Altered Guitar Tunings in Canadian Folk and Folk-Related Music

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Since at least as early as Mississippi Delta blues, altered tunings on guitar have been a part of North American musical culture.[1] An early use of altered tunings is suggested in the writings of Howard W. Odum. In his 1911 *Journal of American Folklore* article, "Folk-Song And Folk-Poetry as Found in the Secular Songs of the Southern Negroes," Odum noted African Americans using a knife to play the guitar. Although he did not cite the tuning they employed, it seems fairly clear that the technique was akin to that of so-called "slide" or "bottleneck" guitar which almost invariably involves altered tunings.

Blues and bluegrass players used altered tunings throughout the first half of the twentieth century. With the folk revival of the 1960s, altered tunings gained wider acceptance in popular folk and rock styles. They were employed by a number of the most popular "folk" artists of the day (e.g., Bob Dylan, Richie Havens, and Joni Mitchell). The use of open tunings was later taken up by artists who played Celtic music (e.g., Martin Carthy). Many of the "folk" guitarists of the period learned to play pieces in open tunings. And since 1980, New Age guitarists have employed altered tunings almost exclusively.

Five Canadian Guitarists

Informants for the present study included Marty Posen, Don Ross, Peter Matheson, David Norris Elye and John Cooper. All are Canadians currently living in the Toronto area. Interested in folk and/or New Age music, these five Canadian guitarists were motivated to learn to use altered tunings. Through an analysis of their responses in interviews, I hope to show how, and to what extent, open tunings allow these players to write and play music that reflects their musical values.

These guitarists have some characteristics in common, so that they are, in a certain sense, members of a group. Accordingly, I attempt to identify shared values and demonstrate how altered tunings may have helped them realize such values.In particular, by analyzing my informants accounts of

tunings, I try to clarify their associations of tunings with moods, and show in what ways this association helps them to realize their values.

As a group, these players have a number of things in common. They all play in "finger style"[2] and use altered tunings. They all have roots in the 1960s folk revival. They are all engaged, albeit to varying degrees, in both aural and written musical culture.[3] However, their work with altered tunings uniformly involves aural, rather than written, music-making. Canadian artists popular in the late 1960s and early 1970s, Joni Mitchell, Neil Young and Bruce Cockburn — all of whom used altered tunings — were cited as influences by all but one of my informants. Peter Matheson, the single exception, nonetheless has a connection with Joni Mitchell that is important here. He taught her about open tunings. Each of my informants has played, studied, or drawn elements from diverse styles of music, including folk, Celtic, rock, disco, jazz/swing, bluegrass, classical, and country. They all use elements of these styles. And they all share, to a certain extent, a unified set of specific aesthetic values.

Specific Aesthetic Values

Central to these guitarists' aesthetic values is "richness of sound." This richness often involves: (i) an extended bass range, (ii) open strings ringing together, (iii) harmonics, (iv) unusual chord voicings, especially sonorities comprising a combination of open strings and strings fretted high up on the neck, (v) sympathetic vibration, and (vi) percussive effects.

The informants often commented on extended bass range. "Profound bass" was the term Don Ross used to describe the sound of the sixth string tuned lower than the usual E. He remarked that his own guitar was uncommon in that it sounded good as low as B. Peter Matheson said he "especially love[s] that low C [sixth string tuned down], it's almost from the [gut? at this point he placed his hand on his lower abdomen]. John Cooper commented on "drop D" tuning [DADGBE]: "[it has] a nice full bottom end." David Norris Elye demonstrated the value he places on extended range. He had a seven-string guitar specially constructed. The seventh string has a built-in capo device that allows for a downward range extension of as much as a minor 3rd.[4]

These players all indicated a preference for the sound of open strings (over that of fretted strings) and, above all, a preference for the sound of open strings ringing together. Don Ross said he tried to get "as much open string activity as possible." John Cooper's response to Keith Richards' open string sound sums up the general attitude: "My God, does it ever sound good!" In response to his desire to hear more open strings, Peter Matheson worked out an entire series of scales in which open strings were used "wherever possible." These scales produced a sort of "harp" sound consisting of layered scale degrees.[5]

Natural and artificial harmonics are valued, and open tunings increase their effect through sympathetic vibration. As Marty Posen said, in open tunings the harmonics "sing out." Don Ross is currently playing a type of arpeggio pattern, apparently invented by the late jazz guitarist, Lenny Breau. It involves playing a chord arpeggio (or any six-string assortment of notes), alternating normal plucked strings with artificial harmonics. Don says, "It's a lovely effect."

Unusual chord voicings are a highly valued product of altered tunings. Familiar fingering shapes can produce novel and "remarkable" effects when a guitar is retuned (Peter Matheson). The combination of open and fretted strings can produce interesting harmonic and timbral structures (Don Ross). Sonorities "ring" differently in altered tunings — a result of sympathetic vibration and the response of the guitar as a whole to new pitch combinations and pitch ranges. They "resonate and resonate;" their sound is "brilliant;" such tunings have a "lush, shimmering quality" (Marty Posen).

Percussive effects, via "hammer-ons" and "pull-offs," that are available in open tunings, but not available otherwise, were mentioned.[6] Marty Posen describes a combination slide and pull-off from unison 4th and 5th strings tuned to A. "[They] roar ... they just explode." This description, and the way in which it was uttered, with emphasis and a kind of sensual delight, indicates his appreciation of these sounds.

General Aesthetic Ideals

In addition to these specific values, my informants seem to share two general aesthetic ideals: originality and variety. The ramifications of these ideals permeate all aspects of their music. These guitarists value originality in composition, arranging, and in the accompaniments they create for their own songs and for the songs of others. They express this value in a number of ways. John Cooper says that even when playing in standard tuning, he employs "ideas that are not too typical. I play it my own way, or I write it. I try not to emulate people." Other players feel much the same. "I didn't want to be influenced by other [players], so I gave most of my recordings away" (Marty Posen). Don Ross said that even with altered tunings, one "must use interesting ideas." Peter Matheson feels that originality is concomitant with his identity as a singer-songwriter: "so everything I write is relatively new," and states his feelings even more plainly: "I didn't want to be cliché."

David Norris Elye says he stopped learning other people's pieces in order not to be unduly influenced by their work. He divided his career into aspects that were public (saxophonist and woodwind player) and private (guitarist and writer) "in order to keep [his] guitar playing pure and from the heart." He tried to be "very aware of developing [his] own style." But, on this count he went further than the others by asserting that the practice

of playing in open tunings is, in general, "more unique than other styles [of playing]."

These players express their preference for the other general ideal, namely, variety, in terms of an aversion to "sameness" or to things "boring," and in terms of the advantages they regard as being associated with altered tunings. The value they place on variety is reflected in the diversity of styles in which they have played. Even more, the effects of the variety they value can be discerned in their original compositions.

Peter Matheson says plainly, "Old stuff is boring." In his view, "an open tuning [has] a totally different sound [from a standard tuning]." He "deliberately changes tuning for variety [of effect]". Don Ross concurs: "I don't like to rely on the same tuning too much because there is a sameness of sound; that's why I use so many tunings." Marty Posen comments on the wealth of possibilities available with open tunings: "Change one note [of a tuning] and [you] get a whole new thing [effect]."

In his compositions, Don Ross uses certain classical guitar techniques and jazz harmonic language. Peter Matheson says, "[The] only reason I studied [jazz and classical guitar] was to aid my writing." His compositions include varied stylistic elements: the bass line from "Blueberry Hill" with a reggae beat on the upper strings and "Fire and Rain" in disco style. "I keep trying to find things which haven't been done yet but [which] work." Marty Posen's compositions display an equally varied mixture of elements: a rock 'n'roll fiddle tune, and a piece for electric guitar, whammy bar, and finger picking. And David Norris Elye's compositions contain elements of jazz, folk and classical idioms.

In a number of ways the use of altered tunings helps these players achieve their aesthetic ideals. Altered tunings free the left hand, and provide them ready access to more (and more contrasting) harmonic structures, melodic structures, and timbres. These tunings allow easier access to harmonics, slurs (including hammer-ons and pull-offs), and open strings that are "usable" (i.e., within a given key or chord). The range of the instrument is often increased, and arranging is facilitated.[7]

Technical Possibilities

One of the most frequently cited advantages of using open tunings is the freedom it provides to the left hand. "There's so much more that can be done when you free up your left hand.... [This is a] definite advantage of altered tunings" (Peter Matheson). With bass strings tuned to the most frequently needed or used bass notes in the piece, the left hand is freed from having to fret these strings so often. This allows the player to do more intricate work on the higher sounding strings and increases the frequency with which the open bass strings can be played easily. The expanded harmonic possibilities include unusual chords and chord-voicings that can be played with relatively little difficulty, unusual voicings that involve

combinations of fretted and open strings, and what were described by Don Ross as "large sonorities."

When the guitar is tuned to an altered tuning, the bass strings are usually altered downwards. The changes may, however, involve any of the strings. In general, strings can be raised as much as a major second, and lowered as much as a perfect fourth. When the bass strings are lowered, the range of the guitar is extended. The new bass notes are invariably notes of the main chord or key. As a result, these bass strings can be played open more frequently, and the guitarist can, at the same time, exploit the upper reaches of the guitar's range with his now much freer left hand. This increases the likelihood that a player will be able to find effective, widely voiced chords that would be unavailable otherwise. Don Ross, like the others, feels that it is "exciting to expand the range." By virtue of the wider neck on his 7-string guitar, David Norris Elye can use a kind of open-ended C-clamp capo to "capo-up" six strings, while at the same time exploiting the extended low end. This provides his instrument with a more varied and extended range.

The changes of pitch essential to altered tunings bring with them an added advantage: subtle change in timbre. Timbral differences are sometimes purposefully exploited. David Norris Elye uses a heavier gauge string for the seventh string on his guitar to get better timbre on the lower pitches, and says this string will sound good all the way down to A. In some tunings, adjacent strings are tuned to a unison. Because the strings are normally of differing thicknesses, each note of the unison has a different timbre. John Cooper mentioned exploiting this idea. He tuned the first and second strings to C and used the thickest and thinnest strings that would work—a "13" on one and a "9" on the other.[8] When all the open strings produce key- or chord- tones, it is more likely that one can usefully juxtapose fretted strings with open strings, resulting in combinations of timbres that are more varied than those that occur in standard tuning.

Melodic and arpeggiated passages which "can't be duplicated in standard [tuning]" are available in altered tunings, and are often quite easy to play (Marty Posen). Again, because all strings produce key- or chord-tones, these passages may involve open strings more frequently than would be the case in standard tuning.

Natural and artificial harmonics are more likely to be useful and available due to the increased freedom of the left hand and the greater number of open strings tuned to key- or chord-tones. Open tunings also provide more, and more varied, opportunities for the use of special techniques such as Lenny Breau's harmonic-arpeggio.Slurs (pull-offs and hammer-ons) can be performed more frequently with the free left hand, and pull-offs and hammer-ons involving open strings are also more readily available. David Norris Elye says, "The essence of why these tunings [are

used] is [that] you can do all those hammer-ons and things that you can't do in regular tuning."

Through the use of altered tunings, certain fiddle melodies can be played more easily. Peter Matheson says O'Carolan's Concerto "works incredibly well" in open-D tuning. Don Ross designs his guitar tunings to suit the particular fiddle tunes he wishes to play or arrange. He will "see what tones the fiddle is circling around a lot, and see if there would be a drone string in the tuning ... to give a dulcimer effect." He also chooses his bass notes to suit the piece, tuning them to the most frequently played or convenient pitches in a given situation.

Given a preference for layered sounds, the players' right-hand technique comes as no surprise. Finger style provides the greatest possibility for complex and interesting combinations of notes. Only Marty Posen mentioned doing any playing with a flatpick, and even so, he used quite complex picking, including "cross-picking" in such pieces. With strumming, the sound is less intricate and less interesting. There is less room for innovation and, as Peter Matheson puts it, "It's boring." Through the increased ease of playing which results from altered tunings, and because of the expanded range of musical resources that are made available, these players are better able to create new and different musical ideas which conform to, and satisfy, their aesthetic sensibilities.

Compositional Process

There is another, possibly more subtle but no less effective, way in which altered tunings help players to achieve their ideals of variety and originality. Altered tunings, along with musical ideas and, in some cases, mood, function as parts of a compositional process.

These players cite two essentially similar versions of this process (see Figure 1). One begins with an inspiration, a musical idea, or a mood; the other, with the choice of a tuning. For Marty Posen, the process begins with a mood. For Don Ross it may be a musical idea, or a "vague essence," that initiates the process. This leads both composers to choose a tuning that they think might work for the piece they have in mind. In the next stage, there is an interaction between ideas of the composer and the resources available in the tuning. The player attempts to play his ideas. Adjustments are then made to the tuning to allow him to get the precise effects he wants. As he makes these changes and experiments with the new tuning, new ideas occur. This process goes back and forth until the tuning is decided upon. The piece is then completed.

For Peter Matheson and David Norris Elye, the process is different. They both decide on a tuning first. Peter then plays familiar things (clichés) on the tuning until he gets some new musical ideas. In his words, he "branch[es] off." He then proceeds to compose the piece. David plays in a single tuning for one or two weeks, until a number of ideas have come to

FIGURE 1
COMPOSITIONAL PROCESS

Marty Posen:

mood → tuning / ideas → tuning → piece

Don Ross:

musical idea → hunch of which tuning will work → tuning ideas → tuning → piece
vague essence

Peter Matheson:

tuning → tuning / cliches → new ideas ("branching off") → piece

David Norris Elye:

tuning → tuning ideas → approx. 15 short ideas → intro verse chorus → bridge → piece

him. These usually consist of approximately fifteen quite short sections of music. From these, he usually develops an intro, a verse, and a chorus. He then lets the piece "sit" for a while until he decides on a bridge section, which completes the composition. The bridge is often based on one or more of the short ideas created at the outset.

For all these players, the tuning functions as an active force in the creative process. Their remarks are strikingly similar and powerful:

> John Cooper: "[Tunings allow you to be] more spontaneous ... more creative melodically."
>
> Peter Matheson: "You're in a new mode of thinking ... [you] must create something new ... [an altered tuning] spurs creativity."
>
> Marty Posen: "When I write an open tuning it's like having a blank canvas in front of me ... I write by sound, feel, inspiration ... it's a deeper kind of creativity — it's got to be creative."

Creativity seems to spring from the somewhat unfamiliar interval sets they choose. These tunings free the players, not only from technical limitations but also from the clichés and motor-memory patterns that are

commonly associated with standard tuning. By creating a situation in which clichés do not work, players are forced to try new, and possibly original, ideas.

Limitations

Some limitations come with the use of altered tunings. Open tunings can be a "crutch for people who have a hard time coming up with good harmonic movement." Some players tend to play "too many open arpeggios" (Don Ross). Using different tunings in performance can be, as Don Ross says, "a bit aggravating for the audience [due to the time taken in re-tuning]." He says he does his best to get around this problem by tuning quickly and by structuring live performances so that tunes with closely related tunings are all in a row. And sometimes, he says, he "mask[s] it with a story."

These players cite three other limitations of tunings: it is difficult to transcribe pieces in tunings from recordings; slide playing in blues is cliché-ridden; and for John Cooper, altered tunings "screw [him] up harmonically." These three points are, in fact, not very important when considered in the light of the players' shared ideals. Most of them purposefully avoid being influenced by other players and, as a result, do not undertake much transcription of altered-tuning pieces. Most do not play blues in open tuning. And most find the harmonic disorientation associated with new tunings a pathway to original ideas.

Moods and Intersense Modalities

The association drawn between mood and tuning that begins the creative process for Marty Posen was not unique to him. Similar connections were mentioned by all the players. Don Ross was the only one to associate certain characteristics with keys: "You do pick up on the brightness or darkness ... character ... of different keys [or] tone centres." All the informants agreed, unequivocally, that particular tunings are associated with certain moods. Although they differ widely in the details they provided about these connections, they agree on which tuning types are associated with which general mood types. All of the descriptions were given in terms of intersense modalities.

The musicians offered descriptions for seventeen altered tunings. These can be grouped into four fairly broad, but nonetheless coherent, categories: "poetic", "bright", "big", and "dark" (see Figure 2). The tunings associated with these categories can be differentiated on the basis of chord quality and voicing or range.

Chords associated with the "poetic" category can be described as extended chords—major 6, major 7, major 9, minor 11, and a quartal structure that can be described as C6,9 (no 3rd). Chords in the "bright" category are major triads, with the third voiced fairly high and the lowest note being D (sixth string). Chords in the "dark" category comprise struc-

FIGURE 2
TUNINGS AND MOOD

TUNING/INTERVALS	CHORD	DESCRIPTIONS
1. "Poetic"		
F A C G C E 3 3 5 4 3	Fmaj9	forward moving mighty heroic
D A C G C F 5 3 5 4 4	Dm11	sweet, wintry funky (two moods)
D A D F# A C# 5 4 3 3 3	Dmaj7	soft, floating open environment spacious pretty ethereal
C A D G A D 6 4 4 2 4	C6,9 (no 3rd)	down to earth
C G C G A C 5 4 5 2 3	C6 (no 3rd)	green pastoral
2. "Bright"		
D A D F# A D 5 4 3 3 4	D	happy/reflective (two moods) bright sunshine smooth comfortable a little darker than bright
D G D G B D 4 5 4 3 3	G	bright
3. "Dark"		
C G C G C C 5 4 5 4 1	C (no 3rd)	rootsy big, chunky dark
C G C G C E 5 4 5 4 3	C	sombre

continued overleaf

TUNING/INTERVALS	CHORD	DESCRIPTIONS
3. "Dark" contd.		
C G D G C E 5 5 4 4 3	G/C or Cmaj9 (no 7th)	odd haunting
D A D E A D 5 4 2 4 4	D add 2 (no 3rd)	haunting harshness dark ripeness mournful
D A D E A E 5 4 2 4 5	D add 9,2 (no 3rd)	haunting stark mournful
E G D D B D 3 5 1 6 3	Em7	dark sound
4. "Big"		
C G C G C C 5 4 5 4 1	C (no 3rd)	big, chunky
F A C F C F 3 3 4 5 4	F	really nice, big
D A D G B E 5 4 4 3 4	D6,9 sus4	full bottom end
D A A F#A E 5 1 6 3 5	D (add 9)	richness in low end

tures that have no third, chords with C as their bass note, and a minor seventh chord that is voiced rather low. The "big" category contains a variety of harmonic structures, including a major triad with the third voiced low and sonorities having a perfect fifth between the two lowest sounding strings.

None of the categories I have identified is completely differentiated from the others on the basis of chord quality and voicing or range; indeed, there is some overlap between categories. Two tunings, DADGBE and DAAF#AE, which I have labelled "big" may not, in fact, belong in this classification. I have included them because they were described by my informants in terms of intersense modalities. Both of these tunings were said to have a "rich" or "full" "low end" or "bottom end." This characterization seems to have been motivated by the sound of a perfect 5th between

the fifth and sixth strings. However, twelve of the seventeen tunings discussed have this feature, and at least one such tuning appears in every category. In the absence of the other descriptions, the other ten would likely also be described by these informants as "rich" or "full," which are, in any case, adjectives used by these players to characterize altered tunings in general.

The "C6, no 3rd" tuning, CGCGAC, which occurs in the "poetic" chord category is not an extended chord. Otherwise described (i.e., by intersense modality), it might fit just as well in the "dark" category. The F-tuning (FACFCF) in the "big" category is differentiated from those in the "bright" category on the basis of voicing only — it has the 3rd voiced on the fifth string, a major 6th or major 9th lower than those in the "bright" category. The C-tuning of the "dark" group, CGCGCE, is a major triad with the third voiced high (on the first string), higher than those in the "bright" category. It is nonetheless described as "dark" and "sombre." Perhaps the effect of the high third cannot overcome the influence of the low C bass and the stack of fifths and fourths on which it is built. The C-tuning, CGCGCC, appears in two categories ("big" and "dark") because it was described differently by individual informants.

The presence of a low unison seems to be significant. It is probably the main characteristic that secures the description "richness in the low end" for the D-add-9 tuning, DAAF#AE, in contrast to the more straightforward D-tuning, DADF#AD — described by the same informant as "bright." This characteristic may also heighten the "dark sound" of the Em7 tuning which appears in the "dark" category.

An interesting detail revealed by my informants was the association of pieces of different moods with one tuning. Both Don Ross and Peter Matheson gave examples of this. Don said that his piece "Silversmith," written in Dm11-tuning (DACGFC), had two sections. The first section was "sweet, wintry," and the second section was "funky." Peter said that D-tuning, DADF#AD, is a "fairly happy tuning," but that he had written a piece in this tuning which was "exactly the opposite — reflective, not depressing reflective, but ... reflective." This apparent contradiction in associating a mood with a tuning may indicate that the mood/tuning associations which the artists cite apply only to the tunings themselves, and not necessarily to all of the pieces created in particular tunings. The manipulation of musical resources available in any tuning will, of course, contribute to the mood of any piece written in that tuning. There is evidence to suggest that this was so in the present instance.

In Don Ross's piece, the Dm11 tuning belongs to the "poetic" category (extended chords). The first section of the piece may have supported the natural feeling of the tuning. Funk, on the other hand, is a style of music with a particular rhythmic "feel" and particular melodic structures which

are not likely to be described as "sweet" or "wintry." Peter Matheson said of his piece that he tried to "imitate a pedal steel [guitar]; it's a very slow piece with lots of bent strings." In each of these cases, the particular characterization seems to be of an individual piece rather than of the tuning. The mood and descriptive adjectives associated with the style of the piece have, in all likelihood, superseded those associated with the tuning itself.

Other Aspects of Non-Standard Practice

Another interesting idea that has emerged from this investigation comes from John Cooper. John mentioned that standard tuning can be used in the same way as altered tunings. You can "play an E-chord and shove it up the neck [thereby exploiting the open sixth, second, and first strings which are the tonic and dominant in the key of E], or you can play a G-chord [voiced GBDGDG] and slide that up the neck [exploiting in this way the open fourth and third strings, which are the tonic and dominant in the key of G]. It produces some interesting sounds." Both Heitor Villa-Lobos and Leo Brouwer approach the writing of guitar music in standard tuning in this fashion. All of the techniques used by my informants can be found in these composers' music.[9]

Open tunings can be played in a manner that sounds like standard tuning by using ordinary chord progressions, bass lines, and arpeggio patterns. The results, of necessity, sound somewhat different from music played in standard tuning, because the voicings are different, but the effect is, nonetheless, very much like that of a "normal" guitar. An example can be found on Doc Watson's first Vanguard recording.[10] There he plays his version of "Sittin' on Top of the World" in open D tuning [DADF#AD]. The resulting arrangement does not sound very different from any of the other pieces on the album: these are in a similar style, but not in open tuning.

Conclusion

Clearly, altered tunings as they are undertaken by my informants, constitute a style of music in its own right. But it is not simply altered tunings that lead these musicians to approach their music in such a similar manner. The reasons are much more complex.

My informants are the bearers of a common musical tradition, rooted in the 1960s folk revival in Canada. They share a varied musical background, similar performance practices, an emphasis on aural culture, and remarkably similar aesthetic ideals. The depth of their shared values and taste is strikingly demonstrated by the commonality shown in the associations which they draw between tunings and moods.

The history, experiences, and values these players share is given form in their music. The transformation of these shared traits into a commonly held style of music results from a series of aesthetic decisions and purposeful choices, and not completely, or even primarily, from the fact that they

have chosen to use open tunings. Yet, rooted as they are in a musical tradition with which these musicians identify, altered tunings allow these creators to express something about themselves simply by virtue of their use. Even more importantly, however, altered tunings allow them to play in the style of their choice much more effectively than playing in standard tuning would ever have allowed them to do.

Notes

1. The guitar is said to be in an altered tuning when the strings are tuned to notes other than E-A-D-G-B-E (in ascending order, ending on E above middle C).

2. "Finger style" is the name given to a right-hand guitar technique in which individual fingers, rather than a flatpick, strike the strings, generally on a steel-string guitar. Usually, so-called "Travis style", with the thumbs alternating between the two lowest sounding strings, and/or an arpeggiated pattern on higher sounding strings, is employed.

3. During the 1980s, dozens of pieces in altered tunings were printed (in tablature) in guitar magazines. Only one of the players, Don Ross, mentioned learning such a piece, and then it was only to acquire a specific technique, namely "two-handed tapping." He said he never played the piece after that time. All the learning these players mention was aural (from recordings or other players).

4. This device is somewhat like a fifth string capo on banjo. It allows the seventh string to be lowered in pitch independently of the others.

5. The "harp" sound is produced by means of a fingering technique that allows adjacent scale degrees to ring together. This is accomplished by using a combination of open strings (the higher strings, first to fourth) and fretted strings (the lower strings, third to sixth); the fretted strings produce the scale degrees that fall between the open strings. For example, one could combine the open G (3rd) and B (2nd) strings with the fretted notes A and C played on the fifth and fourth strings, respectively. By playing the strings in the order: third, fifth, second, fourth, an ascending tetrachord can be produced (G-A-B-C) in which all the lower pitched notes continue to ring after the upper notes are sounded. Due to limitations of fingering, usually only two or three scale degrees ring together at any one moment. The effect is something like the sound produced on piano by playing a short scale passage with the sostenuto pedal depressed. Open tunings allow for different, and often more extensive, use of this technique than does the standard tuning.

6. In all three cases (hammer-ons, pull-offs, and slides) the string is first plucked by the right hand, and a note is produced. A subsequent note (or notes) is then produced as a result of the action of the left hand only. Both hammer-on and pull-off are a type of legato technique used on fretted instruments. In the case of a hammer-on, a higher pitch is created by simply pushing the string down at a higher fret by means of a quick (hammer-like) movement of a left-hand finger. In the case of a pull-off, the string to be used must already be fretted. A lower pitch is then produced by removing (or pulling-off) the left hand finger which is fretting the string. "Slide" is essentially synonymous with glissando. As with the previous two techniques, the name describes the motion of the left hand finger

as it accomplishes the technique. The string to be used must already be fretted. To execute a slide, the finger which is holding down the initial note, while maintaining its pressure against the fingerboard, moves (or "slides") to a new fret, either higher or lower, thus producing a new pitch.

7. Before proceeding to details regarding the expanded possibilities which altered tunings provide, those unfamiliar with guitar may find a brief explanation of altered tunings to be of some help. The nomenclature used in this account is that which was most commonly employed by my informants. When the guitar is in an "altered tuning," all the open strings are tuned to notes in one key. In the case of an "open tuning", they may be all be notes of a single chord (e.g. open-D: DADF#AD). In other cases, they may be tuned to the notes of a four- or five-note chord (e.g. the D-maj7 tuning DADF#AC#, and the Dm-tuning DADFCE). In some cases, the strings are voiced to an extended chord with one chord tone being omitted (e.g., C9 no 3rd [CBbDGCD]. They may also be tuned to a number of notes within a particular key which do not form a simple chord (e.g. DADGBE). Some of these are called "modal tunings."
8. Strings are gauged in thousandths of an inch. At a given pitch, a thicker string will be very taut, producing a louder more consistent tone than a thinner one, which will be quite slack and likely to bend out of tune.
9. Instances appear in Villa-Lobos's *Preludes* and Brouwer's "Elogia de la Danza."
10. *Doc Watson.* Vanguard Stereolab VSD-79152, 1964.

Résumé:
Richard Stewardson écrit sur les accords («tunings») altérés pour la guitare en usage chez cinq guitaristes de Toronto qui ont été influencés par les musiciens tels que Joni Mitchell, Neil Young et Bruce Cockburn. Il fournit des tableaux pour démontrer les processus créateurs employés par ces compositeurs, et les émotions et les images qu'ils associent avec les divers accords altérés. L'auteur conclut avec une description du rôle important des accords altérés dans le travail de ces compositeurs-guitaristes.