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Creativity parallels between language and music

Graeme Trousdale

Abstract

This article explores possible connections between language, music and creativity, particularly in terms of change in linguistic and musical grammars. It considers parallels between properties of usage-based grammars (like chunking and schematicity) and musical structures. While some research into the relationship between music and language has tended to align itself more with formal approaches to knowledge about language, the discussion here is more focussed on functional, usage-based approaches. The article sets out some ways in which work on musical change might be used to think about parallels between language and music, and how this connects to creativity.

1 Introduction

This short article provides a brief discussion of some of the potential avenues for research in connecting language, music and creativity, particularly as this relates to change in linguistic and musical grammars.¹ It explores parallels between properties of usage-based grammars (like chunking and schematicity) and musical structures. Some research in the relationship between music and language has tended to align itself more with formal approaches to musical and linguistic grammars (Jackendoff and Lerdahl 1995, 2006; Rohrmeier 2011). The discussion here is more focussed on functional, usage-based approaches. This is largely because of the emphasis on change. In work on language change, it is regularly acknowledged, based on research in both sociolinguistics and historical linguistics, that systemic changes emerge from instances of language use. This appears to be a position that unites many if not all linguistic theories: they differ in (a) how much of the system is amenable to change; (b) the extent to which acquisition is restricted to a particular period in the lifespan; and (c) the extent of the role played by usage features (such as frequency).

¹ I would like to thank the editors and an anonymous reviewer for their comments on an earlier version of this article. All shortcomings are my own.

2 On being novel in language and music

By way of introduction, let us begin with some relatively simple cases of language change, in which new words are created. For lexical creativity in a network of speakers, we can distinguish the creation of (a) a new lexical process (a new means of forming lexemes) and (b) new instances of existing processes. I return to this issue below in section 3, but for now, simply recognise this distinction. Thus, the process of acronymy (as exemplified by the English words *NATO* and *laser*) appears to be relatively recent (i.e. a late Modern English phenomenon), while blending (as exemplified by the English words *bromance* and *manscape*) is a lexical process which emerged much earlier, in the Middle English period (see e.g. Smith 2014). Once a process is conventionalised, new instances come into being at different stages (e.g. *motel* appears to antedate *spork*). Each of these creations involves an individual's innovation becoming conventionalised and recognised as a word belonging to at least one variety of English.

As is well known, some types of lexical creativity involve new uses of existing words. An example of this is Shakespeare's use of *incarnadine* as a verb in the following passage:

Will all great Neptune's ocean wash this blood
Clean from my hand? No; this my hand will rather
The multitudinous seas incarnadine,
Making the green one red.

(Shakespeare, *Macbeth*, 2.2.57-60)

The juxtaposition of the Latinate (*multitudinous, incarnadine*) and Germanic (*make, green, one, red*) lexis across lines, coupled with the syntactic ambiguity of *one* (as head of the NP *the green one* meaning 'sea' or as modifier in the AP *one red* 'entirely red') offers the hearer an ambiguity, the resolution of either of which foregrounds the monstrosity of Macbeth's act (see the discussion in Ronberg 1992, 19-20 and Blank 2002, 116). Here is a clear example of conscious or agentive linguistic creativity in a literary text where innovation exists, at least in part, 'for art's sake'.

But in many cases the issue of whether lexical creativity is agentive is less clear-cut. For instance, Old English kennings involve metaphorical associations that may have particular stylistic effects akin to those in the *Macbeth* quotation above (see e.g. Scragg

2013, 60-1 on the use of *sincgyfan* 'giver of treasure' to describe Hrothgar in *Beowulf* (line 1012)). Yet over time, such compounds may lexicalize and, in the process, lose both metaphoricity and compositionality: examples include *lord* < OE *hlaf weard*, literally 'loaf guardian' or *daisy* < OE *daeges eage* 'day's eye'. Thus erstwhile artistic or creative expressions may become commonplace, losing figurativeness in the shift from compound to monomorpheme. While the development of the monomorphemic forms must involve novelty (there is something new and conventional for the network of speakers of that variety), the loss of substance, both phonetic and semantic, is hardly likely to be a conscious act of creation, and therefore not agentive.

So in the case of lexical innovation and change, novelty – whether that be a new process, new instances of a process or simple neologism – may be conscious and may be subconscious, but more crucially for the discussion below, subconscious changes may affect items that have been created consciously. How does this relate to musical creativity? Let us begin by thinking about Western art music.² An interesting question that arises in the case of musical creativity is where the locus of creation lies, and whether there is indeed one locus. Imagine you are attending a live performance of Beethoven's fifth symphony: to what extent are you witnessing a creative act at that event? If we accept that musical creativity (at least in terms of Western art music is concerned) may be understood as the "activity bounded by the artefact of the musical work and by the persona of the composer" (Impett 2009, 403), then the composition of that piece by Beethoven at the very beginning of the nineteenth century was a creative act. Yet it is clearly the case that no two performances of the piece are the same; each performance involves a creation of an abstract schema that is represented by the score, and must therefore be considered novel. The question is whether we really want to equate novelty with creativity.

3 Creativity and agency in language and music

² Impett (2009, 403) writes: "Taking Western masterworks as our sole evidence might be equivalent to understanding architecture only on the basis of the pyramids; objects of wonder but perhaps eccentric to any general case of human behaviour". One might say the same about drawing linguistic examples from the English literary canon: we recognise the creativity involved, but we equally recognise the atypical discourse context and text type, given ordinary human interaction.

In order to explore the link between novelty and creativity further, I make a distinction between conventional creativity and non-conventional creativity. In some ways this connects with the distinction between F- and E-creativity made by Sampson (2016), as discussed by Hoffmann (this volume). In language, conventional creativity captures the uniqueness of every linguistic act – the existing conventions of the language are used, but their combination is unique to the particular context in which the communicative act takes place. Non-conventional creativity captures innovations which can lead to language change – the language user produces or perceives an utterance which does not conform to the conventions of the speech community, via some alteration to form, meaning, or the symbolic relation between the two. The situation in music is rather more complex. As in language, different musical varieties have different conventions (thirty-two bar form is different from sonata form, for instance), but it is clearly possible to be creative within the conventions of a particular form: both Mozart’s twenty-fifth and his fortieth symphony are written in G minor, and the first movement of each is written in sonata form, yet both are clearly unique creative compositions. Mahler’s third symphony in D minor is also arguably written in sonata form, but much less conventionally so, to the extent that one might consider it to be so extreme an ‘outlier’ that it does not sit comfortably within the category. With non-conventional creativity in music, the situation is again complex. Fundamental restructuring of musical architecture clearly counts as non-conventional creativity, as was the case in the shift from tonal to atonal organization in early twentieth century western art music. Less clear cut are cases like the opening chord in Beethoven’s first symphony, where the presence of a *Bb* in a “C major” chord begins a sequence of perfect cadences in the introduction, a harmonic progression which only clearly resolves into the tonic key at the beginning of the exposition. While the rest of the movement in canonical sonata form, the rather atypical opening does appear to be an instance of non-conventional creativity.

As noted in footnote 1, it is dangerous to theorise about music simply on the basis of its manifestation in the western art tradition. If that is the case, we might then look instead at comparing creativity in everyday linguistic interaction on the one hand, and musical improvisation on the other. The problem here is that the issues that arise in a discussion of conscious creativity do not disappear. Speakers still create new processes as well as new instances of processes as part of everyday interaction: most language change is not a result of conscious decision-making on the part of speakers and hearers. But this does not mean

that the language users are not being creative. Conversely, the 'freedom' sometimes wrongly associated with improvised music belies the frequent adherence to structural schemas for different genres.

We might therefore make a further distinction between agentive creativity and non-agentive creativity. Agentive creativity involves a conscious attempt on the part of the individual to be novel, expressive and noticeable. In language, this has sometimes been said to lead to language change,³ and on one level this is clearly the case, as we saw in the discussion of lexical creativity above. More murky is the issue of how conscious we are when we invite particular inferences in interaction, whereby the acceptance of such inferences may lead to both semantic and syntactic change, in processes of grammaticalization (Traugott and Dasher 2002). In music, agentive creativity is clear in the case of the composer, less clear in the case of the performer and least clear in the case of the audience. Consider again the example of a contemporary performance of Beethoven's fifth symphony alluded to in section 2. Here we have a situation in which there is a performance of a piece of music by a group of people that excludes the composer. For every member of that orchestra, it is obviously true that no two performances of Beethoven's fifth are identical, and therefore each performance is a new creation of some sort of blueprint created by Beethoven. Similarly, for the audience, each exposure to the music involves exposure to something that has been newly created for that performance or recording. There are clear parallels with language: each time a hearer hears an utterance, they are experiencing something novel, because the utterance is bound to a particular context. In usage-based frameworks each token of use has the capacity to shape structure (thus an utterance may serve to entrench constructional representations of various kinds). The next section explores how principles of usage-based linguistics may also explain patterns of creativity in music.

4 Cognitive activity: categorization and schematization

Zbikowski (2006, 116) argues that "musical understanding involves cognitive processes that occupy the *conceptual* level, which I take to be a level of cognitive activity at least potentially accessible to conscious thought." This raises the important question of what

³ See Haspelmath (1999) on extravagance and grammaticalization.

might be meant by musical understanding. I take it that understanding is a synonym of knowledge, so let us consider in that regard what a baby knows about lullabies. Specifically, to what extent does a child have to have 'musical understanding' for a particular cognitive process to be invoked at the conceptual level when experiencing a lullaby? Presumably the child has some sort of cognitive response to it, without necessarily 'understanding' anything by it, in terms of its musical structure. Rather, the child responds to an auditory event associated with a particular context and type of interaction (e.g. with the parent or guardian) in a particular context and location (in a cot at night). Yet this is the beginning of a situation in which certain 'types' of music come to be categorized by the child, and a more general schema of 'lullaby' is created (even if it is not labelled as such) as a consequence of exposure over usage events. In this section, I briefly consider musical categorization and schematization in more detail, relating them where possible to what we know about linguistic categories and schemas.

4.1 Categorization

Zbikowski (2006, 117) develops his argument regarding musical understanding as follows, suggesting two particular issues of relevance: "the comprehension of a series of temporally successive events, and the ability to draw connections between such events on the basis of shared features." This is clearly related to a usage-based perspective on developing a knowledge of language: the speech signal involves a sequence of events which we understand as connected, and as having a set of shared properties. It is also relatable to language change, in which there is a situation where the signal involves a parsable formal sequence, but where that sequence may be associated with a novel meaning. Reanalysis essentially involves a speaker/hearer 'chopping up' the signal in a novel way, which may give rise to new linguistic constructions, as form-meaning pairings.

Zbikowski (2006) also talks about chunks, and patterns of repetition in music. This is manifest in the case of musical motifs, as in the reuse of the 'fate' motif from the first movement of Tchaikovsky's fourth symphony in the final movement of that piece: there is an aesthetic effect of having something from the opening of the work being repeated unexpectedly in the final part of the symphony. Zbikowski's analysis associates musical chunks with cognitive basic level categories. This can be illustrated by the chunk-like motifs in the first movement of Brahms' second symphony: for instance, the D-C#-D sequence in

bar 1 in the cellos is essentially a formula of the entire symphony (repeated, for example, albeit with a different rhythm, by the violins at the opening of the final movement). In Zbikowski's words, "[a]ttending to these chunks, we are occupied not with individual notes or with four- or eight-measure phrases, but with a level somewhere in between" (Zbikowski 2006, 119). If we see chunks as basic-level musical categories, we can think of other chunks in a piece of music whose structure is similar in certain ways and different in others, and which help to structure the work as a whole. So, for example, in the first movement of the Brahms symphony discussed above, the exposition continues (after the cello notes in bar 1) with a three note arpeggiated sequence from the horns (bars 2-3) and then a three note ascending scale in the woodwind (bar 6). These other two sequences are easily and frequently found elsewhere in the symphony – thus we have three three-note sequences which form the 'basic level' categories of the symphonic arrangement. This ties in with the second observation Zbikowski makes, about drawing connections. The connections are that there are three note sequences, all of which are canonical in western art music of the time: a sequence involving an alternation of the smallest unit (the semitone), a sequence involving the tonic chord triad, and a sequence involving three notes of a scale.

4.2 Schematization

To illustrate the way in which schematization is relevant for an understanding of parallels between linguistic and musical structures, I begin with a discussion of the structure of sonata form, and relate this to issues of E- and F-creativity (Hoffmann, this volume). In their discussion of sonata form as a significant structuring device in western art music in the classical and romantic periods, Hepokoski and Darcy (2006, 15-6; original emphasis) make interesting observations that suggest that it is essentially constituted of the kind of chunks discussed in §4.1: "in the hands of most composers, constructing a sonata-form movement was a task of *modular assembly*: the forging of a succession of short, section-specific musical units (spaces of action) linked together into an ongoing linear chain—pressing down and connecting one appropriately stylized musical tile after another." But this modular assembly has to involve schemas of various kinds, generalisations across particular instances which give the musical structure its recognizable shape.

Furthermore, sonata form structure involves various sub-schemas, each with their distinctive properties. For instance, some instances of sonata form are referred to as having

a monothematic exposition, in which the second theme is essentially a revised version of the first theme, rather than a totally different structure: an example of this is the finale of Haydn's string quartet in C major, opus 74/1. In many other cases, by contrast, the second theme does not resemble the first at all (as in the first movement of Mozart's forty-first symphony, K551, 'Jupiter'). Such organization is paralleled in constructional (and other cognitive) approaches to language, in which generalisations such as the Ditransitive Construction are underspecified in both form and meaning, while less schematic instances (such as the deny-transfer subschema) sanction a fewer range of verbs and have a more restricted/semantically specified meaning.

This also connects with the issue of productivity – highly schematic structures (such as sonata form or 32 bar form) have the power to generate a great number of instances of that type. Creativity of this kind may be within the domain of F-creativity (many mid-twentieth century rock songs follow a 32 bar form structure, for example), though E-creativity is also possible; however, instances which are E-creative may lead to a weakening of the productive power of the original schema as an alternative version may develop (e.g. the verse-chorus structure of many rock songs of the late twentieth and contemporary periods, which became more productive than 32 bar form).

5 Conclusion

The discussion here has simply scratched the surface of a somewhat under-researched topic of functional musical grammar (as noted in the introduction, much of the work on the relationship between language and music has taken an approach more closely allied with formal linguistics e.g. Jackendoff and Lerdahl 1995, Rohrmeier 2011]). Many interesting issues have not been addressed at all. For instance, one avenue for future study concerns the extent to which musical schemas might be seen as constraints on well-formed musical structures, and E-creativity might be seen as constraint violation, which may in time become conventional as the musical grammar changes. Given what has been considered, nevertheless, the following issues have emerged as central to the notion of creativity parallels between music and language:

1. The nature of the relationship between E- and F-creativity in music, and how this parallels sanction and extension in linguistic schemas.

2. The extent to which E-creativity involves non-conventional creativity which, once more widely adopted as a model, becomes conventional and more productive (i.e. becomes F-creative), in the way in which many innovations in language become conventionalised as part of a grammatical system and increase in productivity.

3. The mental representation of musical chunks and their role in musical creativity, along with parallels in linguistic chunking. As (for example) Taylor (2002) has observed, the diversity of linguistic chunking is vast, ranging from proverbs (e.g. *too many cooks spoil the broth*) and quotations (e.g. *all's well that ends well*) through to fixed and schematic idioms (e.g. *that's torn it* and [Nth *cousin*, X times *removed*], respectively). Some of these patterns allow formal variation (e.g. *not the {brightest bulb in the pack/sharpest knife in the drawer/quickest bunny in the forest}*, all of which mean 'not intelligent'). Similarly in music, some material from one composer is quoted directly by another (e.g. Rouget De Lisle's tune which became the French national anthem quoted by Tchaikovsky in his *1812 Overture*), or repurposed (e.g. the opening of Beethoven's fifth symphony as a motif for victory). Musical chunking may also occur at a more schematic level (for example, the I-V-vi-IV chord progression found in many pop songs, from The Beatles' *Let It Be* to Men at Work's *Down Under*).⁴

One brief caveat in relation to F- and E-creativity seems to be necessary. There is risk in focusing on F-creativity because that notion of creativity (at least as far as language is concerned) may become so broad that it is redundant. Essentially, F-creativity may logically be associated with all aspects of production and perception, both in terms of music and language. While this may well be true, perhaps it is just too broad to be useful for understanding the nature of change in music and language. Part of the problem might be the idea that we typically see musical and literary 'creations' as being the consequence of genuine endeavour – that an artist has struggled to create a piece of work. But linguists would consider it absurd to think that the language of a novel in the English canon is

⁴ Indeed the order I-V-vi-IV is only one of many variants of the four chords: other variants like vi-IV-I-V are also popular (found in Luis Fonsi's *Despacito*, Bon Jovi's *It's My Life* and Lady Gaga's *Poker Face*, among others).

especially 'typical' of language; in the same way, a Beethoven string quartet is not 'typical' music. Thinking more naturalistically, linguists are often interested more in what speakers do in ordinary day-to-day interactions; the musical parallel is probably something like whistling as you walk down the street (although this is not something that is communal and interactive in the way that language typically is). While Western art music provides us with a rich source of data to track change over time, it is nonetheless important to underline once more its atypicality in relation to musical traditions in other cultures.

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