

Phonological Strategies in Eminem's Songs: Assimilation and Elision Analysis

Deflorino Yolis¹ | Ni Putu Cahyani Putri Utami¹

¹Universitas Mahasaraswati Denpasar

Correspondence should be addressed to: Deflorino Yolis; deflorinoyolis@gmail.com

Abstract. This study investigates the phonological strategies of assimilation and elision in Eminem's rap performance, focusing on two songs: Not Alike and Lucky You. While elision and assimilation are common in casual or fast speech, their usage in rap is often strategic, supporting rapid articulation, rhythmic precision, and stylistic expressiveness. The research applies a qualitative descriptive method, using close auditory analysis and phonetic transcription to identify patterns of connected speech. The theoretical framework draws on Generative Phonology (Chomsky & Halle, 1968) and Connected Speech Phenomena (Roach, 2009), which are particularly relevant for understanding systematic sound variation in dynamic, performance-based contexts like rap. The analysis reveals frequent occurrences of /ŋ/-elision in -ing words (e.g., thinkin', runnin') and the omission of /t/, /d/, and /ð/ in clusters, particularly in Not Alike, highlighting syllabic efficiency and metrical tightness. Assimilation, slightly more dominant in Lucky You, mainly occurs as nasal place assimilation and palatalization, enabling smoother transitions and faster delivery aligned with the beat. These findings demonstrate intentional usage of phonological simplification to enhance musical fluency and rhythmic control. This study illustrates how rap integrates linguistic and musical performance, offering insights into how classical phonological rules are creatively manipulated through rule ordering and surface variation. Beyond theoretical relevance, the findings have practical implications for pronunciation teaching, prosodic awareness, and performance linguistics. Future research could explore cross-artist comparisons or listener perception of such reduced forms in real-time processing.

Keywords: assimilation; elision; eminem; linguistics; phonology

Introduction

In spoken English, especially during fast-paced or informal speech, the pronunciation of words often undergoes noticeable changes. These changes follow systematic phonological patterns rather than happening randomly (Roach, 2009). Phonology, as a branch of linguistics, focuses on the systematic organization and function of sounds in language. It explains how speech is

produced, perceived, and naturally adjusted in real time. These adjustments simplify articulation by converting underlying forms into more manageable sound sequences during speech production (Chomsky & Halle, 1968).

Two important phonological processes found in connected speech are assimilation, where a sound becomes more similar to a neighboring sound, and elision, where a sound is omitted entirely (Oladipupo, 2014). These processes allow speakers to maintain fluency, simplify articulation, and adjust pronunciation based on rhythm, stress, and speed. Assimilation and elision are essential strategies in fast or casual speech, helping speakers transition smoothly between sounds and reduce

articulatory effort, especially in unstressed syllables (Umera-Okeke & Ezenwa-Ohaeto, 2010).

In musical contexts, particularly rap, these phonological strategies take on both a practical and stylistic role (Hendar & Satria, 2017). Rap artists often perform complex lyrics with dense syllables and strict rhythmic constraints. To stay on beat and deliver clearly, they rely on phonological simplifications like assimilation and elision. These modifications help preserve the musical structure of the lyrics, enhance expressiveness, and reduce the articulatory burden of delivering rapid lines.

A clear example of this is found in the work of Marshall Bruce Mathers III, known professionally as Eminem. He is widely acknowledged for his fast, rhythmically complex delivery and intricate rhyme structures (Hendar & Satria, 2017). In the song *Godzilla*, for instance, he delivers over 220 words in just 31 seconds an impressive feat that shows how phonological strategies support high-speed articulation. Performing at this speed with clarity and precision requires the active use of sound reduction strategies. Through assimilation and elision, Eminem simplifies the transitions between syllables while maintaining fluency and stylistic consistency. This makes his delivery not only artistically impressive but also a compelling subject for phonological analysis. Moreover, such rapid articulation may engage similar cognitive mechanisms found in skilled musicians, whose perception and production of timing-sensitive sounds are notably refined (Gordon et al., 2015).

The theoretical lens of this study draws on Chomsky & Halle (1968) generative phonology, which outlines rule-based sound changes in speech production, particularly how underlying representations shift in rapid contexts. It also refers to Roach (2009) concepts of connected speech, which highlight processes like assimilation and elision as natural adaptations in fluent, real-time communication. Together, these frameworks guide the analysis of how Eminem's rapid lyrical delivery reflects systematic, yet creative, phonological simplification.

Research on speech simplification in performance settings has addressed related areas. Muzaki (2023) examined how non-native English speakers on YouTube modified their speech under time pressure. The study revealed consistent patterns of substitution, omission, and assimilation, indicating that these phonological processes are often employed strategically rather than mistakenly. In a classroom context, Husnu et al. (2024) demonstrated that project-based speaking tasks improved students' pronunciation and fluency. The study showed that real-time speaking activities prompted natural use of connected speech features, including elision and assimilation. Similarly, Bi et al. (2022), in their systematic review, found that many ESL/EFL learners struggle with understanding and producing connected speech features such as assimilation, elision, and linking. The review emphasized that a lack of exposure to natural spoken forms in classroom instruction results in lower intelligibility and reduced fluency. The authors advocate for explicit instruction and listening practice with authentic materials to help learners recognize and reproduce these features effectively, particularly in fast-paced, real-time speech. A broader phonological view is provided by Pratidina & Subiyanto (2024), who analyzed English pronunciation by Korean celebrities on reality television. Their study identified the systematic use of phonological processes such as gliding, assimilation, and epenthesis during unscripted, performance-driven speech. Though these speakers come from a different linguistic background, the adjustments they make under pressure are strikingly similar to those observed in high-speed musical performance.

Despite the growing body of research on phonological simplification in second-language and public performance contexts, few studies have explored how these processes are intentionally used in musical performance, particularly in rap, where fluency, speed, and stylistic timing are tightly interwoven. This is particularly relevant since many adult language learners continue to speak with

a detectable accent due to mismatches between their first and second language phonological systems. However, musical input especially through songs has been shown to support phonetic awareness and improve pronunciation (Ashtiani, 2015).

In rap music, phonological choices such as dropping consonants or altering syllable timing are not accidental but stylistic devices used to fit meter and rhythm, reflecting a deliberate manipulation of sound (Coscarello, 2003). Much of the existing literature focuses on simplification as a byproduct of error or instructional context, rather than as a creative decision by artists. As a result, there is a lack of analysis addressing how phonological processes like assimilation and elision function as deliberate artistic tools in lyrical performance. Eminem's work provides a unique opportunity to examine this phenomenon, offering insight into how phonological theory applies to creative expression, not just conversational or classroom speech.

Methods

This study employed a qualitative descriptive approach to analyze how assimilation and elision were realized in selected Eminem songs. The aim was to describe and interpret the phonological processes and their function within the context of musical performance, particularly in high-speed rap delivery. This approach was appropriate for exploring natural speech phenomena in artistic settings, where rapid articulation often leads to phonological simplification. Qualitative descriptive research is ideal for capturing and summarizing complex linguistic behavior in everyday terms, especially when the focus is on clear description instead of deep theory building (Colorafi & Evans, 2016).

As is common in qualitative research, the researcher also served as the primary instrument of analysis, relying on close listening, transcription, and interpretive judgment. The analysis was conducted manually and interpretatively, without the use of phonetic software such as Praat or ELAN. This "researcher-as-instrument" model is firmly grounded in qualitative research methodology, where the analyst's sensory perception and interpretive presence are acknowledged as integral to data collection and meaning-making (Pezalla et al., 2012).

The steps of data analysis were conducted as follows:

1. Two Eminem songs were selected based on their rapid delivery and phonological density. These songs were closely examined to identify phonological features related to connected speech.
2. Official lyrics were sourced from Genius.com and cross-checked against the audio for transcription accuracy.
3. Relevant lyric segments that demonstrated phonological changes were transcribed using the International Phonetic Alphabet (IPA) to capture actual pronunciation.
4. Instances of assimilation and elision were identified and categorized according to (Roach, 2009) classification of connected speech phenomena, including progressive, regressive, and reciprocal assimilation.
5. Roach's (2009) framework was applied to classify the types of assimilation and elision as connected speech phenomena, including progressive, regressive, and reciprocal assimilation. Meanwhile, Chomsky & Halle's (1968) generative phonology theory was used to analyze the systemic nature of these sound changes through formal phonological rules based on distinctive features. Together, these theories provided both descriptive and analytical foundations for interpreting phonological processes in musical performance.

Result and Discussion

This section presents a detailed analysis of the phonological processes found in Eminem's verses in *Not Alike* and *Lucky You*. The analysis focuses specifically on two common features of spoken English: elision (the omission of a sound) and assimilation (a sound change influenced by adjacent sounds). These processes are naturally found in everyday conversation but are more frequent and intensified in fast-paced, rhythm-driven rap. Eminem's delivery demonstrates a deliberate use of these processes to maintain speed, fluency, rhyme tightness, and rhythmic precision. Such systematic sound modifications are predicted by generative phonology, which frames elision and assimilation as context-sensitive, rule-governed changes applied during speech production (Chomsky & Halle, 1968).

The data were extracted from complete lyric lines to ensure contextual integrity of phonological phenomena. In several cases, elided or assimilated forms appear directly in the written lyrics (e.g., *thinkin'*, *runnin'*, *nothin'*), while in others, the phonological changes are apparent only in Eminem's spoken delivery. These instances were identified through detailed auditory analysis and phonetic transcription, then compared with generative phonological rule patterns based on (Chomsky & Halle, 1968). Each occurrence is examined with reference to the applicable phonological rule to illustrate systematic sound simplification, organized by song for clarity.

The following table summarizes the frequency of elision and assimilation found in Eminem's verses in both songs. This table helps visualize the distribution of the two phonological processes and suggests which process is more prominent across his performance in the selected tracks.

Table 1. Frequency of Elision and Assimilation

Track	Elision	Assimilation	Total
Not Alike	9	4	13
Lucky You	8	4	12
Total	17	8	25

The table shows a balanced use of elision and assimilation across both songs. *Not Alike* features slightly more elision, particularly /*ŋ*/ deletions, suggesting greater emphasis on timing. *Lucky You* contains more assimilation patterns, indicating a stylistic preference for coarticulatory fluidity. These distributions highlight variation in Eminem's delivery across different tracks, likely influenced by tempo and beat structure. Similarly, Rappers may shift the natural stress of words so that syllables align with strong beats in the music, adjusting their flow to match the rhythmic structure of the beat (Ford et al., 2014). Such variation mirrors patterns observed in natural spoken English, where native speakers tend to simplify their speech to enhance fluency and reduce articulatory effort. These adjustments often involve assimilation making sounds more similar to those around them or elision, in which unstressed segments are reduced or deleted entirely (Febriyanti, 2015).

To systematically explore how assimilation and elision operate in Eminem's lyrical performance, the analysis is presented in two comprehensive tables. Table 1 displays instances of elision found in *Not Alike* and *Lucky You*, while Table 2 presents patterns of assimilation from the same songs. Each table organizes the data into lyric segments, surface forms, and the corresponding phonological rules. Tables are useful for structuring and managing qualitative data, making it easier to compare information, identify patterns, and present results clearly and persuasively (Cloutier & Ravasi, 2021). By separating the data according to process type and song, the analysis reveals distinct phonological tendencies that reflect Eminem's adaptive use of connected speech phenomena in response to musical and expressive demands.

Elision in Not Alike and Lucky You

Elision refers to the omission of a sound, typically for ease of articulation in fast or casual speech. In Eminem's lyrics, it primarily involves the deletion of /ŋ/ in -ing endings, and /t/, /d/, or /ð/ in consonant clusters or word-final positions.

The table below presents examples of elision found in Eminem's lyrics, focusing on the omission of consonants in specific phonological environments. These include reductions in -ing forms and deletions in consonant clusters. Each example highlights how sound simplification is used to streamline articulation and maintain rhythmic precision, particularly under the rapid delivery demands of rap performance.

Table 2. Elision

Lyric segment	Surface form	Phonological rules
"thuggin" (Not Alike)	['θʌɡɪn]	/ŋ/ → Ø / _#
"soakin" (Not Alike)	['səʊkɪn]	/ŋ/ → Ø / _#
"somethin" (Not Alike)	['sʌmθɪn]	/ŋ/ → Ø / _#
"fuckin" (Not Alike)	['mʌðəfʌkɪn]	/ŋ/ → Ø / _#
"nothin" (Lucky You)	['nʌθɪn]	/ŋ/ → Ø / _#
"thinkin" (Lucky You)	['θɪŋkɪn]	/ŋ/ → Ø / _#
"takin" (Lucky You)	['teɪkɪn]	/ŋ/ → Ø / _#
"makin" (Lucky You)	['meɪkɪn]	/ŋ/ → Ø / _#
"eatin" (Lucky You)	['i:tɪn]	/ŋ/ → Ø / _#
"rappin" (Lucky You)	['ræpɪn]	/ŋ/ → Ø / _#
"somethin" (Not Alike)	['sʌmθɪn]	/ŋ/ → Ø / _#
"just in" (Not Alike)	[dʒəs ɪn]	/t/ → Ø / s_
"but this" (Not Alike)	[bʌ ðɪs]	/t/ → Ø / _#
"cocked semi" (Not Alike)	[kɒk səmi]	/t/ → Ø / _C
"but not us" (Not Alike)	[bʌ nɒt ʌs]	/t/ → Ø / _V
"need three" (Lucky You)	[ni θri:]	/d/ → Ø / _[+fricative]
"mumble 'em" (Lucky You)	[əm]	/ð/ → Ø / _ə

Elision refers to the omission of a sound, typically for ease of articulation in fast or casual speech. In Eminem's lyrics, it most frequently occurs in word-final positions, particularly through the reduction of /ŋ/ to [n] in -ing forms and the deletion of /t/, /d/, and /ð/ in consonant clusters. Words such as thuggin', soakin', and somethin' show systematic reduction from /ŋ/ to [n], a pattern characteristic of informal spoken English and further intensified in rap to support syllable economy.

Elision also affects word-final /t/ or /d/, as seen in transitions like just in → [dʒəs ɪn] and but this → [bʌ ðɪs], where segments are dropped to preserve rhythmic timing and reduce articulatory load. These reductions are not arbitrary; they serve deliberate stylistic functions within the musical structure, helping the artist maintain meter, support fluency, and project an informal yet rhythmically sharp delivery style.

Comparable reductions have been documented in spoken English studies. Muzaki (2023) for instance, found that foreign speakers on YouTube frequently elided /t/, /d/, and /ð/ in spontaneous speech, especially when speaking quickly or in clusters indicating that speech economy often outweighs full articulation. While the speakers in Muzaki's study exhibited unintentional errors due to second-language influence, Eminem's reductions appear controlled and rhythmically calculated. (Wijaya & Pratama, 2024) also noted frequent elision of consonants among Indonesian students, especially in function words, mirroring Eminem's reduction of final segments like /ŋ/ or /t/ to maintain rhythmic flow. Thus, while the context differs, the motivation ease of delivery is shared.

Assimilation in *Not Alike* and *Lucky You*

Assimilation refers to the modification of a sound due to the influence of a neighboring segment, commonly observed in fluent and connected speech. In Eminem's lyrics, assimilation occurs as a deliberate strategy to ensure fluid transitions between rapidly delivered syllables. The most prevalent patterns involve nasal place assimilation, where the alveolar nasal /n/ changes to [ŋ] before velar consonants or to [m] before bilabials and labiodentals. This can be seen in lyrics such as "and clowns" [æŋ klaʊnz], "and ability" [æm ə'bɪlɪti], and "don't fly" [doʊm flaɪ]. This process is commonly used in English to make articulation smoother in rapid, connected speech, as nasal consonants naturally adjust to match the place of articulation of the following sound (Coleman et al., 2016). Such changes, like /n/ becoming [m] or [ŋ], tend to occur automatically in fluent speech and are often unnoticed by native speakers (Coleman et al., 2016). These modifications reduce articulatory shifts and enhance the continuity of sound across word boundaries.

Another notable assimilation pattern in Eminem's delivery is palatalization, where an alveolar plosive like /d/ followed by a glide /j/ merges into the affricate [dʒ], as in "and you" [ændʒu]. This process supports smoother phonetic transitions and contributes to the compactness of delivery without sacrificing clarity.

The following table showcases instances of assimilation identified in Eminem's performance. These include nasal place assimilation and palatalization, where adjacent sounds influence one another to ease pronunciation. Such adjustments help ensure fluid transitions between syllables, contributing to a smooth, cohesive flow within complex rhythmic structures.

Table 3. Assimilation

Lyric segment	Surface form	Phonological rules
"and gats" (Not Alike)	[æŋ gæts]	/n/ → [ŋ] /_ [+velar]
"don't fly" (Not Alike)	[doʊm flaɪ]	/n/ → [m] / _ [+labiodental]
"and Motrin" (Not Alike)	[æm 'moʊtrɪn]	/n/ → [m] / _ [+bilabial]
"and actually" (Lucky You)	[æŋ 'ækʃuəli]	/n/ → [ŋ] / _ [+velar]
"and clowns" (Lucky You)	[æŋ klaʊnz]	/n/ → [ŋ] / _ [+velar]
"don't give"	[doʊŋ grɪv]	/n/ → [ŋ] / _

(Lucky You)	[+velar]
"and you" (Not Alike)	/d/+ /j/ → [ʒ] (palatalization)
[ænzʊ]	

Assimilation in Eminem's rap performance predominantly appears in regressive forms, where a sound changes to become more like a following sound. A frequent pattern involves alveolar nasals (/n/) adapting their place of articulation: shifting to [m] before bilabials, as in "and Motrin" → [æm 'moutrɪn], or to [ŋ] before velars, as in and clowns → [æŋ klaʊnz]. Another example includes palatalization, where /d/ followed by /j/ merges into [ʒ], as in "and you" → [ænzʊ]. These patterns facilitate smoother transitions between phonemes in high-speed delivery and maintain prosodic cohesion across bars. This aligns with broader speech research showing that listeners and even speech recognition systems expect such changes in fast, connected speech, confirming assimilation as a systematic strategy for fluency (Pouw et al., 2024). Rather than being indicators of careless articulation, these assimilatory changes illustrate Eminem's mastery in adapting spoken forms to complex rhythmic and melodic structures in rap. They contribute to intelligibility, aesthetic sharpness, and flow precision while reflecting traits common in African American Vernacular English (AAVE) and performance-driven variation. This affirms that intentional sound reduction, while often perceived as deviation from standard norms, is functionally and artistically motivated (Rafi, 2024).

Similarly, Wijaya & Pratama (2024) found that EFL students frequently assimilated final /n/ into [m] or [ŋ] before bilabials or velars, especially in connected speech. However, unlike these classroom learners, Eminem employs assimilation not as a result of limited proficiency, but as a deliberate stylistic and rhythmic tool. This key difference highlights the shift from natural phonological simplification to artistic exploitation of sound structure.

Despite both *Not Alike* and *Lucky You* containing comparable numbers of elision and assimilation instances, their phonological profiles reflect distinct rhythmic strategies. *Not Alike* leans heavily on elision, favoring sharp, clipped articulation that mirrors its aggressive tone and punchy beat. In contrast, *Lucky You* emphasizes assimilation, suggesting a smoother, legato flow that matches its more introspective and rapid-fire sections. These differences reveal how phonological strategies are not only linguistic but musically motivated. *Not Alike* featured more consistent elision of final consonants, especially in /ŋ/ reductions (e.g., thuggin', somethin'), indicating a stronger emphasis on timing economy and syllabic fit. Conversely, *Lucky You* displayed a higher number of assimilation cases, particularly involving nasal place changes like /n/ → [ŋ] or [m], suggesting a focus on coarticulation and smoother transitions between rapid syllables. This stylistic variation may reflect differences in beat tempo and lyrical density between the two tracks.

The data reveal that Eminem employs both elision and assimilation extensively across the two songs. Elision, particularly the reduction of /ŋ/ to [n] in -ing forms and the deletion of /t/, /d/, and /ð/ in clusters, is more dominant in *Not Alike*, supporting rhythmic precision and syllabic efficiency. Assimilation, especially nasal place assimilation and palatalization, is slightly more prominent in *Lucky You*, facilitating smoother articulatory transitions. These phonological patterns are not only stylistic but also reflect broader tendencies in spoken English, where consonant simplification and sound blending frequently occur in rapid or casual speech (Roach, 2009). These phonological processes reflect deliberate stylistic choices that enhance fluency, maintain rhythmic flow. Additionally, features like consonant cluster reduction and connected-speech assimilation are characteristic of African American Vernacular English (AAVE), which often informs the phonetic choices in hip hop performance (Mufwene, 2001)

These findings demonstrate that phonological processes in rap are not random reductions but structured adaptations shaped by performance, rhythm, and sociolinguistic identity. Elision and assimilation serve to maintain intelligibility while maximizing fluency and stylistic impact. Eminem's strategic use of these patterns reflects a rule-governed, context-sensitive application of language that affirms rap as a linguistically innovative register.

Conclusion

This study has explored the occurrence of assimilation and elision in the rap lyrics of Eminem, focusing on two of his songs: *Not Alike* and *Lucky You*. The findings demonstrate that these phonological processes are not merely incidental byproducts of fast speech but are stylistic and strategic tools that reflect deliberate planning, rhythmic control, and rehearsal in the performance process. This suggests that such phonological variations in rap are not spontaneous, but often the result of structured lyrical composition and prosodic alignment, aligning with principles from performance linguistics and prosodic phonology.

Elision is primarily used to reduce articulation load by omitting segments such as final /ŋ/, as seen in forms like *thuggin'*, *thinkin'*, and *rappin'*. Additionally, /t/ and /d/ are frequently dropped in clusters or at word boundaries, particularly in consonant-heavy transitions. Assimilation, on the other hand, appears predominantly in regressive form, where nasals shift place of articulation depending on the following sound for example, /n/ becoming [ŋ] before velars or [m] before bilabials. Palatalization is also employed when /d/ precedes a glide /j/, as in *and you got juice* [ændʒu ɡɒt dʒus], reflecting an intentional morphophonemic adaptation to suit performance fluency.

From a theoretical perspective, these processes align with the sound change rules outlined by Chomsky and Halle (1968) and Roach (2009), but their execution in rap shows a level of control and intentionality that goes beyond casual speech. Eminem's phonological mastery exemplifies how conventional sound rules are innovatively manipulated to suit the rhythmic and performative demands of rap delivery. This involves mechanisms such as surface variation, rule ordering, and the creative use of reduction strategies under performance pressure.

By applying linguistic analysis to a performative context, this research contributes to a deeper understanding of how phonological theory operates in stylized, high-speed verbal art forms. The study reinforces that rap is not only a cultural and artistic practice but also a linguistically rich medium where formal phonological processes are innovatively realized. Future studies may explore how these processes vary across different rap artists, genres, or dialectal backgrounds, or how listeners perceive and process these reduced forms in real-time listening contexts.

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