Analyzing Timbre and Texture in a Multi-Genre Popular Music Corpus

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We would prefer to share our results in a presentation. Thank you for your consideration!

Timbre and texture are important and perceptually salient stylistic and structural parameters in popular music, yet their functional roles in this repertoire have not been systematically theorized. We report analysis of a new popular-music corpus, Timbre in Popular Song (TiPS), which comprises 400 songs from the 1990s, including 100 songs each from four diverse genres: country, pop, heavy metal, and hip-hop. Song selection in TiPS balances genre typicality with considerations of artist demographic diversity and chronological representation (Shea et al., 2024). For each formal section of a song, we encoded 14 variables related to instrumentation, texture, and vocals (Figure 1).

Analysis combines exploratory and confirmatory techniques. Descriptive analysis of the corpus identifies normative practices and interactions of timbre, texture, and form, comparing tendencies across genres. For example, we observe that clean guitars and bright synths are the most common harmonic instruments in pop music, contrasting with a predominance of distorted guitar timbres in metal. Furthermore, we test a set of hypotheses derived from a broad literature review of popular-music scholarship, many of which had not previously been tested formally. The analyses offer empirical support for common textural conceptions of structure, such as the relative thickness of choruses as compared to verses (Summach, 2011; Doll, 2011; Nobile, 2022), textural build-up of introductions (Spicer, 2004), and timbrally- and texturally-marked sectional boundaries (White, 2021).

Previous popular music corpora have been encoded primarily with respect to form and pitch (e.g., Burgoyne et al. 2011, De Clercq & Temperley 2011); TiPS is the first multi-genre corpus to encode timbral and textural information, laying the foundation for theorizing these parameters in popular musics. Work for the next stages of the project—an augmentation of the corpus both by genre and decade—is ongoing and will allow us to observe changes in musical practices over time.

Figure 1: Timbre and texture variables encoded in the TiPS corpus

Category	**Name**	**Definition**	**Format**
Form	Formal Unit	Formal module type	Categorical-S
	Timestamp	Time at beginning of formal unit	Time (min:sec)
	Timbral Marker	Whether a salient timbral event begins unit	Binary
	Change in Timbral Profile	Whether there is a salient change in overall timbre from previous unit	Binary
Instrumentation	Explicit Beat Layer	Instruments articulating pattern of beats	Categorical-M
	Functional Bass Layer	Instruments playing lowest pitched layer	Categorical-M
	Harmonic Fill Layer	Instruments filling the registral space between bass and melody	Categorical-M
	Melodic Layer	Instruments carrying a melody	Categorical-M
	Novelty Layer	Instruments that provide coloristic effects	Categorical-M
Texture	Texture Category	Describes general texture type	Categorical-S
	Variation	Describes how timbre and/or texture changes within a formal unit	Categorical-S
	Texture Rating	General textural density	Integer
Voice	Number of Voices	Number of distinct voices singing melodically	Integer
	Vocal Production	Most prominent vocal qualities of the lead vocalist(s)	Categorical-M
	Speak/Sing	Mode of delivery by lead vocalist(s)	Categorical-M
	Backup Vocals	Textural function of the background vocals	Categorical-M

S = single variable selection; M = multiple possible selections

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