Rock and Roll as a Dialect of Common-Practice Western Tonal Music
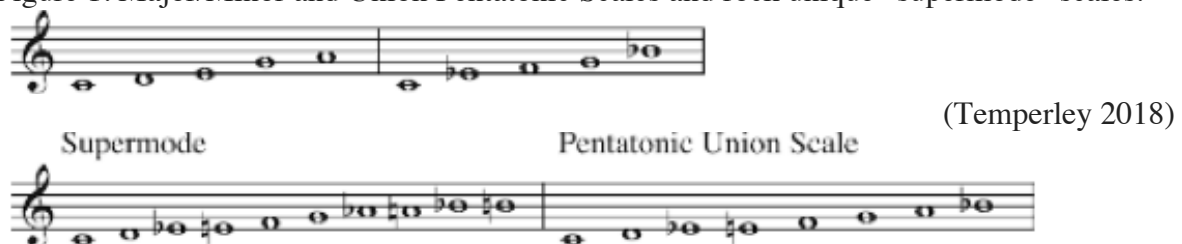John Frederick Bailyn
Stony Brook University

Connections between language and music are a topic of major recent concern in cognitive science (Lerdahl & Jackendoff 1983, Patel 2007, Rebuschat et al 2012, a.o). In this paper, I introduce a new component into this discussion, namely the notion that the distinction among certain musical genres reflects *dialectal variation* in the linguistic sense.

What has emerged since *GTTM* (Lerdahl & Jackendoff 1983) is a consensus that there is a basic human cognitive music perceptual module, parallel to the language module as understood by generative linguists (I do not, however, assume the Identity view of Katz & Pesetsky). On such a view, the cognitive capacity of an adult human includes a linguistic steady state (Chomsky 1965), in the form of an *idiolect*, the product of exposure to primary linguistic data, filtered through some sort of Language Acquisition Device (LAD), typically in early childhood. Significant enough convergence among idiolects results in the sharing of a common "dialect", which can be seen as the product of historical development from older forms. Here, I examine the idea that there exists a musical perception "steady state", acquired in analogous fashion – on the basis of exposure to primary musical data in childhood, filtered by a music-particular module, with properties of the kind described in *GTTM*. Seen from this cognitive perspective, vernacular musical forms such can be seen to represent dialectal variation in a manner similar to linguistic dialects.

In particular, I put forward the idea that rock and roll is best seen as a dialect of tonal (classical) music, differing from the tonal "common practic" in ways analogous to the way in which non-standard linguistic dialects diverge from earlier forms. I show how Temperley's 2018 *The Musical Language of Rock* (which contains an analysis of the organizational principles of rock based on generative music analysis, supported by a corpus study of 250 rock songs), unearths some astonishing findings on possible (and impossible) cognitive categories in rock. These findings expose the possibility of analyzing rock as one of various dialectal developments of classical Western tonal music (CPM). (that is, a cognitive category), rather than (only) a genre (a social/artistic category). On this view, "native listeners" of rock have an internalized system that shares core properties with CPM and yet differs in significant ways, just as spoken Romance dialects diverged from Latin.

The paper is organized as follows. First, I show that rock and CPM share certain core organizational principles, both in rhythmic areas (grouping and meter), and harmonic areas (asymmetric tonality). This unites rock with CPM, as expected. Next, I examine the unique regularities of rock, based on Temperley's 2018 findings. In particular, I show that rock's unique cognitive organization supports the claim of dialectal variation in its divergence from CPM in at least 4 essential ways: (i) unique modal melodic organization, (ii) unique melody-harmony interactions, (iii) distinct basic cognitive grouping categories (verse, bridge, chorus, etc), ("verse and chorus are highly complex cognitive categories" (Temperley 2018: 164)), and (iv) distinct metrical organizational preferences. At the same time, rock shares with CPM core properties not found in non-tonal music, such as the centrality of the circle of 5ths, which crucially underlies regularities among both CPMs and rock's distinct tonal systems. Indeed, the central finding from Temperley's corpus work is his discovery that tonal systems found in rock vary widely, yet stay within a closely delineated range (Figure 1).

Figure 1. Major/Minor and Union Pentatonic Scales and rock unique "supermode" scales:

(Temperley 2018)

Crucially, Temperley shows that although there are many non-classical modes regularly found among rock melodies, the scale systems that are most commonly available (Fig 2) can be plotted on a graph of the "line of 5ths", a linear representation of the circle of 5ths (Fig 3):

Figure 2: most common scales in rock melodies of note occurring more than 3 times

Figure 3: most common rock scales plotted on the line of 5ths:

Scale	# of occurrences
1 2 3 4 5 6 7	30
1 2 b3 3 4 5 6 b7	17
1 2 3 4 5 6	13
1 2 b3 3 4 5 6 b7 7	8
1 2 b3 3 4 5 6	7

Example 2.7. Scales represented on the line of fifths
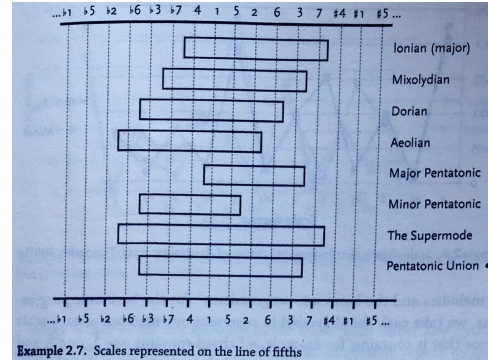
A universal emerges: all scales common to rock contain notes that are *contiguous* on the line of 5ths. This is a remarkable generalization – without a cognitive system founded on the circle of 5ths (one of the core properties of CPM), such a generalization could not emerge. On the other hand, rock allows for melodic/harmonic combinations that CPM does not prefer, and vice versa. This is shown in the lack of any strong preference for correlating major vs minor scales with major and minor harmonic organization. Thus, rock music shares with classical music basic tonal organizational properties while at the same time allowing for extensive variation in the exponence of allowable scale systems. The same holds for harmonic progressions. This kind of variation mirrors what we find in the phonological and syntactic systems of closely related varieties or dialects in language.

Next, I discuss Temperley's evidence that specific cognitive categories exist in the internalized systems of "native listeners" of rock, which are absent in CPM, (such as verse, bridge and chorus), reflecting unique rules systems. The same holds for rhythmic organizational patterns. Such variation can be characterized as distinct organization of a Preference Rule system (Lerdahl & Jackendoff 1983), analogous to variable ranking of constraints in OT to describe phonological variation across languages (McCarthy 2001). As a dialect diverging from CPM can be shown to be informative for an understanding of the position of jazz, blues and other forms with respect to CPM. Figure 4 compares CPM, Jazz, Blues, and Rock. Seen in this light, blues and rock seem to be a single dialect, (see Katz 2017). Jazz, on the other hand, seems to have distinct enough properties to warrant classification as a dialect distinct from Blues/Rock.

Figure 4. Features of CTM, Tin Pan Alley/Jazz, Blues, Rock (based on Temperley 2018)

	CPN	TPA/Jazz	Blues	Rock
Extended triadic harmony	Rare	Common	Rare	Rare
Extensive use of chordal inversions	Yes	No	No	No
Close melodic-harmonic coordination	Yes	Yes	No	No
Preference for CPM harmonic moves	Yes	Yes	No	Weak
Straight vs swung tempo	Straight	Swung	Swung	Straight
Hypermetrical irregularity	Often	Rarely	Rarely	Sometimes
Anticipatory Syncopation	No	Yes	Yes	Yes

Implication for historical change of language and music are discussed in conclusion.