Harmony, jazz

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https://doi.org/10.1093/gmo/9781561592630.article.J990085
Published in print: 20 January 2002
Published online: 2003

The combining of notes simultaneously to produce chords and the placing of chords in succession, whether or not to produce tonally functional progressions; the word is used also of the system of structural principles governing chords and progressions. For a discussion of harmony as the basis of formal organization *see* Forms.

1. Terminology and theory.

(i) Introduction.

As interest in jazz has grown in institutions of higher learning, the discussion of jazz harmony has relied increasingly on the terms and concepts evolved by theorists to deal with Western classical music. This trend has had the beneficial effect of unifying what had been a rather disparate usage, but it has brought with it certain problems. Because jazz differs in many ways from Western classical music, terms and concepts developed for the latter are not always applicable to jazz. Not all terms are neutrally descriptive, and the assumptions underlying some terms (such as “consonance” and “dissonance”) need to be reconsidered in view of the realities of certain styles of jazz.

There has been nearly as great a range and variety of harmonic styles in the brief history of jazz as in all the centuries of Western classical music, and in many ways their developments have run the same course. In general the apparatus of harmonic analysis is best suited to music having a relatively simple harmonic basis, such as triadic early jazz or 18th-century classical music; bop and jazz of the 1960s and 1970s present harmonic complexities equivalent to (though in many ways different from) those of late Romanticism, Impressionism, and 20th-century tonal music. That traditional harmonic theory has been found to be inadequate by itself to explicate these classical styles is best illustrated by the development and application of alternative approaches to harmonic analysis, notably the theories of Heinrich Schenker. The difficulties posed by the harmonic analysis of jazz lie not only in applying inherited classical concepts to jazz but also in applying them to styles of jazz where they have differing degrees of relevance.

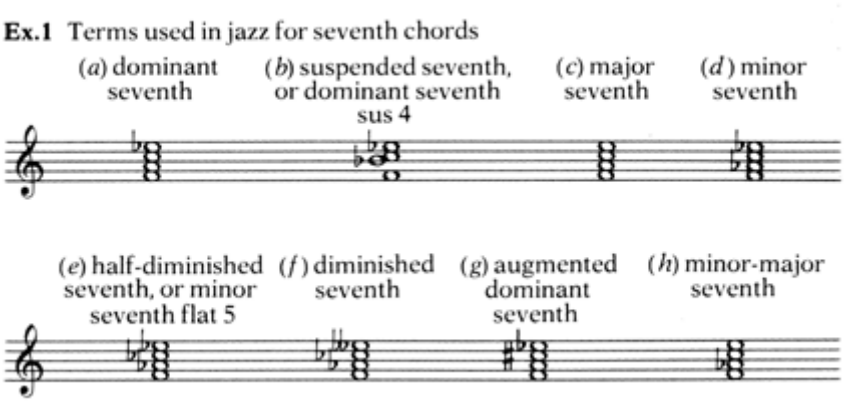
Western harmonic theory is based on two sets of relationships: that between the notes of a single chord and that between successive chords. In medieval and renaissance music vertical combinations are seen mainly as the result of contrapuntal movement, whereas, in later practice, voice-leading is seen to be governed principally by harmonic considerations. Although the contrapuntal origin of harmony has maintained its influence in the analysis of classical music, in jazz its importance has often been

obscured by concentration on vertical structures in all but the most recent theory. The inability of jazz theory to deal with contrapuntal movement is but one indication that a complete understanding of jazz harmony has yet to be arrived at.

(ii) Intervals and chords.

The commonly accepted definitions of intervals and chords are current in jazz theory, but the terminology and notation used in analyzing and describing jazz may differ somewhat from classical practice. Depending on context, minor or diminished intervals may be called “flat” or “lowered,” and major or augmented ones “sharp” or “raised.”

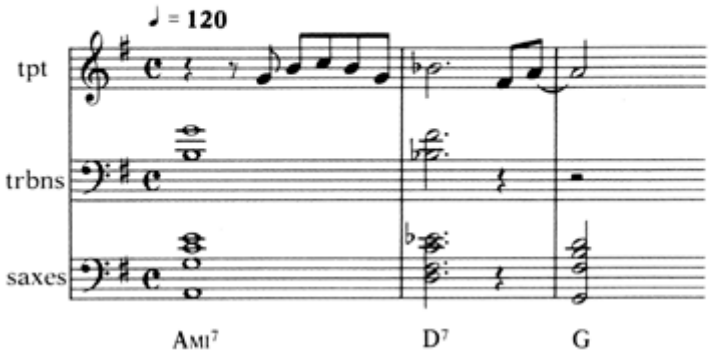
Triads retain their conventional names (major, minor, diminished, and augmented), except for one usage peculiar to jazz: a triad in which the third above the root is replaced by a fourth is called a “suspended triad” or a “triad sus 4”; in this case the fourth above the root is not necessarily suspended (in the classical sense) from the preceding chord. Names for types of seventh chords are conventional, with a few variations. Although classical theorists sometimes call a dominant seventh structure (major triad plus minor seventh) a “major-minor seventh chord,” jazz musicians always call it a “dominant seventh chord,” regardless of the scale degree on which it is built or its contextual function. Similarly, “augmented dominant seventh” is preferred in jazz usage to the classical term “augmented minor seventh.” A dominant seventh structure built with a suspended triad is called a “suspended seventh” or “dominant seventh sus 4,” or “suspended dominant seventh.” The half-diminished seventh has been called “minor seventh flat 5” in jazz usage; however, the classical term has been gradually gaining favor. The names of other seventh chords agree with traditional usage: major seventh, minor seventh, diminished seventh, minor-major seventh (ex.1). (For notational conventions used in this article *see* Notation; see also §(v)(a) below).



Ex.1 Terms used in jazz for seventh chords

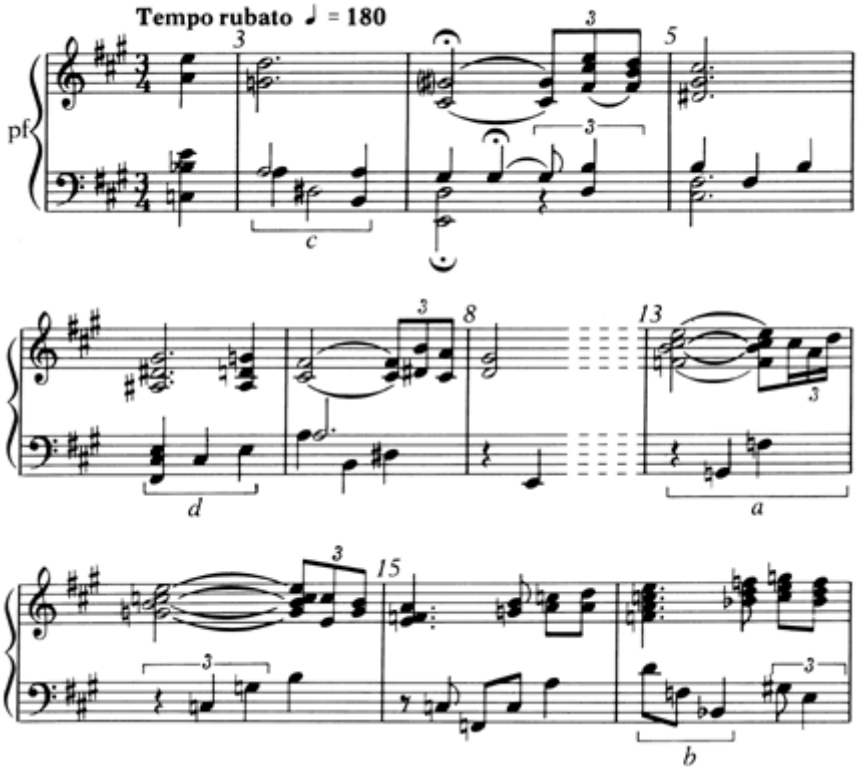
An extended chord is produced when 3rds beyond the seventh are added to the triad (i.e., the ninth, eleventh, thirteenth, etc.). The added notes are normally derived from the diatonic scale of the local key or tonicization (as, for example, in the first and last chords of ex.2, which respectively include a major ninth, and a major seventh and a major ninth, as the prevailing key dictates). Dominant sevenths are particularly subject to extension. An altered chord is one in which an element or elements of the chord other than the root, third, or seventh may be regarded as borrowings from the tonic minor key if the prevailing key is major, or the tonic major key if the prevailing key is minor, or from another scale altogether (such as the phrygian or lydian modes). Dominant chords and particularly extended dominants often contain such altered elements. In ex.3 at *a* is a G^7 chord, with ninth, augmented eleventh, and thirteenth. The components of the chord, in ascending order, are: G (root), F (seventh), A (on the third beat, ninth), C# (augmented eleventh), and E (thirteenth). The C# is diatonic in the home key of A major, but not in the local tonicization of C major, which is III of A minor (the tonic minor of the home key). At *b* is a B♭ (Neapolitan) triad with extensions, as follows: B♭ (root), F (fifth), D (third), A (major seventh), C (ninth), and E (augmented eleventh). At *c*, a B^7 chord, a secondary dominant tonicizing the E^7 that follows (V^7 of the home key of A major), might be expected to contain a G# as a thirteenth since the G# in the E^7 chord suggests a major mode for the B^7; however, the B^7 contains a G&nat;, which is a minor thirteenth borrowed from the parallel (E) minor mode. At *d*, an $F\#^7$ chord, dominant of B, is extended to include G# (ninth) and D# (thirteenth), which are members of the B major scale; on the third beat these extensions are altered to their minor counterparts, G&nat; and D&nat;, members of the B minor scale. Similarly, the second chord in ex.2 is an altered dominant in G containing a minor thirteenth (B♭) and a minor ninth (E♭).

Ex.2 Extensions in spread voicings at the opening of Benny Golson's *Starfire* from Maynard Ferguson's *A Message from Birdland* (1959, Roul. 52027); transcr. S. Strunk



Ex.2 Extensions in spread voicings at the opening of Benny Golson’s Starfire from Maynard Ferguson’s A Message from Birdland (1959, Roul. 52027); transcr. S. Strunk

Ex.3 Extended chords in the first chorus of *Waltz for Debby* from *The Bill Evans Album* (1971, Col. C30855); transcr. P. Dreyfuss



Ex.3 Extended chords in the first chorus of Waltz for Debby from The Bill Evans Album (1971, Col. C30855); transcr. P. Dreyfuss

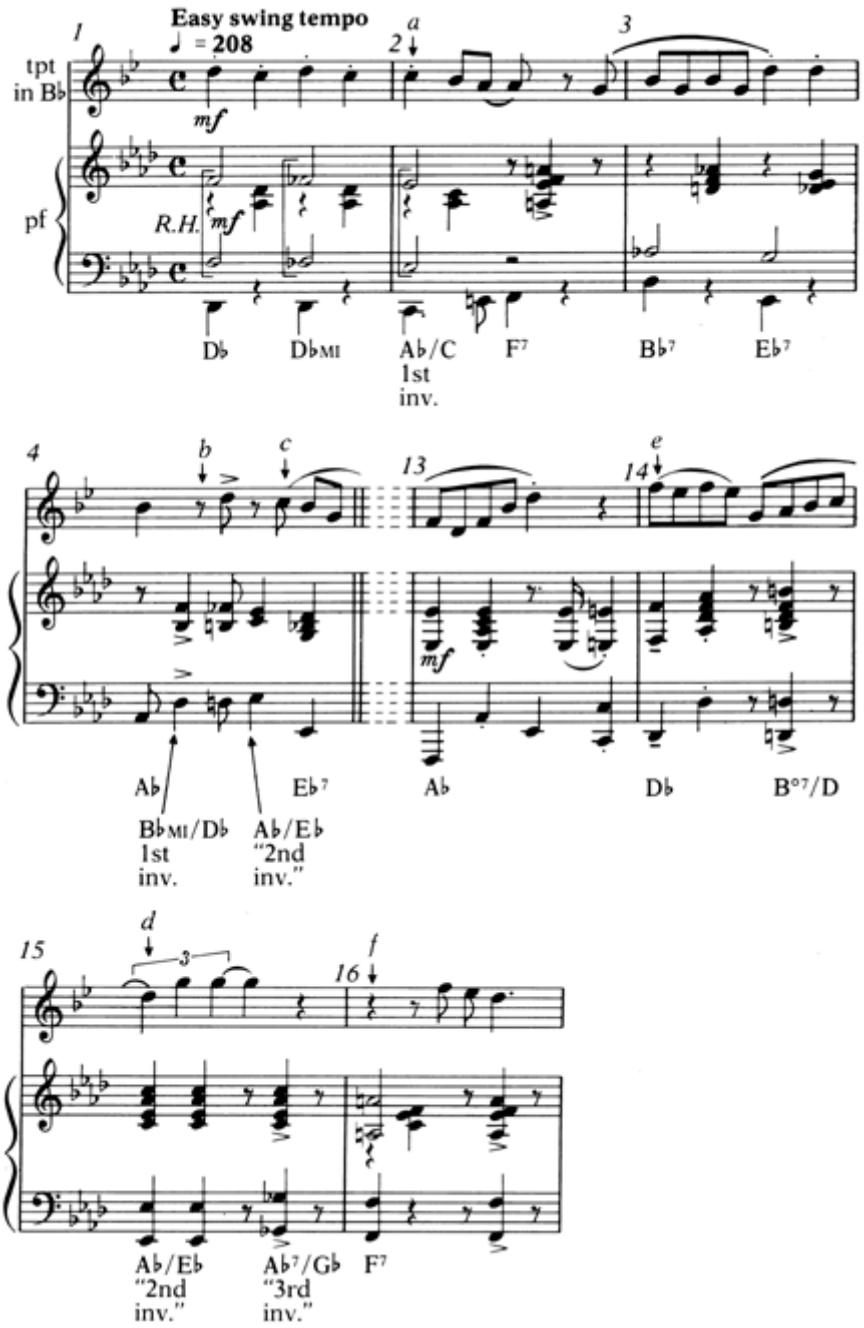
(iii) Dissonance.

The distinction between consonance and dissonance as they are regarded in the theory of tonal classical music has only residual relevance to jazz. In early jazz the two principal categories of dissonance (inessential dissonances being those that can be resolved within a single chord, and essential dissonances being those that can be resolved only upon a change of chord) continue to be operative. But the development of jazz harmony (like that of Western music generally) has resulted in a gradual erosion of these distinctions and a blurring of the concept of dissonance itself. For example, the notes added to the triad to form extended chords (discussed in §(ii) above) are, according to Western harmonic theory, nonessential diatonic (or, when altered, nondiatonic) dissonances; but they are often treated in jazz harmony as if they were essential – that is, their resolution is delayed until there is a change of harmony – and are thus incorporated into the chord. Furthermore, jazz harmony often contains “dissonant” notes the resolution of which is long delayed or never occurs at all; the commonest example of this kind is the added sixth. One view of such notes is that they are elements of “color” and therefore have to do with timbre rather than functional harmony; another is that the level of dissonance in jazz has simply risen to the point at which (as many texts on arrangement state) no chord “should” have fewer than four different notes.

(iv) Inversion and voicing.

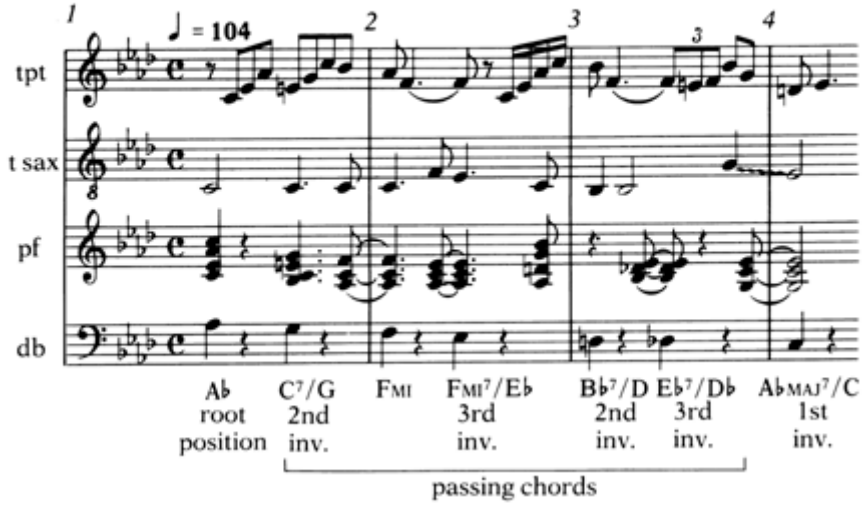
Perhaps because the bass lines of most jazz performances are improvised, and because bass players usually play the root of a chord at least once while that harmony lasts, jazz musicians tend to think of all chords as being in root position. Inversions appear in jazz in styles that make little use of extended chords (i.e., early jazz and jazz-rock) and in works with composed bass lines. Inversions are notated with letter chord symbols by placing the chord symbol before and the bass note after a slash (solidus) (ex.4). (Although chord symbols are often placed above the staff in jazz notation, they are here placed below the staff, in the usual position for chord labels in analytical texts.) In classical theory a distinction is sometimes made between an inverted chord that can logically be replaced by its root-position form and one that cannot: the latter is considered an “apparent” inversion. This distinction holds for jazz. In ex.4 the first-inversion tonic triad at *a* represents tonic harmony and is a true inversion, as is the supertonic chord at *b*. However, the cadential 6–4 at *c* (an A♭ is implied on the third beat) acts as an embellishment of the root-position dominant seventh, which is the true harmony on the third and fourth beats. Similarly the triad with its fifth in the bass at *d* and the “apparent” third-inversion seventh chord that follows could not be replaced by their root-position forms, as they function as embellishments connecting a IV triad at *e* with a dominant seventh of B♭ (ii in A♭) at *f*. In ex. 5 the descent of the bass line from the tonic in bar 1 (supporting a root-position chord) to the mediant in bar 4 (supporting a first inversion of the same harmony) is filled in with stepwise passing notes, harmonized with passing chords, some of which are in “apparent” inversion.

Ex.4 Introduction to and part of the first chorus of the duo *Weather Bird* (1928, OK 41454) by Louis Armstrong and Earl Hines



Ex.4 Introduction to and part of the first chorus of the duo Weather Bird (1928, OK 41454) by Louis Armstrong and Earl Hines

Ex.5 Inversions in Art Farmer's *Like Someone in Love* (original song by Johnny Burke and Jimmy Van Heusen), from *Modern Art* (1958, UA 4007); transcr. S. Strunk (all parts notated at sounding pitch)



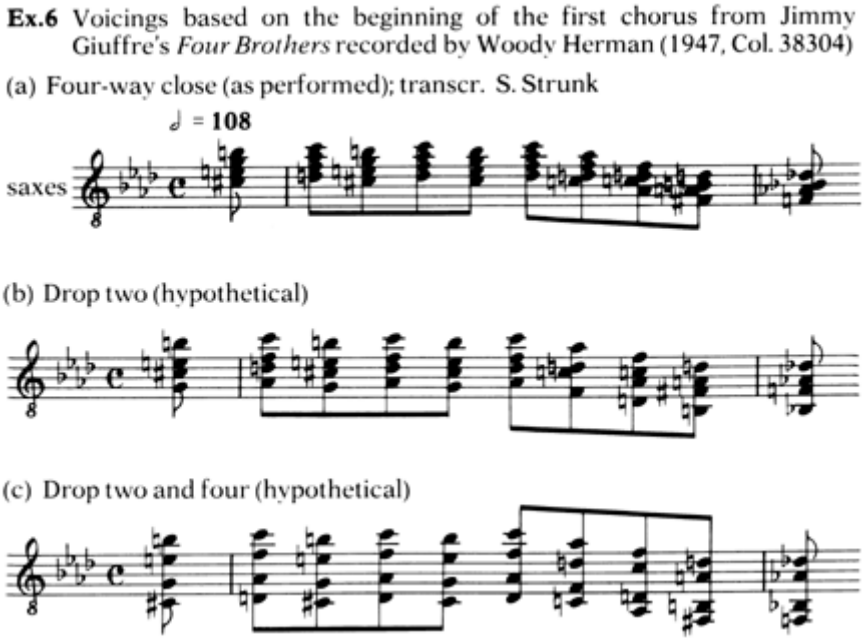
Ex.5 Inversions in Art Farmer's Like Someone in Love (original song by Johnny Burke and Jimmy Van Heusen), from Modern Art (1958, US 4007); transcr. S. Strunk (all parts notated at sounding pitch)

A further reason why the concept of inversion is less than helpful in the analysis of jazz is that most jazz is not notated. In such cases the identification of chords and progressions is made aurally, often for purposes other than analytical study (by musicians learning a piece from a recording, for instance), and the elements of the chords, not their precise distribution, are the important characteristic. (For further discussion of aural analysis *see* Transcription.)

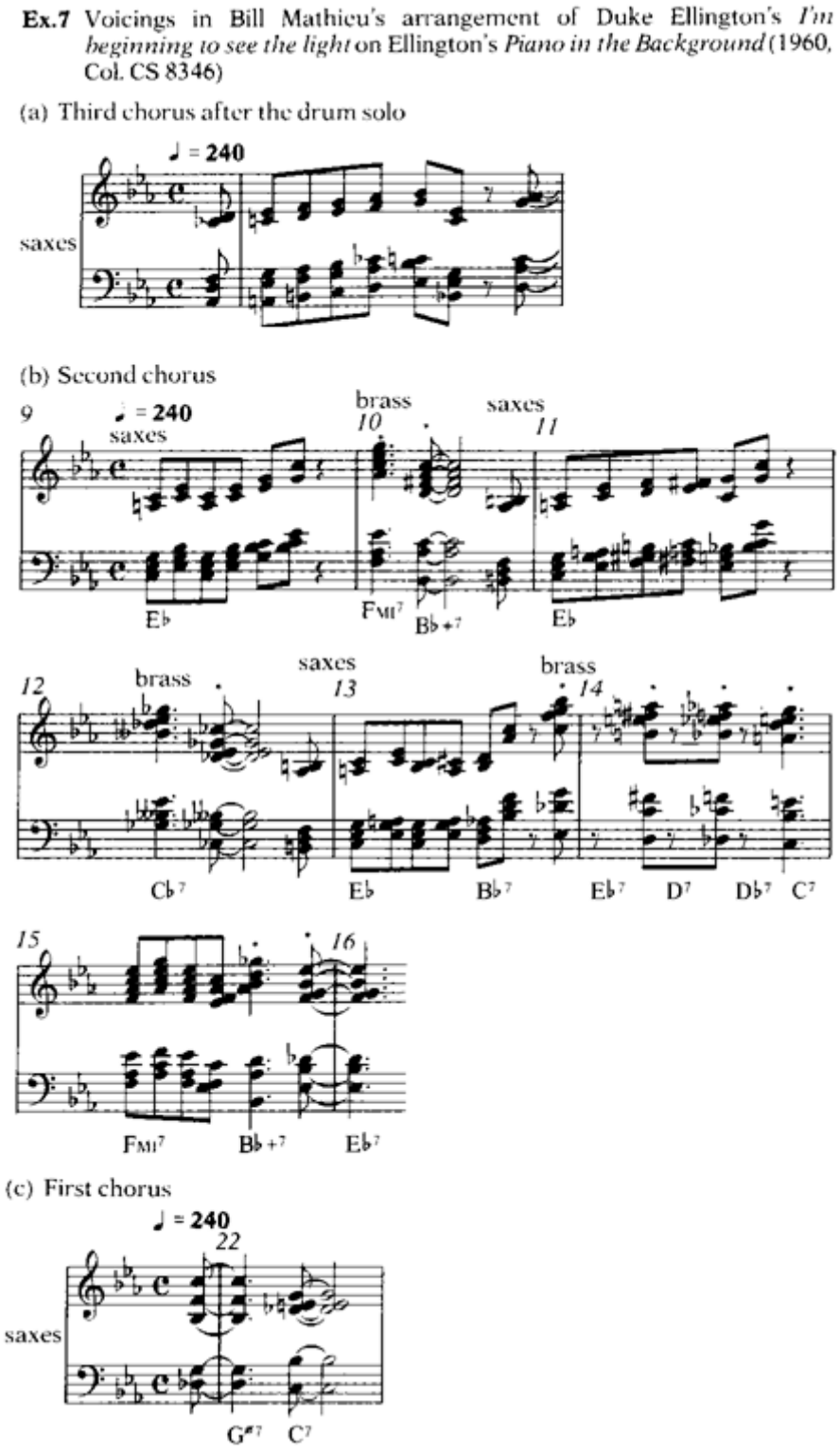
The question of the relative prevalence of root-position and inverted chords in jazz is only one aspect of the difficulties posed by analyzing and notating an essentially improvised music; a basic harmony, as it is named by the analyst, may be realized in performance in many different ways. The particular sonority of a chord depends on the vertical ordering and spacing of its components – that is, its voicing. In a harmonic environment of triads and seventh chords, such as that of New Orleans jazz, the distribution of notes above the assumed root does not allow for much variety or for treatment different from that in any other kind of music. However, with the treatment in the swing era of the ninth, eleventh, and thirteenth as if essential and the subsequent deliberate emphasis on them in bop, musicians were able to use voicings as a means of jazz expression; in some cases particular voicings serve as hallmarks of styles, performers, or arrangers.

Some voicings common in stage-band arranging have been given names. In the voicing known as "four-way close" a melody is harmonized by three other voices grouped as closely as possible (ex.6a); "drop two" is a variant of four-way close in which the second voice from the top is pitched an octave lower (ex.6b); similarly in "drop two and four" the second voice from the top of the four-way close arrangement and the bottom voice are both pitched an octave lower (ex.6c); "drop three" is a rare voicing, in which the third voice from the top of the four-way close arrangement is pitched an octave lower (ex.7a). In all of these an additional voice may double the melody at the lower octave. "Spread" is the voicing of an extended chord, usually in root position, over a relatively wide range (ex.7b, at the

points marked with an asterisk, and ex.2; in ex.2 the range covered by the chords is more than two octaves). The playing of a series of chords rich in added dissonance in melodically unadorned voicings, often spread, and usually in parallel motion, is called playing “block chords”; this technique is associated particularly with pianists, but may also occur in scoring for winds (ex.7*c*), or in a climactic chorus of a big-band arrangement (ex.7*b*), or in saxophone voicings such as those shown in exx.6 and 7. A special kind of block chords is the pianistic voicing popularized by George Shearing and known as “locked hands”; this is equivalent to four-way close in the right hand with the left hand doubling the melody at the lower octave (*see* Shearing, george, ex.1, and Piano, ex.9).



Ex.6 Voicings based on the beginning and first chorus from Jimmy Giuffre’s Four Brothers recorded by Woody Herman (1946, Col. 38304)

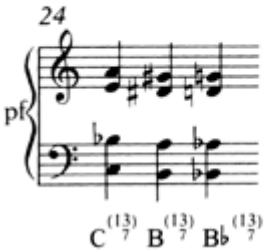


Ex.7 Voicings in Bill Mathieu's arrangement of Duke Ellington's I'm beginning to see the light on Ellington's Piano in the Background (1960, Col. CD 8346)

Most voicings in jazz do not make use of all possible extensions at once. Such lush, fully extended series of stacked thirds (root, third, fifth, seventh, ninth, eleventh, and thirteenth) are suitable only in limited contexts, and are normally used only when they are structured in such a way that the dissonant

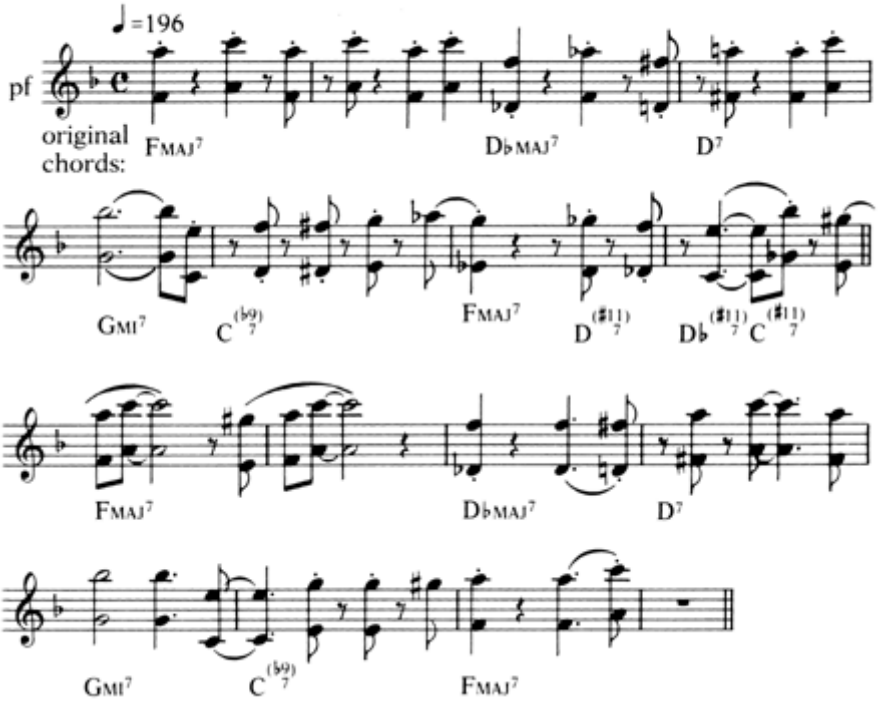
minor 9th interval is not created between one of the upper extensions and one of the triadic pitches in the lower part of the chord (with the exception of the minor ninth above the root of a dominant seventh chord). For example, a chord containing a major third does not usually include a perfect eleventh as an extension. Most voicings obtain their best effect and a desirable degree of dissonance by an economy of means: the minimal essential members of the chord are played (usually root, third, and seventh) with one, or at most two, extensions placed so as to form the interval of a 7th with one of the lower notes of the voicing. Such economy gives voicings character and clarity. For example, in a recording made in 1935 with Benny Goodman, Teddy Wilson voiced a series of dominant thirteenth chords with the root in the bass, the third and seventh in inner voices, and the thirteenth placed in the soprano to obtain the “bite” of a major 7th interval between the seventh and the thirteenth (ex.8). Thelonious Monk was known for his stark voicings: for example, in the third chorus of his solo on *I Mean You* (1963) the first 15 bars consist of a series of 10ths each made up of two elements chosen from the succession of harmonies (ex.9). By contrast the elements of extended chords can also be combined in close-range clusters, a voicing favored by Bill Evans (ii) (ex.10). The chords at the start of the original version of *I hear a rhapsody* are placed above the staff in ex.10. For C minor Evans plays the root and third (C and E♭) clustered with the ninth and the eleventh (D and F). He moves the arrival of the A♭ chord to the downbeat of the next bar, preceding it by an ambiguous voicing that could be interpreted either as the dominant seventh of A♭ (E♭^{7}) or the substitute dominant (see §(v)(b) below) of A♭ (B&dflat;^{7}) (the notes of the chords in both interpretations are named in ex.10, with enharmonic changes shown in parentheses and using the notation described in §(v)(a) below). The A♭ chord has a major seventh (G) placed next to the root of the chord to form the lowest note. The B♭+^{7} chord of the original is replaced by another ambiguous voicing, which could represent either B♭^{7} or its substitute dominant (E^{7}).

Ex.8 Piano voicing of 13th chords by Teddy Wilson from the first chorus of Benny Goodman's *Body and Soul* (1935, Vic. 25115; original song by Johnny Green); transcr. S. Pease, *DB*, iv/8 (1937), 26



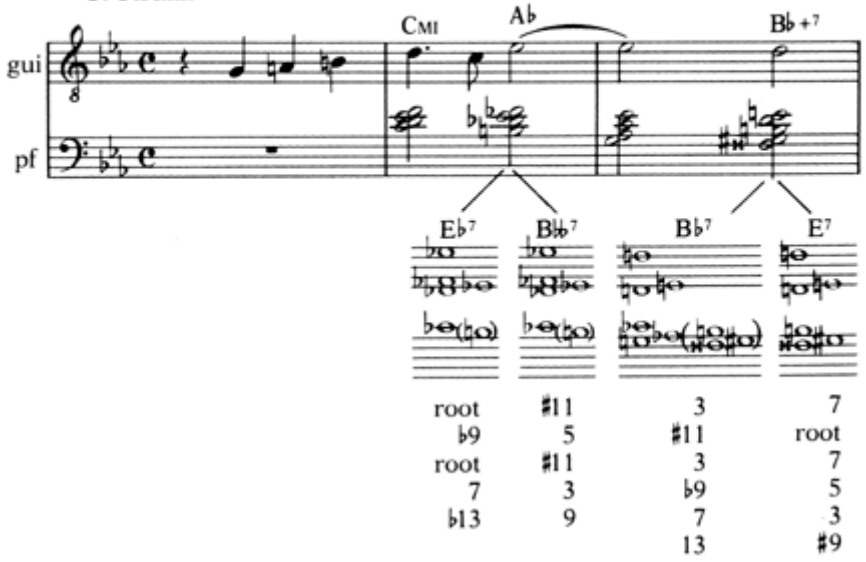
Ex.8 Piano voicing of 13th chords by Teddy Wilson from the first chorus of Benny Goodman’s Body and Soul (1935, Vic. 25115; original song by Johnny Green); transcr. S. Pease, DB, iv/8 (1937), 26

Ex.9 Open voicing in the third chorus of Thelonious Monk's *I Mean You* from *Big Band and Quartet in Concert* (1963, Col. CS8964); transcr. B. Dobbins



Ex.9 Open voicing in the third chorus of Thelonious Monk's I Mean You from Big Band and Quartet in Concert

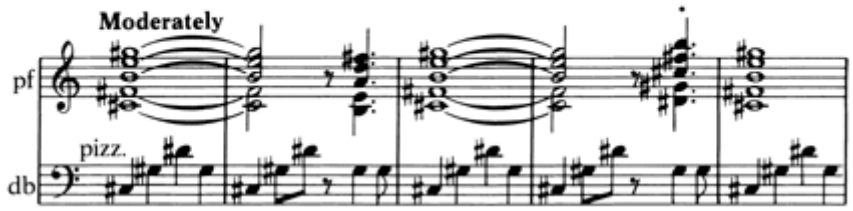
Ex.10 Cluster voicings at the opening of the duo *I hear a rhapsody* (original song by George Fragos, Jack Baker, and Dick Gasparre) from *Undercurrent* (1959, UA 14003) by Bill Evans (ii) and Jim Hall, showing the original harmonization above the staff and Evans's below; transcr. S. Strunk



Ex.10 Cluster voicings at the opening of the duo I hear a rhapsody (original song by George Fargos, Jack Baker, and Dick Gasparre) from Undercurrent (1959, UA 14003) by Bill Evans (ii) and Jim Hall, showing the original harmonization above the staff and Evans's below; transcr. S. Strunk

A characteristic voicing developed by bop musicians is the arrangement of harmonic elements to make stacks of 4ths – a sort of “quartal” harmony. However, few chords are arranged solely in 4ths. In ex.11, the four lower voices of the piano chords maintain constant 4ths, and there is one chord made up entirely of 4ths (marked with an asterisk). (Paul Horn’s reference to Miles Davis is musical as well as verbal: these voicings should be compared with those in ex.19) The double bass arpeggiates stacked 5ths, inverting the 4ths of the upper parts. A further instance occurs in ex.3, where the chord in bar 5 is constructed mainly of 4ths. Because the sum of each pair of 4ths is a 7th, a voicing in 4ths produces the dissonant effect of a 7th interval between extension and chord tone in a manner similar to that achieved by the extended chord voicings described above.

Ex.11 Voicings in fourths in the first chorus of Paul Horn's *Mirage for Miles* from *The Sound of Paul Horn* (1961, Col. CS8477)



Ex.11 Voicings in fourths in the first chorus of Paul Horn’s Mirage for Miles from The Sound of Paul Horn (1961, Col. CS8477)

(v) Chord progressions.

The language of jazz harmony may be understood largely in terms of classical tonal analysis, but in certain respects the relationships that characterize tonal harmony do not govern jazz, any more than they govern much 20th-century music, experimental music, or other forms of popular music. The question of dissonance has already been discussed (see §(iii) above); similarly, parallel motion (regarded as undesirable in classical harmony) is standard in jazz, and seventh chords are the norm. Harmonic rhythm (the rate at which harmonies change) is less often attended to in traditional harmonic analysis than the constitution of the harmonies themselves; the case is the same with jazz, but the importance of harmonic rhythm in different styles of jazz is decisive and easily identified (see §2).

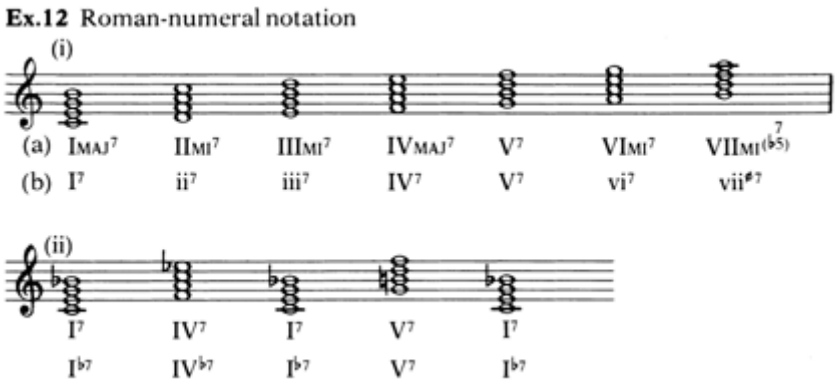
The present thinking about harmonic progression is the result of the contributions over several centuries of many theorists, notably Jean-Philippe Rameau, Hugo Riemann, and Heinrich Schenker. Riemann’s concept of functional harmony (according to which all progressions are seen to derive ultimately from the progression tonic–subdominant–dominant–tonic) has been adapted in jazz theory to classify chords that may be substituted for one another in improvisation, and to serve as a framework for the teaching of chord progressions. Schenker’s theory of structural levels (which interprets long-term harmonic and tonal changes as elaborations on different levels of a fundamental tonic–dominant–tonic progression) has gained an important place in jazz analysis: it is particularly useful in the discussion of bop and other styles in which local complexities obscure simple underlying progressions;

it has been applied fruitfully to the improvised melodies of Charlie Parker (by Thomas Owens and Henry Martin) and Clifford Brown (by Milton Stewart), and to performances of *'Round Midnight* (by Steve Larson).

(a) Notation.

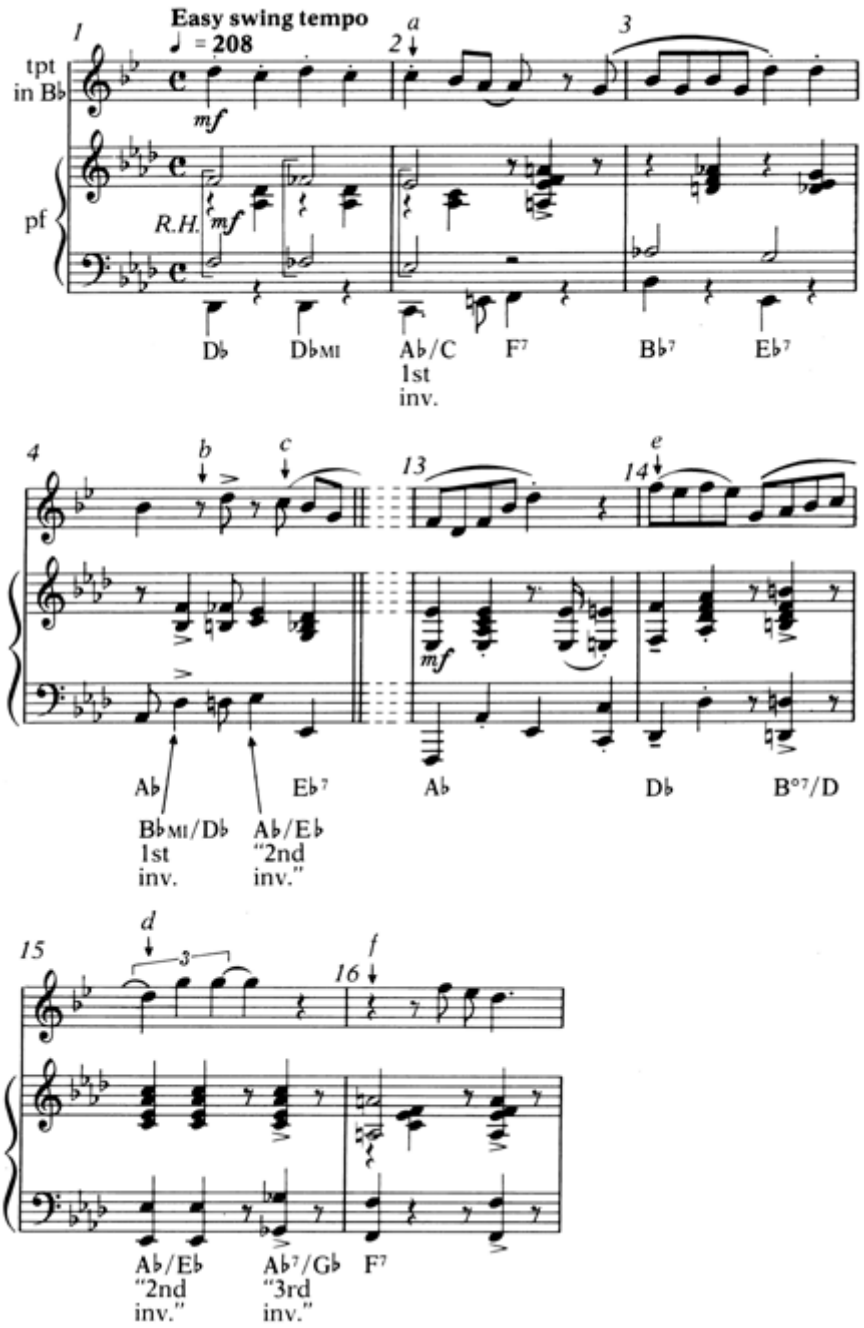
The terminology and notation of chord symbols based on letter names is capable only of describing chords in isolation, not of expressing relations between chords (see, for instance, ex.4 above). Instead of using symbols of this kind alone, it is now common practice in the analysis of jazz to label chords in progressions by adapting a method of roman-numeral notation from that used in classical theory, which identifies chords in relationship to a given key. However, there are variations, both in the use of roman numerals in general, and in their use in jazz analysis in particular. In classical theory the roman numeral identifies the root of the chord as a scale degree. Thus in the key of C the roman numeral IV identifies the chord built on the fourth scale degree, F. The problem of expressing alterations or additions to the chord is dealt with in various ways. At times it may not be desirable to express the exact structure of the chord – certain analytical observations are most clearly shown by ignoring details of chord structure; in such a case one would write simply an upper-case roman numeral. Where alterations or additions must be shown the following practices are observed. It is assumed in classical usage that chords are built using the diatonic scale degrees of the key and that the context therefore suggests the chord structure: thus IV in C major would be an F major triad (F–A–C), and II a D minor triad (D–F–A). However, some theorists employ upper-case roman numerals for chords having major thirds, lower-case for chords having minor thirds (e.g., IV and ii in major keys), reinforcing the contextual clues for chord structure when that is desirable. For further reinforcement, special signs are sometimes added after roman numerals: ° for a diminished triad or diminished seventh chord (e.g., vii°), ⊃ø for a half-diminished seventh chord (e.g., ii⊃ø7 in minor keys), and + for augmented triads (e.g., III+ in minor keys). Nondiatonic roots of chords are indicated by an accidental preceding the roman numeral: thus ♭VII in C major is B♭–D–F. That a chord is a root-position seventh chord is indicated by the addition of the arabic numeral 7 after the roman numeral; ninths and other extensions may be similarly indicated. This usage is derived from baroque figured-bass practice, the numerals representing diatonic intervals above the bass unless they are modified by flat or sharp signs. If need be, any note of a chord other than the root may be modified in this way: thus in C major, II♯3 is D–F♯–A, a major triad, which if it progressed to V might alternatively be labeled V of V (or V/V), the choice of roman numeral depending on the analytical purpose. Arabic numerals can also indicate the inversions of chords as well as nonharmonic effects such as suspensions and passing notes.

Some jazz analysts use the classical system as described above. Others omit notation of inversions, believing the concept of inversion to be not generally relevant to jazz. In a popular system presented in *Down Beat*, roman numerals are simply substituted for the letter names in chord-symbol notation. Ex. 12a shows (i) the diatonic seventh chords of C major and (ii) a simple blues progression in this notation. Ex.12b shows the same in the form of classical notation with upper- and lower-case roman numerals and modified arabic numerals.



Ex.12 Roman-numeral notation

Ex.4 Introduction to and part of the first chorus of the duo *Weather Bird* (1928, OK 41454) by Louis Armstrong and Earl Hines



Ex.4 Introduction to and part of the first chorus of the duo Weather Bird (1928, OK 41454) by Louis Armstrong and Earl Hines

Roman-numeral notation is generally used to describe only the essential elements of a chord; the system breaks down if the analyst tries to account for every note, especially in later jazz styles in which extended harmony and altered chords are the norm. Lastly, because most jazz is not notated (or if it is, the notated version is often closely guarded by the musicians), much analysis of jazz harmony is carried out by ear and is therefore often approximate; the written description of a chord analyzed in this way may consequently lack some elements.

(b) Terms and definitions.

Some concepts relating to chord progressions are more closely associated with jazz theory than with standard tonal theory. Among these are the repeated use of a progression for a whole composition, shorter chord patterns, and substitution.

The common practice in jazz of basing a performance on an existing work, most significantly through adopting its underlying harmonic structure, gives rise to a group of terms that describe how musicians treat the fundamental progression. Such a performance relies on the musicians' knowing the "set of changes" (i.e., the harmonic progression of the existing work, which is most often a 32-bar popular song) and being able fluently to perform them; to "run the changes" is to play the progression mechanically and without invention, while to "make the changes" is to play a difficult progression successfully and may further convey connotations of musical invention and ingenuity in its treatment. Similarly, to play "inside" is to adhere strictly to the basic changes, while to play "outside" is to treat the changes with a degree of harmonic license.

A "chord pattern" is a progression of two bars which begins on and prepares for a return to the tonic (e.g., I–vi–ii–V). Such patterns occur often and in various locations in popular and jazz tunes, especially at the ends of phrases. One chorus (i.e., statement of or variation on the theme over the basic set of changes) is normally made up of eight-bar phrases, any of which may end with a chord pattern. The chord pattern at the end of the final phrase is called a "turnaround" or "turnback" because it leads back to the beginning of the theme, and prepares for the start of a new chorus. In a theme with the form *aaba* the first *a* section may also end with a turnaround. Composed melodies usually rest during a turnaround, and the turnaround at the end of the first chorus of a jazz performance is usually the occasion for an improvised solo Break, during which the rhythm section rests.

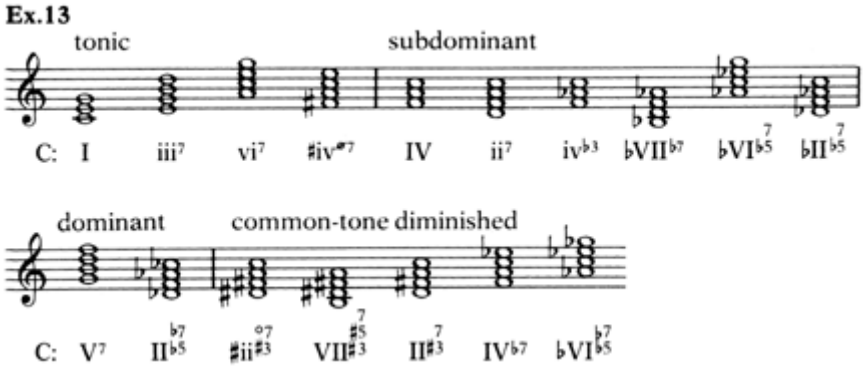
Certain progressions are used as the basis of many different jazz tunes. The Blues progression remains essentially the same for the thousands of compositions and parts of compositions based on it. In the bop era, particularly, some popular songs were used over and over again for improvised performances; the changes of standards such as *I got rhythm* and *Honeysuckle Rose* thus became almost as familiar as the abstract blues progression.

Jazz performers often replace an original chord in a progression with another chord called a "substitute chord." Such substitution is part of the improvisatory character of jazz and can be more or less complex. Published discussions of substitutions are quite diverse and may produce the impression that any chord can be substituted for any other chord in any context. For most styles of jazz this impression is false. A distinction should be made between those substitutions that may be used freely by the rhythm section during an improvised solo and those that disrupt the harmonic plan to the extent that they constitute part of an arrangement, usually played the same way on each chorus. The first may be called "improvisatory substitutions" and the second "arranged substitutions." The following discussion applies to mainstream jazz styles up to and including bop.

The main requirement for improvisatory substitutions is that the new chord should preserve the essential lines of the original progression. The functional categories of tonic, subdominant, and dominant may each be taken as a set of chords closely enough related to allow any one to be

substituted for any other (ex.13). Within the dominant category the main substitute chord is the "substitute dominant," a dominant seventh structure built on the flatted second degree of the scale; the third and seventh degrees of the substitute dominant are equivalent respectively to the seventh and (enharmonically) the third of the true dominant, allowing the essential lines of progressions involving the dominant to be preserved. (The chords vii°^{7} and vii⊃ø7, although they represent V, are not much used as substitutes for it, as their pitches are already contained in the usual extended dominant ninth. They occur in early jazz, but not as improvisatory substitutes.) In the subdominant category chords IV and ii are substitutes for each other; if the chord on the fourth degree is minor, either a half-diminished seventh chord built on the second scale degree or a dominant seventh structure built on the subtonic (flatted seventh degree) may be substituted for it or for each other. Less frequently, ♭VI^7 and ♭II^7 (both major seventh structures) are substituted for iv. Substitutes for the tonic chord, in major keys only, are iii and vi; another common tonic substitute is the half-diminished seventh chord on the raised fourth degree of the scale, which often initiates a descending chromatic bass line as part of a coda to the final chorus of a performance.

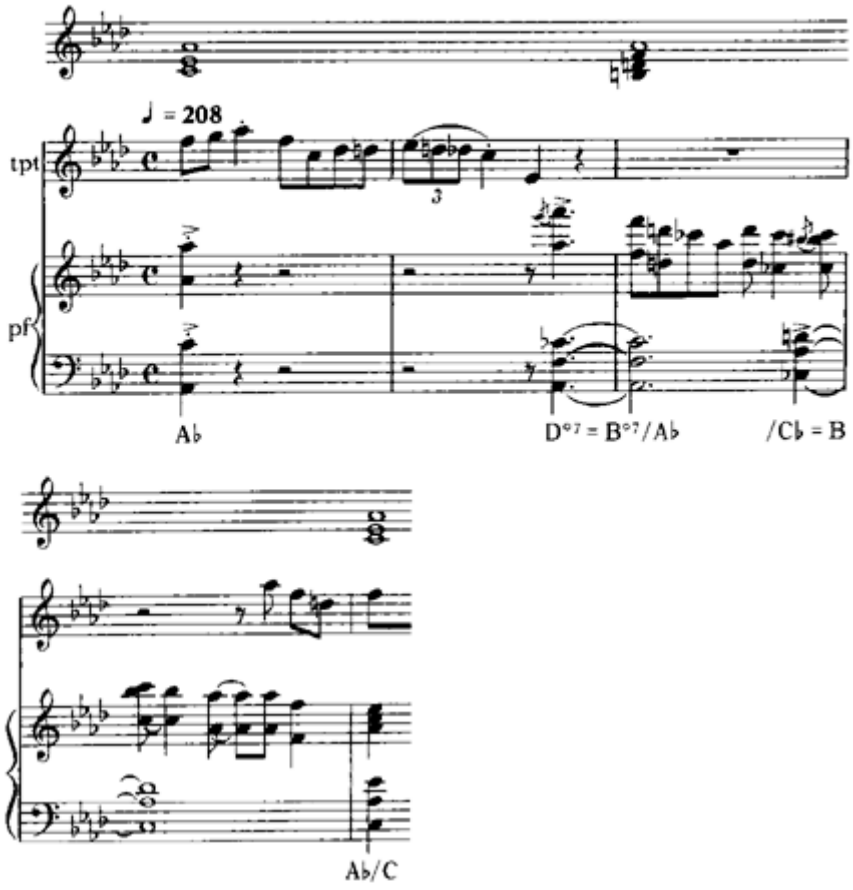
The last substitution category is that of the common-tone diminished seventh. The main use of diminished seventh chords in jazz is as chromatic passing or neighbor chords connecting or embellishing diatonic chords. In each of the three most common configurations the diminished seventh has one or more tones in common with the diatonic chord it embellishes; hence it is usually called a "common-tone" diminished seventh to distinguish it from vii°^{7}, which has no tone in common with the tonic triad to which it usually resolves. Although, in later styles of jazz, the common-tone diminished seventh is usually replaced by its substitutes (see ex.13 and below), it may be found in the New Orleans style. In ex.14a the tonic triad A♭ is embellished by neighbor-notes which form a common-tone diminished seventh chord. The added upper staff shows the voice-leading in its most logical spelling, which is in part enharmonically equivalent to that in the transcription (enharmonic spelling of diminished seventh chords is commonplace). The dominant ninth is embellished in a similar way in ex. 14b. The F#°^{7}/A acts as a lower neighbor to the E♭^{9}/B♭. The common tone, E♭, is not heard explicitly until the last beat of the example. The common-tone diminished seventh chord is a passing chord in ex. 14c between the tonic chord in first inversion and ii^7, with A♭ as the common tone; again the upper staff shows the voice-leading. In its local context the common-tone diminished seventh chord always occurs as #ii°^{7} (F#°^{7} in E♭ in ex.14*b*, B°^{7} in A♭ in exx.14*a* and *c*). Although in analysis embellishing chords seldom receive roman numerals, for purposes of identification the #ii°^{7} is listed in ex.13 along with those chords that are used as substitutes for it. Of these four dominant seventh structures spaced three semitones apart, by far the most commonly used (especially in the bop style) is the one built on the leading note. The notes of the common-tone diminished seventh are (enharmonically) equivalent to the third, fifth, seventh, and minor ninth of each of its substitutes, enabling the essential lines of progressions to be maintained.



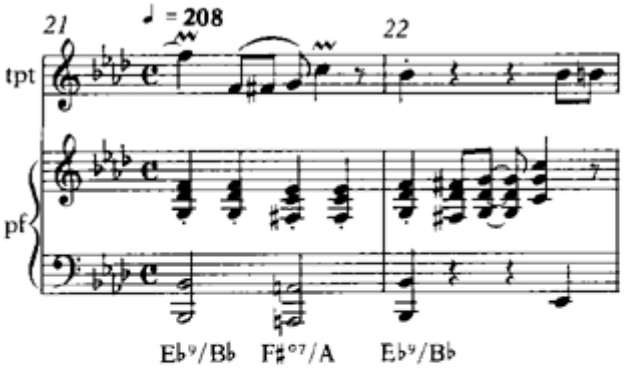
Ex.13

Ex.14 Common-tone diminished sevenths in the duo *Weather Bird* (1928, OK 41454) by Louis Armstrong and Earl Hines

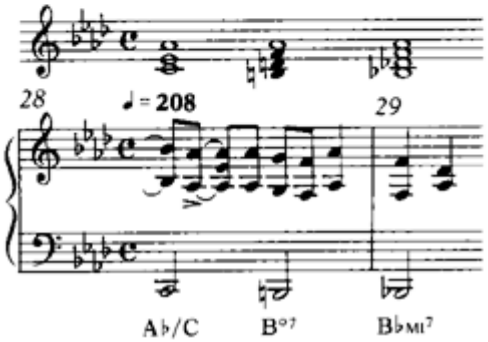
(a) Embellishing the tonic triad (from the start of the coda)



(b) Embellishing the dominant ninth chord as a neighbor chord



(c) Passing between the tonic chord in first inversion and ii7

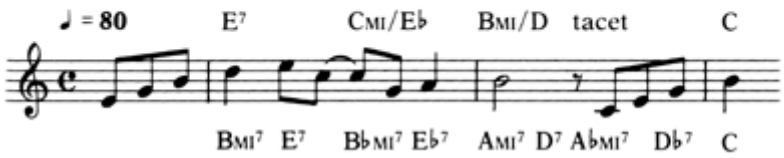


Ex.14 Common-tone diminished sevenths in the duo Weather Bird (1928, OK 41454) by Louis Armstrong and Earl Hines

The progression ii–V, which is thought of as a unit, often substitutes for a single dominant seventh structure, regardless of whether that chord would be V^7 or one of those dominant seventh structures created by the substitutions described above. Such chromatic ii–V pairs should not be interpreted as suggesting a constant fluctuation of key, as they come into play as logical elaborations of basically simple diatonic progressions.

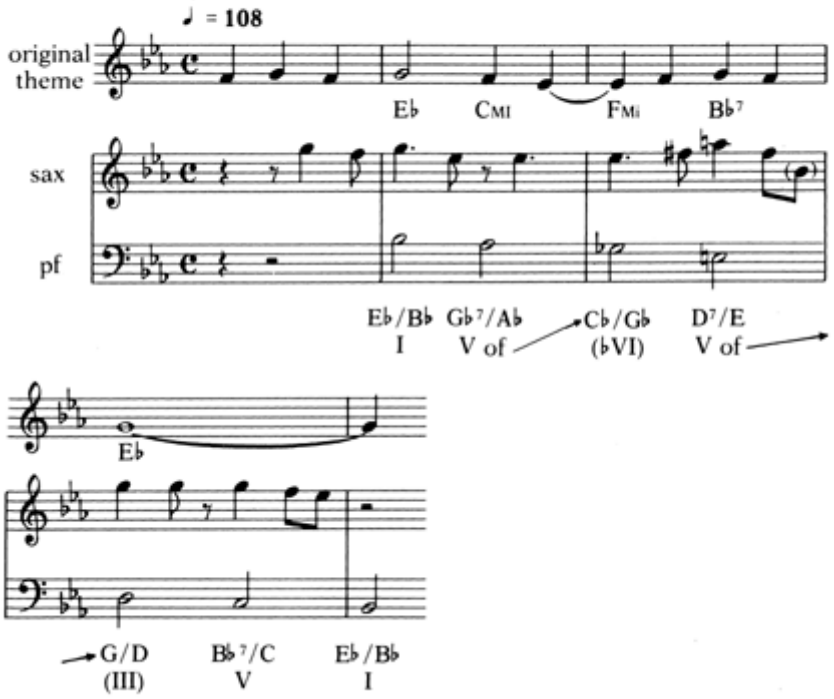
Arranged substitutions normally extend chromatically the style and syntax of their context. A well-known sequence of substitutions (essentially a reharmonization) is Dizzy Gillespie's series of chromatically falling ii–V pairings in bars 3–4 of *I can't get started*, which help to give his performance its bop character (ex.15) and became standard in later versions. (On the recording cited – the earliest – Gillespie implies the ii chord melodically before each V.) In *Giant Steps* (1959, Atl. 1311) John Coltrane developed a system of progressions through symmetrically spaced tonal centers, which he then imposed on George Gershwin's *But not for me*, rearranging the melody as well as the harmony. In ex.16 on the first beat of each bar the local tonality moves down four semitones (from E♭ to C♭ to G to E♭), creating three tonal levels which divide the octave symmetrically into three equal parts. Each local tonic is preceded by its own dominant, as shown by the roman numerals below the staff. The bass line carries the symmetrical division of the octave one step further by dividing each move of four semitones into two equal two-semitone steps, creating a descending whole-tone scale. In general this kind of arranged substitution lies more in the province of composition than of improvisation. However, from the 1960s pianists such as Keith Jarrett and Herbie Hancock at times experimented during improvisation with replacing relatively long stretches of standard progressions with unexpected, sometimes nonfunctional, progressions. The growing ability of fine improvisers, through careful listening, to adapt instantly to changes in their accompaniments was one of the forces enabling the development of free jazz.

Ex.15 Opening of Dizzy Gillespie's *I can't get started* (1945, Manor 1042; original song by Vernon Duke), showing Duke's harmonization above the staff and Gillespie's below; transcr. S. Strunk



Ex.15 Opening of Dizzy Gillespie's I can't get started (1945, Manor 1042; original song by Vernon Duke), showing Duke's harmonization above the staff and Gillespie's below; transcr. S. Strunk

Ex.16 Opening of John Coltrane's *But not for me* (original song by George Gershwin) from *My Favorite Things* (1960, Atl. 1361), showing Gershwin's harmonization beneath the top staff and Coltrane's and McCoy Tyner's beneath the bottom staff

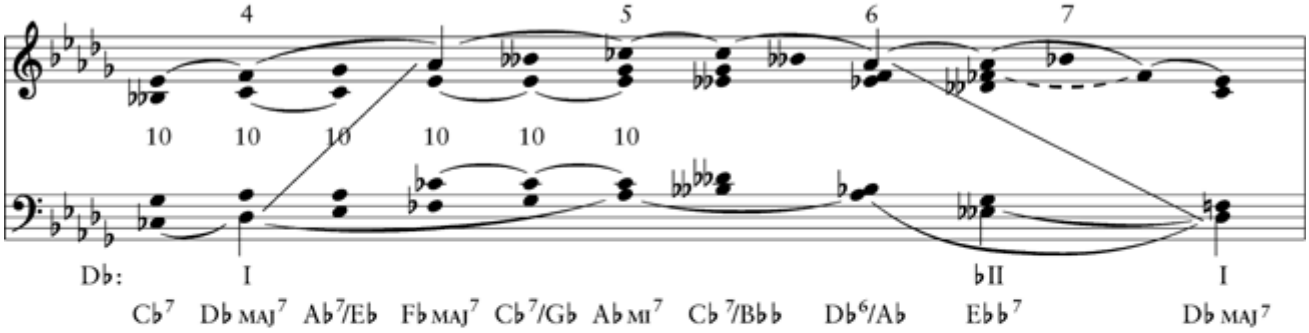


Ex.16 Opening of John Coltrane's But not for me (original song by George Gershwin) from My Favorite Things (1960, Atl. 1361), showing Gershwin's harmonization beneath the top staff and Coltrane's and McCoy Tyner's beneath the bottom staff

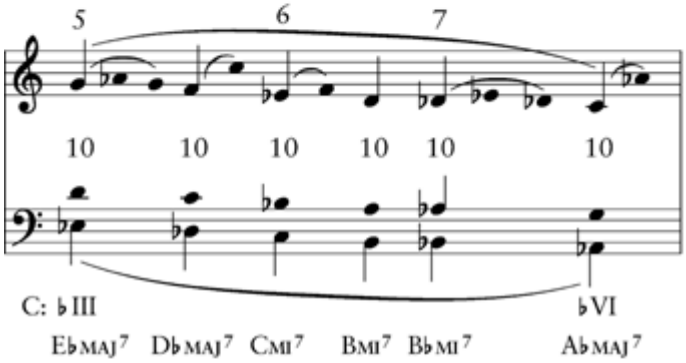
(vii) Linear intervallic patterns.

Another structural concept controlling chord successions in jazz, as well as in other tonal music, is that of the "linear intervallic pattern," a Schenkerian concept consisting of voice-leading patterns made up of streams of repeated intervals (for example, a succession of tenths) or pairs of intervals (e.g., an alternation of sixths and fifths) between the outer voices of a musical texture. The patterns generally form contrapuntal connections between structural harmonic chords. A typical pattern of repeated tenths may be heard in bars 4–7 of Billy Strayhorn's *Lush Life* (ex.17a(i)) and in bars 5–7 of Dave Brubeck's *The Duke* (ex.17a(ii)). However, jazz composers sometimes modify the patterns in ways unique to jazz. For example, the consonant intervals of the patterns may be replaced by their neighboring dissonances, just as they are in chord voicings. By replacing the interval of a tenth by an eleventh (a chordal extension), Freddie Hubbard obtains a pattern of ascending elevenths in bars 3–4 of the main theme of his composition *Red Clay* (ex.17b). At times certain intervals are chromaticized to create the chromatic ii–V groups characteristic of bebop. *Lazy Bird*, by John Coltrane (ex.17c), illustrates this practice in a pattern in which tenths alternate with sevenths.

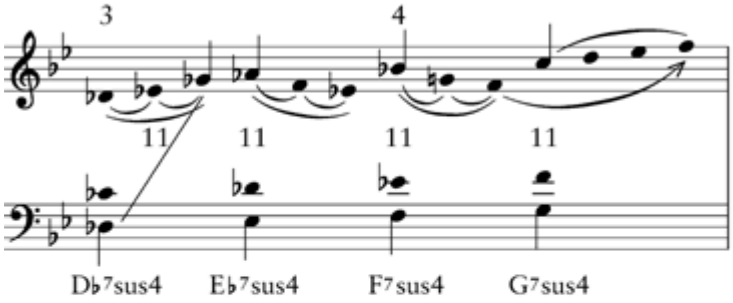
Ex.17
(a) A typical pattern of repeated tenths
(i) Billy Strayhorn's *Lush Life*



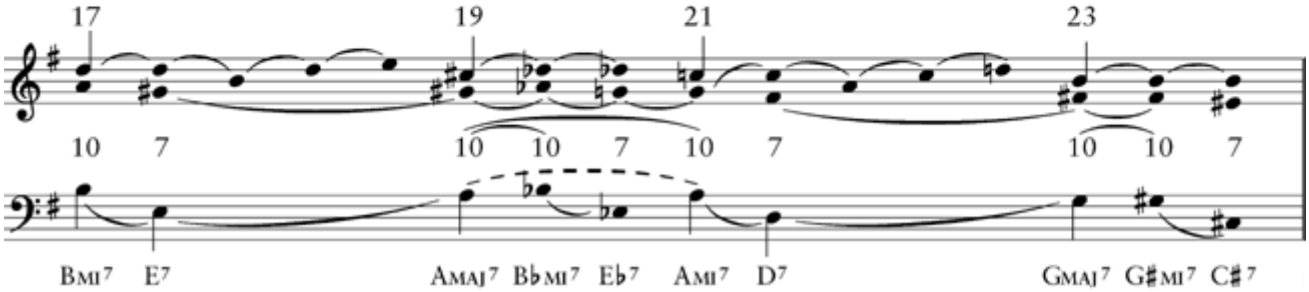
(ii) Dave Brubeck's *The Duke*



(b) A pattern of ascending elevenths in Freddie Hubbard's *Red Clay*



(c) Alternating intervals in John Coltrane's *Lazy Bird*



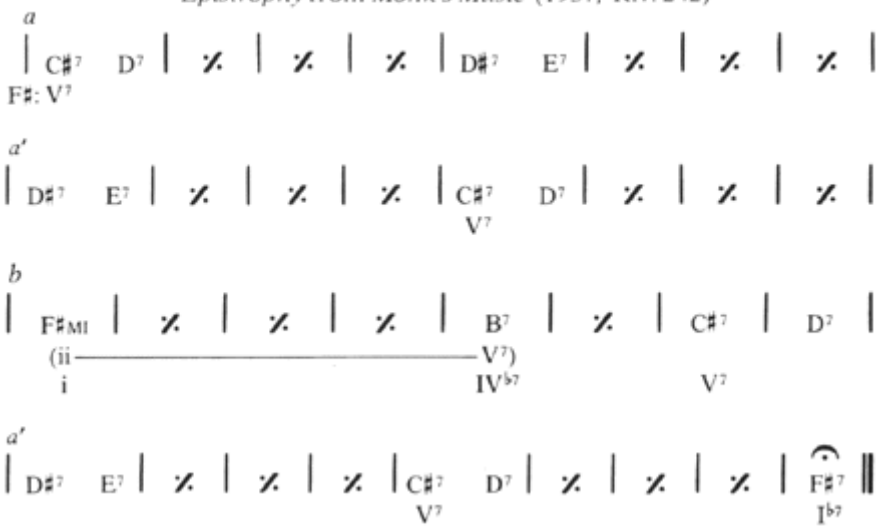
Ex.17

(vii) Extensions of tonality and modal harmony.

Not all jazz harmony is based on simple tonal progressions. Successions of chords may have only a tenuous relationship to a diatonic tonal structure, in an “extended tonality” similar to that which developed in art music at the turn of the 20th century. Structural chords may remain within a single key, but the chords that connect the structural points often follow another, usually contrapuntal, logic. (“Key” is used here in its broadest sense as including all the chromatic resources of a mixture of major and minor modes.)

In Table 1 the key of F♯ is suggested by the chords labeled with roman numerals, but the many unlabeled chords have no functional harmonic explanation. The progression is produced by an application of neighbor chords at different structural levels: on the surface, the D^7 is an incomplete chromatic upper neighbor elaborating the $C\#^7$ (bars 1, 13, 24, and 29); at a higher level the $D\#^7$ (bars 5, 9, and 25) is also an upper neighbor of the $C\#^7$, and this $D\#^7$ is similarly elaborated on the surface by its incomplete chromatic upper neighbor, E^7. In the *b* section, the chord structures on tonic and subdominant suggest a ii–V pair, thereby accommodating bop improvisations, although their actual functions are i and IV. Despite the chromatic neighbor chords, *Epistrophy* reveals a solid tonic–dominant framework.

TABLE 1: Extended tonality in the final chorus of Thelonious Monk's *Epistrophy* from *Monk's Music* (1957, Riv. 242)



Extended tonality in the final chorus of Thelonious Monk’s Epistrophy from Monk’s Music (1957, Riv. 242)

Table 1: Extended tonality in the final chorus of Thelonius Monk’s *Epistrophy* from *Monk’s Music* (1957, Riv. 242)

In the 1960s jazz composers developed alternatives to the tonic–dominant framework. Like composers of the late 19th century, they sometimes wrote within a tonic–subdominant framework, or plagal axis, which avoided dominant function, substituting subdominant function chords such as IV, II, or VI as structural harmonies.

In Table 2, the structural chords are shown by roman numerals. The harmony moves from tonic (i) to subdominant (IV) and back, with the submediant (♭VI) dividing the interval between them. There is no dominant chord, although elaboration by an upper neighbor and substitute dominant (A^7) occurs. Other alternative tonal structures include the use of nonfunctional embellishing chords as structural backgrounds. (The root of an embellishing chord is related by leap to the chord it embellishes.) An early model of an embellishing structure occurs in the bridge of Cole Porter's *Night and Day*, which alternates between I and ♭III, the latter embellishing the tonic. Ex.18, an analytical reduction of Wayne Shorter's *Pinocchio*, shows a complete composition based on the alternation between the tonic chord ($A♭^7$) and an embellishing chord (F^7), indicated below the staff as "Em"; the piece contains no structural dominant or subdominant chords. Later jazz composers have used similar embellishments of the tonic as the basic structure for whole compositions, avoiding the usual tonic–dominant framework.

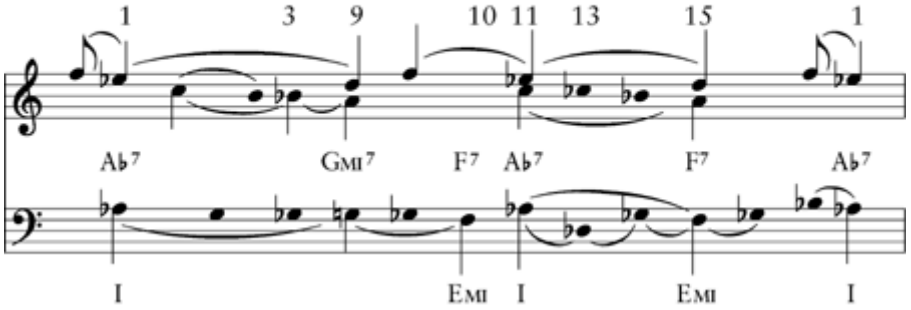
TABLE 2: A plagal axis in *Deluge*, by Wayne Shorter, from his album *Ju-Ju* (1964, BN 84182)

E♭MI7	EMAJ7	E♭MI7	EMAJ7	E♭MI7	EMAJ7	E♭MI7	A7	A♭7	C♭7
E♭MI: i	(neighbor)						→	IV	♭VI

E♭MI7	A7	A♭7	C♭7	E♭MI7	EMAJ7 ‖
i	→ IV	♭VI	i		

A plagal axis in Deluge, by Wayne Shorter, from his album Ju-Ju (1964, BN 84182)

Ex.18 Structural embellishment of the tonic in Wayne Shorter's *Pinocchio*, from Miles Davis's album *Nefertiti* (1967, Col. CS9594)



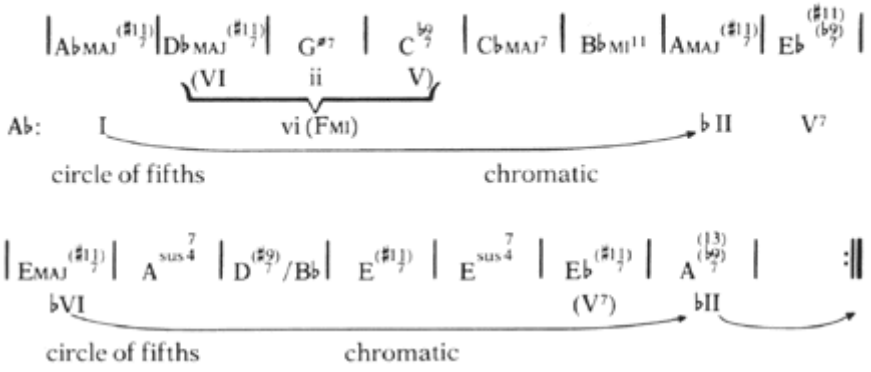
Ex.18 Structural embellishment of the tonic in Wayne Shorter's Pinocchio, from Miles Davis's album Nefertiti (1967, Col. CS9594)

Table 2: A plagal axis in *Deluge*, by Wayne Shorter, from his album *Ju-Ju* (1964, BN 84182)

Table 3 reveals a further attenuation of tonality in Wayne Shorter's *Nefertiti*. (The chord symbols in this table are practical representations of voicings which in some cases are ambiguous.) The first phrase (bars 1–8) moves from I to V, the latter chord preceded by ♭II as a major seventh chord; the second phrase moves from ♭VI to ♭II as a substitute dominant for V. It is as if the second phrase makes use of substitute chords for the tonic and dominant of the first phrase. The two phrases both proceed by

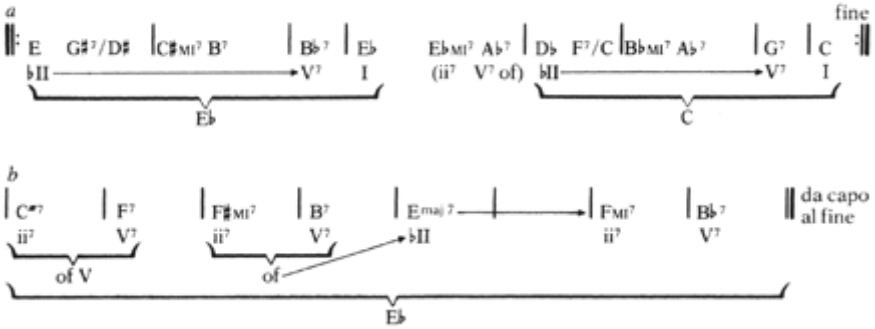
circle-of-fifths progressions (bars 1–4, 9–11) followed by chromatic descent (bars 4–7, 12–13). Although the underpinnings of tonality can still be seen here, the effect of the chord successions in bars 4–7 and 9–13 is one of strong tonal ambiguity. A special kind of tonal expansion, known in classical theory as “directional” or “progressive” tonality, in which a piece exhibits two or more apparently structurally equal keys, often beginning on one and ending on another, is shown in Table 4. Here, in Dizzy Gillespie’s *Con Alma*, two four-bar phrases present the key of E♭ then the key of C. Although the *b* section is in E♭, the piece ends in C, which again suggests that a single key may not govern this piece. Consideration of melodic and voice-leading aspects of these examples would be necessary for a better analytical understanding of their structure. The study of the expansion of tonality in jazz is one of the unfinished tasks facing jazz theorists.

TABLE 3: Extended tonality in Wayne Shorter's *Nefertiti* on Miles Davis's album of the same name (1967, Col. CS9594)



Extended tonality in Wayne Shorter’s Nefertiti on Miles Davis’s album of the same name (1967, Col. CS9594)

TABLE 4: Directional (progressive) tonality in Dizzy Gillespie's *Con Alma* from *Duets with Sonny Rollins and Sonny Stitt* (1957, Verve 8260)



Directional (progressive) tonality in Dizzy Gillespie’s Con Alma from Duets with Sonny Rollins and Sonny Stitt (1957, Verve 8260)

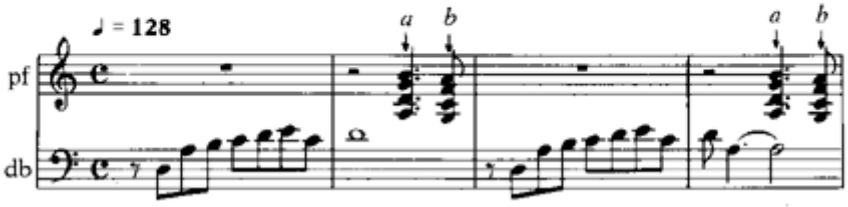
Table 3: Extended tonality in Wayne Shorter’s *Nefertiti* on Miles Davis’s album of the same name (1967, Col. CS9594)

Table 4: Directional (progressive) tonality in Dizzy Gillespie's *Con Alma* from *Duets with Sonny Rollins and Sonny Stitt* (1957, Verve 8260)

Instead of harmonic progressions such as those discussed so far, a single chord (or, more rarely, a pair of chords) may be continued for a very long time (in classical analysis these might be termed a "drone" and a "chordal ostinato"), producing static harmony. For example, Eddie Harris's *Freedom Jazz Dance* (from *The In Sound*, 1965, Atl. 1448) has only one chord, $B\flat^7$, with the root and fifth mostly treated as a drone. Static harmony is an important feature of modal jazz.

The term "mode" is used in jazz in its wider sense to mean not only scales that conform to the Western ecclesiastical modes (dorian, phrygian, lydian, mixolydian, and aeolian) but pentatonic scales and non-Western scales such as those borrowed from Arab, Indian, and African music. Such scales have been used in jazz in two ways: they have been taken as the source for melodic improvisations over chords in standard tonal progressions, and (of greater importance here) as the basis of chord successions and harmonic effects. In the 1950s musicians such as George Russell espoused the idea of associating modal scales with individual chords or groups of chords in tonal progressions: for example, chord ii in the progression ii–V might suggest a dorian mode, and the dominant seventh chord could be altered in such a way such as to correspond with a scale alternating in semitones and tones, known to jazz musicians as the "diminished" scale, to classical theorists as the "octatonic" scale. In a piece or section of a piece governed entirely by modal resources the chordal successions may be fixed, consisting, for example, of an ostinato that recurs throughout, or they may be improvised, and may include the use of chordally ambiguous combinations of pitches in a free pandiatonicism expressing the sound of the mode. In ex.19 at *b* the piano plays a characteristic voicing of Dmi^7 preceded at *a* by a parallel upper neighbor chord (G), the two together exhausting the pitch content of the dorian mode, the presence of which is reinforced by the emphasis on D in the double bass. (*See also* Modal jazz.)

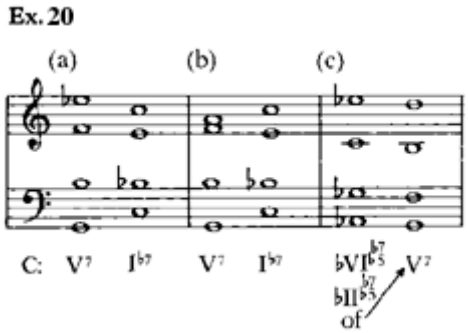
Ex.19 The dorian mode in the opening chorus of Miles Davis's *So what* from *Kind of Blue* (1959, Col. CL1355); transcr. S. Strunk



Ex.19 The dorian mode in the opening chorus of Miles Davis's So what from Kind of Blue (1959, Col. CL1355); transcr. S. Strunk

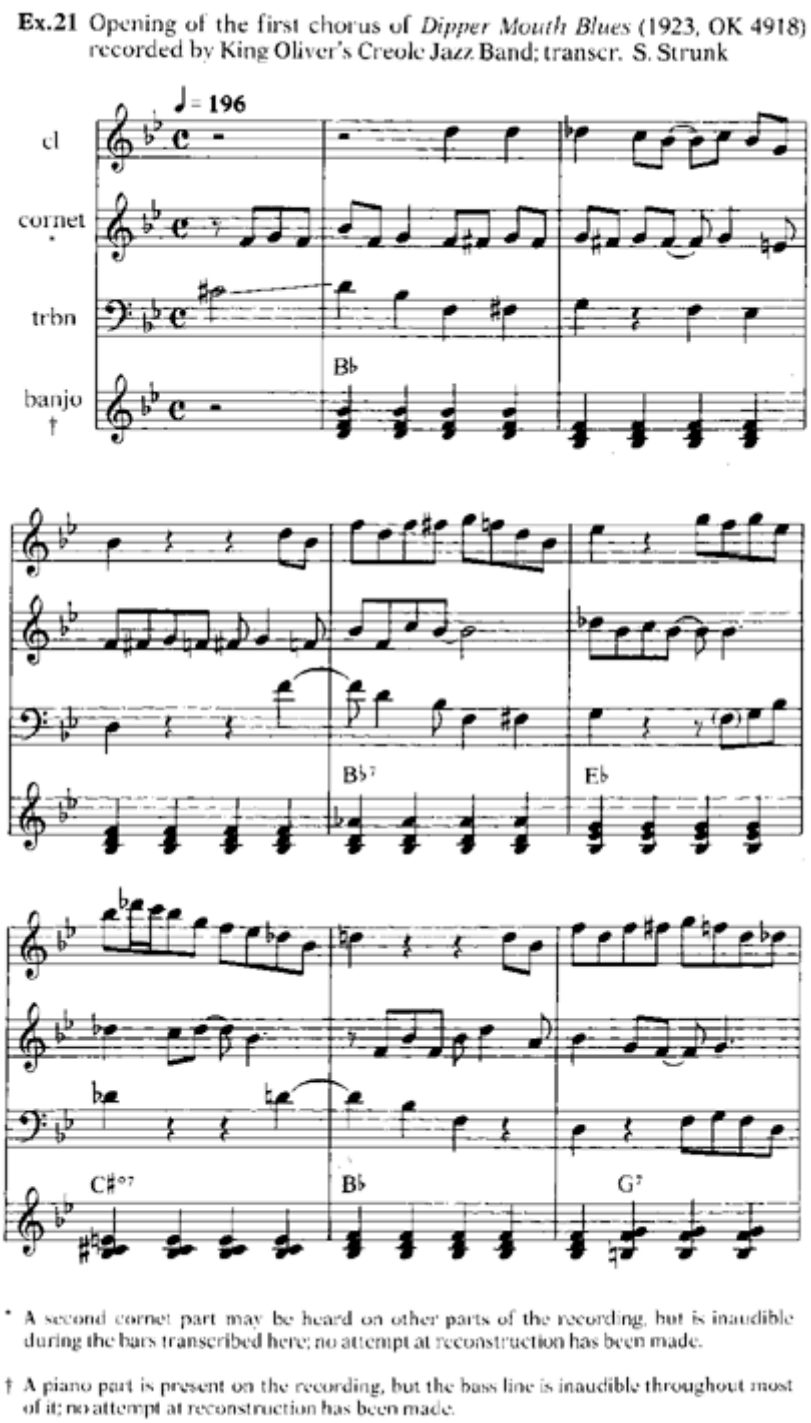
2. History.

The roots of jazz harmony lie in the merging of two traditions. The character of African melody, primarily pentatonic and having a tendency to circle round a central tone, informed the monophonic singing of the black slaves, but, when their songs and spirituals were first harmonized, white hymnody, with its simple progressions based on European harmonic language, was used as the model. Similarly, ragtime borrowed its harmony from the European tradition, proceeding in a harmonic rhythm of one or two chords per bar and including such established classical effects as the cadential 6–4 chord. The harmonies of the blues, by contrast, changed only every two to four bars and incorporated certain unstable pitches found in African-American vocal music, the so-called blue notes (*see* Blue note), as part of dominant seventh structures built on subdominant and tonic chords. Common melodic cadences in the blues involve movement from the blue or flatted third down to the tonic and from the sixth degree up to the tonic. Harmonization of these notes by an authentic cadence (V^7–I) produces extensions of the dominant seventh chord (the flatted third degree of the scale forms the minor thirteenth on the dominant chord), one of the continuing characteristics of jazz harmony (ex.20*a* and *b*). Another common melodic motion from the flatted third to the second degree was easily harmonized on fretted string instruments by a chromatic semitone slide into V^7, producing an early instance of a progression from the substitute dominant of the dominant to the dominant (ex.20*c*).



Ex.20

These features were incorporated into the harmony of New Orleans jazz, which otherwise was modeled after contemporary marching-band music and popular songs. Those styles were basically triadic, using diatonic chords and secondary dominants (resulting in local tonicizations of closely related keys). Fixed harmonies within the chorus form, proceeding at a relaxed rate of harmonic change (normally one chord per bar but often slower still), regulated collective improvisation by trumpet, clarinet, and trombone (ex.21). The polyphonic, horizontal nature of early jazz necessarily restricted the complexity and rate of change of the harmonies, which controlled the multiple lines.

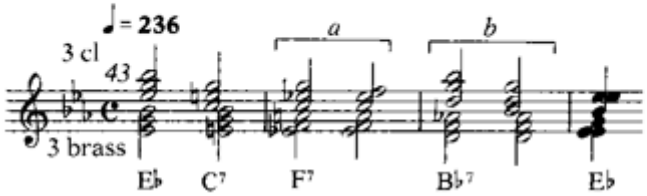


Ex.21 Opening of the first chorus of Dipper Mouth Blues (1923, OK 4918) recorded by King Oliver's Creole Jazz Band; transcr. S. Strunk

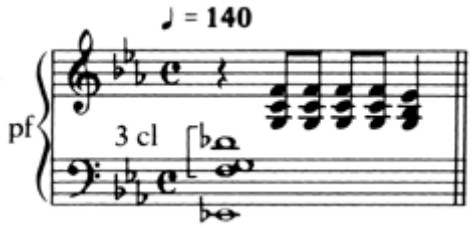
In the late 1920s and 1930s big bands moved to the forefront of jazz performance; the music they played has a basically homophonic texture, which made possible harmonies of greater complexity than had been possible in early jazz. Arrangers such as Don Redman paid careful attention to voicings and progressions, at the same time increasing the rate of harmonic change to a norm of two chords per

bar. During this period ninths, elevenths, and thirteenths began to be exploited in chord voicings and melodic improvisations. For instance, in ex.22 a ninth (G) on F^7 treated conservatively as a suspension at *a* is followed by a less conservative unresolved thirteenth (G) on $B\flat^7$ at *b*. On an early recording by Duke Ellington a voicing of $E\flat^7$ contains a ninth (F) and a thirteenth (C), the latter placed (unusually) a semitone below the seventh (D♭) (ex.23). Chromatic embellishing chords and parallel ninth chords, which some writers claim were derived from the music of the French Impressionist composers, were introduced in this period (ex.24). Such changes reflect the arranger's growing knowledge of and interest in the harmonic aspect of his work.

Ex.22 Accompaniment to the first trumpet solo on *Rocky Mountain Blues* arranged by Don Redman and recorded by Fletcher Henderson's orchestra (1927, Col. 970D); transcr. G. Schuller

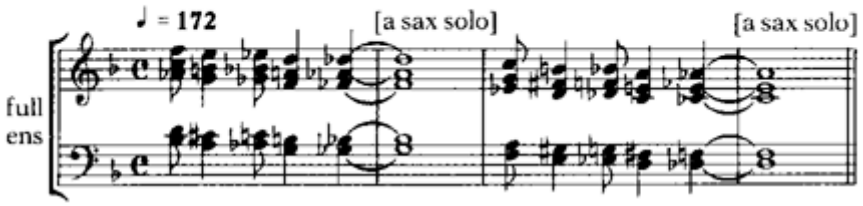


Ex.22 Accompaniment to the first trumpet solo on Rocky Mountain Blues arranged by Don Redman and recorded by Fletcher Henderson's orchestra (1927, Col. 970D); transcr. G. Schuller



Ex.23 Accompaniment to bar 12 of the trumpet solo on Yellow Dog Blues arranged by Duke Ellington and recorded by his orchestra (1928, Bruns. 3987); transcr. G. Schuller)

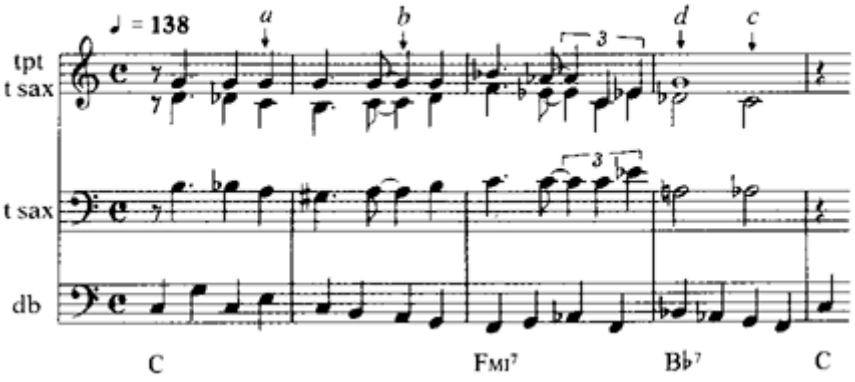
Ex.24 Parallel ninth chords in the accompaniment to the introduction of *Tishomingo Blues*, arranged by Duke Ellington and recorded by his orchestra (1928, Bruns. 3987); transcr. G. Schuller



Ex.24 Parallel ninth chords in the accompaniment to the introduction of Tishomingo Blues, arranged by Duke Ellington and recorded by his orchestra (1928, Bruns. 3987); transcr. G. Schuller

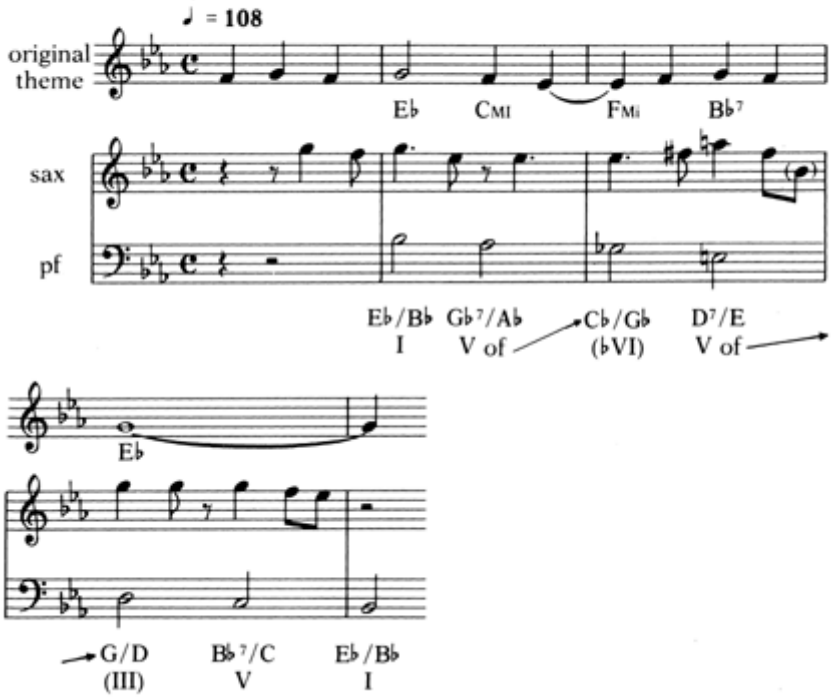
The 1940s brought the decline of the big bands and the evolution of bop, which is associated mainly with small groups. Charlie Parker and his colleagues worked out numerous harmonic innovations, which to a great degree defined the new style: they placed melodic emphasis on the upper pitches of extended chords, exploiting the dissonant leaps (especially augmented 4ths and major 7ths) that such extensions made available; they made much use of the progression ii^{7}–V^{7} in transient tonalities (often with chromatic alterations that led far from the fundamental key); and they fully explored the possibilities offered by substitute chords, resorting particularly frequently to the dominant seventh structure on the flatted supertonic in place of chord V and the half-diminished seventh on the raised subdominant in place of the tonic. Harmonic rhythm and tempos both accelerated. The harmonic innovations of bop began a trend in the development of jazz harmony towards increased ambiguity, both of chord and key: chord substitutions fostered ambiguous voicings, which could fit various roots, and the chromatic progressions of chords ii and V weakened the fundamental sense of tonality. In ex.25 the basic C sonority with added sixth at *a* and *b* is elaborated by upper and lower neighbors. The extended B♭^{7} harmony arrives late in the wind parts (at *c*, where they play the seventh, ninth, and thirteenth), delayed by chromatic upper neighbors at *d*, which suggest a secondary dominant or substitute dominant of the B♭^{7} (F+^{7} or B+^{7}). The B♭^{7}, being a dominant seventh structure, is treated as a V^{7} and is developed into the ii–V progression FMI ^{7}–B♭^{7} (bars 3–4), one of the chromatic ii–V pairs characteristic of bop; this suggests a tonicization of E♭, which is not closely related to C major. However, the B♭^{7} does not progress to E♭, but to C, because it arises as a substitute for FMI (see ex.13), which normally might move to C (bar 5) in a plagal cadence.

Ex.25 Opening theme of Tadd Dameron's *Lady Bird* (1948, BN 559); transcr. S. Strunk



Ex.25 Opening theme of Tadd Dameron’s Lady Bird (1948, BN 559); transcr. S. Strunk

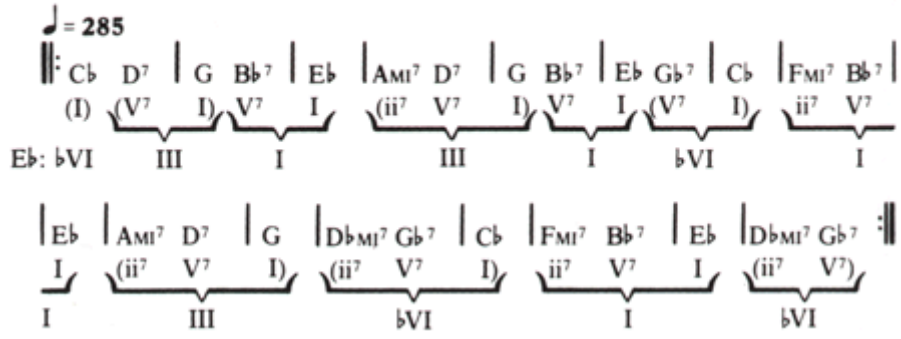
Ex.16 Opening of John Coltrane's *But not for me* (original song by George Gershwin) from *My Favorite Things* (1960, Atl. 1361), showing Gershwin's harmonization beneath the top staff and Coltrane's and McCoy Tyner's beneath the bottom staff



Ex.16 Opening of John Coltrane's But not for me (original song by George Gershwin) from My Favorite Things (1960, Atl. 1361), showing Gershwin's harmonization beneath the top staff and Coltrane's and McCoy Tyner's beneath the bottom staff

The development of jazz harmony from early styles through the 1950s may thus be characterized as a general movement from simple to complex chord progressions and from a relaxed to a rapid rate of harmonic change. No piece shows the culmination of this development better than John Coltrane's *Giant Steps* (1959, Atl. 1311). The tempo is 285 quarter-note beats to the minute and the rate of harmonic change is generally two chords per bar (i.e., more than 100 chords per minute); the difficult progression moves quickly through keys that are not closely related, involving local ii–V–I progressions in tonal centers that (like those in ex.16) divide the octave into three equal parts (Table 5).

TABLE 5: Rapid harmonic rhythm and tonicization of remote keys in John Coltrane's *Giant Steps* from the album of the same name (1959, Atl. 1311)



Rapid harmonic rhythm and tonicization of remote keys in John Coltrane's Giant Steps from the album of the same name (1959, Atl. 1311)

Table 5: Rapid harmonic rhythm and tonicization of remote keys in John Coltrane's *Giant Steps* from the album of the same name (1959, Atl. 1311)

In the late 1950s, however, this coherent development ceased, as some innovative improvisers tired of the restrictions placed on them by complex progressions. Two new approaches to jazz harmony appeared simultaneously, each bound up with a new style of jazz – modal jazz and free jazz.

The concept of modes or other scales as the basis of harmony is discussed above (see §1(vi)). Although the pitch content of modal jazz represents an important development in the history of jazz harmony, perhaps more important still is the drastic slowing down of harmonic rhythm that characterizes the style. With a single mode dominating whole sections of a piece, harmonic rhythm comes to a near halt and the burden of providing interest is placed on the melodic line, which, having no chord progressions to express, has largely to be freely invented by the player within the new looser confines of the modes. The leading figure here was Miles Davis, who advocated (in interviews and by example) an emphasis on creating fine melodies in place of "running the changes."

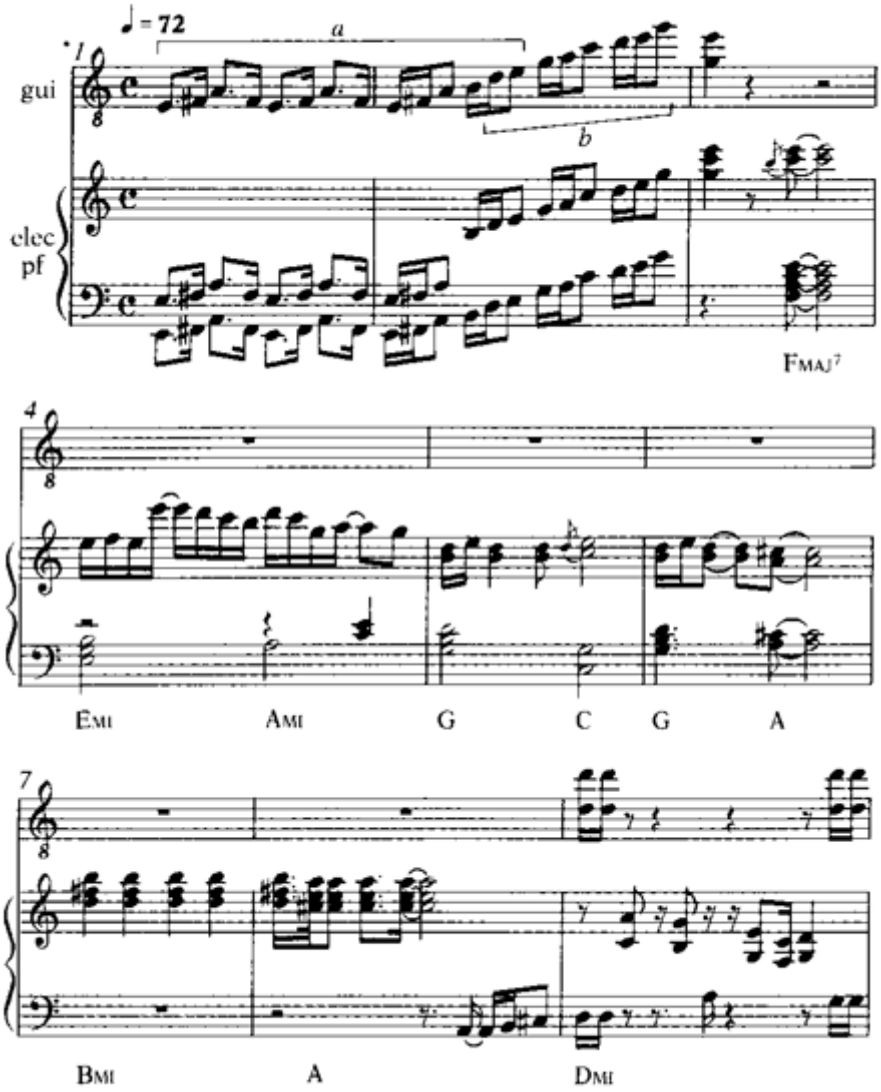
Free jazz introduced an entirely new approach, in which themes and improvisations are no longer based on chord progressions or even nonfunctional successions; instead harmony emerges as a result of spontaneous improvisation. Except in so far as players carefully avoid conventional chord progressions, harmony is (perhaps more than any other element) incidental to free jazz. The principal innovators were Cecil Taylor, who plays in a dense, chromatic, atonal style, and Ornette Coleman, who at times uses drones to suggest tonal centers, as on his *Lonely Woman* (from *The Shape of Jazz to Come*, 1959, Atl. 1327), and who often employs bluesy harmonies without the blues progression.

During the 1960s jazz harmony consisted of an admixture of elements from bop, modal jazz, and free jazz. Coltrane, for example, improvised in a chromatically free manner over slow-moving chordal or modal ostinatos in many of his performances during the first half of the decade. The most extreme example of this is his *Ascension* (1965, Imp. 95), in which the four modes that underlie the piece are scarcely recognizable and hardly influence the chromatic improvisations. Beginning in 1965 (notably with Wayne Shorter's composition *E.S.P.* on Miles Davis's album of the same name, Col. CS9150)

Davis's quintet explored an approach in which many of the conventions of bop (walking bass lines, fast tempos, complex chords, rapid harmonic rhythm, and fast-moving, carefully articulated melodies) are combined with a concept of harmony taken from free jazz: improvisers abandon chorus structures and functional progressions, basing both improvised harmony and melody on the "essence" of the tune rather than its specific form or harmony. In another synthesis of different elements some musicians assimilated the slowing of harmonic rhythm into bop. Chick Corea's *Windows* (recorded by Stan Getz, with Corea as a sideman, on *Sweet Rain*, 1967, Verve 68693) provides a good example: the first half features slow harmonic rhythms and the treatment of each sustained chord as a scale, suggesting a linear, pandiatonic approach to the harmonies; in the second half the harmonic rhythm accelerates and the progressions derive more directly from the bop vocabulary, suggesting a vertical orientation to voicings and melody.

In an independent development, after 1969 many jazz musicians consciously tried to meld jazz with other styles of contemporary popular music, notably rock, producing various kinds of "fusion." The most significant changes in sound and style in this music are in areas other than harmony. Rock harmony at that period was simple, modal, and triadic; jazz-rock incorporates modality or the suggestion of modality, but includes seventh chords, while reducing the use of extended chords characteristic of other jazz styles. Bars 3–9 of ex.26 illustrate simple triads and a major seventh chord within the D dorian mode (the C# and F# are momentarily borrowed from D major in bars 6–8). The pentatonic scale (seen at *a* and *b*) and the suspended dominant seventh chord became one identifying sound of the style (the pentatonic scale has the same interval content as a suspended dominant seventh with ninth). The same scale may be seen in ex.27 at *a*; and the suspended dominant seventh is the sole harmonic sonority of Herbie Hancock's *Maiden Voyage* (from the album of the same name, 1965, BN 84195), in which each of four chords of this structure, built on D, F, E♭, and D♭, suggests a different pentatonic scale. The suspended dominant seventh occurs at *b*, *c*, and *d* in ex.27, in the last instance replacing V^7 in the cadence of the phrase, a common usage in the style. The voicing at *d* represents a compromise between the harmonic complexity of the older jazz and the simplicity of rock; the upper elements of the chord (seventh, ninth, and eleventh) are here grouped in the upper register as a triad which clashes with the root in the bass, a technique not limited to suspended dominants. All the chords of the nonfunctional progression in ex.28 are voiced in this manner. (The D♭/E♭ and B♭/C chords could have been symbolized as suspended dominant sevenths on E♭ and C respectively, but the notation as given conveys the voicing more accurately, and is commonly practiced in jazz of this style.) Owing to its triadic nature, jazz-rock also employs inversions more frequently than most other jazz styles (as in ex.27 at *e* and *f*).

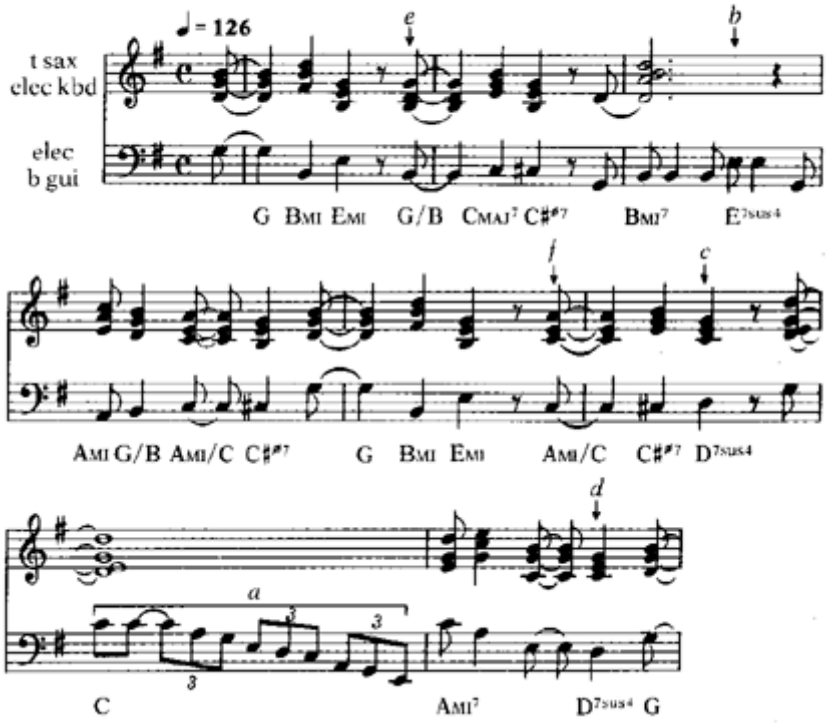
Ex.26 Excerpt from Chick Corea's *Space Circus*, pt ii from *Hymn of the Seventh Galaxy* (1973, Pol. 5536) by Return to Forever; transcr. S. Strunk



*Bar numbers pertain to the example, not to the performance.

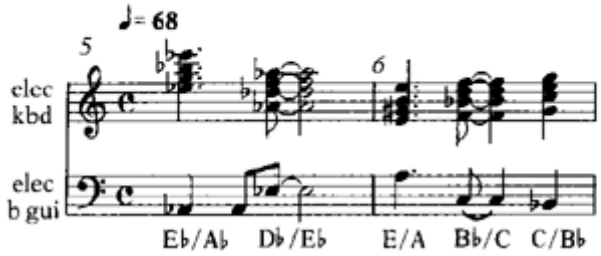
Ex.26 Excerpt from Chick Corea's Space Circus, pt ii from Hymn of the Seventh Galaxy (1973, Pol. 5536) by Return to Forever; transcr. S. Strunk

Ex.27 First statement of the closing theme of Joe Zawinul's *Birdland* recorded by Weather Report on *Heavy Weather* (1976, Col. PC34418); transcr. S. Strunk



Ex.27 First statement of the closing theme of Joe Zawinul's Birdland recorded by Weather Report on Heavy Weather (1976, Col. PC34418); transcr. S. Strunk

Ex.28 Jazz-rock voicings in the introduction to Wayne Shorter's *Harlequin* recorded by Weather Report on *Heavy Weather* (1976, Col. PC34418); transcr. S. Strunk



Ex.28 Jazz-rock voicings in the introduction to Wayne Shorter's Harlequin recorded by Weather Report on Heavy Weather (1976, Col. PC34418); transcr. S. Strunk

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