Linguistik, Terjemahan, Sastra (LINGTERSA)

Journal homepage: https://talenta.usu.ac.id/lingtersa

Metathesis as Word Formation Process in Indonesian

Putu Wahyu Widiatmika[*1], Ni Komang Ayu Wulandari[2], Ida Bagus Made Ari Segara[3], Nissa Puspitaning Adni[4]

[1,2,3,4]*Udayana University, Denpasar, 80114, Indonesia*
*Corresponding Author: wahyu_widiatmika@unud.ac.id

ARTICLE INFO	ABSTRACT
	Metathesis has long been regarded as a phonological process characterized by the rearrangement of sound segments within a word. However, recent linguistic trends in Indonesian suggest that metathesis has undergone a functional shift. Rather than occurring unintentionally in speech, Indonesian metathesis is deliberately produced and visually represented in written form, which creates new lexical items with stable orthographic patterns. This study aims to examine metathesis as a productive word-formation process in contemporary Indonesian. Employing a descriptive qualitative approach, this research utilizes a written corpus collected from X, selected through purposive sampling based on posts that contain metathesized forms in meaningful sentence contexts. Thirty metathesized lexical items were identified and classified into three types: full reversal, partial reversal, and syllabic reversal. The findings show that these forms follow recognizable phonotactic regularities rather than random alterations. Crucially, morphological testing reveals that metathesized words demonstrate both derivational and inflectional productivity. The ability of metathesized forms to serve as morphological bases confirms their status as autonomous lexical units within the mental lexicon of speakers. This study concludes that metathesis constitutes a legitimate and increasingly productive process of word formation in Indonesian. **Keyword:** metathesis, morphology, phonology, word formation

ABSTRAK

Metatesis sejak lama dipandang sebagai proses fonologis yang ditandai oleh penataan ulang segmen bunyi dalam suatu kata. Namun, perkembangan linguistik terbaru dalam bahasa Indonesia menunjukkan bahwa metatesis telah mengalami pergeseran fungsi. Alih-alih terjadi secara tidak sengaja dalam tuturan, metatesis dalam bahasa Indonesia kini diproduksi secara sengaja dan direpresentasikan secara visual dalam bentuk tulisan, sehingga membentuk leksem baru dengan pola ortografis yang stabil. Penelitian ini bertujuan untuk mengkaji metatesis sebagai proses pembentukan kata yang produktif dalam bahasa Indonesia kontemporer. Dengan menggunakan pendekatan deskriptif kualitatif, penelitian ini memanfaatkan korpus tulisan yang dikumpulkan dari X, dipilih melalui teknik purposive sampling berdasarkan unggahan yang memuat bentuk-bentuk metatesis dalam konteks kalimat yang bermakna. Sebanyak tiga puluh leksem hasil metatesis berhasil diidentifikasi dan diklasifikasikan menjadi tiga jenis: pembalikan penuh, pembalikan sebagian, dan pembalikan silabis. Temuan penelitian menunjukkan bahwa bentuk-bentuk tersebut mengikuti kaidah fonotaktik yang dapat dikenali, bukan perubahan acak. Secara penting, pengujian morfologis mengungkapkan bahwa kata-kata metatesis menunjukkan produktivitas derivatif maupun inflektif. Kemampuan bentuk-bentuk metatesis untuk menjadi dasar proses morfologis mengonfirmasi statusnya sebagai unit leksikal otonom dalam leksikon mental penutur. Penelitian ini menyimpulkan bahwa metatesis merupakan proses pembentukan kata yang sah dan semakin produktif dalam bahasa Indonesia.
Kata kunci: *metatesis, morfologi, fonologi, pembentukan kata*

1. Introduction

The advancement of communication technologies, particularly social media, has exerted a profound influence on the dynamics of language. Within the domain of Computer-Mediated Communication (Bekar & Christiansen, 2018), language functions not merely as a static instrument of exchange, but as a dynamic arena for the emergence of a newly-developed variety of language (Crystal, 2001). One of the most conspicuous outcomes of digital interaction is the surge in lexical productivity, which is reflected in the rapid creation and incorporation of new vocabulary items. This phenomenon is consistent with Bauer's (1988) assertion that language is intrinsically productive, insofar as human beings possess the creative capacity to continually generate novel lexical forms in response to the demands of emerging conceptual needs.

In linguistic studies, word formation is generally examined within the domain of morphology, whether through derivational or inflectional processes. However, there is also a distinctive trend in Indonesia regarding word formation, which is characterized by the adoption of a sound-change mechanism commonly referred to as metathesis. Theoretically, metathesis is defined as the transposition or rearrangement of the position of sound segments, or phonemes, within a word (Butskhrikidze & van de Weijer, 2003; Stockwell & Minkova, 2009). Strazny (2005) notes that such changes typically involve more than a single segment and may occur between consonants, between vowels, or through a combination of both.

Although metathesis is a phonological process commonly attested across languages (Benu, Susilawati, Wahyuni, & Sudarmanto, 2023; Dewi, 2016; Kujur & Dash, 2025), there are fundamental differences in how it manifests. In English, metathesis typically occurs unintentionally during pronunciation, or a slip of the tongue (Hume, 2001), or as a dialectal variation, without altering the standardized orthographic form of the word (Mohammed, 2025). In contrast, the metathesis phenomenon that has been developing in Indonesian, particularly among speakers in social media platform, is deliberate in nature and results in a transformed orthographic, or written, representation of the word. For instance, the word *pusing* 'dizzy' is intentionally altered and written as *ngisup*. This deliberate modification of the word's physical written form indicates that metathesis in the Indonesian context has shifted from being merely a phonological phenomenon to functioning as a word-formation technique within the morphological domain.

The social media platform X has become a primary incubator for this phenomenon. The platform's affordance that enables users to post freely in text-based posts allows large-scale linguistic experimentation to occur. X users actively create metathetical variations as a form of linguistic creativity, which subsequently circulate and are adopted by other user communities. Nevertheless, despite the popularity of this phenomenon, scholarship that specifically examines the transition of metathesis from a phonological process to a morphological one in social-media data remains underdeveloped and warrants further investigation.

Early works that discussed Indonesian metathesis were mainly based on phonological frameworkFebryanti & Suparwa (2025) analyzed Indonesia metathesis in colloquial language from the perspective of phoneme position alternation, which resulted in the claim that no phonological rule can be seen in the metathesized words. Dewi (2016) attempted to produce a pattern of Indonesian metathesis to predict metathesis word based on the consonant and vowel structure of a word. Diani & Azwandi (2021) tested metathesis in the form of oral production. Nuraini (2010) also showed that metathesis occurs without changing the written form. Based on these works, metathesis in morphological level is not yet discussed; therefore, this study presents a fresh contribution regarding the intersection of metathesis and morphological process.

Regarding metathesis as a word formation process, there is a proof in Indonesian that a metathesized word is accepted as a lexical item and now is in the official dictionary of Indonesian. For instance, the Portuguese word *armario* 'cupboard' is adopted as Indonesian *almari* 'cupboard' and later the word becomes *lemari* 'cupboard'. Now, modern Indonesians acknowledges *lemari* and it is a standard word. Therefore, there is a possibility that the metathesized words in this study can be standardized.

Research on metathesis as a word-formation process has become increasingly crucial in the era of data-driven linguistics. To date, in both traditional corpus-linguistics studies and Natural Language Processing, metathesized forms such as *sabi* 'be able to', *kuy* 'let's go', or *ngab* 'brother' can be categorized as noise or Out-of-Vocabulary (Salsabila, Winatmoko, Septiandri, & Jamal, 2018), unmeaningful words, because they are not found in standard dictionaries. However, within social-media corpora, these forms display high token frequencies and carry specific semantic loads. If metathesis is treated merely as a phonological error or misspelling, corpus-based analyses of sentiment or linguistic trends become inaccurate due to the large volume of discarded data. Therefore, metathesis must be formally recognized as a legitimate technique of word formation.

Based on the foregoing background, this study aims to fill the gap by elucidating the importance of categorizing metathesis as a word-formation process. The arguments presented in this study are derived from theoretical observations, the identification of metathesized words in Indonesian usage, and morphological testing of their grammatical acceptance. These three aspects provide a comprehensive reasoning for why metathesis plays a vital role in the productivity of modern Indonesian.

2. Method
This study employed a descriptive qualitative approach. The primary data for this study comprises a written corpus sourced from the social media platform X (previously known as Twitter). The selection of X is based on its characteristic as a highly dynamic, text-based social networking service (Wulandari, Beratha, & Rajeg, 2022). The freedom of expression afforded by the platform facilitates high linguistic productivity, where users actively create neologisms driven by their creativity. This aligns with Bauer's (1988) perspective, which states that morphological productivity is driven by the speakers' need to coin new words for constantly evolving concepts.

Data collection was conducted using the observation method, specifically through non-participant observation, where the researcher observed the use of written language on X without engaging in the interaction. This was followed by the note-taking technique to highlight the metathesized words. Data collection was conducted through a meticulous reading of the X timeline and trending topics to identify indications of metathesis usage. Data were selected using a purposive sampling technique based on specific criteria: (1) the posts used the Indonesian language, (2) the posts contained words indicating metathesis, excluding typographical errors, and (3) the posts provided clear sentence context. Relevant data were recorded and classified based on their formation patterns.

The classified data were analyzed qualitatively. The first step of analyzing the data was identifying the base form and the metathesized form of the discovered words. Next was analyzing the patterns of sound change and word structure utilizing the theory of metathesis proposed by Strazny (2005). Afterwards, the data were correlated to the phenomenon presented by Yule (2020) about word formation to validate metathesis status as a morphological process.

3. Result and Discussion
Based on the research questions outlined above, this section presents an analysis of the use of metathesis as a word-formation technique in Indonesian, along with a classification of metathesis derived from the observed data. This study also provides an account of the transition of metathesis from a phonological process to a component of the morphological system of the Indonesian language.

3.1 Metathesis as Morphological Process

Traditionally, metathesis has been situated exclusively within the domain of phonology. Chomsky and Halle (1968: 361) define metathesis as a general phonological process involving the transposition of sound segments in the speech stream. Within this perspective, metathesis is often regarded as a performance variation or a "slip of the tongue." A frequently cited example is the pronunciation of the English word ask /ˈɑːsk/, which is often articulated as /ˈɑːks/. In a similar vein, Strazny (2005) emphasizes that such rearrangement of segments frequently triggered by articulatory convenience or momentary error, as in the case of irrelevant /ɪˈrel.ə.vənt/ being produced as irrevelant /ɪˈrev.ə.lənt/ due to phonological interference from the word revelation.

In these phonological cases, the reordering of phonemes is ephemeral and generally does not alter the orthographic representation of the word. A speaker who pronounces /ˈɑːks/ would still write the word as <ask>. Thus, the lexical identity of the word does not undergo permanent modification.

However, data observed in the Indonesian linguistic context, particularly on the social media platform Twitter, reveal a fundamentally different phenomenon. The phonological rearrangement that occurs is neither oral nor unintentional; rather, it is written and deliberate. This indicates a shift beyond the limits of phonology into the realm of morphology. O'Grady & De Guzman (2016) define morphology as the branch of linguistics concerned with the internal structure of words and the rules governing their formation. The central argument of this study is that when the transposition of sounds consistently alters the written form of a word and is recognized by a speech community as a new lexical entity, the process must be understood as morphological.

Empirical evidence supports this claim. The Indonesian word *ribut* 'to argue' undergoes complete transposition to become *tubir*. Unlike the ask/aks case, *tubir* is not merely pronounced differently but is consistently written as <tubir> across the corpus. This stable orthographic transformation indicates that speakers no longer process the form as a mere phonological variant but as a new lexical item.

This process aligns with theories of morphological creativity. Bauer (1988) argues that linguistic productivity is driven by humans' creative ability to generate novel forms to fulfill specific social functions. In this regard, metathesis in Indonesian can be compared with hypocorism in English. Yule (2020) explains hypocorism as a morphological shortening process often followed by affixation as in breakfast to brekky or sandwich to sammie.

This analogy is crucial for validating metathesis as morphology. Just as English speakers consciously transform breakfast into brekky to convey familiarity or intimacy, Indonesian speakers alter *bisa* into *sabi* or *ribut* into *tubir* for a similar pragmatic effect. Both involve deliberate manipulation of word form. Katamba (1993) and Fromkin, Rodman, & Hyams (2003) emphasize that morphological productivity applies to free morphemes. Since metathesized forms function as free morphemes with independent meaning and clear syntactic distribution in sentences, metathesis in this context is legitimately categorized as a word-formation process rather than a mere phonological phenomenon.

3.2 Indonesian Metathesis

Based on the analysis of the X corpus, 30 lexical items exhibiting productive metathesis were identified. These data demonstrate structural variation that is not entirely random, but instead follows specific phonotactic principles shared within the Indonesian speakers. Metathesis in Indonesian can be classified into three major categories: (1) full reversal, (2) partial reversal, and (3) syllabic reversal. The distribution of the data and the patterns of formation are presented in Table 1.

Table 1. Data of Indonesian Metathesis Words

No.	Base Form	Metathesized Form	English Translation
1.	*Pacaran*	*Naracap*	Dating
2.	*Tolol*	*Lolot*	Dumb
3.	*Selow*	*Woles*	Chill
4.	*Ribut*	*Tubir*	Argue
5.	*Polisi*	*Isilop*	Police
6.	*Asik*	*Saik*	Cool
7.	*Bebas*	*Sabeb*	Free
8.	*Enak*	*Kane*	Delicious
9.	*Yuk*	*Kuy*	Let's go
10.	*Bisa*	*Sabi*	Be able to
11.	*Gue*	*Eug*	I
12.	*Bego*	*Ogeb*	Stupid
13.	*Bang*	*Ngab*	Brother
14.	*Pecah*	*Hacep*	Epic
15.	*Suami*	*Misua*	Husband
16.	*Lucu*	*Ucul*	Funny
17.	*Sikat*	*Takis*	Do it
18.	*Gila*	*Alig*	Crazy
19.	*Bro*	*Bor*	Brother
20.	*Mabok*	*Kobam*	Drunk
21.	*Putus*	*Sutup*	Break up
22.	*Semangat*	*Mangatse*	Keep the spirit
23.	*Pusing*	*Ngisup*	Dizzy
24.	*Boleh*	*Lehbo*	Allowed
25.	*Bodoh*	*Hodob*	Stupid
26.	*Panik*	*Kinap*	Panic
27.	*Riweh*	*Hewir*	Overwhelmed
28.	*Ribet*	*Tebir*	Complicated
29.	*Pacar*	*Racap*	Partner
30.	*Model*	*Ledom*	Model

3.2.1 Full Reversal
Full metathesis represents the most extreme pattern of transposition, in which the order of sound segments is completely reversed from final to initial position. This pattern dominates the data and shows structural similarity to *Boso Walikan*, the well-known reversed-speech register of Malang (Setyanto, 2016).

> Data 1: *Naracap* (from *pacaran* 'dating')
> "*Isi lagunya itu lagu2 pas dlu lg **naracap** wkwkw...*"

Morphologically, *naracap* retains its verbal word class. Interestingly, although the phonotactic structure is fully reordered, the CV-CV pattern remains intact, allowing the word to sound natural to Indonesian speakers. In the context above, *naracap* functions as a marker of nostalgia and intimacy while slightly obscuring a personal topic.

Data 2: *Kuy* (from *yuk* 'let's go')
"*Antusias kamu keren parah kak, **kuy** ceki-ceki terus...*"

Kuy represents monosyllabic metathesis, from *yuk* to *kuy*. This transformation is notable because it moves the glide /y/ from initial position to final position. In generative phonology, this shifts /y/ from an onset to a coda, while remaining articulatorily accessible. The term has undergone functional expansion, which becomes an effective marketing tool due to its energetic and persuasive tone.

Data 3: *Ngab* (from *bang* 'brother')
"*…tinggal confess aja **ngab***"

Ngab shows metathesis in an address term. The shift from <*bang*> /baŋ/ to <*ngab*> /ŋab/ moves the nasal /ŋ/, normally restricted to coda position, to onset position. Although Indonesian phonotactics only seldom permit /ŋ/ in word-initial position, unless words with informal active prefix *-ng*, *ngab* has become highly popular. This indicates that in digital environments, standard phonotactic constraints may be overridden for social-identity purposes.

3.2.2 Partial Reversal
This type involves the transposition of only certain segments while others remain in their original position.

Data 4: *Saik* (from *asik* 'cool')
"*...info spot2 abandoned yg **saik** dong*"

The word *saik* derives from *asik* through the transposition of only two letters. The letters <*a*> and <*s*> in <*asik*> switch their positions, resulting in <*saik*>, while the segment <*ik*> remain unchanged. The form <*asik*> itself is a nonstandard variant of *asyik* as listed in the Indonesian official dictionary. Despite the metathetic alternation, the word retains the same meaning, namely to express a pleasant or enjoyable condition.

Data 5: *Bor* (from *bro* 'brother')
"*Ya elo harusnya ngotak lah **bor**, udah tau bapakmu kek gitu, udah kau liatny*
mamakmu perasaannya gimana digituin bapakmu, kok mau pula lah kau ikutin
jejaknya? Gak beres kali kau ah!"

The word *bor* is a form of address directed toward males. This address originates from the word *bro*, which itself is a clipped form of *brother* in English. The term *bor* is used among young people in both casual and close social relationships. This lexical item undergoes partial metathesis because only a subset of its letters change position, specifically, the letters *r* and *o* are transposed, while the initial consonant remains in its original position. Despite the formal modification of the written form, the social function and referential meaning of the word remain unchanged.

Data 6: *Ngisup* (from *pusing* 'dizzy')
"*...mau pake totebag **ngisup** eug yang super keren*"
The word *ngisup* is the result of a partial metathesis process derived from the word *pusing* 'dizzy'. In this form, the consonant /ŋ/ <ng> retain their original sequential order, while the remaining letters undergo rearrangement. The word continues to function as an adjective. In the dataset, *ngisup* appears in combination with *eug*, which is a full metathesis of *gue*, the colloquial form of *aku* 'I/me'. The expression *ngisup eug* therefore conveys the meaning *pusing gue* 'I am dizzy'.

3.2.2 Syllabic Reversal
This pattern involves exchanging the position of syllables without modifying the phoneme order within each syllable. This type is the most phonotactically stable, as it does not disrupt the internal structure of the syllables.

Data 7: *Sabi* (from *bisa* 'be able to')
"*...kalo bicara tentang gimana caranya bisa asik,* **sabi** *lah*"

Sabi results from reversing the syllables <bi> and <sa>. The original CV-CV structure remains CV-CV, making it highly acceptable across speech communities.

Data 8: *Misua* (from *suami* 'husband')
"*...langsung minta maaf ke* **misua**..."

Misua is notable because the source contains a diphthong or vowel sequence /su-a-mi/. The segmentation into <mi> and <sua> shows that speakers cognitively treat /sua/ as a single prosodic unit. The word undergoes not just phonological restructuring but semantic shift as wel, where *misua* becomes a playful term. This word must be interpreted contextually to avoid misinterpretation. The form *misua* also refers to a type of noodle product; however, in the dataset above, *misua* means 'husband' as the surrounding context pertains to family matters.

Data 9: *Mangatse* (from *semangat* 'keep up the spirit')
"**Mangatse** *everybody, meski kenyataan rasane kyk jamu brotowali*"

The word *mangatse* is a metathetic form derived from *semangat* 'keep up the spirit'. The base word *semangat* consists of three syllables, namely <se>, <ma>, and <ngat>. In the metathesized form, the first syllable *se* shifts from initial to final position, while the other syllables remain in their original order. This word functions as a noun and is commonly used as an expression of encouragement or motivation not to give up.

3.3 Morphological Testing of Indonesian Metathesis
One of the principal indicators that a linguistic form has been accepted as an autonomous word in the mental lexicon of speakers is its ability to undergo further morphological processes. Bauer (1988) asserts that morphological productivity constitutes evidence of the vitality of a lexicon. To demonstrate the lexical status of the metathetic forms examined in this study, two major morphological processes were tested, which are derivation and inflection.

3.3.1 Derivational Productivity
Derivation is defined as a word-formation process that yields a new lexeme, often accompanied by a change in word class or a substantial shift in meaning (Beratha, 2022; Katamba, 1993). For example, the base *nyanyi* 'to sing' receives the prefix *ber-* and becomes *bernyanyi*. If a metathesized word can serve as a base for affixation, this indicates that the word functions autonomously. Derivation may or may not result in a change of word class. This study identified two metathesized forms that subsequently undergo derivational processes, namely *keuculan* and *bertubir*.

The form *keuculan* 'adorableness' originates from the adjective *lucu* 'funny', which first undergoes metathesis and becomes *ucul*, an adjective. The adjective *ucul* then undergoes derivation through the addition of the circumfix *ke-...-an*, resulting in the nominal form *keuculan* (N). This can be observed in the post *"See u soon sakuragi genggggg. Bakalan kangen* **keuculan** *yaechan sm kirishimaaaa dan butuh season 2"*. In this context, *keuculan* functions as a noun. Rather than using *kelucuan*, speakers prefer *keuculan* to emphasize the distinctive playful or comical nuance associated with the referent.

Meanwhile, the form *bertubir* 'arguing' originates from the verb *ribut* 'argue which undergoes metathesis and becomes *tubir*. The form *tubir* then undergoes derivation through the addition of the prefix *ber-*, resulting in the verbal form *bertubir*, which is still a verb. This use can be observed in the post *"Sendernya ngajak* **bertubir***"*.

These two data demonstrate that metathesized forms do not merely function as phonological variation or playful slang, but also exhibit morphological productivity. This is evidenced by the presence of metathesized forms that serve as bases for further derivation through the addition of prefixes and suffixes.

3.3.2 Inflectional Productivity

Inflection is a morphological process that does not create a new lexeme and does not change the word class(O'Grady & De Guzman, 2016). This study identifies metathesized forms that undergo inflection. One of the most common inflectional strategies in Indonesian is reduplication (Widiatmika, Segara, Saskara, Beratha, & Latupeirissa, 2024). Reduplication is the process of repeating a word to mark plurality in nouns. The metathesized forms that undergo reduplication in this study are *isilop-isilop* and *misua-misua*.

The form *isilop-isilop* originates from the noun *polisi* 'police officer', which undergoes metathesis and becomes *isilop*, a noun. The form *isilop* is then pluralized through reduplication without any change in word class, resulting in *isilop-isilop*. This can be found in the post *"…melayani masyarakat dgn tulus tp di samaratakan dgn **isilop-isilop** yg kebanyakan…"*.

The form *misua-misua* is a reduplicated noun derived from *suami* 'husband', which undergoes metathesis to become *misua*, a noun. The form does not undergo a change in word class during metathesis, and the same applies during reduplication. The noun *misua* is reduplicated to become *misua-misua*, a noun. An example appears in the post *"Hari ini sibuk bgt, padahal kangen nonton **misua-misua** ganteng penyemangat hariku"*.

Overall, the data demonstrate that metathesized forms in Indonesian are able to participate in inflectional morphology in the same way as non-metathesized lexical items. This reflects their integration into the mental lexicon of speakers rather than functioning merely as playful phonological alternations. The findings above confirm the hypothesis that metathesis in Indonesian goes beyond mere sound play. The presence of both derivational forms and inflectional forms provides strong linguistic evidence that metathesized words possess lexical integrity. These forms are capable of occupying complex syntactic functions and conform to Indonesian morphological rules in the same way that standard lexical items do.

4. Conclusion

Based on 30 lexical items revealing three systematic metathesis patterns, this study argues that metathesis in Indonesian is not a mere phonological accident but a deliberate and productive morphological word-formation process governed by identifiable phonotactic rules. Morphological testing further confirms that metathesized forms carry full lexical status. Their capacity to undergo derivation and inflection proves their integration into the Indonesian mental lexicon. Consequently, metathesis deserves recognition as a legitimate mechanism in contemporary Indonesian, a classification with practical stakes for corpus linguistics and Natural Language Processing, where these forms must be treated as valid lexical tokens rather than discarded as noise.

Conflict of Interest

The authors declared there is no conflict of interest

References

Bauer, L. (1988). *Introducing Linguistic Morphology*. Edinburgh: Edinburgh University Press.

Bekar, M., & Christiansen, M. S. (2018). Computer-Mediated Communication (CMC). In *The TESOL Encyclopedia of English Language Teaching* (pp. 1–6). Wiley. doi:10.1002/9781118784235.eelt0816

Benu, N. N., Susilawati, D., Wahyuni, T., & Sudarmanto, B. A. (2023). Metatesis dalam Bahasa Dawan. *Linguistik Indonesia*, *41*(2), 207–222. doi:10.26499/li.v41i2.456

Beratha, N. L. S. (2022). Morfologi Infleksional dan Derivasional pada Bahasa Bali Standar. *Lingtersa (Linguistik, Terjemahan, Sastra)*, *3*(1), 1–11.

Butskhrikidze, M., & van de Weijer, J. (2003). On the Formal Description of Metathesis. *Lingua*, *113*(8), 765–778. doi:10.1016/S0024-3841(02)00129-8

Crystal, D. (2001). *Language and the Internet*. Cambridge: Cambridge University Press.

Dewi, N. C. (2016). The Phonological Processes of Metathesis Words in Indonesian Slang Language Used by Jabotabek Teenagers. *LANTERN (Journal on English Language, Culture and Literature)*, *5*(4).

Diani, I., & Azwandi, A. (2021). Phonological Change Processes of English and Indonesian. *JOALL (Journal of Applied Linguistics and Literature)*, *6*(1), 133–148. doi:10.33369/joall.v6i1.13642

Febryanti, L. P. M., & Suparwa, I. N. (2025). *Metatesis dalam Bahasa Gaul Bahasa Indonesia*. In *Prosiding Seminar Nasional Bahasa Ibu (SNBI) XVII* (pp. 944–951). Denpasar: Universitas Udayana.

Fromkin, V., Rodman, R., & Hyams, N. (2003). *An Introduction to Language* (7th ed.). Boston: Thomson/Heinle.

Hume, E. (2001). Metathesis: Formal and Functional Considerations. In E. Hume, N. Smith, & J. Van de Weijer (Eds.), *Surface Syllable Structure and Segment Sequencing* (pp. 1–25). Leiden: HIL Occasional Papers.

Katamba, F. (1993). *Morphology*. London: The Macmillan Press Ltd.

Kujur, A. K., & Dash, B. (2025). Peculiarities of Metathesis in Kunha Language. *JURNAL ARBITRER*, *12*(2), 114–124. doi:10.25077/ar.12.2.114-124.2025

Mohammed, I. O. (2025). The Process of Metathesis in English and Kurdish: A Phonological Study. □□□□ *(Lark Journal)*, *17*(1), 270–245. doi:10.31185/lark.4074

Nuraini, C. (2010). Lexicon and word formation in Indonesian Bajo. *Wacana, Journal of the Humanities of Indonesia*, *12*(2), 322. doi:10.17510/wjhi.v12i2.120

O'Grady, W., & De Guzman, V. P. (2016). Morphology: The Analysis of Word Structure. In W. O'Grady & J. Archibald (Eds.), *Contemporary Linguistic Analysis: An Introduction* (8th ed., pp. 100–138). Toronto: Pearson.

Salsabila, N. A., Winatmoko, Y. A., Septiandri, A. A., & Jamal, A. (2018). *Colloquial Indonesian Lexicon*. In *2018 International Conference on Asian Language Processing (IALP)* (pp. 226–229). IEEE. doi:10.1109/IALP.2018.8629151

Setyanto, A. (2016). OSOB NGALAMAN (BAHASA SLANG ASAL MALANG) SEBAGAI SALAH SATU I-CON MALANG (Studi Struktur Osob Ngalaman, dalam Sosial Network). *Jurnal Pariwisata Pesona*, *1*(1). doi:10.26905/jpp.v1i1.375

Stockwell, R., & Minkova, D. (2009). *English Words History and Structure*. Cambridge: Cambridge University Press.

Strazny, P. (2005). *Encyclopedia of Linguistics*. New York: Fitzroy Dearborn.

Widiatmika, P. W., Segara, I. B. M. A., Saskara, I. G. S. H., Beratha, N. L. S., & Latupeirissa, D. S. (2024). Neologism in English Financial and Investment Terms. *The International Journal of Language and Cultural*, *6*(1), 23–35.

Wulandari, N. K. A., Beratha, N. L. S., & Rajeg, I. M. (2022). Compound and Blending Words found on Twitter Related to Covid-19: a Morphological Study. *International Journal of English and Studies (IJOES)*, *4*(4), 269–279.

Yule, G. (2020). *The Study of Language* (7th ed.). Cambridge: Cambridge University Press.