Auxiliary Diminished scales.

Outside

By contrast, the B section consists of a progression of local chords (still based around Bb7#9) that have scalar material that gradually shifts away from the conventional scales mentioned above. Relatedly, it is in this B section that we hear Scofield use "out" material, leading to a climax (where John Medeski (organ) takes over as the soloist at the return of the A section).

Bars 1 and 2 of Scofield's solo contain an interesting use of an iconic bII note within the context of a set of four Bb Blues pairs. The Cb in the middle of bar 2 is a like an "aside", thrown in so as to disrupt the core Bb Blues material. In a sense, this occurrence of such a small element of bII material acts as a signal that this will be a feature of the forthcoming solo (this recalls Medeski's use of solitary bII notes in "A Go Go", title track of this album).

An interesting case occurs immediately afterwards. in bars 3 and 4. Here Scofield plays 6 notes from the (bII) Cb Mixolydian scale (omitting Fb. the IV). Note that this pattern starts on the Gb. the V of Cb. He then resolves (at some ambiguous point) to Bb minor pentatonic. Let us note that these particular scales (Cb Mixolydian and the subset of Bb minor pentatonic) sum to Gb Jazz Melodic minor. I am uncertain as to whether Scofield is using this Gb Jazz Melodic scale as an "out"/"in" strategy. but the ascending nature of the pattern – and the fact that it starts on Gb itself – encourages this idea.

The "out" scale of Cb Mixolydian is further compensated by Scofield's use of the I and V of Bb in bars 4 and 5. The G and Ab in bar 5 (along with the F at the start of the bar) suggest Bb Mixolydian. but then. suddenly. a Gb is heard. followed by Eb and C (also suggesting Bb Mixolydian). This single Gb is the V of Cb. and recalls the solitary. interpolated Cb heard in bar 2. Note that this Gb. like that Cb in bar 2. occurs on the third quaver of the bar. Next. at the cusp of bars 6 and 7. Scofield follows this C with a Cb and Db. creating a kind of reverse "{x. x-1. x+1} set". and then moves on to confirm the new key of Cb with an Eb.

This section of constantly switching allegiance between I and bII is compensated (and thus punctuated) by a descending Bb minor pentatonic pattern. starting at beat 3 of bar 7 and finishing at beat 2 of bar 9 (a considerable duration for an uninterrupted scalar event. compared with what we have heard so far in this excerpt).

Bars 9 to 13 consist of a 7#11 motif (marked *a*) at Bb. then Cb. then Bb again. Notice how Scofield carefully complicates this structure by playing these on beat 3. 2 and 1 respectively (these beat numbers are annotated in bars 9. 11 and 13). Between *a* and *a1* is a Bb7 – or Bbm7 (there is no D) – arpeggio and between *a1* and the following *a* in bar 13 there is a (palindromic by pitch and rhythm) Cbm7 pattern (bVII. I. bIII. I. bVII). In a

sense, then. Scofield is operating two *independent* I and bII patterns simultaneously (i.e. the sequence element *a1* in bar 11 and this phrase in bar 12).

There is also what seems to be an aborted *a* at beat 4 of bar 14. However, this makes way for a cadential use of Cb minor pentatonic throughout bars 15 and 16. A similar cadential use of Cb Major occurs exactly 16 bars later at bars 31 and 32. (We might also usefully note at this point a further lengthy section of Cb material that occurs at bars 23-24, an 8-bar cadential point.) The B half-flat at bar 14 is intriguing. It is, of course, the result of a string bend. However, it is played as a clear pitch, and, of course, is equidistant between Bb (I) and Cb (bII), the key scalar sets with regard to this solo. From the perspective of knowing the high frequency of use of these scalar sets here, we might read this B half-flat as a pointed, single-note summary of these two pitches.

Bar 16 closes with a clear (tonic) Bb, and the quaver rest that follows extends this note's influence into bar 17 (the start of the next 16-bar section). Bars 17-19 show another I to bII pattern, based on I and V of each key (marked *b* and *b1*). Let us recall that it is these two notes that Scofield has used in an iconic manner at bars 2 and 6 (also, as we shall see, later at bars 21, 26 and 29). In a sense, *b* could be described as a compensatory phrase for the "out" section of Cb minor pentatonic in bars 15-16. Thus, here we have an example of compensatory material being used as a motif for further "out" playing. This is an extension of the simpler use of I and V found in bars 4 and 5. Bar 20, harmonised by a Gb/Ab chord, sees Scofield play A natural and G natural notes. Note that these pitches are the names of the chords transposed up a semitone. At bar 21, Scofield again inserts the V of Cb (Gb). It is possible that this note is the result of a fingerboard error (perhaps he meant to play an Ab to partner the Bb and thus resolve the motif in bar 20?). Whatever, the result represents a rare example of a motif starting "out" (first half of bar 21) and moving "in" (bar 22).

Once again. the note Gb is stressed in the Cb minor pentatonic subset in bars 23-24. Bar 27 sees Scofield again using the bII note as an iconic interpolation within a conventional Bb7 arpeggio. Bar 29 includes two Cbs. both anticipated by Bb grace notes. Here Bb and Cb become closely identified as an almost simultaneous event (recall my postulation regarding the B half-flat event in bar 14). Note that both of these "out" sections are answered by a similar descending "in" pattern: a {0. 3. 5} subset – at bars 26-27 and 29-30 (marked (Bb7) in both cases).

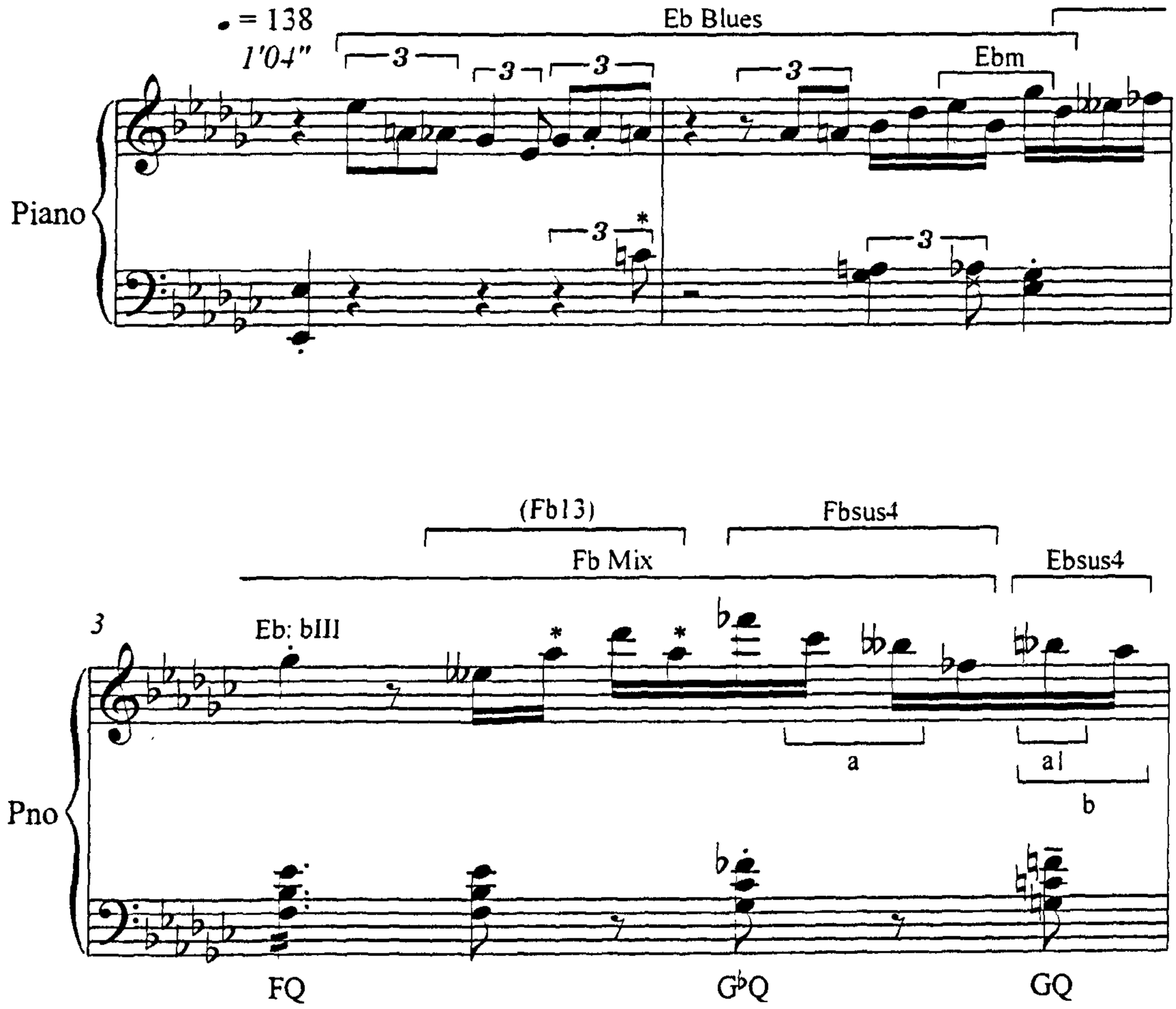
Bars 30-31 contain a small Cb pattern (I and II only). and this is then followed by a relatively extended use of Bb Blues. Indeed. if we allow half-flats to be "honorary" flats. then there is only one event in the remainder of this excerpt that does not use this Bb Blues scale. That event is the ghosted Cb in bar 38 (marked *). However. despite its scarcity. we can say that even when playing "effects". Scofield maintains a highly disciplined iconic use of the bII note within a I context.

Finally. let us note that Scofield tends to use the minor pentatonic. the Mixolydian or the Major scale – but not the Blues scale – at the bII transposition. However. the characteristic bV of the Bb Blues scale (i.e. Fb = E natural) is to be found in many "in" sections: at bars 1. 9. 13. 14. 15. (also bar 18 as a grace note).

Latin Shuffle

from "Combustication" (1998)
Blue Note 7243 4 93011

Medeski, Martin & Wood



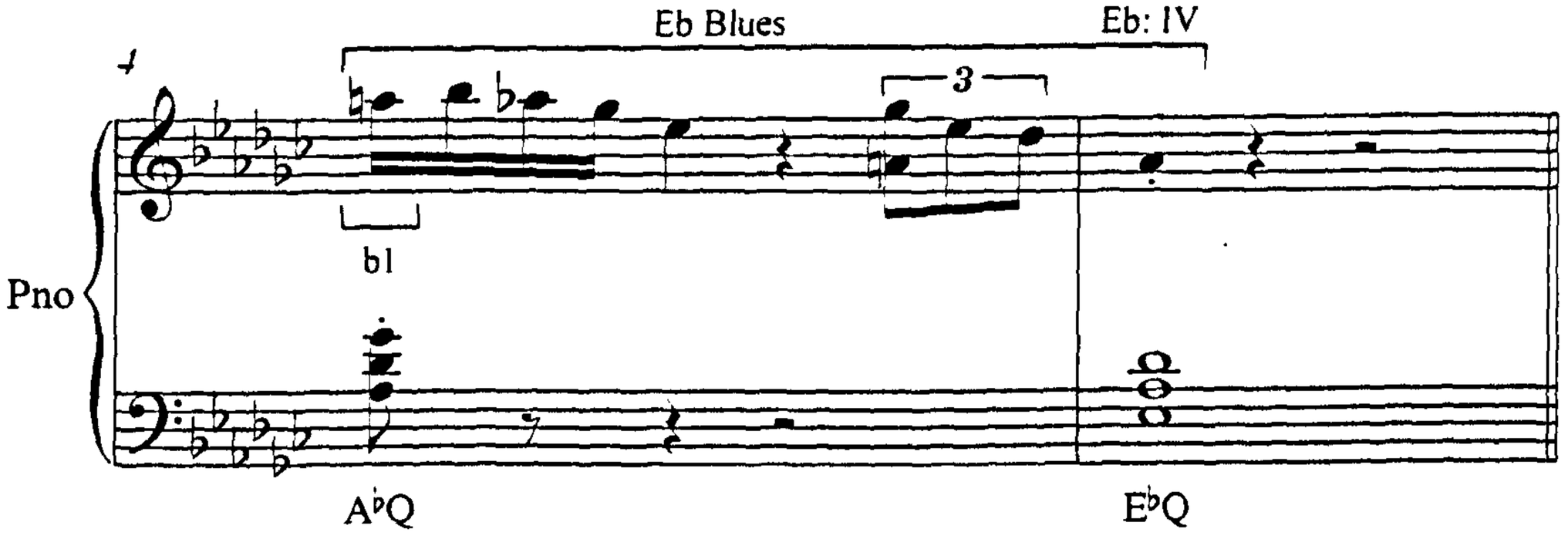


Fig. 1-25 "Latin Shuffle" - John Medeski

"Latin Shuffle" – John Medeski (Fig. 1-25)

(from Medeski. Martin and Wood "Combustication" (1998) Blue Note 7243 4 93011)

Unlike most of the other examples in this chapter. this excerpt from John Medeski's piano solo is not a rare event within the improvisation from which it comes. On the contrary: Medeski's solo is characterised by much use of "out" and abstract playing.

This short excerpt is based in the key of Eb minor. often realised as Eb Blues. The key of Eb minor has an important visual structure at the keyboard in that the core scale of Eb minor pentatonic uses all of the black keys (Eb Blues includes the extra white note A). Thus. as a general rule. this key allows a keyboardist to read the black keys as "in" and the white keys as "out".

The notation commences with a representative passage mostly using Eb Blues (the exceptions being the C natural in the left hand at the end of bar 1. marked *. and the F natural "ghost" note in the left hand in bar 2). This "in" section may be seen to end at beat 4 of bar 2. where the Gb in the right hand doubles an Ebm chord (subset) in the left hand. Note that this Gb note and the Eb and Bb that precede it in the right hand combine to form an Ebm arpeggio. further adding to the sense of resolution at beat 4.

Outside

The Db note that follows this Ebm chord may be seen as a pivot tone between the tonic scale of Eb Blues and the "out" scale of Fb Mixolydian that commences here. The Gb at the start of bar 3 is accompanied by a resolved FQ. and this event temporarily reasserts

the Eb Blues tonality, despite the melody being derived from Fb Mixolydian at this point. Note that this FQ consists mainly of black notes.

This temporary resolution gives way to "out" material derived from conventional chord voicings, also from this scale. Medeski plays a conventional Fb13 voicing and an Fbsus4 chord (= Cb Quartal) as arpeggios. Note the use of Ebb to open the Fb13 arpeggio. immediately confirming its "out" credentials, even though the upper notes (Ab and Db) may be seen to belong to the tonic key of Eb minor. By contrast, the Fbsus4 arpeggio consists entirely of white notes. Note the two Fbs at the top and bottom of the Fbsus4 arpeggio, asserting its relationship with the tonic key. This arpeggio is accompanied by a GbQ, which, in visual contrast to the FQ which precedes it, mostly consists of white notes. Further, let us note that this Gb Quartal and the Fbsus4 chord form a {0, 2, 5, 7} set and that this set is from Fb Mixolydian. Thus, this Fbsus4 arpeggio and the accompanying GbQ represent the high point of Medeski's use of Fb Mixolydian in that here both hands are employing it.

It is clear from this use of arpeggios that Medeski is not transposing the Eb Blues scale up to the bII (i.e. this "out" section is not based upon Fb Blues, a similarly simple visual scale). Rather, he is focusing on the harmony of the piece transposed up a semitone. As confirmation of this concept, let us note here Medeski's use of Abs (the III of Fb Mixolydian, marked with *s) rather than Abbs (which might belong to the scale of Fb Blues). We can see that these Abs occur as notes within the arpeggio of the Fb13 chord. Thus, although Medeski is operating with a scalar "out" strategy, he has changed the quality of that scale from the melodic (Eb) Blues to the harmonic (Fb) Mixolydian.

The subset of Ebsus4 that follows defines the return to the home key. Note the (prolongational) "{x, x-1, x+1} set" at this point (marked *a* and *a1*): the repeated Fb of the Fbsus4 arpeggio is interpolated within this set (forcing the description

"prolongational"). Further. this subset of Ebsus4 forms a second "{x. x-1. x+1} set" with the A natural at the start of bar 4 (marked *b* and *b1*). This A natural clearly belongs to (and defines) the Eb Blues melody in bar 4. and is not a further excursion to Fb Mixolydian. Indeed. Medeski asserts the Eb Blues scale firmly by also using A natural in beat 4 as a harmony to a Gb. In retrospect. the interpolated Fb in the first (prolongational) "{x. x-1. x+1} set" (marked *a* and *a1*) would seem to allow the A natural to fall exactly on beat 1 of bar 4. Further. the G Quartal and the Bb natural in the melody form the {0. 2. 5. 7} set a semitone above that seen a beat earlier (i.e. it may be seen to be from F Mixolydian). To my ear. however. the melody sounds as if it has returned to Eb minor pentatonic.

The Ab Quartal at bar 4 is a chord from within Eb Blues. and thus can be described as the resolution of the list of chromatically ascending quartals that has preceded it. Indeed. this chord provides the Db necessary for us to be able to say that Medeski has completely covered the Eb Blues scale by beat 2 of bar 4. Thus. Medeski may be seen to rapidly compensate for the "out" section. Further. note the emphatic A natural at beat 4 of bar 4. further asserting the Eb Blues tonality.

We noted above that Medeski uses a short melody from Fb Mixolydian (BWWB). followed by an Fb13 arpeggio (WBB) and an Fbsus4 arpeggio (WWWW). These then resolve to an Ebsus4 subset (BB) at the end of bar 3. Notice that the Black/White content of this material may be seen to steadily move away from Black to White in order to gradually move "out" of the home key of Eb minor. and then suddenly return to it. It may be seen that a similar process occurs in the accompanying left hand quartals (bars 3 and 4). The FQ is WBB. the GbQ is BWW and the GQ is WWW (i.e. most distant from the all-black scale of Eb minor pentatonic). The chord that follows. AbQ. occurs at beat 1 of bar 4. and is BBB. Thus. in the harmony of bar 3 (just like the melody) we see a gradual movement away from the tonic key of Ebm. followed by a sudden return at the

start of bar 4. The EbQ at bar 5 confirms this return. Thus. Medeski seems to be employing a spatial strategy here. based in the knowledge that the tonic scale (whether Eb minor pentatonic or Eb Blues) uses all of the black notes of the keyboard.

Note that these two excursions (melodic and harmonic). whilst sharing this gradual move "outwards" followed by a rapid return "inwards". follow different B/W curves. and even resolve at different points in time. The melody returns to Eb minor at the eighth quaver of bar 3 whilst the harmony returns to Eb minor at beat 1 of bar 4. That is. Medeski is operating subtly independent cadences: one in the right hand. one in the left hand. This is made possible by the use of the (relatively straightforward) chromatically ascending quartals in the left hand.

Finally. let us note how smoothly Medeski moves the melody from the home key of Eb minor into the Fb Mixolydian section at the end of the phrase starting in bar 2. This fluency is matched by the equally smooth return to the home key in bar 3. Thus. the "out" section is highly integrated into the melody of the improvisation: the only punctuation is the rest within the Fb Mixolydian section at beat 2 of bar 3.

Puerto Rican Children

from "Something Grand"
(1987) PK83011

Hilton Ruiz

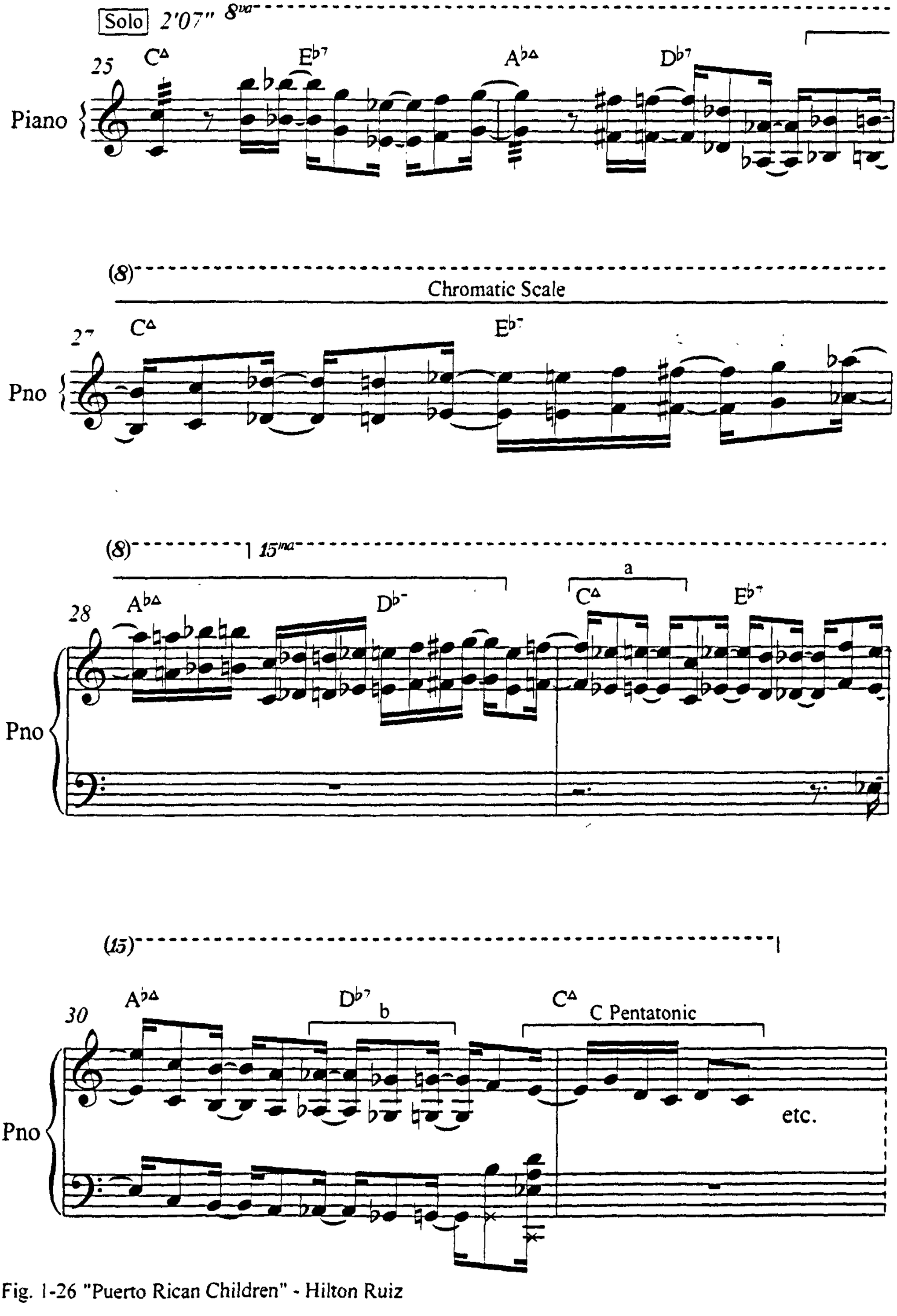


Fig. 1-26 "Puerto Rican Children" - Hilton Ruiz

"Puerto Rican Children" – Hilton Ruiz (Fig. 1-26)

(from "Something Grand" (1987) PK83011)

I have included this excerpt as it neatly represents a characteristic technique used by many pianists playing in the Latin style. namely the use of ascending and descending chromatic melodic patterns within a solo. These chromatic patterns often have conventional tonal "points of rest". as we shall see.

Outside

Chromatic notes are in evidence at the approaches to the Eb7 and Db7 chords in bars 25-26. However. it is at bars 26-27 that we hear a cleverly placed chromatic melodic structure. There are several "points of rest":

1. The note Ab. a semiquaver before bar 28. which resolves with the Abmaj7 chord in that bar. Let us note the change in rhythm at beat 3 of bar 27 which places the Ab note at this point in time.
2. The note G at the top of the scale (beat 4 of bar 28). This has a dual function: (a) as the #IV of Db7. and (b) as an anticipation of the Cmaj7 chord at bar 29 (note the C Ionian material that links this note G to bar 29).

There are also two "{x. x-1. x+1} sets" which add interest to the contour of the melody whilst maintaining its chromatic character. The first is at bar 29 (marked *a*). which resolves to E (the III of Cmaj7). The second is at bar 30 (marked *b*). which resolves to G (the V of Cmaj7). This second case is interesting in that this note G occurs exactly 5

semiquavers before the Cmaj7 chord – exactly the same distance as the G at the top of the chromatic scale. described above.

Finally. note the use of notes from C Pentatonic {I. II. III. V} as compensatory material. starting at the end of bar 30. This set reasserts the core harmonic material of the C(maj7) chord.

Scrapple From The Apple

Blue Ribbon 8011/Up Front 171/
Charlie Parker Records 407/Savoy 1108

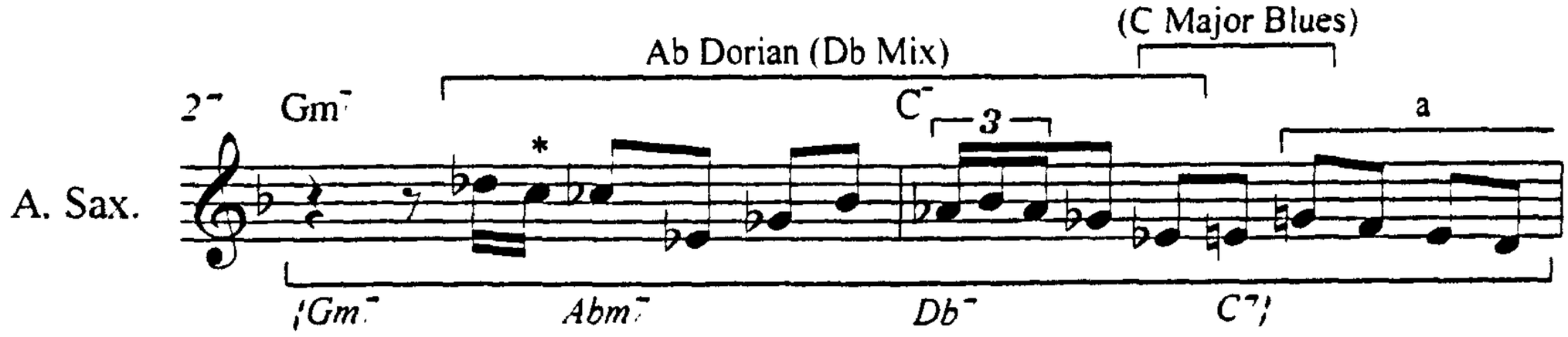
Charlie Parker

1st Chorus *1'16"*

A3

25 Gm7 C7

Alto Saxophone



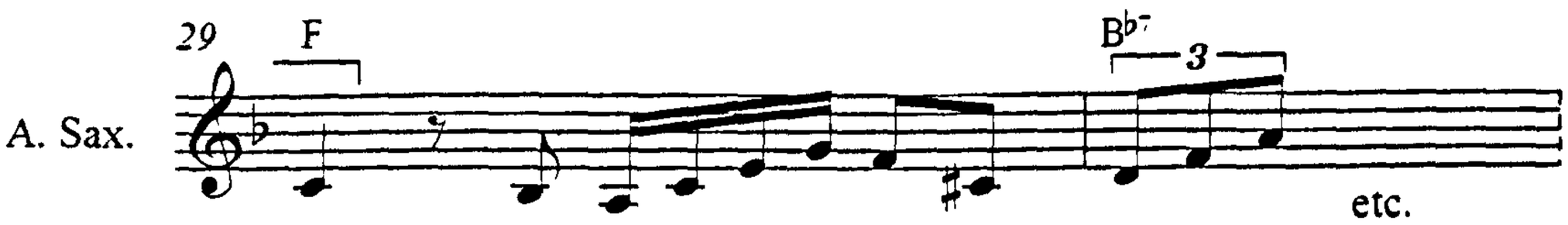


Fig. 1-27 "Scrapple From The Apple" - Charlie Parker

"Scrapple From The Apple" – Charlie Parker (Fig. 1-27)

(from Blue Ribbon 8011/Up Front 171/Charlie Parker Records 407/Savoy 1108 (1947))

As mentioned in the Introduction, I found it more difficult to locate an example of "out" playing in the work of Charlie Parker than I expected. However, this F Blues suggests that he was fluent with the use of the bII as superimposed "out" material. This is not surprising due to the amount of superimposition and substitution of harmonic material applied by the bebop composers to popular song chord progressions. My notation of this excerpt agrees with that found in Aebersold and Stone (1978). Further, the extended reference for this recording (above) derives from their book.

Outside

At bar 27 of this excerpt, Parker interpolates a melody outside the chord of Gm7. Nowhere else in this performance does Parker engage this "out" strategy. This melody includes a chromatic passing note of C natural (marked *). We might postulate that this scale is Ab Dorian, the bII transposition of the conventional G Dorian scale that Parker generally uses over the Gm7 chord at this point in the progression. However, this could equally be seen as a Db Mixolydian list (i.e. the same notes, but a different mode), acting as a anticipatory passage a semitone above the upcoming chord of C7 (which would usually take C Mixolydian). The presence of a both a Cb and repeated Abs, and the absence of an F and the presence of a Gb in bar 28 tend to suggest the scale of Ab Dorian may be the more accurate analysis, but this is inconclusive. However, we might further speculate that Parker is, in fact, actually thinking of an interpolated Abm7 Db7 progression (i.e. bars 27-28: / Gm7 Abm7 / Db7 C7 /). Thus, it might be argued that he moves from an Ab Dorian to a Db Mixolydian scale within this section.

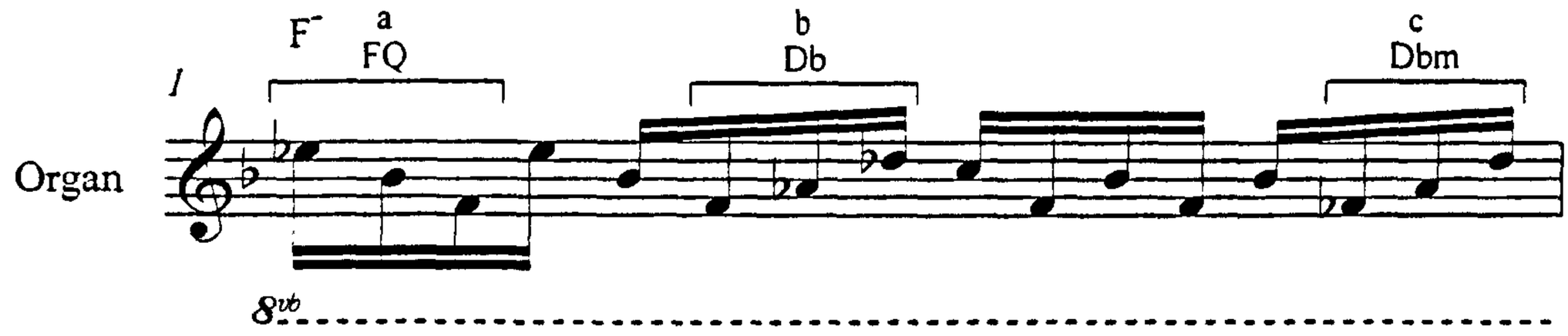
Note the C Major Blues subset in bar 28, confirming the C7 chord, yet actually maintaining a significant level of chromaticism with the underlying tonality. However, the descending C scale subset (marked *a*) has a higher compensatory level, consisting of five adjacent scale tones. This simple melodic pattern, played in four quavers and a crotchet, is not typical of Parker's melodic style in this recording, which is generally characterised by more complex melodic contours and harmonic relationships.

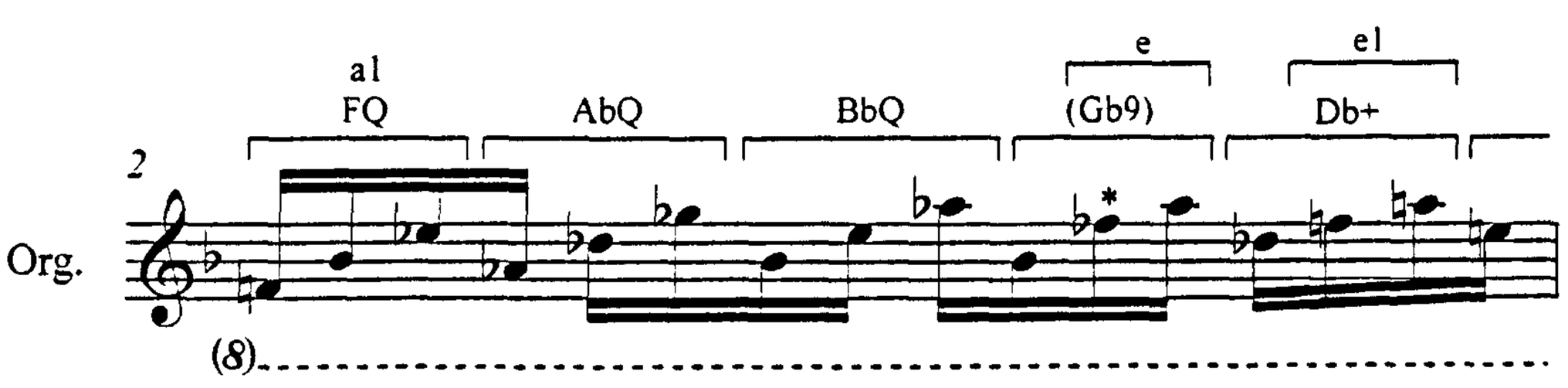
The Sermon

"Jazz 625": BBC2
30th May 1965

Jimmy Smith

5th Chorus | Solo | *3'05"*





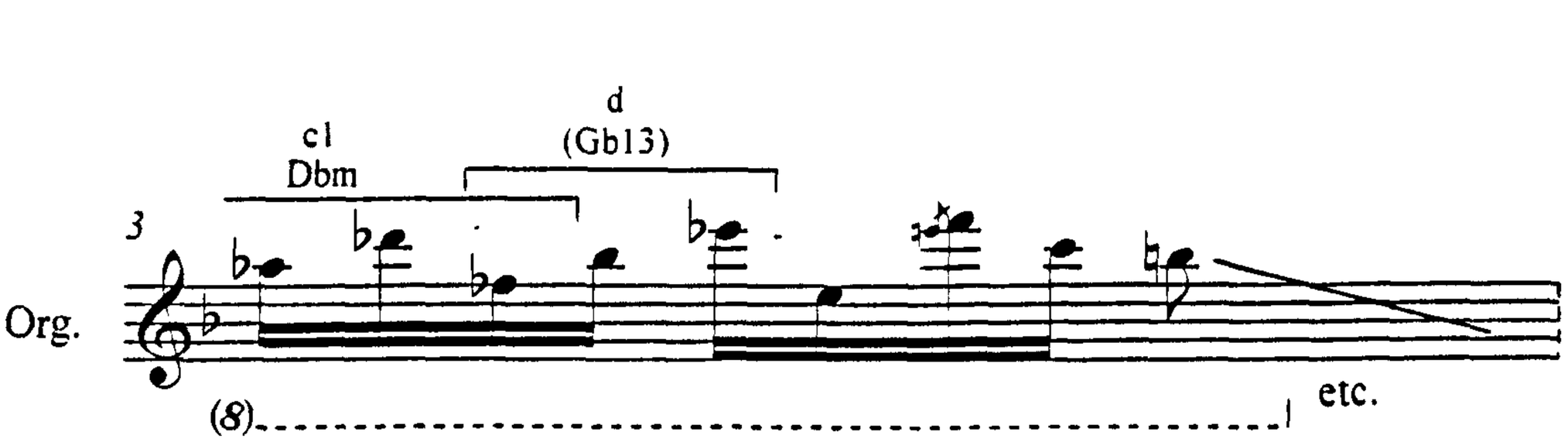


Fig. 1-28 "The Sermon" - Jimmy Smith

"The Sermon" – Jimmy Smith (Fig. 1-28)

(from "Jazz 625": broadcast on BBC2. 30th May 1965)

Outside

At bar 1 of this 5th chorus. Smith opens with a (mildly dissonant) FQ arpeggio (marked *a*). which is repeated immediately. The remainder of this bar is noteworthy for the inclusion of two other triad arpeggios: Db and Dbm (marked *b* and *c*. respectively). Let us note immediately that these have an identical Black/White visual structure as the previously heard FQ.

Bar 2 opens with another FQ arpeggio. ascending this time (marked *a1*). There follow two further quartals. each consisting entirely of black notes. AbQ and BbQ. These suggest that Smith has a generalised concept of the black keys as "out" in this Blues in F.

The following three notes show an alteration to this process: Smith repeats the last arpeggio. but raises to the Eb to become an E natural (marked *). Note that this arpeggio is a common Gb9 voicing, and that Gb is the bII of the tonic key. The Db+ arpeggio that follows is noteworthy because (a) again. it starts on a black note. and. (b) its upper pair of notes (marked *e1*) is chromatically above those heard in the previous arpeggio (marked *e*).

For the following arpeggio. Smith moves to a pattern starting on a white note. yet this arpeggio is a repeat of the Dbm triad heard in bar 1. albeit an octave above (marked *c1*).

A further common bII chord voicing occurs next: Gb13 (marked *d*). Let us note that this is also a conventional voicing of C7#9. the dominant chord of the piece.

Spatial

If we examine the arpeggios of *a*, *b*, *c* and *d*, we find that they share a visual similarity. That is, they have an identical black/white structure at the keyboard (Figure 1-29). Here Fbs are shown as E naturals for clarity.

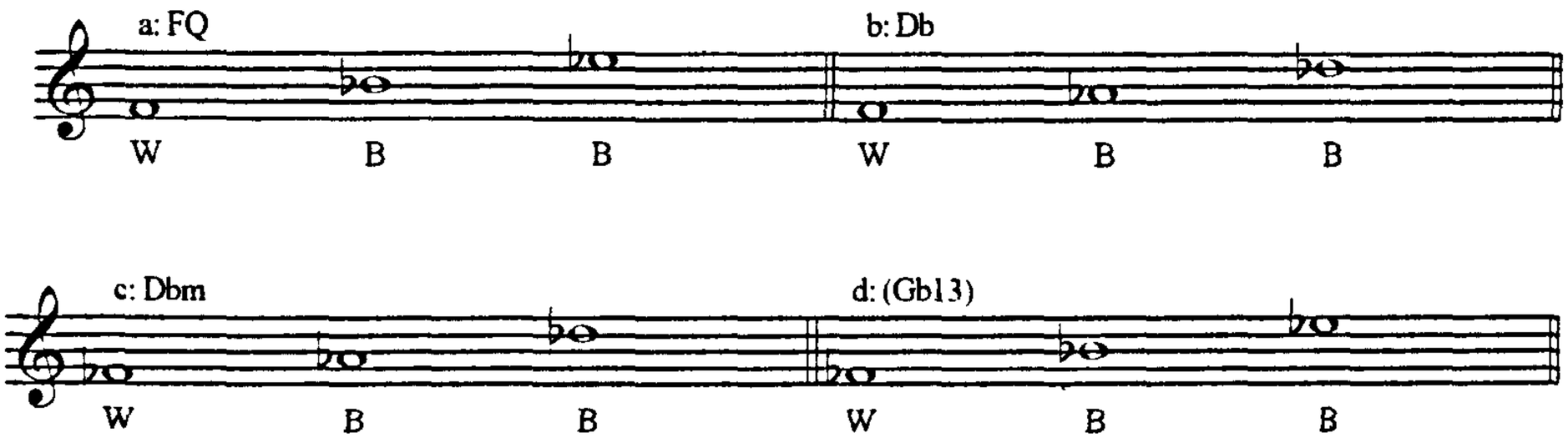


Fig. 1-29 Arpeggios *a*. *b*. *c* and *d* from "The Sermon". 5th chorus. bars 1-2

Note that all four of these arpeggios occur in ascending form. and that it is only FQ that occurs in descending form.

What seems to be happening here is that Smith is using a well-rehearsed hand shape to "grab" at material outside of the home key. Thus. he is engaging in a form of spatial "out" playing. Let us note that FQ and Db share the note F. and that Dbm and (Gb13) share the note Fb (= E). Further, we can see that these pairs of chords generally occur near each other, the notes F and Fb acting as a kind of spatial "pivot" (played by the thumb of the right hand). Note that the choice of F and Fb as pivot notes provides Smith

with a range of dissonance with regard to these chords. That is, F is highly resolved, whereas Fb is dissonant in the context of this Blues in F.

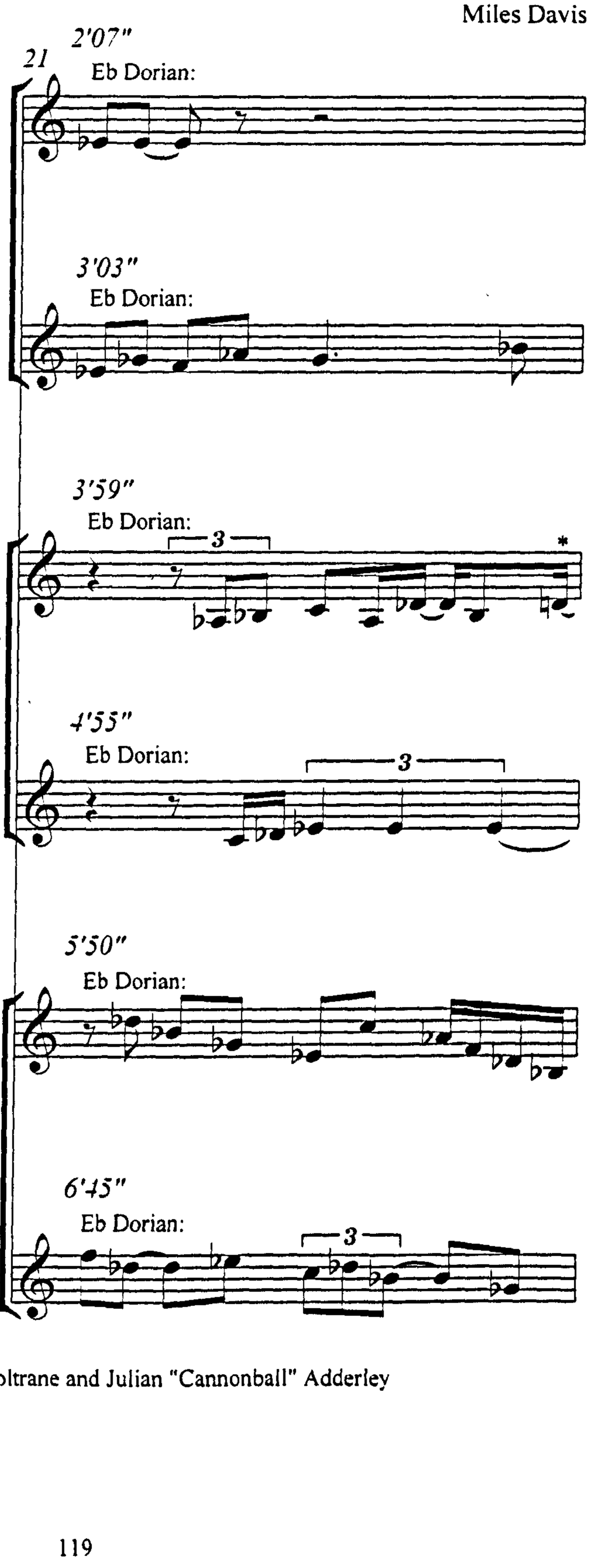
"So What?"

solos at change from Ebm7 to Dm7
(bars 21 to 25)

from "Kind Of Blue"
(1959) Columbia 1355

Miles Davis

Miles Davis: 1st Chorus



John Coltrane: 1st Chorus

John Coltrane: 2nd Chorus

"Cannonball" Adderley: 1st Chorus

"Cannonball" Adderley: 2nd Chorus

Fig. 1-30 "So What?" - Miles Davis, John Coltrane and Julian "Cannonball" Adderley

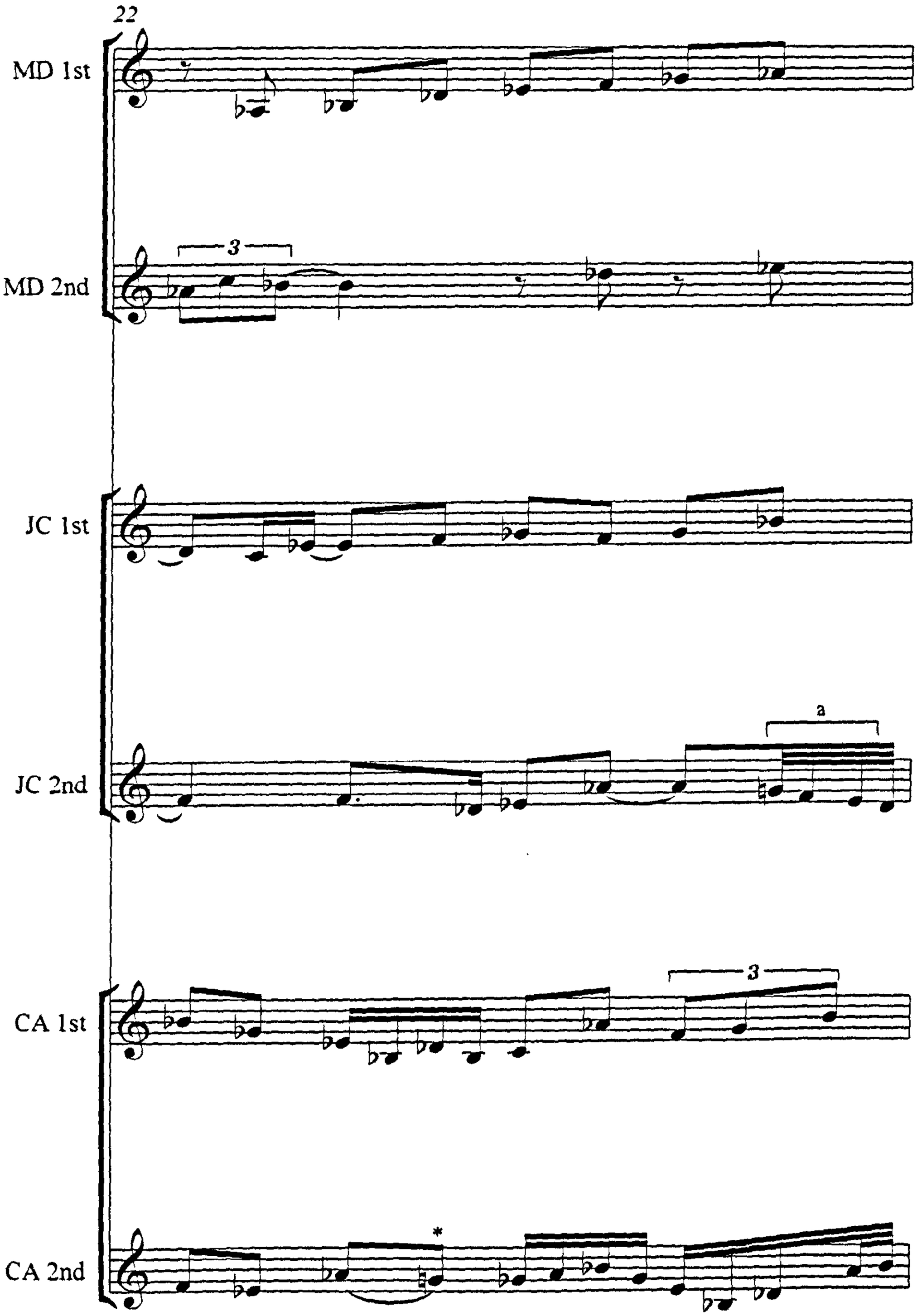


Fig. 1-30 "So What?" - Miles Davis. John Coltrane and Julian "Cannonball" Adderley

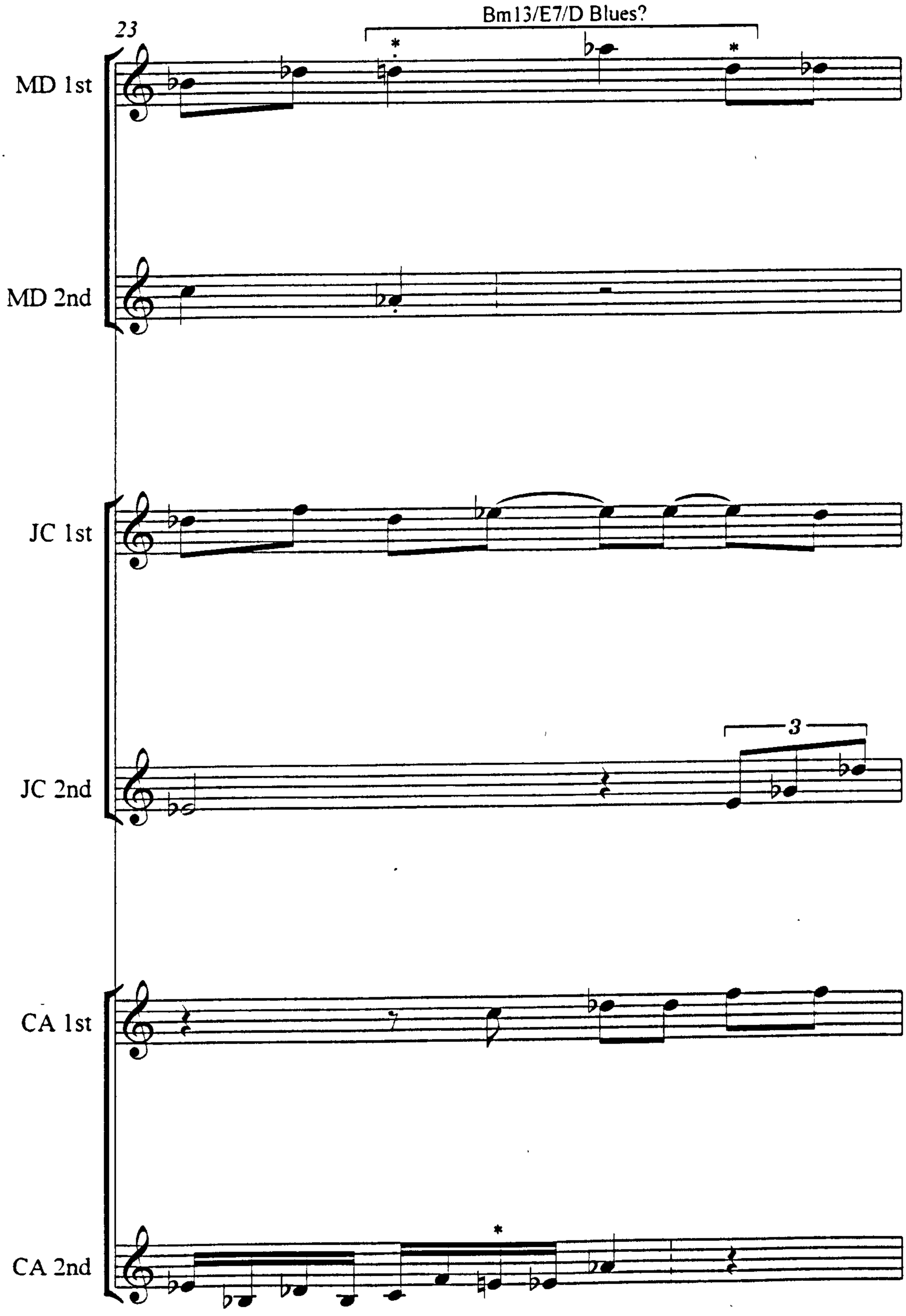


Fig. 1-30 "So What?" - Miles Davis. John Coltrane and Julian "Cannonball" Adderley

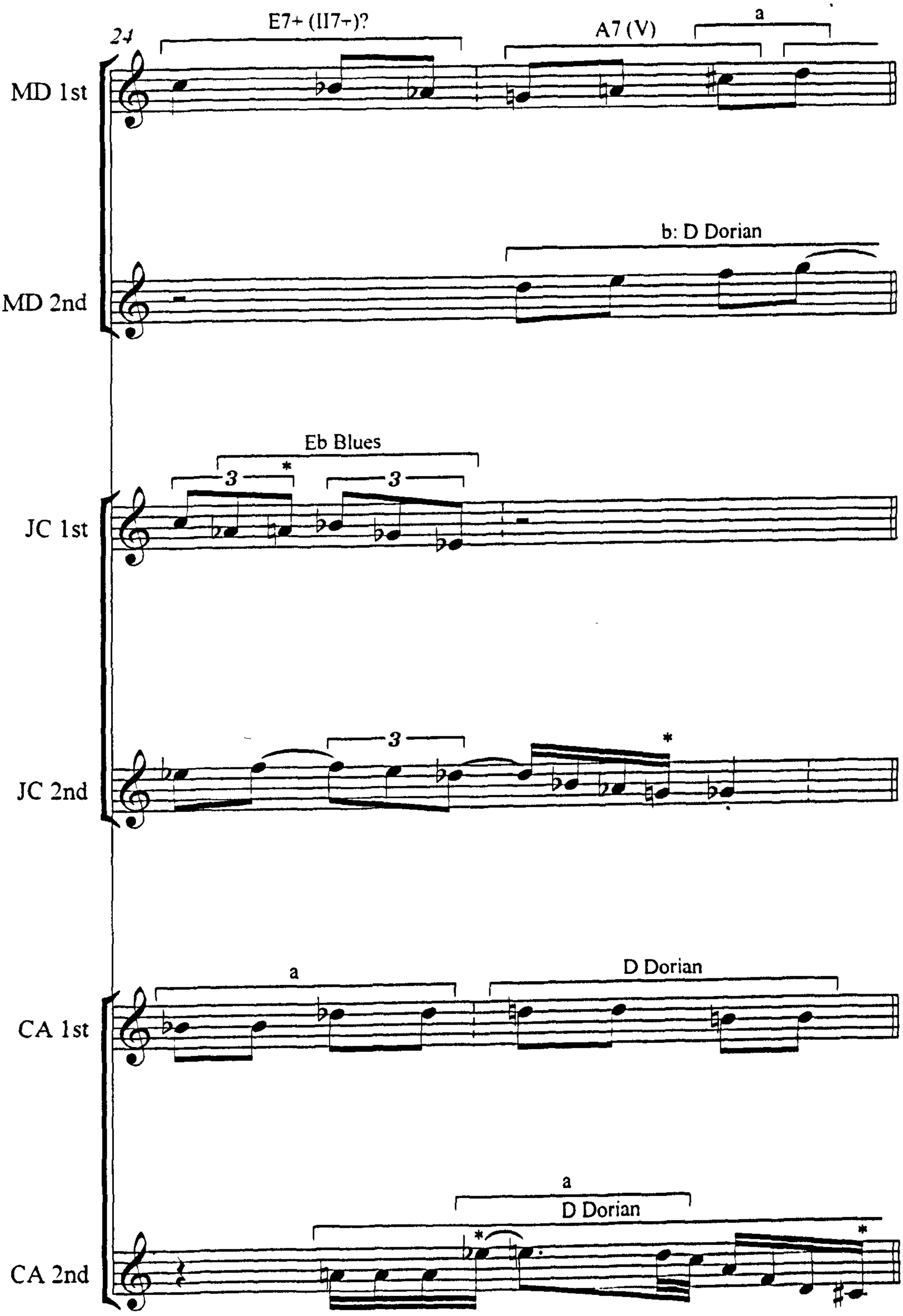


Fig. 1-30 "So What?" - Miles Davis. John Coltrane and Julian "Cannonball" Adderley

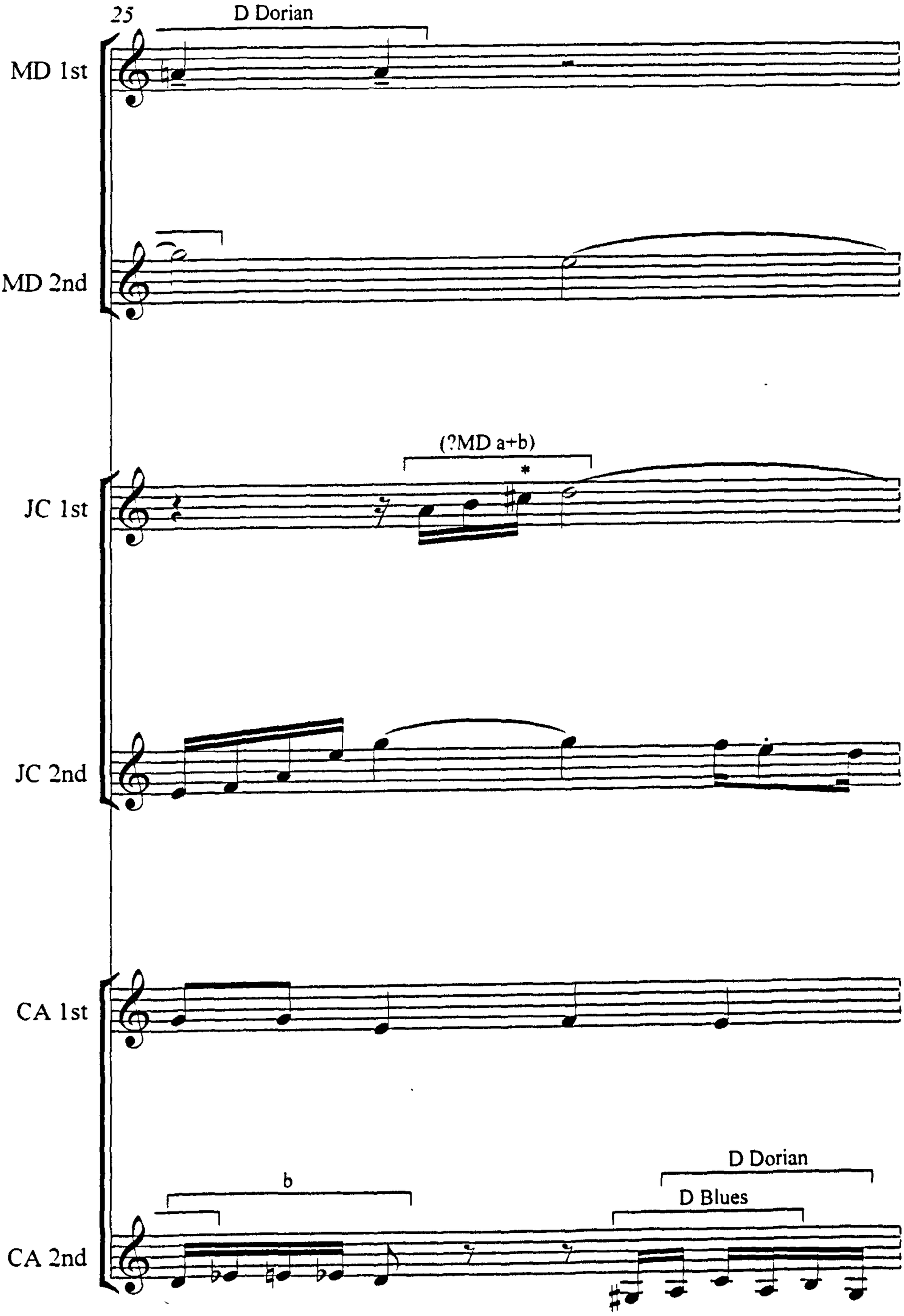


Fig. 1-30 "So What?" - Miles Davis, John Coltrane and Julian "Cannonball" Adderley

"So What?" – Miles Davis, John Coltrane and Julian "Cannonball" Adderley

(Fig. 1-30)

(from "Kind of Blue" (1959) Columbia 1355)

This piece is built upon a 32-bar progression, divided into three sections. Each of these sections is assigned a mode, thus:

bars 1-16: Dm7 (D Dorian)
bars 17-24: Ebm7 (Eb Dorian)
bars 25-32: Dm7 (D Dorian)

Let us note that there is a further level of scalar organisation to this piece in that the piano (etc.) voicings are E and D minor pentatonic (moving to F and Eb minor pentatonic). and that these sets sum to D (and Eb) Dorian (see Figure 1-31).[1]

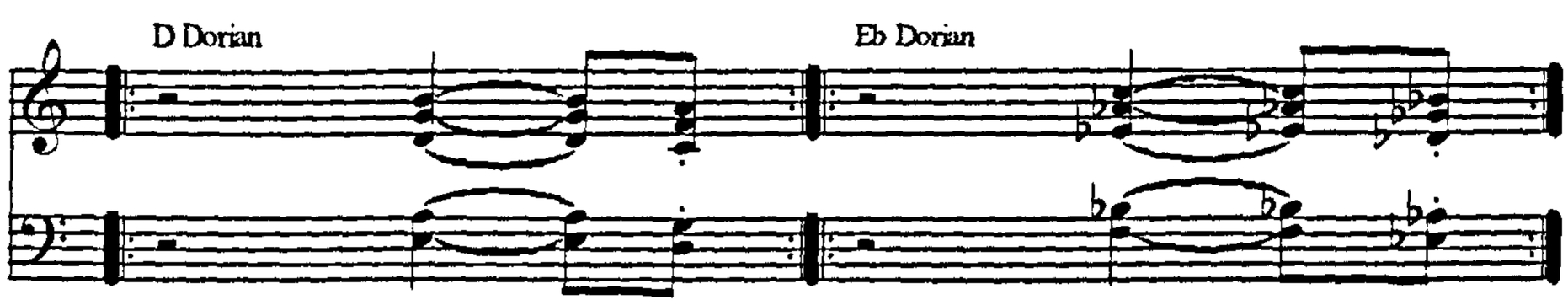


Fig. 1-31 Chordal Figure From "So What?"

The solos in this piece are generally notable for their strict adherence to Dorian modes of D and Eb. My notation and analysis of solo material in this piece focuses upon bars 21 to 25 of six choruses of "So What?": two by Miles Davis, two by John Coltrane. and two by Julian "Cannonball" Adderley (i.e. six distinct excerpts).

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[1] A similar structure may be found in the initial chordal vamp of "All Blues". There the chords sum to G Mixolydian.

Outside

These excerpts. as we shall see. show that at the location of the change from Eb Dorian back to D Dorian (bars 24 > 25) some of the solos leave the underlying tonality defined by the composition (bars 21 to 23 are also shown in the notation to provide context). A dotted bar line has been added to each of these six excerpts. each of which represents the *end* of the use of the Eb Dorian tonality in the solo concerned (e.g. MD 1st. middle of bar 24).

Miles Davis: 1st Chorus (MD 1st); 2'07"

Davis uses Eb Dorian strictly until beat 2 of bar 23. Here we hear a D natural (marked *). ending a long upward phrase starting in bar 22. At first glance this note seems to function as an "iconic" use of the tonic note of the piece. anticipating the arrival of the tonic key at bar 25. However. Davis softens this note's dissonance by also using it as a passing note (at beat 4. marked *) back to a resolved Db within the same bar. It is also tempting to relate the Ab at beat 3 with these D naturals. and suggest a use of D Blues here. However. let us note that Eb Blues is not used as a resolved scale by Davis (but see Coltrane (JC 1st bar 24) below). Note the palindromic shape produced by this Db. D. Ab. D. Db pattern. This further neutralises the dissonance provided by the D natural at beat 2. Thus. although Davis has clearly left the tonality of Eb Dorian by using a D natural at beat 2. he carefully reduces its dissonant impact.

The following section of the melody in bar 24 is notable for Davis' use of a C# (= Db) to resolve to D natural (marked *a*). Further. the phrase in bar 24 seems to suggest a II7 V7 pattern. Indeed. retrospectively. what I called a D Blues pattern in bar 23 (discredited above) now looks like a possible Bm13 arpeggio (VIm13). Thus. we may have found a

superimposed VI. II. V. I progression moving through bars 23-25 at a rate of roughly one chord per half bar. This bop harmonic structure is one which. of course. Davis knew well from his time playing this music with Charlie Parker. and adds a (conventional) cadential structure to this essentially modal piece.

Miles Davis: 2nd Chorus (MD 2nd); 3'03"

Here we see no interpolation of iconic D naturals (as we saw above). Instead. Davis maintains Eb Dorian until beat 2 of bar 23. Four beats of rest follow this. and Davis plays a four-note phrase. starting at beat 3 of bar 24. to assert D Dorian (marked *b*). two beats before the rest of the band. However. this parallels the similar set of four ascending quavers heard from beat 3 of bar 24 in the previous chorus.

John Coltrane: 1st Chorus (JC 1st); 3'59"

Similar to (indeed. perhaps copying) Davis. Coltrane inserts an "iconic" D Natural at the end of bar 21 (marked *). This D natural is only really "cancelled" back to a flat at the start of bar 23. thus suggesting a (temporary) Eb Jazz Melodic scale. Further. if we ignore the brief semiquaver C at the start of bar 22. it could be argued that this D natural functions as a leading note in the key of Eb (just as C# does in the key of D. later in this solo – and elsewhere). Coltrane continues in Eb Dorian. and. by interpolating an A natural (marked *) uses an Eb Blues pattern in bar 24. Note how there are no notes after the dotted bar line in bar 24.

Coltrane plays another interesting pattern in bar 25 (marked ?MD a+b). which seems to be based upon a combination of Davis' previous solos at this point: i.e.. *a* at bar 24 of

MD 1st. and *b* at bars 24-25 of MD 2nd. Note the use of the C# (= Db) (marked *) as a leading note to the tonic D.

John Coltrane: 2nd Chorus (JC 2nd); 4'55"

This chorus uses Eb Dorian strictly. until a rapid run at the end of bar 22 (marked *a*). Here Coltrane interpolates a G natural. I should say that I only noticed this when notating this section: it was not immediately apparent from listening alone. It is the result of a rapid flurry of grace notes down to the Gb. and does not represent an "out" strategy. I believe. Note. again. that there are no notes after the dotted bar line in bar 24.

"Cannonball" Adderley: 1st Chorus (CA 1st); 5'50"

This excerpt opens with a downward Ebm7 arpeggio. followed shortly after by a downward Bbm7 arpeggio (beat 4 of bar 21). and continues strictly in Eb Dorian until beat 3 of bar 24. Here Adderley plays a retrograde transposition (annotated as D Dorian) of the pattern at beats 1 and 2 of this bar (marked *a*). Note. however. that *a* is transposed *up* a semitone (cf. the movement of the tonality – i.e. from Ebm *down* to Dm). Thus the Db (=C#) also acts as a leading note to the D at beat 3. This pattern continues into the next bar. forming an Em7 arpeggio: this is analogous to Adderley's use of a Ebm7 and Bbm7 arpeggios in bar 21.

"Cannonball" Adderley: 2nd Chorus (CA 2nd); 6'45"

This excerpt sees a little more chromaticism within the Eb Dorian section in the form of two passing notes: a G in bar 22 and an E in bar 23. Further. Adderley starts playing in D Dorian a beat earlier than in his first chorus (i.e. at beat 2 of bar 24). There are two additional chromatic notes in this bar: and Eb and a C#. The Eb would seem to be an "iconic" reference to the underlying tonality at this point. Note that both of these notes resolve upwards. the C# (= Db) resolving to the D natural at the start of bar 25. Further. the section marked *a* in bar 24 represents a kind of retrograde "{x. x-1. x+1} set" based around the Eb. Further. note the palindromic pattern (marked *b*) in bar 25. Adderley continues with an emphatic D Blues/D Dorian phrase leading out of bar 25.

Conclusions

Both Davis and Adderley leave the mode of Eb Dorian and anticipate D Dorian before bar 25 in both of their solos. Indeed. they both anticipate D Dorian to a greater extent in their second chorus. Further. the end of the Eb Dorian tonality (i.e. the last note in this mode) occurs at an earlier point for both of these musicians in their second chorus (marked by dotted bar lines).

By way of contrast. Coltrane never anticipates the change of tonality at bar 25. adhering strictly to the relevant keys of D and Eb (this is also true of Bill Evans' (piano) choruses. not shown here). This suggests that Davis and Adderley are happy to shift the position of the arrival of D Dorian in order to create more tension at this cadential point. However. Coltrane is more "modal" in his outlook and adheres more strictly to the composition.

Use of C# (= Db) as a leading note

Although C# is not a note in D Dorian (yet is in Eb Dorian – as Db (bVII)), it is used by all of these artists in at least one of their excerpts (MD 1st. JC 1st. CA 1st and 2nd). This C# functions as a temporarily interpolated leading note. in some cases implying a conventional V7 (A7) chord before the resolution to D. What makes this use of C# up to D especially interesting is that the progression *moves in the opposite direction*, i.e. *down* from Ebm7 to Dm7. In this respect. note that all of these C#s occur *before* the start of bar 25 (except for JC 1st. where he seems to be quoting (paraphrasing) elements of Davis' solos (see analysis of JC 1st above). We might recall at this point that there is an equivalent event at bars 21-22 in JC 1st. where Coltrane resolves a D natural with an Eb (ignoring the temporary. semiquaver C).

Sugar Craft

from "Combustication" (1998)
Blue Note 7243 4 93011

Medeski/Martin/Wood

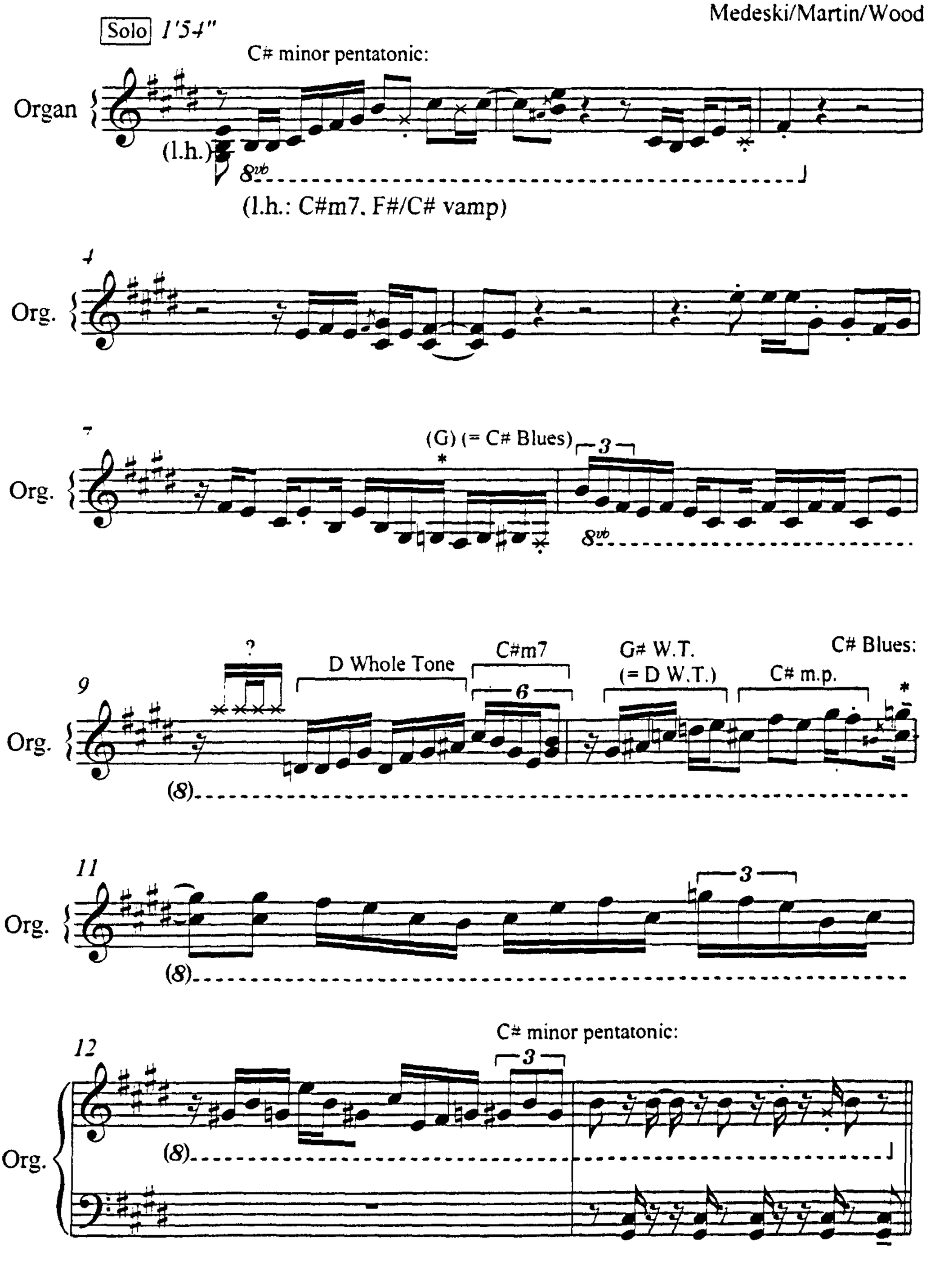


Fig. 1-32 "Sugar Craft" - John Medeski

"Sugar Craft" – John Medeski (Fig. 1-32)

(from Medeski. Martin and Wood "Combustication" (1998) Blue Note 7243 4 93011)

This piece is essentially in C# minor pentatonic. Medeski's organ solo is performed over a vamp of C#m7. F#/C#. which he plays with his left hand. Note the occasional use of G natural (marked * in bars 7 and 10). extending the C# minor pentatonic into a C# Blues tonality.

Outside

This excerpt is notable for a pair of "out" Whole Tone scales at bars 9-10. These patterns start on D and G# respectively. and I have named them as such (D Whole Tone and G# Whole Tone). Let us note immediately that these two scales are actually modes of each other. and are the bII and V of the key of C#.

In fact. the D Whole Tone pattern in bar 9 has no C. and the G# Whole Tone pattern in bar 10 has no F#. We might note. then. that (a) each scale is missing its bVII note and (b) the patterns only form a complete Whole Tone scale when summed together.

An examination of (say) D Whole Tone shows that it actually contains three notes in common with C# minor pentatonic (spelt in C chromatic for ease of comparison. common notes in **bold**):

C# minor pentatonic:	Db	**E**	**F#**	**Ab**	B	
D Whole Tone:	D	**E**	**F#**	**Ab**	Bb	C

Thus. although we may say that it is sourced in the bII. this scale is not utterly different to the I. Indeed. if we compare C# *Dorian* with D Whole Tone. we find further correlation. thus:

C# Dorian:	Db	Eb	**E**	**F#**	**Ab**	**Bb**	B
D Whole Tone:	D	**E**	**F#**	**Ab**	**Bb**	C	

This shows that. of the notes that make up the D Whole Tone scale. only C and D are outside C# Dorian. Let us note that these form the "{x. x-1. x+1} set" around the tonic C#.

However. despite these similarities. the Whole Tone patterns are clearly used as "out" material in this excerpt: the high frequency of adjacent steps not only reveals Medeski's consideration of these patterns as scalar in nature. but also gives a strong aural impression of the Whole Tone structure. Let's recall that the highest number of whole tone steps in C# minor pentatonic is 3: E F# G#. However. Medeski is using 5-note subsets of the Whole Tone scale in both cases.

The fact that these Whole Tone scales offer a "{x. x-1. x+1} set" about C# (noted above) does not seem to be an essential part of Medeski's strategy here. The occurrence of the C and D in bar 10 is not *immediately* followed by a C#. and these two notes occur within an ascending list of G#. A#. C. D. E. This seems to be one reason why these scalar patterns appear separate and distinct from the surrounding tonality. despite their common notes. It seems. then. that Medeski may be aware of the special structure of the bII Whole Tone against the I minor pentatonic. yet organises his melody so that the dissonant material is clearly distinctive from the tonic scale.

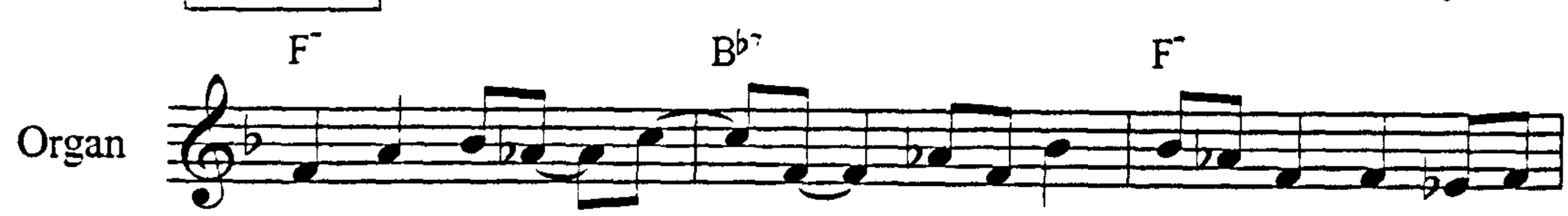
Note the compensatory C#m7 arpeggio at beat 4 of bar 9. and the C# minor pentatonic pattern that completes bar 10. Further. let us note that (the identical pitch) C# is the first note to follow both of the Whole Tone excursions. This excerpt continues using rapid expressions of C# Blues (note the emphatic G natural at the end of bar 9. marked *). moving into a syncopated two-handed C# minor pentatonic pattern at bar 13. These rapid. densely packed events act as compensation for the "out" material heard in bars 9 and 10.

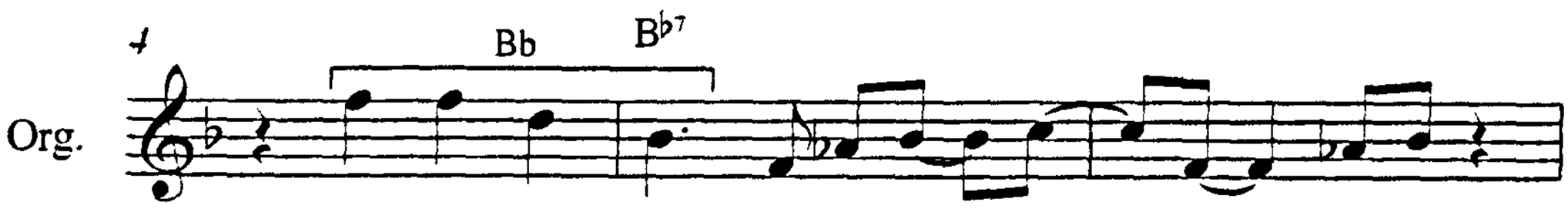
Untitled Blues (playout)

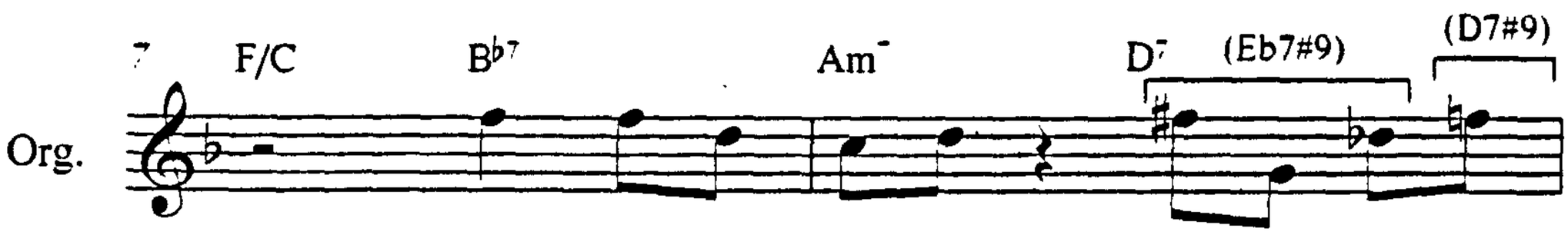
from "Jazz 625" BBC2
30th May 1965

Head: 1st A

Jimmy Smith







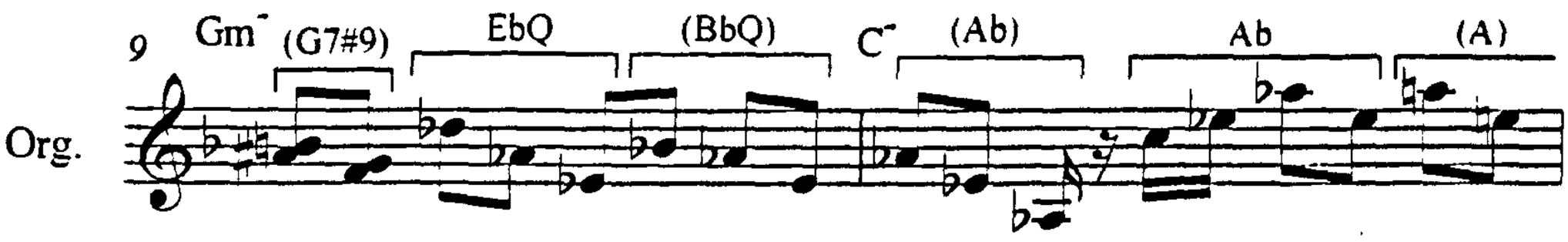
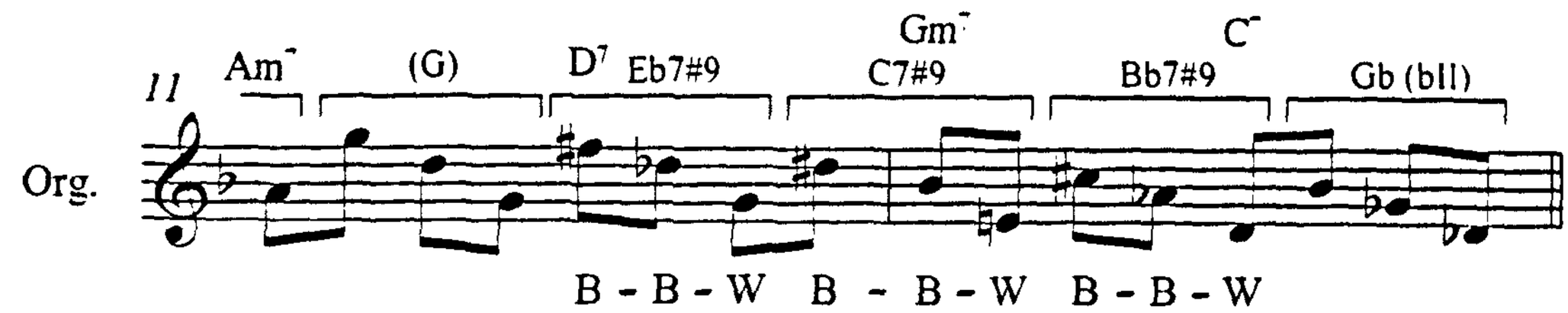
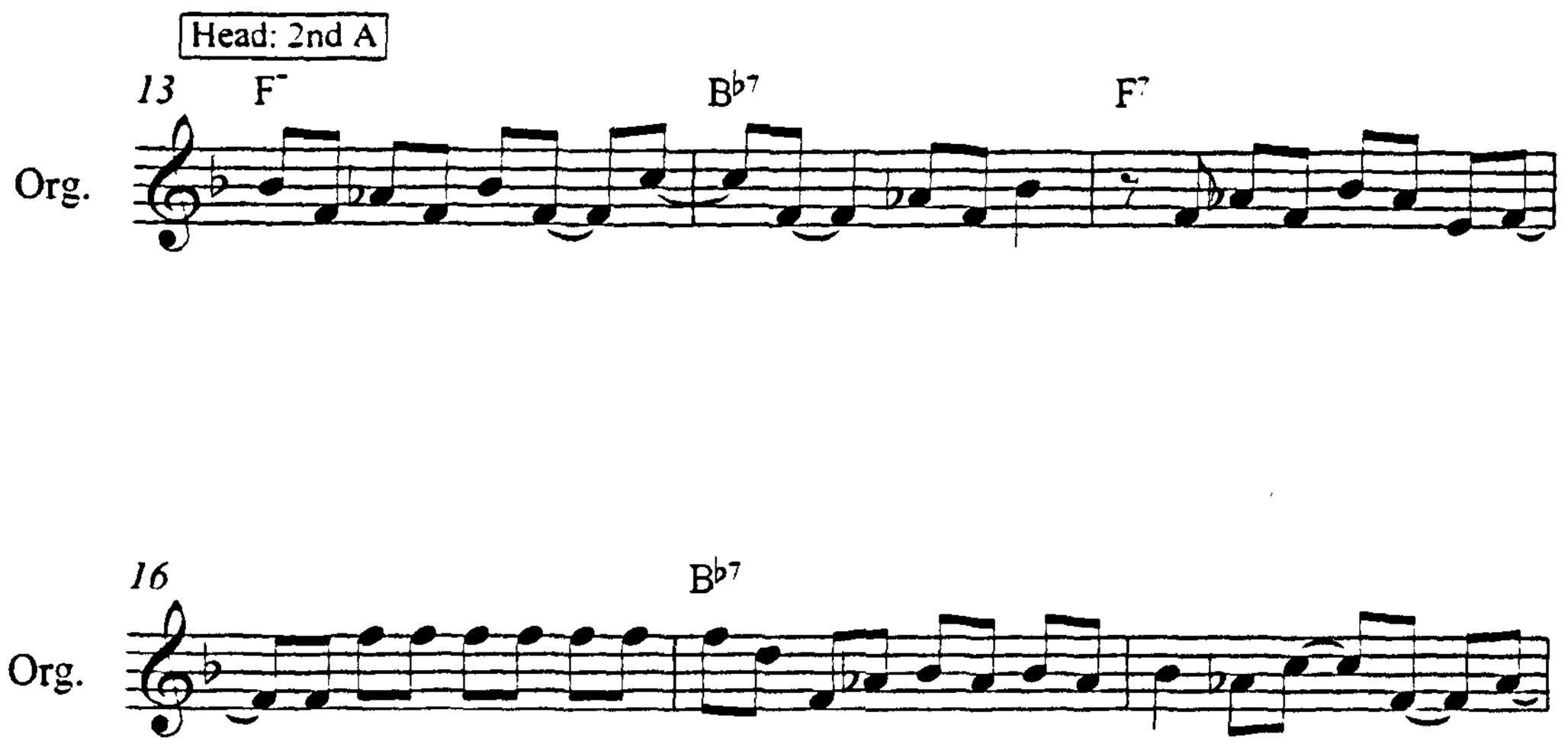
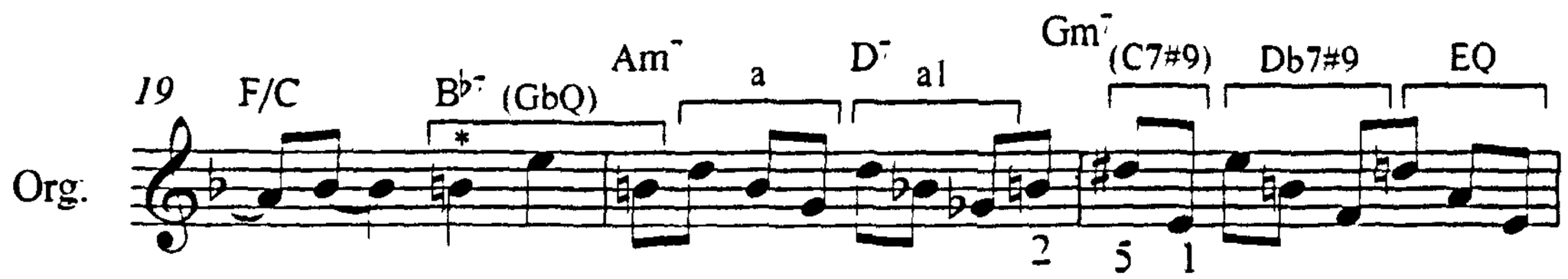


Fig. 1-33 "Untitled Blues (playout)" - Jimmy Smith







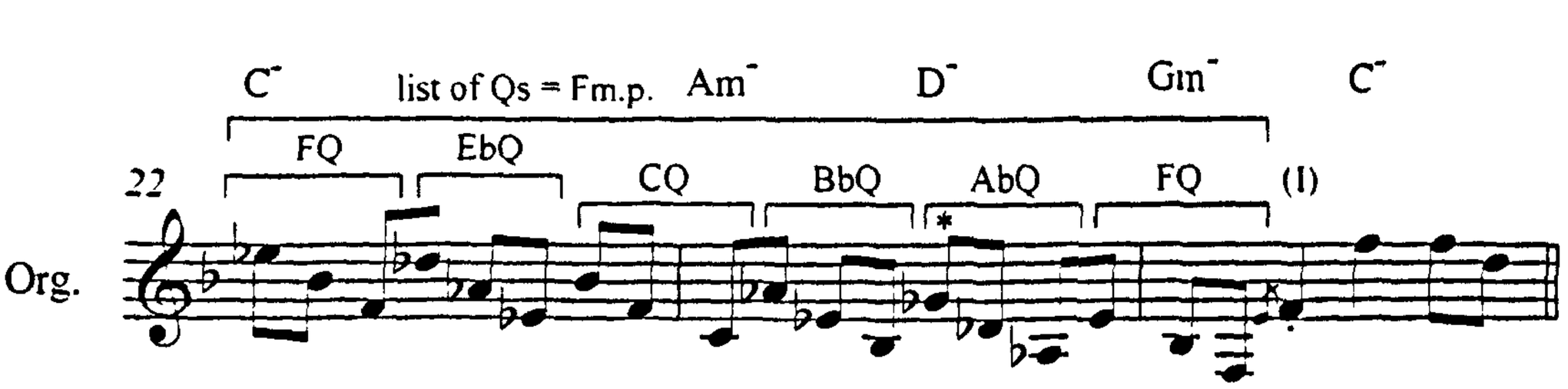
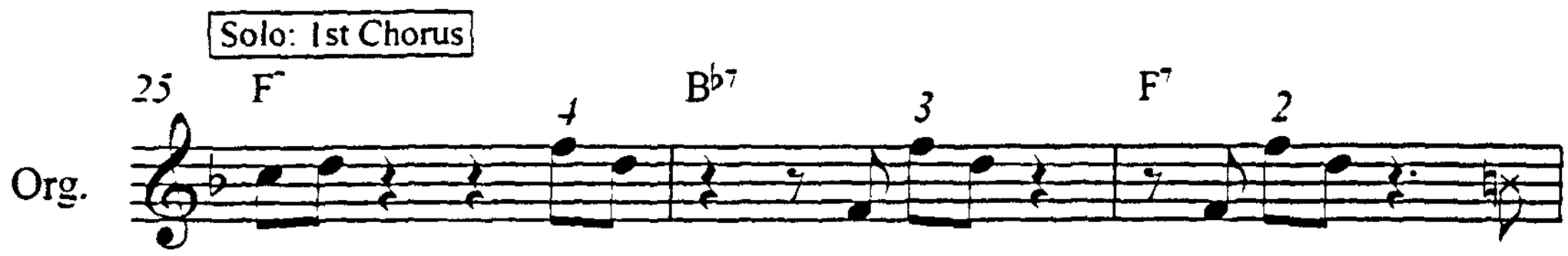
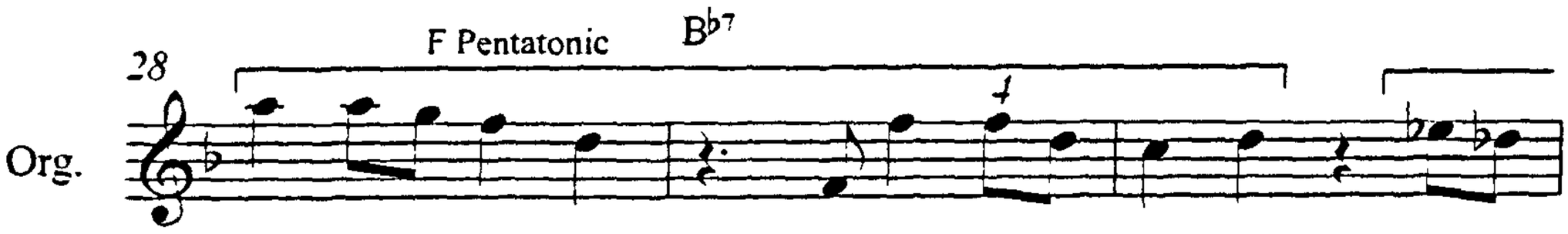
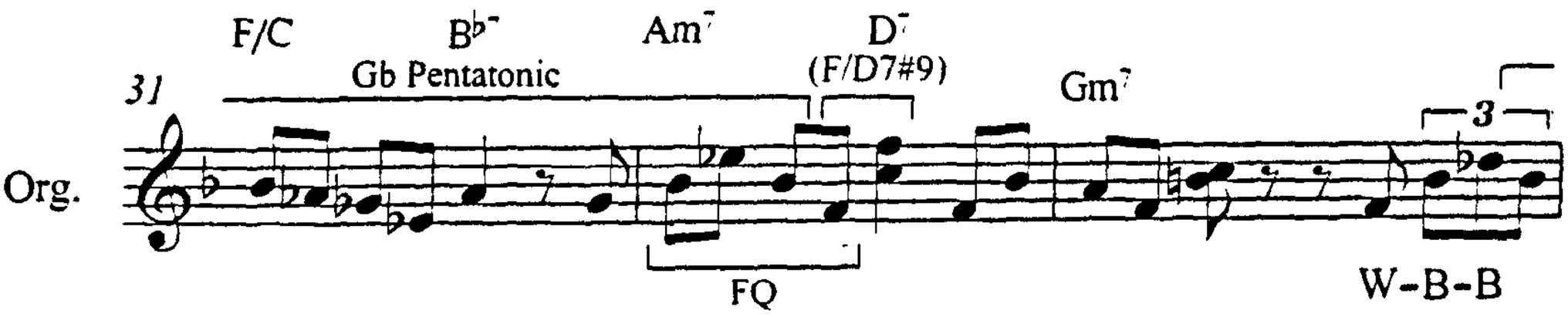
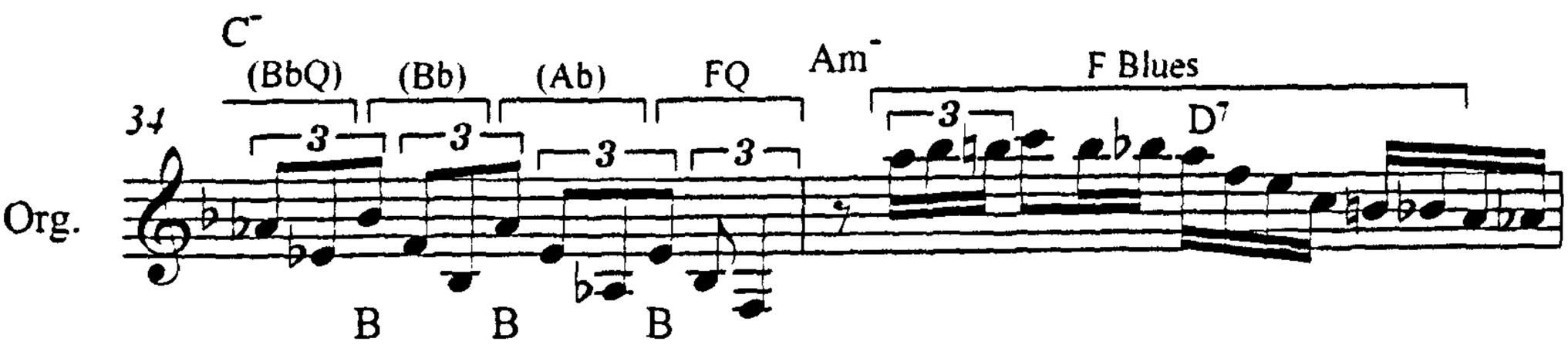


Fig. 1-33 "Untitled Blues (playout)" - Jimmy Smith









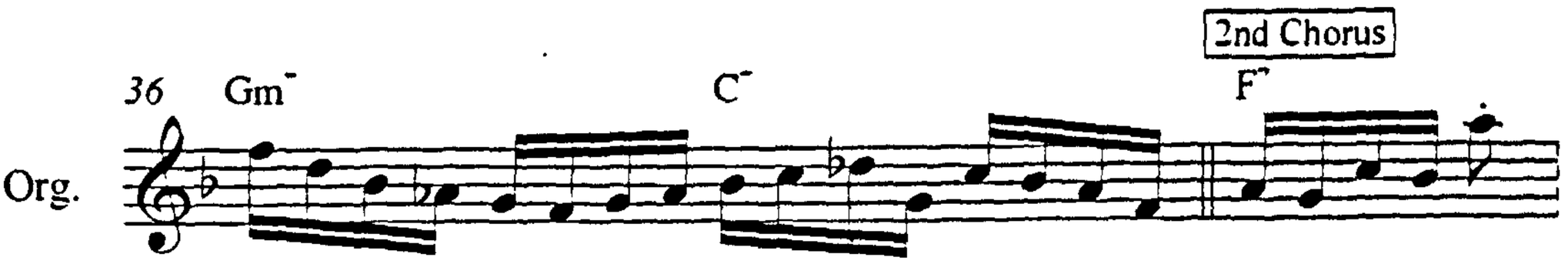


Fig. 1-33 "Untitled Blues (playout)" - Jimmy Smith

"Untitled Blues (playout)" – Jimmy Smith (Fig. 1-33)

(from "Jazz 625": broadcast on BBC2. 30th May 1965)

This blues in F occurs as the playout of this 1965 live television performance. The moniker "Untitled" seems appropriate here: I have been unable to identify a more specific title for this piece. although the opening phrases of the head do have some elements in common with Smith's composition "The Boss". recorded elsewhere.[1]

Outside

There are several examples of "out" playing in the three choruses shown in this excerpt (a repeated head "A" and a solo chorus) and these mostly occur at the turnaround of the last four bars of each chorus. Thus. most of these "out" sections are cadential. and launch Smith from chorus to chorus. We shall see that many of these "out" sections are based upon arpeggios. and as such sound very distinct from the material that surrounds them.

Head: 1st A

This statement of the head begins with conventional F Mixolydian. Bb Mixolydian and F Major Blues material. stressing chord tones (note especially the anticipatory Bb arpeggio leading from bar 4 to 5).

[1] For example on the album "The Boss" (1968) Verve V6-8770 (currently available on "Jimmy Smith: Walk on the Wild Side: Best of the Verve Years" (1995) Verve 527 950-2).

Bar 8 sees a subset of an Eb7#9 chord (bII) descend to the F (= E#) of a the expected D7(#9) chord in the final quaver. Although the crushed events at beat 1 of bar 9 might. at first glance. seem to be the results of clumsy fingering. they are actually. I suggest. a careful. concise statement of G7#9.

A pair of "out" quartals then abruptly follows this event. Note that both the EbQ and BbQ start with adjacent notes by colour (Db and Bb). setting a precedent for later activity. Further. the fact that Smith is using black notes. preferring the inverted BbQ to. say CQ (i.e. the melody Bb. F. C) suggests a spatial adherence to these (black) notes in order to guarantee a minimum level of tension against the Gm7 (G Dorian) tonality. (We saw a similar use of black note quartals at bar 2 of the "The Sermon". which is also in the key of F.)

Smith then continues with more "out" material. using arpeggios. initially in the form of two Ab chords in bar 10. These alter the C7 chord to imply a (conventional) C7+#9 tonality. Further. this permits a downward chromatic sideslip (bII to I) which anticipates the Am7 chord at bar 11. and would. retrospectively speaking. seem to be the cause of these earlier Ab arpeggios. Smith continues the sequence of arpeggios down to G (at the second quaver of bar 11). thus maintaining an A Dorian tonality.

At the third beat of bar 11. where we might expect a D7 chord. once again. as at bar 8 above. Smith uses an Eb7#9 voicing (indeed. it is identical by pitch). However. in this case. he does not resolve to material based on D7(#9). Instead. he continues with a downward sequence. playing arpeggios of C7#9 and Bb7#9. We should note that none of these arpeggios sounds resolved. and. further. also note that all three of these chords have a BBW pattern. Therefore. Smith is operating here in a spatial "out" manner. Further. let us note that these three voicings (of Eb7#9. C7#9 and Bb7#9) are strictly *adjacent* shapes that have this visual structure. There is. in fact. only one other 7#9

voicing that shares this BBW structure. namely F7#9. Let us recall that the EbQ and BbQ in bar 9 also started on adjacently descending black notes (i.e. Db and Bb). The use of these "out" patterns seems to be promoted by (a) the knowledge that they will provide at least a minimum level of dissonance against the underlying chord/tonality and (b) the integrity (and. thus. aural confidence in the listener) gained from using "out" material moving in a sequence.

Smith continues this pattern of downward three-note arpeggios with a Gb triad at the end of bar 12. This (a) continues the use of adjacent black notes at the top of each arpeggio and (b) functions neatly as the bII of the tonic F at the start of the head (Head: 2nd A). The choice of a Gb triad here is a disruption of the 7#9 spatial sequence (Smith does not play a D natural in the last quaver. for example). yet this choice adds dissonance to the cadence: the Gb triad over the C bass functions as a C7b9#11. However. an examination of keyboard structure reveals that there is no BBW 7#9 voicing that has Bb at the top. Thus. it might be argued. the concerns of maintaining adjacent top (black) notes actually dictate a new chord quality at this position.

Head: 2nd A

This head starts with a variation of the blues theme found in the 1st A (bars 13-19). The first "out" event occurs in the final two beats of bar 19 – an equivalent position to that found in the 1st A (bar 8). Here Smith plays a B natural and an E natural. I suggest that these form an incomplete GbQ and is the result of a simple shift of hand shape (up a semitone to the bII) to engage dissonant material. In support of this idea. let us note that Smith's hand has been in a position based around the notes F and Bb (the lower elements of FQ) for the first six and a half beats of the head.

Smith then plays a chromatically related pair of extended chords: G over Am7 and F#+ over D7 (marked *a* and *a1*). This is then followed by a (subset of) C7#9 and then Db7#9. adding weight to the idea that Smith moved his hand up a semitone at bar 19 to engage "out" material. This approach is further extended by the EQ followed by an FQ at beat 4 of bar 21 and beat 1 of bar 22. This compares neatly with bar 8. where Smith moved *downwards* with a pair of 7#9 chords in order to resolve *towards* the prevailing chord.

Thus far. then. in this 2nd A. Smith is engaging "out" material equivalent in dissonance to that found in the 1st A. By contrast. however. it is derived from a more harmonic (and less visual) basis. This organisation along harmonic lines is continued by the descending pattern of quartals that follows (bars 22-24). These share a visual pattern in that each chord starts on a black note (as seen in bars 11-12). and these notes. in themselves. form a complete Gb Pentatonic scale. The remainder of the chords always consist of a pair of white or black notes. However. this pattern does not match the high level of visual similarity found in the 7#9 chords at bars 11-12 in the 1st A. and thus should be described as motivic rather than spatial in approach. This pattern of quartals form a list which describes the (similarly descending) F minor pentatonic scale (i.e. they are F. Eb. C. Bb Ab and F quartals). This strikes me as being a study that Smith may have played previously in practise sessions. and suggests a certain "distance" from the actual performance. Let us note that this set of five quartals neatly covers the Gb Pentatonic scale (bII). and. further. that the (most dissonant) note Gb appears as the final new note (marked *). Note the additional F at beat 2 of bar 24 (marked (I)). which has an unusual level of redundancy following the FQ. This suggests that Smith sees the descending pattern of six quartals as an entire block of "out" material. which. despite its resolved (FQ) conclusion. is in need of such compensation.

Solo: 1st Chorus

This first solo chorus begins with similar scalar material to that of the heads. A small F Mixolydian motif (starting at beat 4 of bar 1) is played at increasingly earlier beats (marked *4. 3* and *2* in bars 25-27). Bars 28-30 consist of two phrases using F pentatonic. This scale is then moved up a semitone to Gb to form the "out" section (also two phrases. of similar contour). starting at beat 4 of bar 30. Let us note that Smith is using scalar "out" material for the first time in this piece: all previous excursions have been (three-note) chordal in nature (spatial (7#9) and motivic (Q)).

The resolution of this "out" section (bar 32) is particularly interesting. Note the FQ. which is. at first. perceived as "out" for its first two performed notes of Bb and Eb. then resolved by its completion at the fourth quaver of bar 32. Smith then emphasises this note F with a chord at beat 3 of this bar. This pair of notes is. in fact. heard as the upper notes of a D7#9 chord. Thus. this compensatory chord in the right hand is consciously altered by the bass part to provide momentum towards the II V progression starting at bar 33.

Note the B natural in bar 33. paralleling the B natural at the start of bar 9. These events suggest that Smith prefers the II7 chord to the IIm7 at this point in the blues. and adds weight to the idea that the crushed events at bar 9 are deliberate acts. Bar 33 ends with a WBB pattern. reminiscent of those seen in "The Sermon". This then leads into a series of downward arpeggios: first an inversion of BbQ. then Bb and Ab patterns. concluded by an FQ. Note that the highest note of each of these patterns is a black note (marked B below the stave). suggesting that (as before) this series of chords is based at least as much upon spatial as harmonic considerations. This FQ is then followed in bar 35 by two compensatory events: (a) a rapid F Blues pattern and (b) a conventional bop melody over the II V leading to the 4th chorus.

Smith always uses arpeggios to express the bII in the heads (bars 8 and 11). Although these arpeggios are clearly chordal events, he generally avoids a straightforward motivic side-step: note in both cases the absence of a complete D7#9 chord. By contrast, in the solo chorus we find a use of the bII *scalar* pattern (Gb Pentatonic at bars 30-32). This difference represents a stylistic contrast that Smith makes between the heads and the solo chorus. The advantage of using chordal material in the head is that it does not distract from the (improvised?) theme in the way that scalar excursions might.

Urban Jazz

from "Down To The Bone: The Urban Grooves II"
(1998) IBCD12

S. Wade

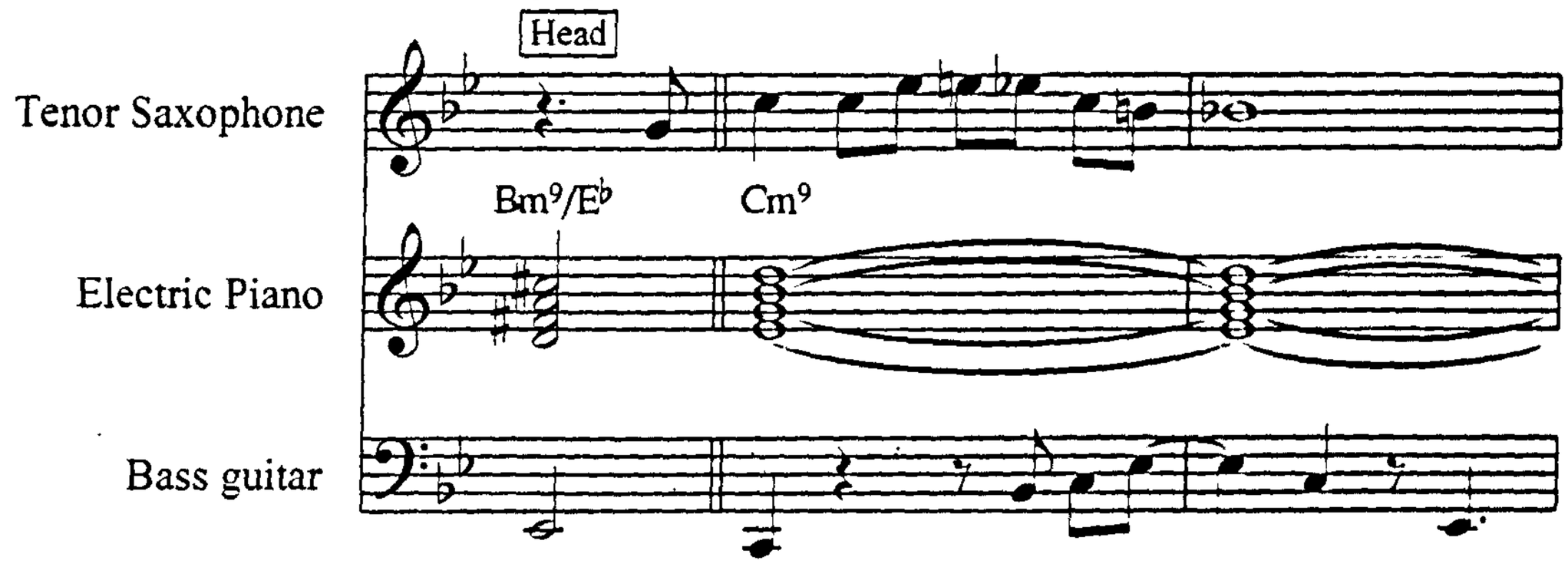


Fig. 1-34 "Urban Jazz" - Paul "Shilts" Weimar and Neil Cowley

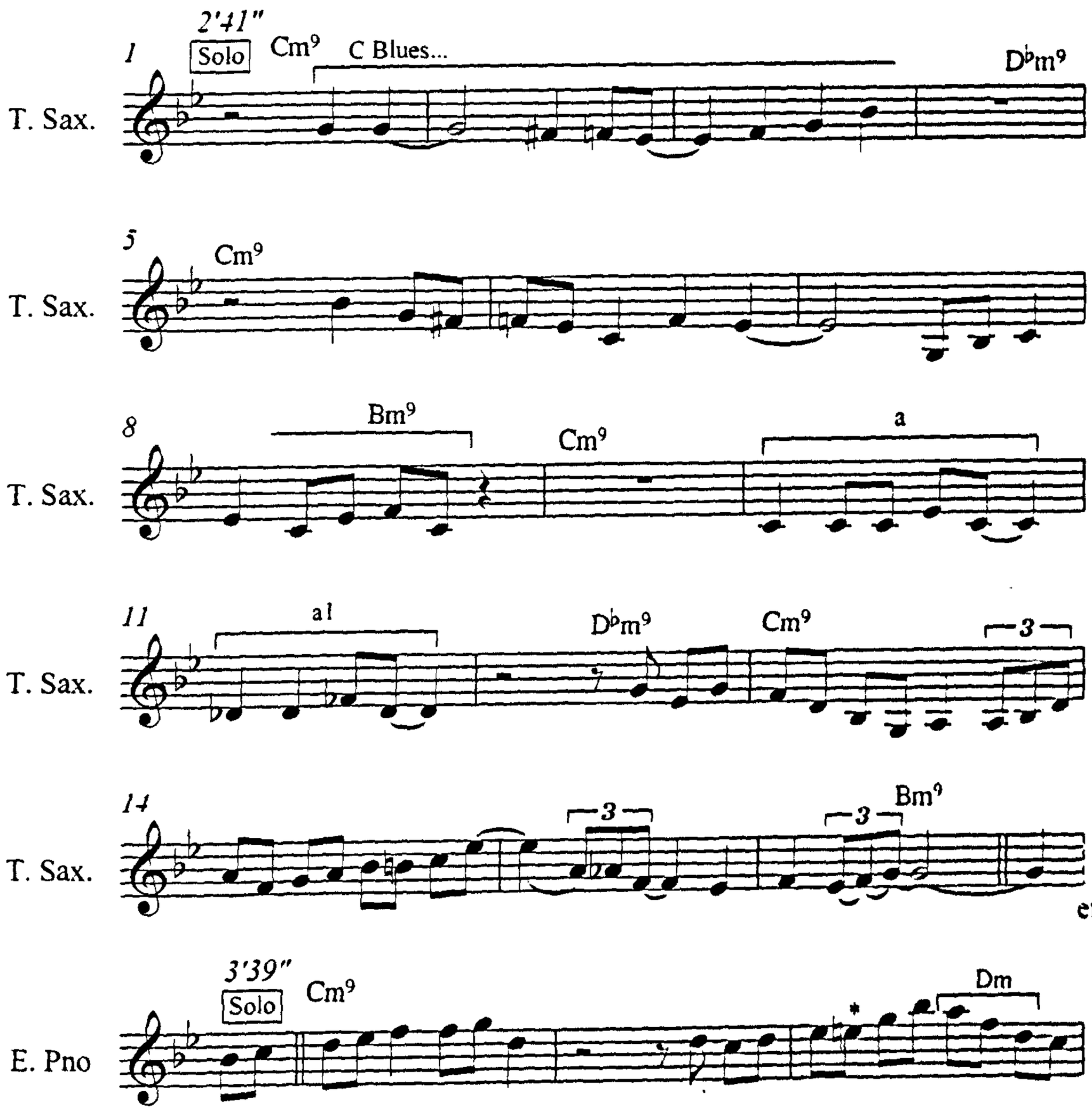


Fig. 1-34 "Urban Jazz" - Paul "Shilts" Weimar and Neil Cowley

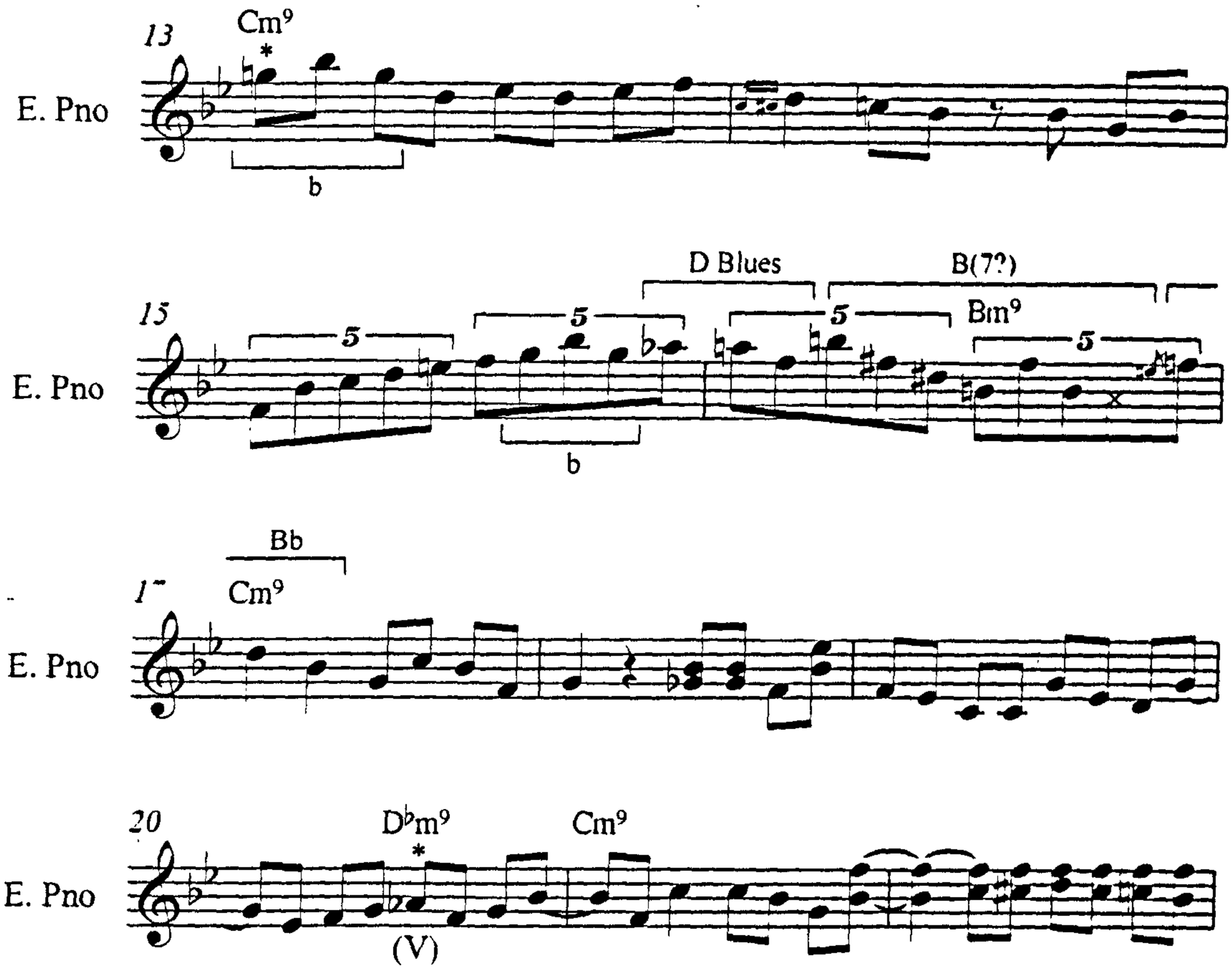


Fig. 1-34 "Urban Jazz" - Paul "Shilts" Weimar and Neil Cowley

"Urban Jazz" – Paul 'Shilts' Weimar and Neil Cowley (Fig. 1-34)

(from "Down To The Bone: The Urban Grooves" (1998) IBCD12)

This track is interesting in that it is the only piece on this album that includes "out" playing, and that both the saxophonist and pianist choose to play outside the tonality. operating in the ways described below. Note that, in both the notation and the analysis, the bar numbers for head and each of the solos begin at 1.

The chord progression is based around Cm9, with Dbm9 and Bm9 as cadential material. These Dbm9 and Bm9 chords are a conjugate pair, equally distant from the tonic chord, and the melody does not negotiate them. Although we might expect the Dbm9 chord to appear at the end of the progression at bar 8 (acting as a bII substitution for a V), it is in fact the Bm9 chord that is at this position. However, note the additional dissonance added to this chord by the maintenance of the Eb in the bass (beat 3 of bar 8). By contrast, the Dbm7/Eb chord created at bar 4 is relatively resolved. Thus, the Bm9/Eb at bar 8 shows a relatively high amount of tension before the release back to Cm9, driving the piece forward.

Outside

Paul 'Shilts' Weimar (tenor saxophone)

Weimar's solo starts in C Blues. At bar 10, Weimar plays a small motif, and then transposes this up a semitone in bar 11, with a small rhythmic simplification (marked *a* and *a1*). This rhythmic alteration (the repeated C quaver pair in bar 9 reduced to a single crotchet Db in bar 10) actually serves to affirm that the motif is perceived by Weimar as

a *limited set* of melodic material from the tonic scale. Weimar continues the solo using C Dorian. with occasional chromatic neighbour tones (a B natural in bar 14 and an Ab in bar 15). Thus. here we have a clear (and very easy to hear) example of motivic "out" playing, presumably stimulated by the bII element of the chord progression.

Neil Cowley (electric piano)

In contrast with Weimar. Cowley's "out" playing is more extensively derived from the chord progression. Cowley starts in C Dorian (apart from the occasional chromatic neighbour tone – e.g. the E natural in bar 3. marked *). and confirms an interest in the non-chord tones of this scale with the implementation of a downward Dm arpeggio in bar 3.

There are many examples where he follows the changes verbatim. For example:

1. F# at beat 3 of bar 8. (V of Bm9)
2. Db Dorian pattern at beats 3-4 of bar 12 (over Dbm9): note the resolution of this note to the adjacent G natural in bar 13 (marked *). starting the motif *b*
3. Ab at beat 3 of bar 20 (V of Dbm9)

However. similar to Weimar. Cowley also indulges in some displacement (and alteration) of the material from the Bm9 and Dbm9 chords. In a fast run starting in bar 14. he includes a B arpeggio in bar 16 (possibly B7 – I am unsure of the necessary A natural. marked with a crossed notehead). This anticipates the Bm7 chord at beat 3. Further. at bar 27. Cowley plays a Db Dorian pattern a bar earlier than would be expected. followed by what is a C Aeolian pattern in bar 28 (this *would* be C Dorian. if it

were not for the Ab (i.e. the V of Dbm9) at beat 2). The motif marked *c*. and its transposed version *c1* (both in bar 28). make me believe that this bar anticipation is deliberate. and not the result of a counting error on behalf of Cowley. This sequence. in itself. represents a further level of disruption to the harmonic rhythm of the chord progression.

Note that the motif *b* in bar 13 that resolves the Db Dorian subset in bar 12 is repeated in bar 15. just before Cowley leaves the underlying tonality. Thus. it might be argued. Cowley uses this motif as both (a) compensation after an excursion and (b) material with which to assert the underlying tonality before moving "out".

"Jazz 625": BBC2
30th May 1965

Wagon Wheels

Billy Hill and Peter De Rose

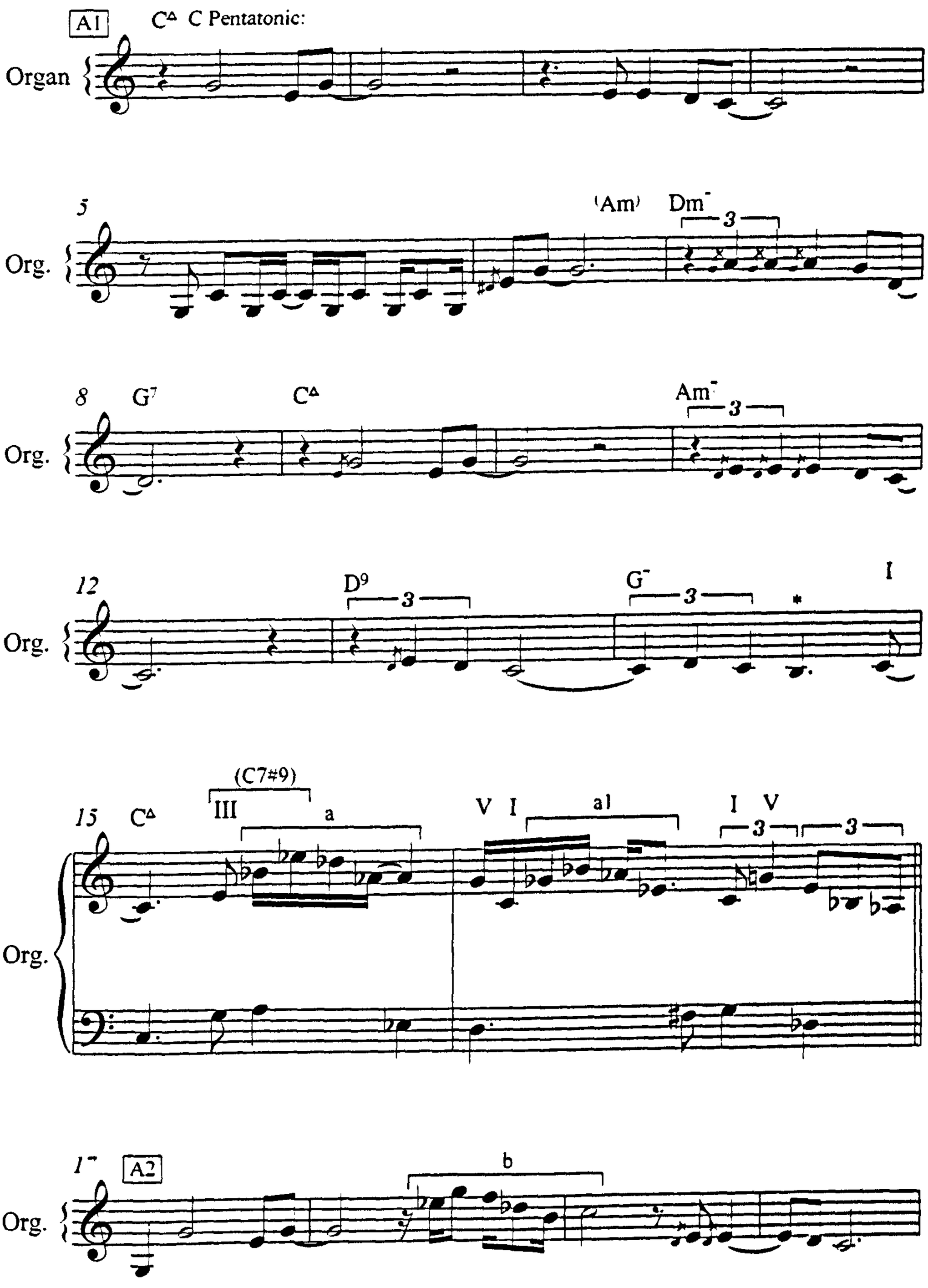
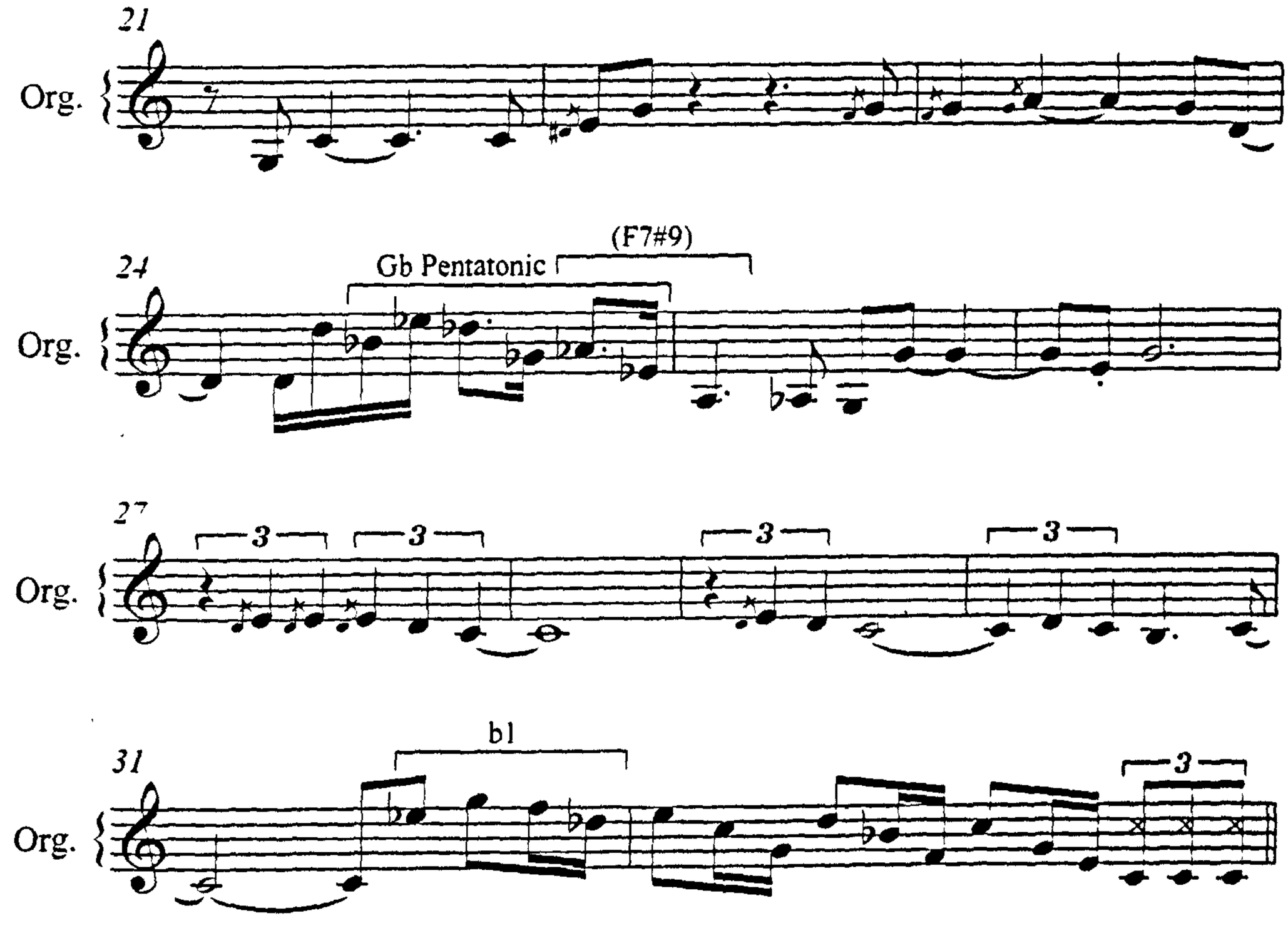


Fig. 1-35 "Wagon Wheels" - Jimmy Smith



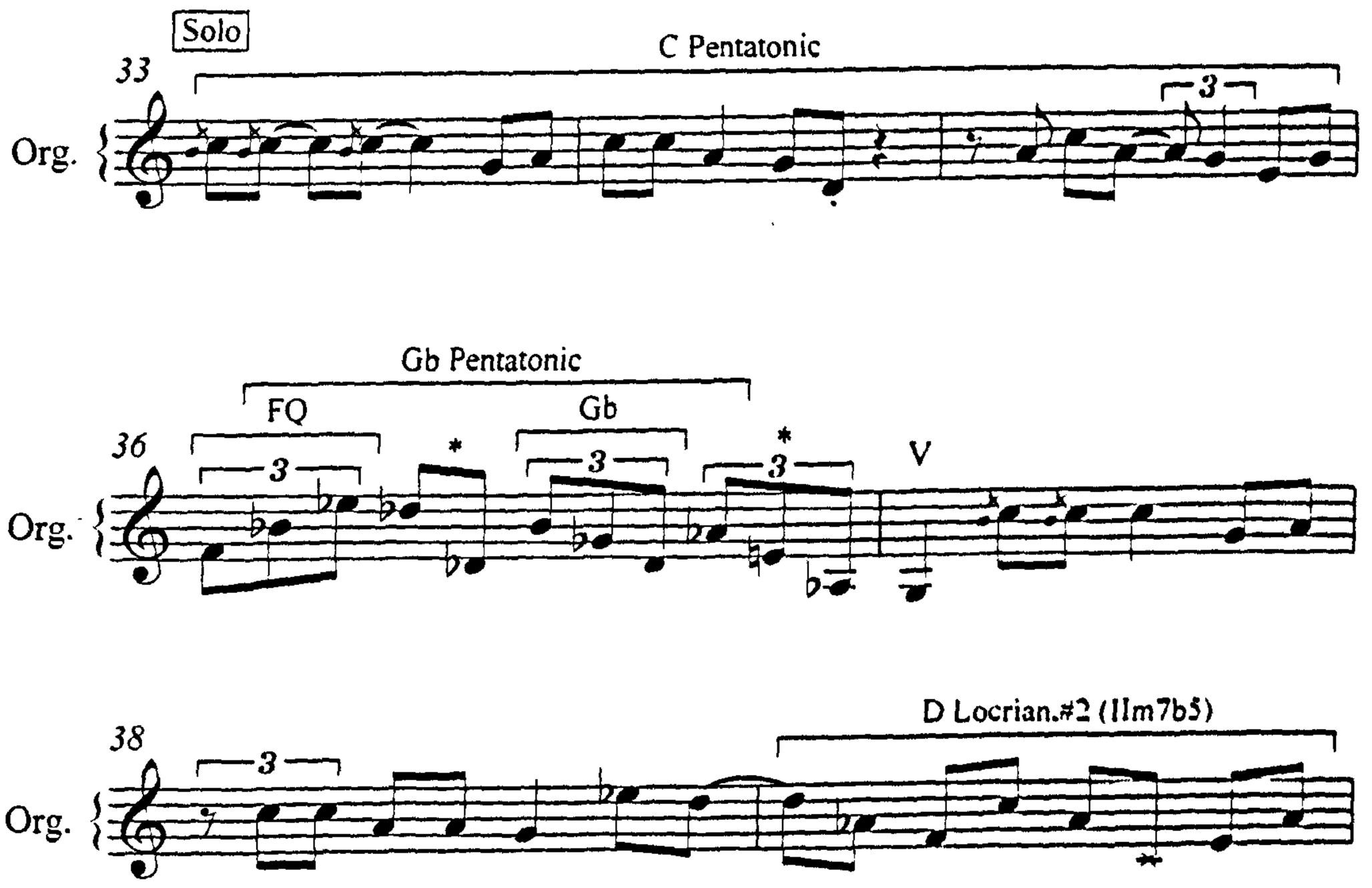


Fig. 1-35 "Wagon Wheels" - Jimmy Smith

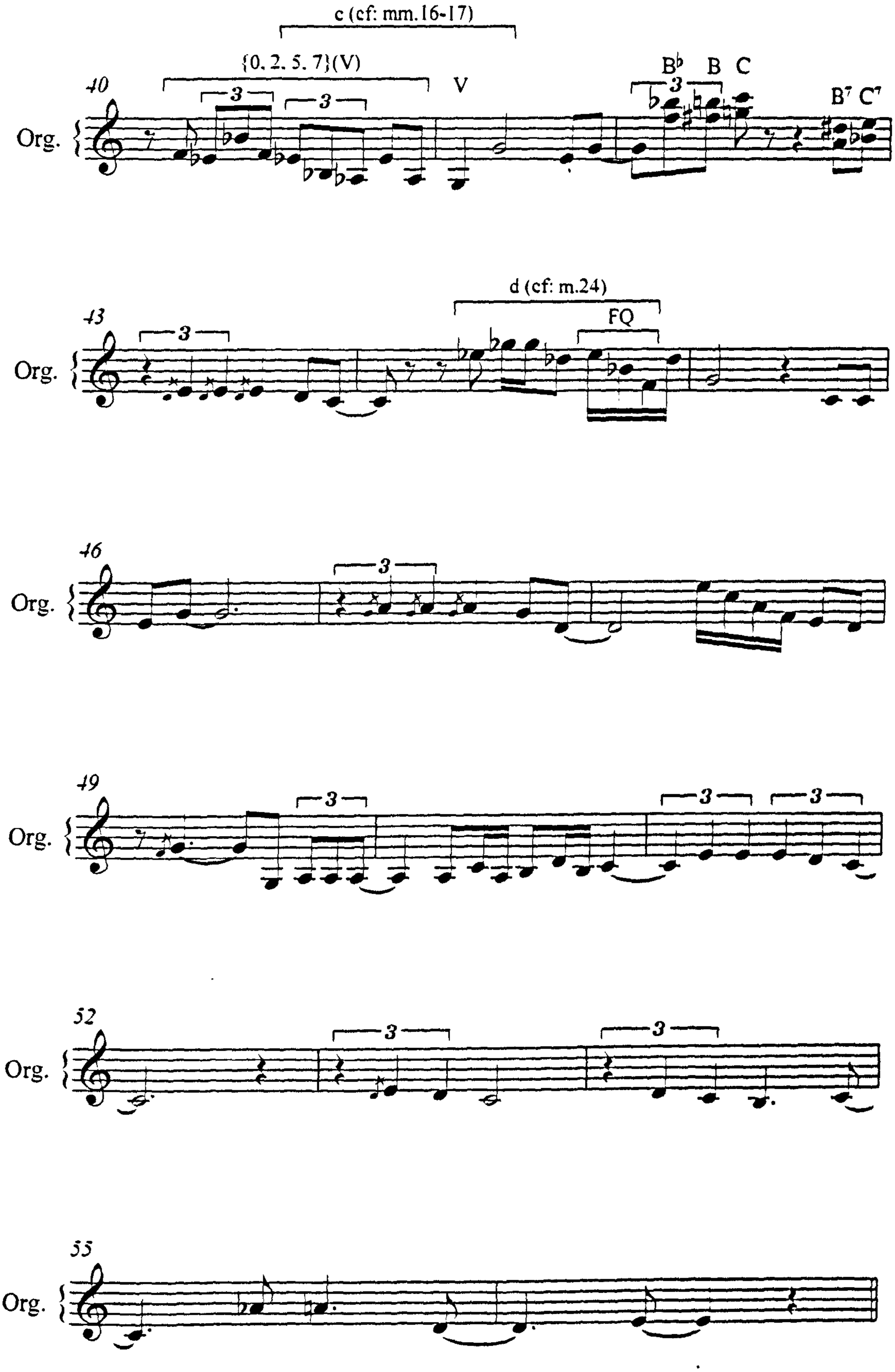


Fig. 1-35 "Wagon Wheels" - Jimmy Smith

"Wagon Wheels" – Jimmy Smith (Fig. 1-35)

(from "Jazz 625": broadcast on BBC2. 30th May 1965)

This piece is a 1930s "cowboy" tune (composed by Billy Hill and Peter De Rose) which entered the jazz world with Sonny Rollins' interpretation on his album "Way Out West" (1957) Continental 3530. We should note that Rollins' version contains none of the "out" material described below. Rollins' use of the tune was as part of his "western" concept album. and. thus. in a sense it was already imbued with a certain "shock" value. Smith puts his own stamp on it (indeed. perhaps even encodes a displeasure?) by the interpolation of "out" material.

The melody is based in C Pentatonic. Smith continues to use this simple "folk" scale at the start of his performance. even to the extent that. unusually. most of the grace notes also come from this scale (the exception being the bluesy D# in bar 6: see also bar 22). In fact. it is only the B natural at bar 14 of the melody (marked *) that extends this C Pentatonic scale.

Outside

The calm. *piano* statement of the head (bars 1-14) is suddenly interrupted by an aggressively dissonant. *forte* and rapidly executed turnaround in bars 15-16. Smith opens this "out" section in the middle of bar 15 with a C7#9 arpeggio. and this extends into an "out" {0. 2. 5. 7} cell (marked *a*). Note that the following structure *a1* is an equivalent pattern. in that it employs an identical contour of adjacent black notes. However. *a* and *a1* are not identical by interval: the first pair of *a1* are Gb and Bb (i.e. a Major 3rd apart). compared with the Bb and Eb of *a* (i.e. a Perfect 4th apart). Further. let us note that the

notes immediately preceding *a* and *a1* are each exactly a tritone (and four white notes) below each pattern (i.e. E natural to Bb at start of *a* = tritone, C natural to Gb at start of *a1* = tritone). Thus, here we see an example of spatial "out" playing. Let us also note that all of the other notes in the right hand in bars 15-16 are either the I, III or V of C (marked appropriately). This further emphasises the "out" material produced on the black keys.

At beat 4 of bar 16 we can see a Db (Mixolydian) pattern, matching the Db in bass.[1] This functions as a bII to the upcoming C in bar 17. Note that the sum of the four notes heard at beat 4 of bar 16 is a {0, 2, 5. 7} set (BbQ/Db). Further. let us note that the last note of this bar 16 is an Ab. This, in itself, acts as a bII to the upcoming G, and is a feature of this performance (see also bar 25, bars 36-37, 40-41).

The second head (A2) is characterised by further "out" material. At bars 18-19 we hear a phrase incorporating a small two-note sequence (marked *b*): seemingly a Whole Tone scale subset with an additional VII > I pattern, possibly derived from bar 14 of the head. I suggest that this two-note sequence is in fact a reference to an (as yet unheard) 8-bar Interlude, which occurs at the end of the 2nd Solo (see Figure 1-36). This is constructed using several Db and Eb triads.

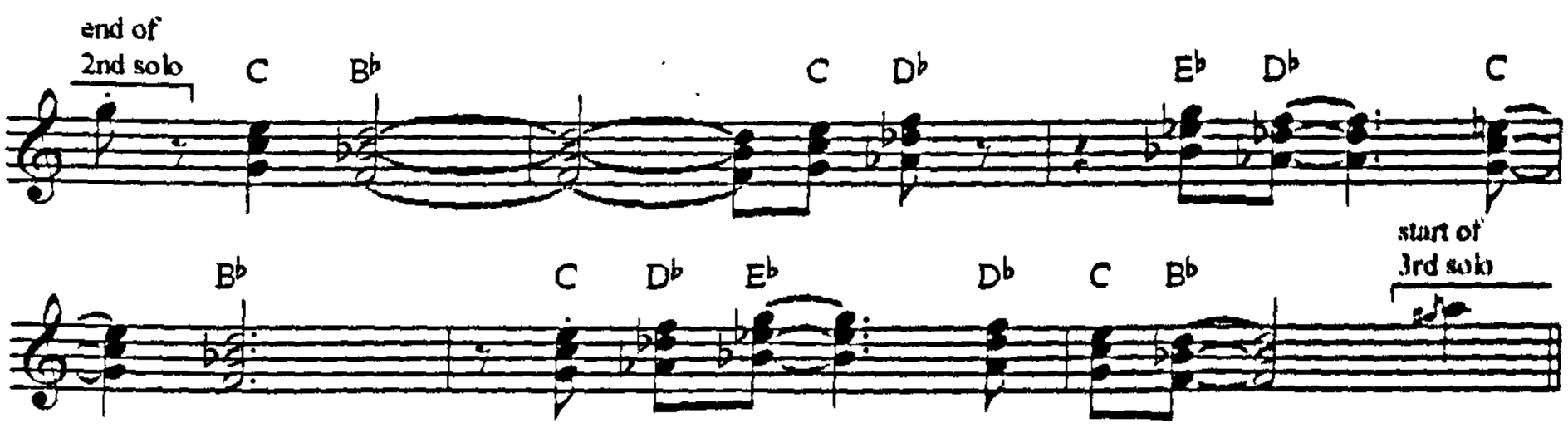


Fig. 1-36 Interlude of "Wagon Wheels"

A condensed variation of *b* occurs at bar 31 (marked *b1*) and at bar 32 we hear C and Bb triad arpeggios. also possibly derived from the harmony of the Interlude (note that the pitches of these arpeggios match exactly those found in bar 1 of the Interlude). In further support of this theory. let us note that Smith's willingness to include material from this Interlude within the body of the piece extends to the out head (Figure 1-37).

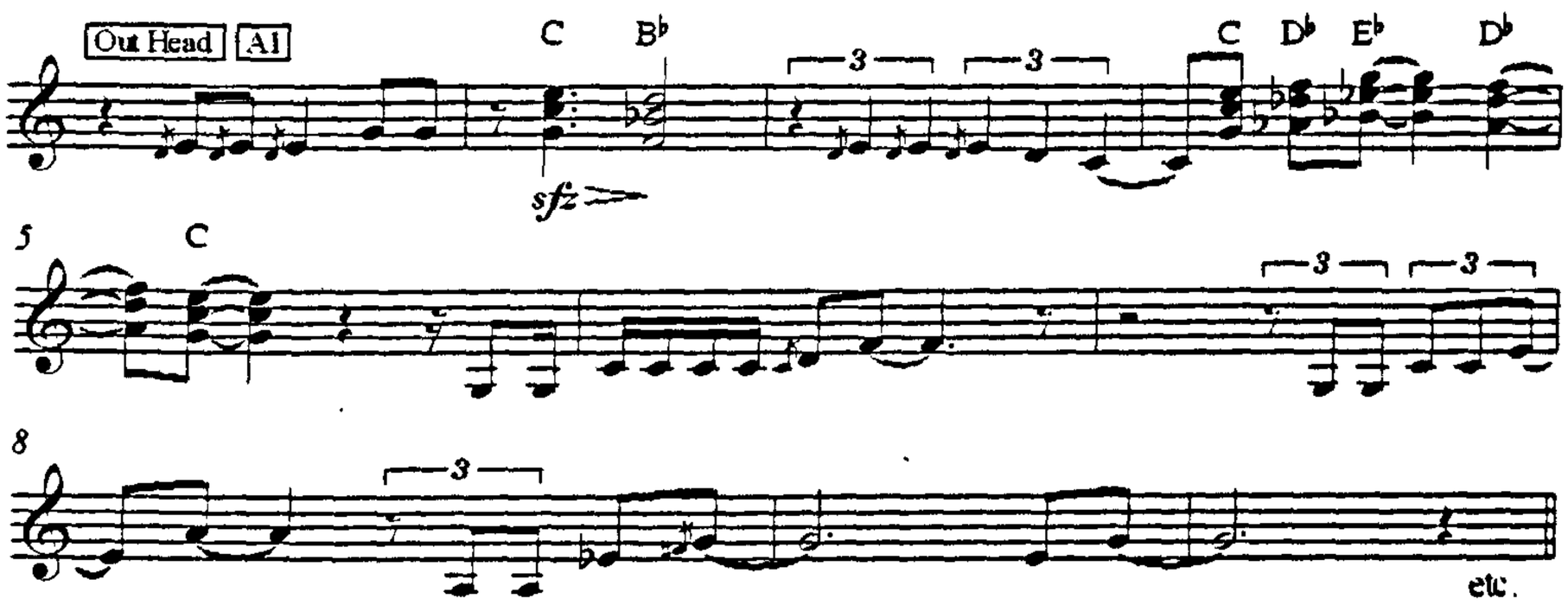


Fig. 1-37 Showing Use of Interlude Material in Out Head of "Wagon Wheels"

Bar 36 sees Smith move away from the progression with an FQ. This then leads to a passage showing strict use of the black notes (i.e. Gb Pentatonic). with which he performs a series of arpeggios. We might postulate that the two Dbs at beat 2 might be "missing" a note between them, which would maintain the triplet quaver sets. and the triad arpeggio structure (this "missing" note's position is marked *). I suggest that the E natural in beat 4 (marked *) is a surprising white note. given the context. Perhaps it is the result of the maintenance of the space between the Bb and Gb notes in the Gb triad arpeggio at beat 3 as Smith's hand grabs at this arpeggio in beat 4. Here Smith is conscious of the need to supply the final Ab as chromatic preparation for the G in bar 37. and the return of the tune.

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[1] This bass line is played by Smith with his left hand.

Bar 39 sees a conventional altering of the Dm7 chord into a Dm7b5 (with appropriate D Locrian.#2 scale material). Smith then performs a {0. 2. 5. 7} subset of the Gb Pentatonic scale at bar 40. the final Ab resolving chromatically to a G natural at the start of the next bar (41). Note the similarity of the pattern marked *c* starting in bar 40 with that found at the end of bar 16 and the start of bar 17: the differences are only due to the interpolation of spatially convenient notes. and the different (there Db. here G) bass note. The pattern marked *d* in bar 44 is interesting in that not only is it (a) constructed from similar material and (b) based on a similar contour as the Gb Pentatonic section found at bar 24. but. also. it employs an F arpeggio (F7#9 at bar 24. FQ at bar 44). Further. let us note that these two events occur cadentially at the end of four-bar blocks.

In contrast with all of the previous "out" cadences. at bars 55-56 Smith plays a melody using the notes C. A. D and E. This pitch set is not only "in" the underlying tonality. it is part and parcel of it. being a direct reference to the underlying I IV II V(13) cadence. Here. then. Smith provides a surprise by playing slowly and self-consciously inside the underlying tonality when the listener might very well expect another rapid excursion away from it.

The Way You Look Tonight

from "Standards Live"
(1985) ECM 25041

Dorothy Fields & Jerome Kern

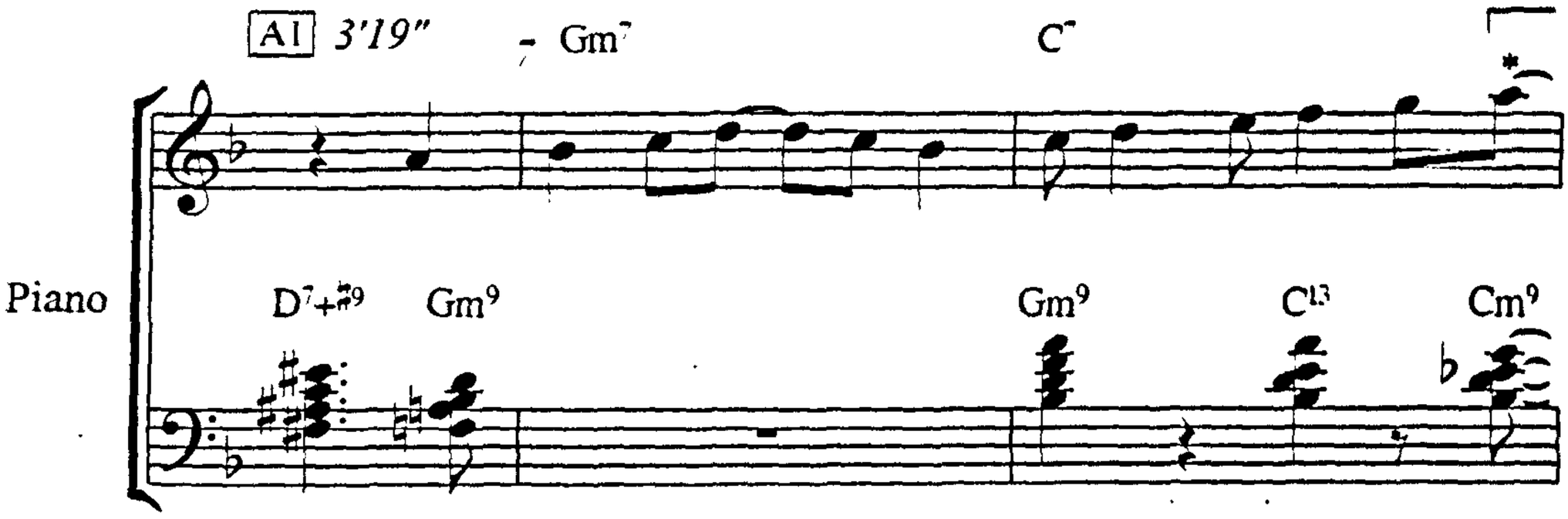
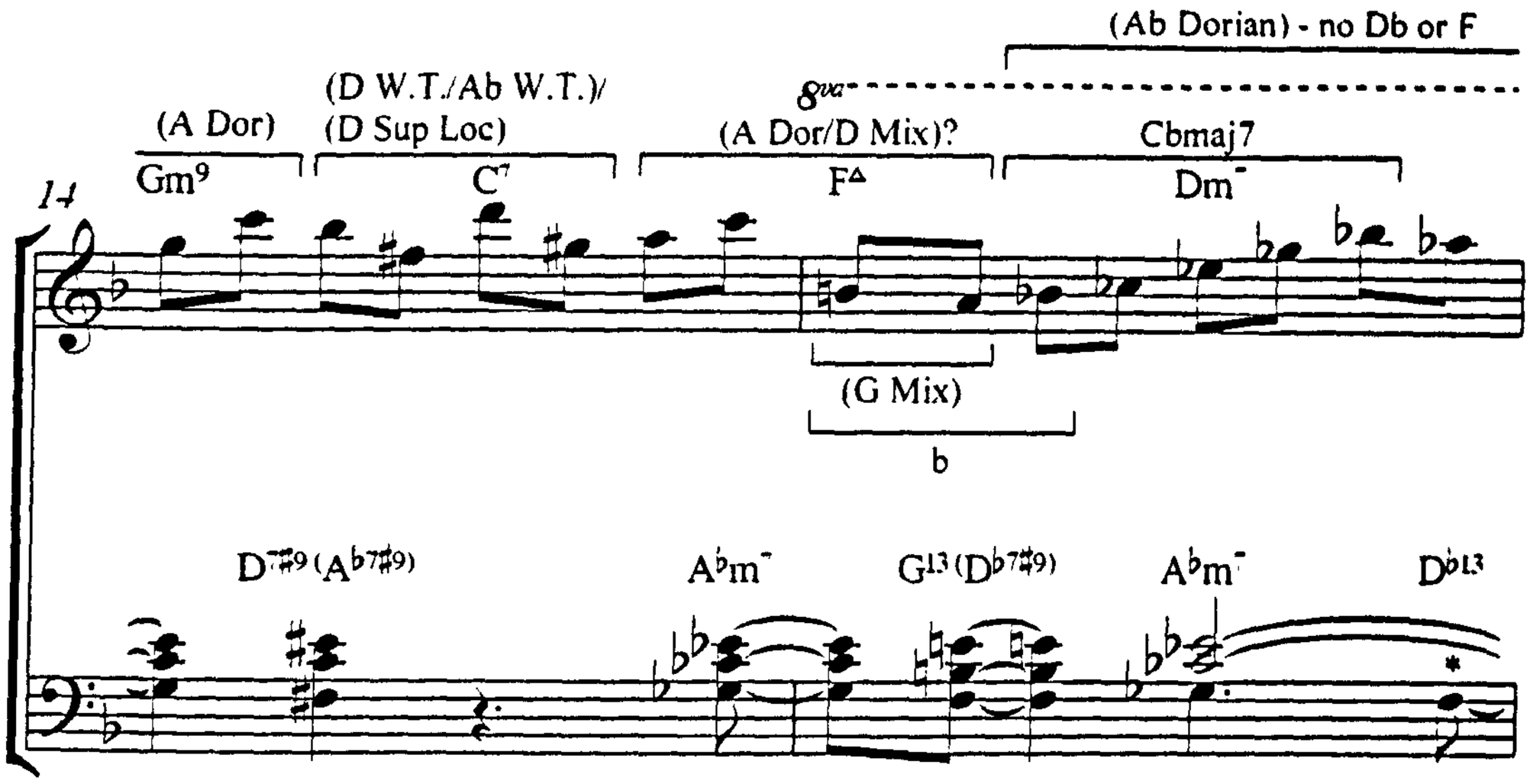


Fig 1-38 "The Way You Look Tonight" - Keith Jarrett



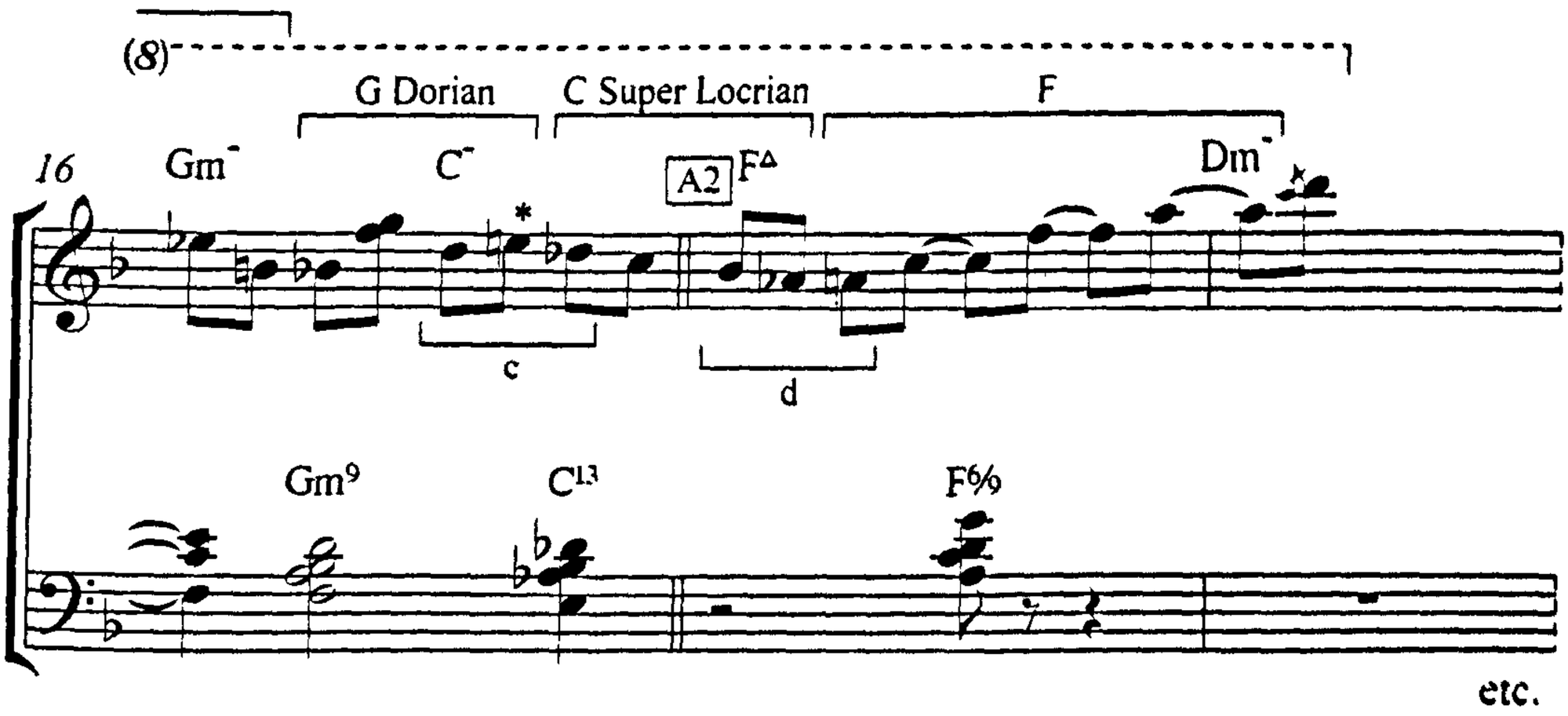


Fig 1-38 "The Way You Look Tonight" - Keith Jarrett

"The Way You Look Tonight" – Keith Jarrett (Fig. 1-38)

(from "Standards Live" (1985) ECM 25041)

As mentioned in the Introduction. I have spent many hours listening to this artist. and was surprised at how difficult it was to find any example of "out" playing when the time came for this research. Interestingly. this excerpt reveals a far from common strategy. In the notation. the chords written above the treble stave represent the original progression: those written above the lower stave are played by Jarrett.

Outside

At bar 9 (of the first A section. marked A1). Jarrett plays a Bbmaj7 arpeggio. This is simply an extension of the Cm7 (C Dorian) tonality played in the left hand. This melody emphases the bVII. II. IV and IV steps. and avoids the (more resolved) I. bIII and V. This is consistent with Jarrett's usual. disciplined improvisational approach. where every chord in the progression has an associated scale. and melodies are strictly derived from this scale. Other pianists such as Bill Evans and Oscar Peterson also improvise in this disciplined manner. Indeed. we should note that the majority of the voicings used here by Jarrett are those described by Mehegan. which are similarly popular with Evans and Peterson.[1] These voicings (a) are conducive to a range of scale choices (e.g. C Ionian or C Lydian over the resolved C 6/9 chord) and (b) avoid the tonic note in all cases. assuming this to be played by the bassist (see Figure 1-39).

[1] Mehegan (1959b). See especially "The Sixty Chords" for jazz piano.

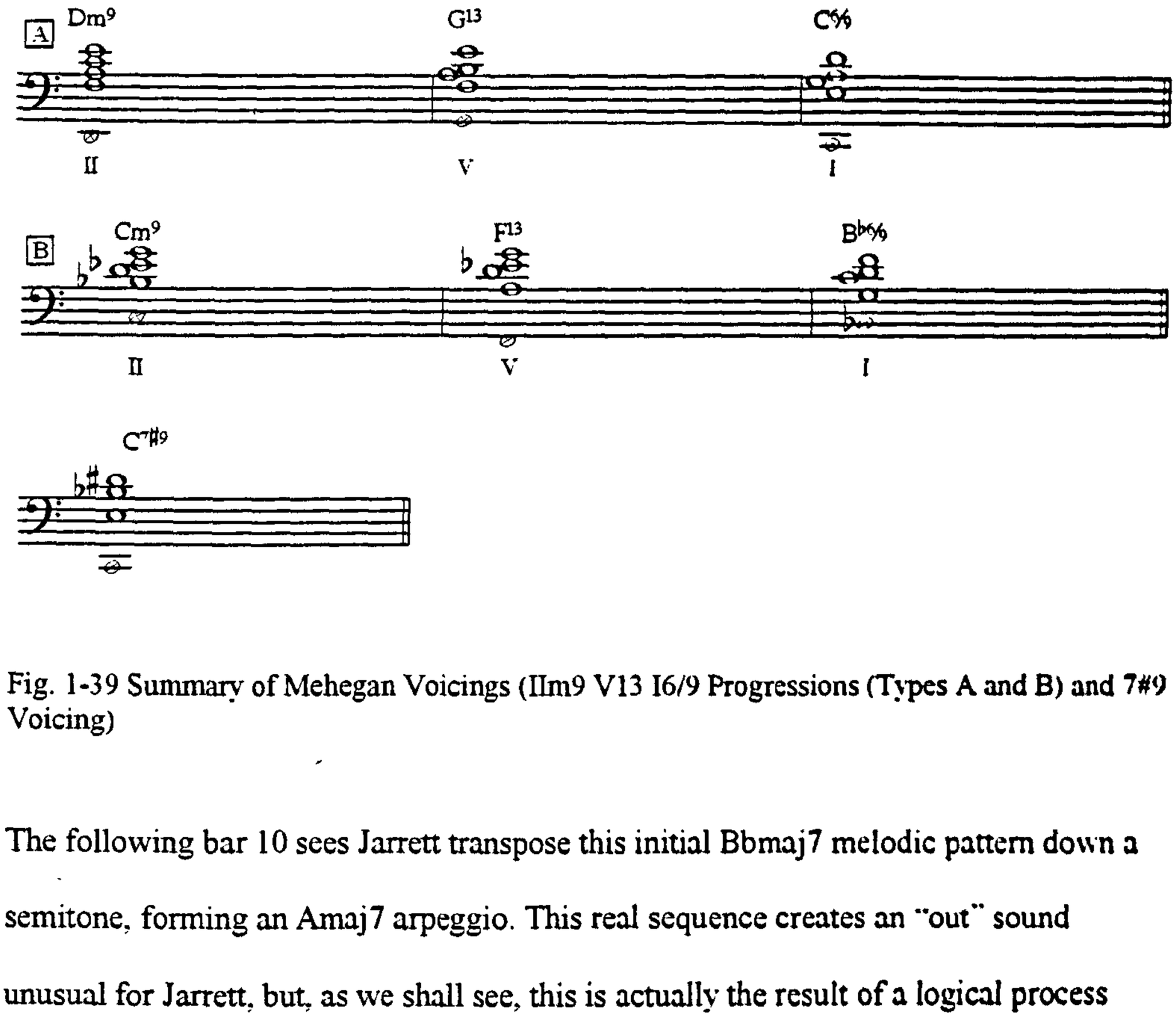


Fig. 1-39 Summary of Mehegan Voicings (IIm9 V13 I6/9 Progressions (Types A and B) and 7#9 Voicing)

The following bar 10 sees Jarrett transpose this initial Bbmaj7 melodic pattern down a semitone, forming an Amaj7 arpeggio. This real sequence creates an "out" sound unusual for Jarrett, but, as we shall see, this is actually the result of a logical process based in conventional chord substitution methodology, rather than a simple displacement of a motif from "in" to "out" by transposition.

Following conventional chord substitution rules, we might expect F7 to be substituted by B7 at this point. Indeed, this seems to be the basis for Jarrett's approach: he plays a F7#9, which forms a three-note subset of the conventional Mehegan voicing of a B13 chord (see Figure 1-40).

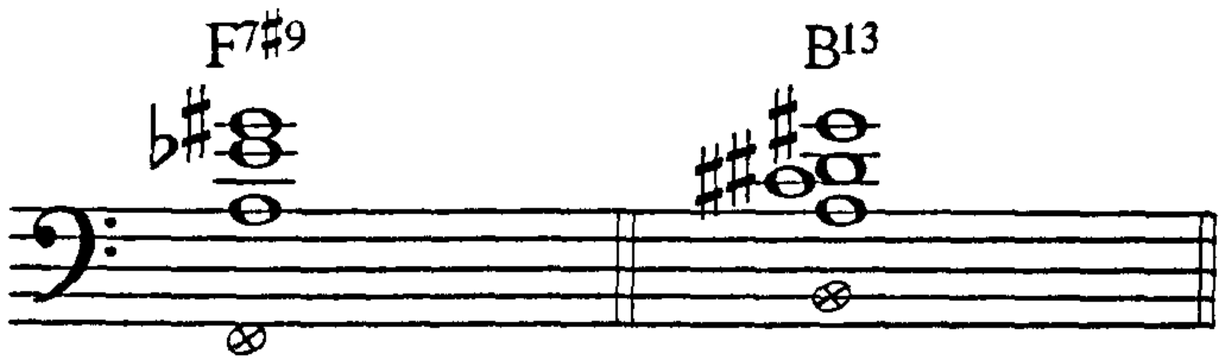


Fig. 1-40 A Comparison of F7#9 and B13 Mehegan Voicings

Jarrett's method in bars 9 and 10 is based upon the fact that the bVII, II, IV and VI steps of the (say, Cm7) Dorian and (say, C7) Mixolydian modes are identical (see Figure 1-41).

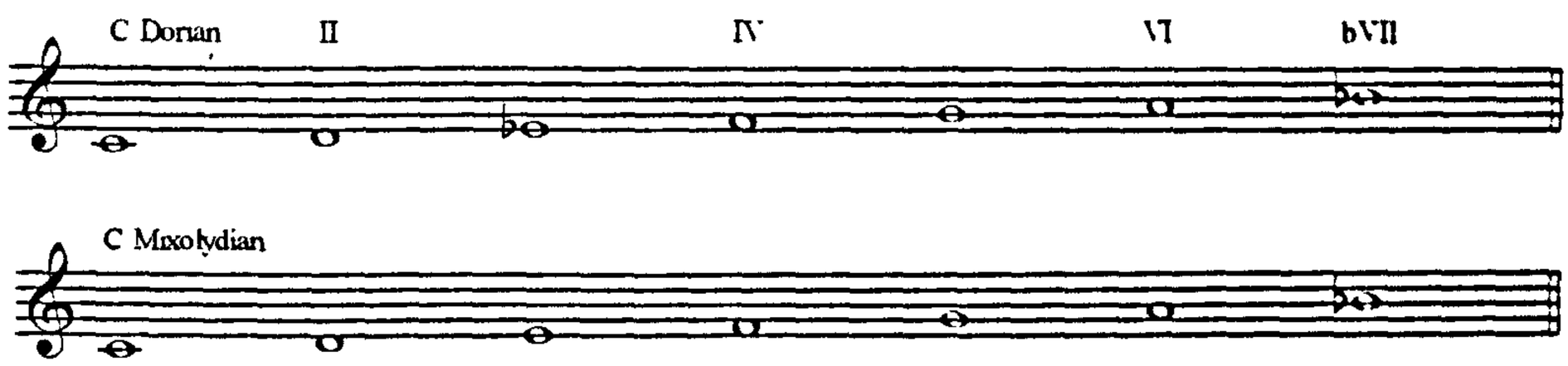


Fig. 1-41 Showing that bVII. II. IV and VI of the Dorian and Mixolydian modes are identical

From this, we can see that a Bbmaj7 arpeggio may be derived from the bVII, II, IV and VI steps of C Dorian, and that an Amaj7 arpeggio may be derived from the identical steps of B Mixolydian (see Figure 1-42).

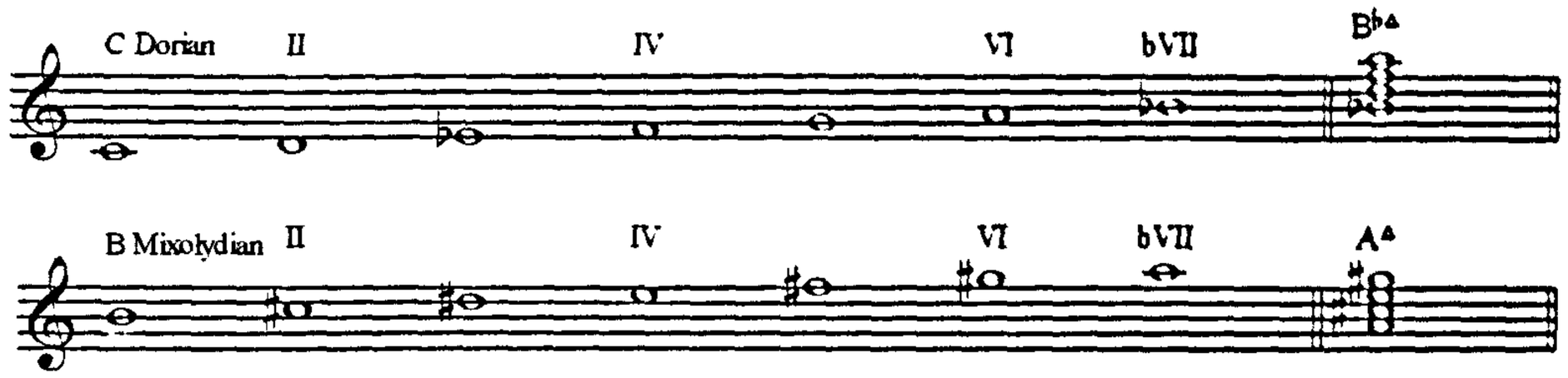


Fig. 1-42 C Dorian and B Mixolydian. showing Bbmaj7 and Amaj7 respectively

Thus, we have a real sequence at bars 9 and 10 which is actually calculated from the prevailing modes (allowing for conventional tritone substitution). despite its "out" sound. Jarrett uses this colourful pattern over the IIm7 bII7 progression that is Cm7(9) B7(13) (altered from Cm7 F7), giving a relatively dissonant sound. These patterns are generated from what might be considered as "in" material by most musicians, namely strict adherence to scales derived from a (bop) tritone substitution. However. the high frequency of non-chord tones in this sequence was sufficient to make bar 10 sound "out" to me. That is, it is Jarrett's emphasis upon the bVII. II. IV and VI notes (and avoidance of the I. III and V), that makes this section sound relatively dislocated from the underlying tonality.

Note the chromatically distant A and Ab at the top of each phrase of the Bbmaj7 to A maj7 sequence (both marked *), and, further, that the note G is used at the arrival at the Bbmaj7 chord (bar11, marked *). This chromatically descending melody, along with the Bb arpeggio in this bar at beats 2-3, compensates for the "outness" of the Bbmaj7 and Amaj7 arpeggios. Further. let us note that the A at beat 4 of bar 10 is resolved with the upcoming Bbmaj7 chord.

The following bars (12-16) are interesting in that here Jarrett interpolates a range of II V (or II bII) progressions, and uses appropriate scalar material. This section also has an

"out" feel due to (a) its distance and complexity compared with the conventional progression and (b) the sympathetic actions of the bassist.[2] Jarrett interpolates a set of side-slipping II Vs that recall the chord progression of "Blues for Alice" (Charlie Parker), both in style and key. I am thinking especially of the IIIm7 VI7 / bIIIm7 bVI7 section (shown here in **bold**) which leads to the II V approaching the tonic F chord at bar 11:

// Fmaj7 / Em7 A7 / Dm7 G7 / Cm7 F7 /
/ Bbmaj7 / Bbm7 Eb7 / **Am7 D7 / Abm7 Db7** /
/ Gm7 / C7 / Fmaj7 D7 / Gm7 C7 //

Note that, in interpolating elements of this kind of progression within his performance, Jarrett backtracks several times, i.e. he repeats previously heard chords (e.g. the Bbm7 at bar 13 and the Abm7 at bar 15). From beat 4 of bar 12 until beat 4 of bar 13 it can be seen that Jarrett employs conventional material over his substitute chords, namely a Db major triad and an A (or Eb) Auxiliary Diminished subset. Let us note the small sequence in bar 12 (marked *a* and *a1*). In bar 13, we hear this pattern up another semitone, but inverted, suggesting a Bm chord/B Dorian tonality (although this is not confirmed by an event in the left hand).

Next, we see the first of a number of points where Jarrett is much more flexible than usual in his use of scalar material over a given chord. That is, the A natural at beat 3 of bar 13 is surprising over the Bbm7 voicing below, as is the C natural at the end of bar 14 over the Abm7 voicing. I suggest that the A natural at beat 3 of bar 13 anticipates the upcoming arrival of the Am7 chord at the end of this bar, and the C natural at the end of

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[2] The bassist, Gary Peacock, plays neither the original progression, nor Jarrett's interpolated side-slipping set of II Vs. He performs a brilliant marriage of the two, at once making reference to both Jarrett's freedom and the conventional cadential structure of these bars.

bar 14 acts as a bVII of D7, the tritone substitution of the (annotated) chord of Abm7. These cases suggest that Jarrett may be alternately focusing his concentration from right to left hand, giving each in turn a chance to define a specific quality of tonality as he interpolates new scale/chord relationships on his approach to bar 17 (the start of section A2). Further, the Bb and Cb at beat 2 of bar 15 clearly belong to the upcoming Abm7 Db13 cadence, yet they occur over the G13 chord. They form a (satisfactory, bluesy) bIII/III pattern, again suggesting that here we have a rare example of tonal (temporal) independence between the right and left hands.

I find it intriguing that the Ab Dorian melody at bar 15-16 contains no Db or F, yet an F is provided by Jarrett in the left hand (last quaver of bar 15, marked *), and we might imagine a bassist playing a Db to complete the otherwise conventional II V (Abm7 Db13) progression that he performs in the left hand. Thus, here we have an all but complete listing of this "out" scale, adhering to the Mehegan model.

In bars 16-17, let us note the prolonged Gm7 (G Dorian), C7Alt (C Super Locrian) and extensive F triad arpeggio that act as a clear II V I cadence. These are a natural extension of, but also act as compensation for, the previous "out" section. Further, the chords at this point are complete (four-note) Mehegan voicings. This all suggests that Jarrett sees the previous few bars as "out", and has used three-note voicings in order to lend flexibility to the melodic material. This is in contrast to his (usual) use of four-note Mehegan voicings as resolved chordal material, described above.

There are three examples of "{x, x-1, x+1} sets" towards the close of this excerpt: at bar 15-17 (marked *b*, *c* and *d*). Let us consider the following characteristics that they share:

1. They all punctuate the end of a scalar set – indeed. they allow us to argue that the E natural in bar 16 (marked *) "belongs" to G Dorian and not C Super Locrian (note that this assigns four notes to both Gm7 and C7)

2. They. by extension of the above, allow us to confidently describe Jarrett's displacement from the underlying beat (a technique for he which he is rightly renowned – he seems always certain of where the beat actually lies. despite these displacements). Note that in *b*. *c* and *d* the last note of each cell occur on either beat 2 or 4, suggesting a beat displacement of one crotchet.

Further, the "crushed" F and G at the third quaver of bar 16 not only states Gm7, but also cancels the prevailing Gb, heard in the previous bar. Thus, we could see this as a prolongational (and aggressively, if not iconically, performed) "{x. x-1. x+1} set".

Conclusions

As noted before. all of these excerpts are unique. For this reason. I am cautious of drawing general conclusions from this limited set of examples. However. there are some statements that may be made which characterise the "out" strategies found here. I hope that these statements will not suggest to the reader that I wish to detract from each excerpt's individual qualities. With this in mind. let us firstly note that the three core types of "out" playing defined at the start of this chapter (motivic. scalar and spatial) are well represented in these excerpts. We will examine each type in turn.

Motivic

The examples of motivic "out" playing in these excerpts tend to use small note sets of only 2 or 3 pitch classes (often adjacent within a scale). transposed to the bII. This particular strategy may be found in "Au Private". "Chank" and "Urban Jazz" (Weimar's solo). and is the most common motivic strategy that I have found in my research.

There are several other excerpts that nearly fulfil these criteria. and these exceptions are all interesting in their own way. Phil Woods prefers the (equally dissonant) key of #IV over the bII (although the note set is still 3 pitch classes) in "Consternation". George Benson. in "Fly By Night". uses a 2-note motif that moves through a relatively wide range of intervals. In "Hottentot". John Scofield employs a 5-note motif. These latter two examples. I suggest. represent activity that is relatively easy to perform on the guitar. harder on other instruments such as a keyboard. a wind or a brass instrument. Further. let us note that the 5-note motif in "Hottentot" actually seems to derive from compensatory material. This. perhaps. is one reason for its especially large size. Keith Jarrett uses a (4-note) maj7 arpeggio sequence that. upon reflection. represents the use of

the upper notes of a tritone-substituted scale (in the bebop manner) and not a use of the bII. By contrast with the motifs played by the keyboardists and guitarists represented here. those performed by saxophonists Woods ("Consternation") and Weimar ("Urban Jazz") are built upon relatively basic note sets: {I. II. III} and {I. bIII}. respectively. It seems clear. then. that the choice of a motif which a musician uses to play "out" may be at least partly determined by the instrument concerned. In many of these cases. the set of notes chosen as the motif is easily performed on that instrument. whatever the key of the piece. Thus. we might argue. spatial considerations (driven by instrument design) may be seen to affect motivic "out" playing.[1]

Scalar

The scalar "out" playing in these excerpts. like the motivic strategy. tends to use the bII transposition to define "out" territory. In relatively simple cases. the prevailing mode is transposed up a semitone to provide material for improvisation. I found this strategy being used in "A Go Go". "A Story Within A Story". "Blue Bossa". "Hottentot". "Scrapple From The Apple". "Untitled Blues" (Solo. 1st Chorus) and "Urban Jazz" (Cowley's solo). This. then. is the most common scalar strategy that I have found in my research. Indeed. it is the most common (by piece) of all of the strategies that I have found. "Hottentot" is especially interesting in that the composed progression consists of a I and bII chord progression. Thus. Scofield's excursions to the bII may be seen as thematic.

[1] In fact. as I wrote up this thesis. fellow student Simon Nelson kindly alerted me to notation of a performance by another guitarist using a 5-note set in a motivic manner. At bars 25-30 of a piece entitled "Play". Mike Stern transposes this 5-note motif to both bII and VII positions (*Guitar Player*. June 2001. pp. 143-150).

In "A Story Within A Story" and "Blue Bossa", greater tension is added to this strategy by distinctive changes of mode (whilst maintaining the same "out" key of bII) within the section concerned. Further, in many of these excerpts musicians transpose up a semitone *and* change mode simultaneously. Jimmy Smith, in "Au Private", employs the Whole Tone scale as "out" material in contrast to the prevailing Blues structure and (tonal) melodic formulae. In John Medeski's performance of "Chank", the Im7 becomes a bII7 chord tone set. In "Fields Of Fire", (Dave Blackmore) the "out" scale is (the conventional) Dorian whereas the "in" scale is Aeolian. Medeski uses the Mixolydian mode at the bII following extended "in" sections using the Blues scale in "Latin Shuffle". Medeski also uses the Whole Tone scale as "out" material in "Sugar Craft" (intriguingly the same scale choice as his fellow organist, Smith in "Au Private"). Thus, these excerpts show musicians employing a change of mode at the bII transposition across a wide range of specific musical contexts. I was surprised to see how commonly this strategy is employed.

In fact, with regard to "Hottentot", I noted that John Scofield uses both Mixolydian and minor pentatonic scales at the bII, but never the Blues. This avoidance of the Blues scale at the bII is in fact quite a common strategy; I also found evidence of it in "A Story Within The Story", "Chank", "Latin Shuffle" and "Sugar Craft". The Blues scale is avoided because its use would allow inclusion of the (resolved) natural V in an otherwise polarised "out" section. This strategy suggests that a high degree of polarity in terms of the content of "in" and "out" scales is beneficial to playing outside. Such polarity is conducive to clarity in the ear of the listener, and also may help the musician mentally separate "in" and "out" material.

Two excerpts that are clearly scalar fall outside of the above descriptions. These are "So What?" and "Puerto Rican Children". The excerpts from "So What?" are concerned with the return from the bII back to the I at bar 25. Thus, those musicians that return early to

the D Dorian tonality might be said to be employing the VII rather than the bII as "out" material. However, these events are clearly in anticipation of the upcoming tonality, and do not represent temporary excursions followed by a return. "Puerto Rican Children" may be seen as a special case of a scalar strategy in that the chromatic scale that it employs may be used as either "in" or "out" material, depending upon its placement, melodic contour and the speed of execution against a chord progression.

Finally, let us note the use of Whole Tone scales in "Au Private" and "Sugar Craft" – here the change of scale quality as well as key is used to play "out". These excerpts suggest that the Whole Tone scale has sufficient "out" notes and a strong mental structure in the mind of the performer to be used in this way.

Spatial

It is perhaps with regard to spatial "out" playing that we can see the greatest diversity in these excerpts. We have seen that the most common realisation of the motivic and scalar strategies found in these excerpts is that of material being transposed up a semitone. By contrast, there is no such generally common transposition in spatial "out" playing. However, as we shall see, there are some general comments that we can make about the spatial strategies employed.

In "Blue Bossa" we hear McCoy Tyner incorporate arpeggios and scalar material mostly using white notes against a (predominantly black note) Db major tonality. Further, these arpeggios and scalar material are seemingly outside of the conventional harmonic structure used elsewhere in his solo. Saxophonist Branford Marsalis, in "Fortress Around Your Heart", leaves the underlying tonality by including rapid, open runs that do not use any side keys. This has the effect of generating non-scale tones. The high

frequency and location of the natural III against this piece in a minor key. however. suggests that a relatively high degree of tonal control may be being exerted in this excerpt. On "Fly By Night". George Benson constructs a melody which is based around an ascending two-note motif. gradually moving across the neck of his guitar whilst using the same fret as a starting point for these motifs. In John Medeski's "Latin Shuffle" we see an "out" Mixolydian scale at the bII realised by two conventional arpeggios (13 voicing and sus4). Further. here we see the use of a gradual shift from (resolved) black to (dissonant) white notes to create a sense of gently increasing dissonance which is then speedily resolved. Jimmy Smith uses quartal and 7#9 arpeggio sets. many of which are visually related. in "The Sermon". "Untitled Blues" and "Wagon Wheels". Further. in "The Sermon". we see Smith using a set of visually similar (WBB) chords as "out" material. Thus. many of the structures used by Smith have a high percentage of black notes. This approach acts as a deliberate contrast to the fact that the home keys of these pieces (F and C) have most of their resolved tones as white notes on the keyboard. Further. let us note that Smith often employs the FQ as a chord which initiates an "out" section. A similar spatial approach may also be found in Smith's use of the set five quartals that neatly saturate the Gb Pentatonic scale at the bII in "Untitled Blues": this set is not exclusively restricted to black notes. however. In "Wagon Wheels" Smith quotes verbatim from the Interlude section in various parts of the piece. and makes adjustment in the key of this material. Thus. here we have an example of "out" material having a source elsewhere in the piece itself.

Let us note. then. that the most common strategy employed in spatial "out" playing is that of the division of the instrument concerned into separate conceptual sections. In the excerpts examined here we have seen that for the keyboard these sections are two in number. namely the black and white keys. On the saxophone ("Fortress Around Your Heart") these sections are also two in number. consisting of (a) notes that do and (b) notes that do not require the use of side keys. On "Fly By Night" the guitar may be seen

to be divided into six conceptual sections: i.e. the six strings. Perhaps it is not surprising that most of the examples of spatial playing that I have come across are performed on a keyboard in that (a) this instrument might be seen as easiest to "read", visually and tonally speaking, and (b) theorists often use this instrument as a mapping tool. Further, as noted above, there is no common transposition in spatial "out" playing, it is clear that spatial "out" playing at the keyboard occurs in these excerpts within a limited set of keys, and that these keys consist of either mostly black or mostly white notes.

Although most of the excerpts examined here use only one of the three "out" strategies (motivic, scalar and spatial), some use a combination. For example, "Hottentot" and "Urban Jazz"[2], employ motivic and scalar, whilst "Blue Bossa" and "Latin Shuffle" employ scalar and spatial strategies. Jimmy Smith's "Untitled Blues" employs all three: motivic, scalar and spatial.

Note that where there are combinations of motivic/scalar/spatial strategies occurring in the same piece they usually occur within that order (i.e. motivic before scalar before spatial). Further, these combinations are all either motivic/scalar or scalar/spatial, but *never* motivic/spatial. These structures suggest a hierarchical relationship of "outness" between these strategies. Motivic strategies may be seen as simpler than scalar strategies in that motifs may be seen as scale subsets. Spatial "out" playing, on the other hand, sees a musician deliberately ignore precise tonal relationships. Instead, they rely upon a more generalised concept of "in" and "out" based in (a) the use of familiar hand shapes and movements and (b) the division of the instrument concerned into separate conceptual sections, as described above. Thus, a spatial strategy requires, within certain boundaries, an abandonment of "exact" theory and an acceptance of the imprecise, the uncertain. Such a strategy is rewarding for musicians in that it may regenerate the "sound of

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[2] Here Weimar uses motivic, whilst Cowley uses scalar strategies.

surprise"[3] for the performer themselves. whilst operating within familiar physical (fingers and instrument) territory.

Placement

Let us note that three temporal positions within the chord progressions and modal vamps found in these excerpts are especially popular with regard to placement of "out" material. These three positions might be described as the following types:

1. Within the *last* bar(s) of a 2-, 4-, 8-, 12-, 16-, 32- (etc.) bar long section
2. At the penultimate bar of a 4-, 8-, 12-, 16-, 32- (etc.) bar long section
3. Within the *first* bar(s) of a 2-, 4-, 8-, 12-, 16-, 32- (etc.) bar long section

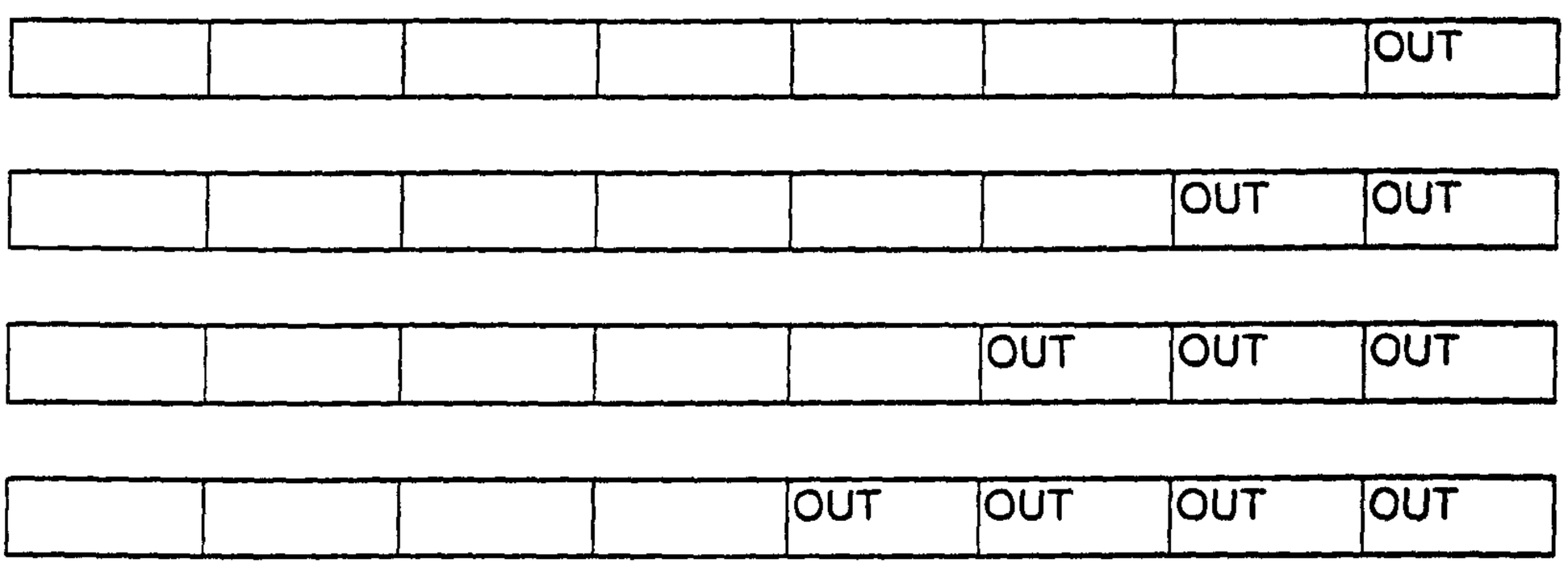
1. Within the *last* bar(s) of a 2-, 4-, 8-, 12-, 16-, 32- (etc.) bar long section

This strategy creates great tension at this cadential point. launching the improvisation into the next section (which may also end with an "out" section of similar duration: e.g. the heads of "Wagon Wheels"). This next section invariably sees a return to use of the conventional tonality. Here are some simple diagrams that show such structures:

[3] Title of article/book by Whitney Balliett. (1959/*R*1978. New York)

4 bars:

8 bars:



Etc.

Fig. 1-43 "Out" material placed within the last bar(s) of a section

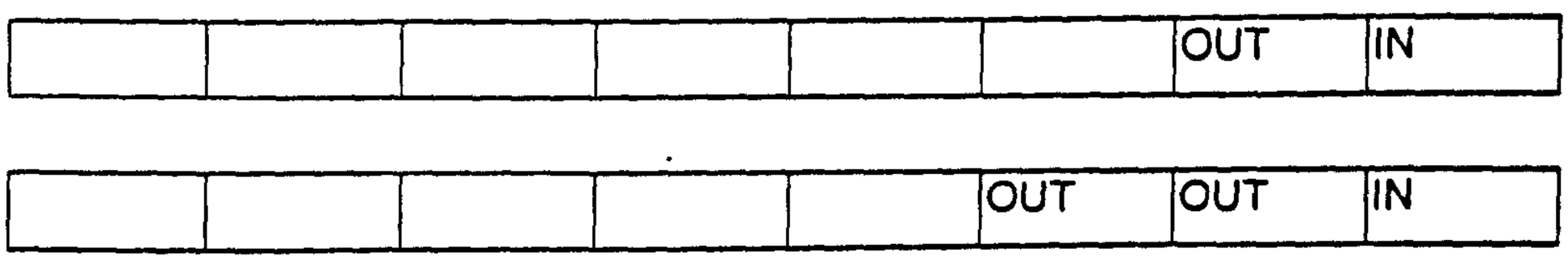
Similar diagrams may be drawn for progressions of 2-. 12. 16-. 32- (etc.) bar lengths. Note that the "out" sections never encroach further left in this diagram (and the others below) than halfway through the structure. Examples of this kind of placement were found in "Blue Bossa". "Fields Of Fire". "Fortress Around Your Heart". "Hottentot". "Puerto Rican Children" (bar 28). "The Way You Look Tonight". "Untitled Blues" (noteworthy for its 8 bars "in". 8 bars "out" structure in both heads). "Urban Jazz" (Cowley) and "Wagon Wheels".

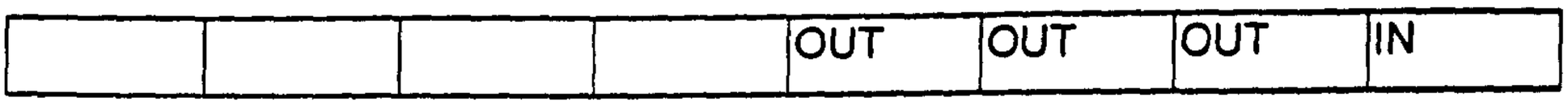
2. At the penultimate bar of a 4-, 8-, 12-, 16-, 32-, (etc.) bar long section

This strategy moves the "out" material to just before the end of a 4-bar (or 8-bar. 16-bar. etc.) structure. allowing the final bar to resolve to the home key. Here are some simple diagrams that show such structures:

4 bars:

8 bars:





Etc.

Fig. 1-44 "Out" material placed within the penultimate bar(s) of a section

Examples of this kind of placement were found in "A Go Go". "Hottentot". "Latin Shuffle". "Scrapple From The Apple". "Untitled Blues" (solo) and "Urban Jazz" (Weimar and Cowley).

3. Within the *first* bar(s) of a 2-, 4-, 8-, 12-, 16-, 32- (etc.) bar long section

This strategy creates great tension at the start of a section of a progression. thus:

4 bars:

OUT	IN		

OUT	OUT	IN	

8 bars:

OUT	IN						

OUT	OUT	IN					

OUT	OUT	OUT	IN				

OUT	OUT	OUT	OUT	IN			

Etc.

Fig. 1-45 "Out" material placed within the first bar(s) of a section

Examples of this kind of placement were found in "A Story Within The Story", "Consternation", "Fly By Night", "Hottentot", "Sugar Craft" and "The Sermon".

Although most of the examples use only one type of the three described here. some musicians create interest by continually shifting the placement of the "out" sections in their solos. Note. for example. that all three types of placement described here occur in John Scofield's solo in "Hottentot".

Compensation

After an "out" section, the musicians in these excerpts often use a particularly resolved set of notes as "compensation" for the excursion away from the underlying tonality. These resolved sets were seen to take numerous forms:

- Tonic notes (sometimes heavily repeated)
- Tonic chord arpeggios
- Scale subsets that emphasise tonic chord material (e.g. {I. II. III. V})
- Resolved modal subsets such as {0. 2. 5. 7}
- Complete list of "in" scale (e.g. minor pentatonic. Blues. Dorian. etc.)
- Adjacent scale tone melodies with simple contour
- Tonal (and often tonal *and* real) sequences
- Conventional progressions (e.g. II V I)
- Conventional chord voicings
- Resolved note forming a "{x. x-1. x+1} set" (see below)

Of course, all of this material is natural "in" material that a musician might use anyway, even if they had not left the underlying tonality. However, in all of the cases found in these excepts the use of this material was seen to represent a significant deviation from the more complex melodic structures that precede the "out" section concerned. In particular, we have seen that this material is often performed with a higher notes-per-beat and/or notes-per-bar density than that to be found in either the "out" section or the music that immediately precedes it. Particularly common after an "out" section, yet rare before it, is the statement of a complete (or near complete) list of the "in" scale. These lists are frequently performed in the manner of a practise session: i.e. (a) with an upward or downward contour, (b) a regular, or mostly regular rhythmic structure and (c) without repetition of any note until they have all been stated. This listing strategy is especially common where the improvisation takes place over a "vamp": i.e. the tonality concerned

is in place before and/or during and after the "out" section found in the excerpt. Such a strategy has the advantage of settling both musician and audience back into the underlying tonality: it makes the excursion that precedes it sound (a) comparatively complex from the perspective of contour and rhythm and (b) deliberate.

Such use of compensation is extremely common following scalar and spatial "out" sections. However. many examples of motivic "out" playing found in these excerpts (such as "Au Private" bars (1-2) and "Urban Jazz" (Weimar) (bars 10-11)) are followed by no such strategy. In these cases the comparison to be made by the listener between "in" and "out" material is clearly the pair of motifs: one "in" the key and one "out" of it. It might be argued. then. that whilst in scalar and spatial "out" playing the resolved material generally appears *after* the "out" section as compensation. in motivic "out" playing such compensation would appear redundant. and perhaps over-simplistic.

There are a couple of particularly interesting examples of compensation that demand special attention. Firstly. let us recall the unusually low level of compensation found in Branford Marsalis' solo in "Fortress Around Your Heart" after a scalar excursion (bar 15). This contrasts with the relatively high compensation of the descending Gm triad arpeggio which follows the spatial "out" section (bars 15-16). It is partly the unusual nature of this event that leads me to suggest that Marsalis is "treading water" before the final cadence of his solo. A second particular example is the use by Neil Cowley in "Urban Jazz" of a V. bVII. V melodic set as both compensation and then (having defined its role as decidedly "in") assertion of the underlying tonality before moving "out" (bars 13-15).

{x, x-1, x+1} sets

In order to define "{x, x-1, x+1} sets", let us return to the short example in respect of scalar "out" playing that we saw earlier in this chapter:

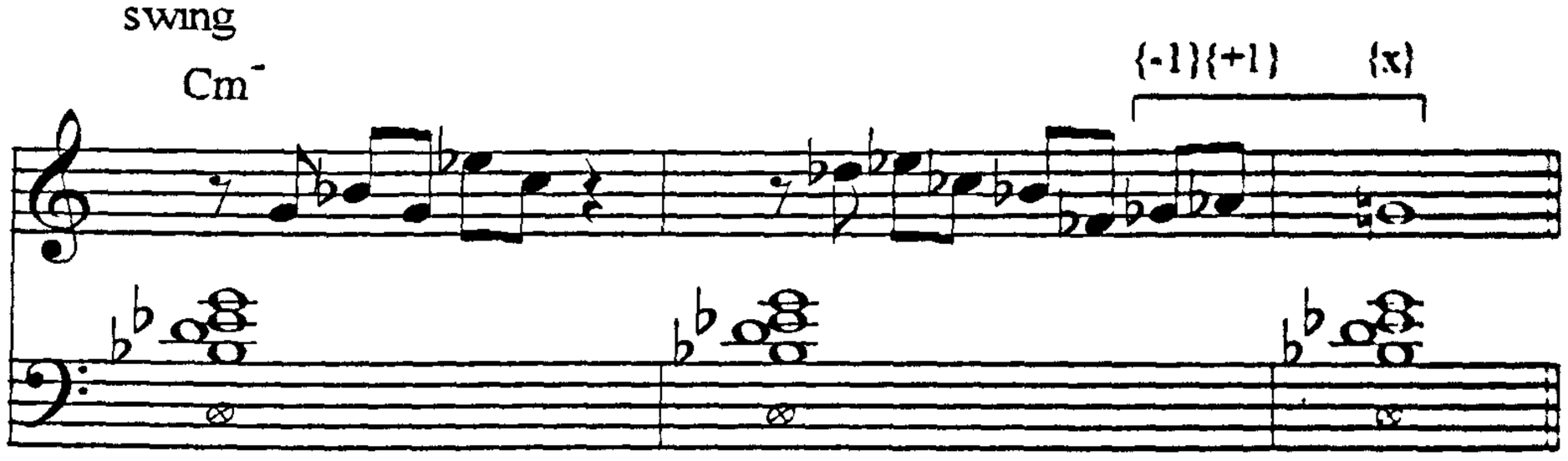


Fig. 1-46 Example of {x, x-1, x+1} set (adapted from Fig. 1-2)

Here the melody returns to the underlying tonality in the third bar with a G natural. This note can be seen to fit between, and heard to "cancel out" the Gb and Ab notes heard immediately before at the end of bar 2. I have called such chromatic melodies "{x, x-1, x+1} sets" since the latter note is chromatically distant from each of its preceding chromatic neighbours, no matter the order of this preceding pair. These events are common amongst improvisers for whom voice-leading is a key characteristic of their style, such as Charlie Parker.[4] They often signal the start or end of the use of an "out" scale, and, because of this, they tend to occur at (or very near) bar boundaries. {x, x-1, x+1} sets usually consist of three notes (as in the example above), but have been seen to extend to 4 or 5 adjacent chromatic notes.

[4] See Martin (1996) p. 13 etc. for analysis of Parker's exceptional abilities in this regard. I have found numerous examples of these "{x, x-1, x+1} sets" in the "Charlie Parker Omnibook" (Aebersold and Stone (1978)).

Examples of {x. x-1. x+1} sets were found in "Blue Bossa". "Fields Of Fire". "Puerto Rican Children" and "The Way You Look Tonight". Sometimes the two "out" notes may be played simultaneously. as a dyad. such as in "The Way You Look Tonight" (beat 2 bar 16) and "Untitled Blues (playout)" (beat 1 bar 9). Interestingly. neither of the two uses of the Whole Tone scale as "out" material found in these excerpts ("Au Private" and "Sugar Craft") are announced or concluded by such a {x, x-1. x+1} set. despite the structure of the scale concerned. Let us note that a pair of "out" notes (such as the Gb and Ab in the example above) tends to occur.in a "lower then upper" order (rather than "upper then lower"). This suggests that the bII is preferred to the VII as the note to lead back to resolved material in such melodic constructions.

Further. several cases of "prolongational" {x. x-1. x+1} sets have been identified. By "prolongational" I mean that they simply take longer to be realised because such cells have other notes interpolated within their structure. However. the overall effect of cancellation of specific accidentals is maintained in the ear of the listener. Such prolongational {x. x-1. x+1} sets were found in "Fields Of Fire". "Latin Shuffle" and "The Way You Look Tonight". Finally. let us note that at bars 6-7 of "Hottentot" there is a variation upon the basic {x. x-1. x+1} set. in that it works in reverse. Here a single "in" note occurs first. with an "out" pair following afterwards.

Live and Studio Versions

A comparison of the live and studio versions of pieces such as "A Story Within The Story" and "Fortress Around Your Heart" has revealed significant differences regarding the quantity and use of "out" playing. Also. a live performance of "Fields Of Fire" seemed to contain a greater number of excursions (and these were less restrained by range and duration) than the studio version. Generally speaking. the live versions

contain more examples of "out" strategies than their studio counterparts. Perhaps one might expect live performances of jazz to be freer, less restrained, and, thus, to incorporate more "out" material, than a studio version under the (conservative) gaze of a record producer. Further, an artist playing material from a new recording in order to promote it will probably be more familiar with that material than they were at the time of recording. Lastly, let us note that verbatim performances of a studio recording are anathema to the improvisational tradition, and that playing "outside" the underlying tonality of a piece can act as a clear marker that disruption of the material has taken place thorough improvisation.