

The Study of Phonological Transformations in *Kupang Malay*: A Descriptive Analysis of Fortition

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KEYWORDS	ABSTRACT
Sound change, Fortition, Kupang Malay, Phonological transformation	The Kupang Malay dialect, spoken in Kupang City, Indonesia, is a regional variant of the broader Malay language family. This study aims to provide a descriptive analysis of the fortition, a phonological process that shapes the auditory perception of Kupang Malay. Fortition, as one of the key phonological processes in Kupang Malay, involves strengthening sounds, such as the transformation of close mid-front unrounded vowels to open-front unrounded vowels. This study employs a qualitative descriptive methodology, relying on observations and interviews to understand the underlying mechanisms driving these sound changes. The findings reveal a range of fortition-driven sound changes in Kupang Malay, including the transformation of [i] to [e], [e] to [a], and [u] to [o] and vowel substitution/shift of [ə] to [a] and [ə] to [u]. These shifts are characterized by the dominance of the switch from close mid-front unrounded vowels to open-front unrounded vowels.
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INTRODUCTION

Phonology is a branch of linguistics that investigates the systematic use of speech sounds to form words (Katamba, 1996). In other words, phonology is the scientific study of sounds. Therefore, phonology is one of the main scientific studies in linguistics, alongside morphology, semantics, and syntax.

In phonology, there is a rule known as a phonological rule, which deals with sound changes in a syllable of a word caused by the preceding or following phoneme (Hayes, 2009). There are numerous examples of phonological rules around us. Thus, phonological rules are bound to society and become integral to our lives. Several types of phonological rules include assimilation, dissimilation, deletion, and more. This study will focus on a phonological rule called fortition, the opposite of lenition.

According to Katamba (1996:102), these two concepts are not independent of each other; they are merely two poles of the same gradient, similar to the relativity of strength and weakness in everyday life. Lenition is a sound change that alters consonants, making them more sonorous. It is a decrease in articulatory constriction or a movement toward zero (Blust, 2013). In other words, lenition means that sounds (vowels and consonants) become weaker, changing from a high tone to a low tone. It usually occurs when a sound is influenced by another sound, with consonant sounds commonly weakening due to vowel sounds.

On the other hand, fortition, commonly known as 'strengthening,' is the opposite of lenition. Fortition is any phonological process in which some segment becomes 'stronger' (more consonant-like) (Trask, 1996, p.149). If lenition weakens a sound, fortition does the opposite. Fortition means sounds (vowels and consonants) become more sonorous, changing from a low tone to a high tone.

Generally, lenition and fortition exist in consonant sounds, and vowel sounds influence these processes. An interesting observation is that lenition and fortition processes not only exist in consonant sounds but can also occur in vowel sounds. Each region has its language characteristics, and lenition and fortition forms exist in almost every region with unique characteristics depending on the language to which they belong. In this study, the writer chooses the Kupang region (province Nusa Tenggara Timur, Indonesia) where Kupang Malay is spoken.

The Malay language is crucial in Southeast Asia, with approximately 40 million native speakers and over 200 million second-language speakers. It is the national language of Indonesia (known as Bahasa Indonesia), Malaysia, Brunei, and Singapore (Paauw, 2008, p.3). The Malay language is the primary language used by people in South Asia in their daily lives, becoming one of the basic elements ingrained in Indonesian society, especially in the Kupang community.

Kupang language is a Malay-based creole spoken by as many as 200,000 native speakers in and around the city of Kupang, West Timor, with potentially up to an additional 100,000 speakers (Grimes and Jacob, 2003). Kupang Malay, as the main language in Kupang, plays an important role in Kupang society, with many words absorbed from Dutch and Portuguese. For example, "sonde" comes from "zonder," meaning "no," and "balek" comes from "blik," meaning "a can."

The implementation of fortition can be easily observed among Kupang Malay speakers. For example, the word "ketong" is usually changed to "kotong" in Kupang Malay, which means "we," and the word "belom" is changed to "bolom" in Kupang Malay, which means "Not yet." From the explanations and phenomena above, the writer seeks to answer the following questions: 1. What are the fortitions found in the Kupang Malay variety? 2. How are the processes of fortition in the Kupang Malay variety?

REVIEW OF LITERATURE

Phonology is a branch of linguistics that studies the systematic use of speech sounds to form words and utterances (Katamba, 1996). It is a core scientific study in linguistics, alongside morphology, semantics, and syntax. Phonology focuses on the relations among speech sounds in specific languages and general languages, while phonetics provides objective descriptions and analysis of human sound production. Phonology, on the other hand, focuses on the function and organization of sounds in a specific language. Phonology focuses on speech sound production and sound change, which is a historical linguistic term describing changes in a language's system over time (Crystal, 2008: 442). Both processes involve sound changes within words or word boundaries. There are several types of sound changes:

1. **Coalescence.** Coalescence or fusion is a phonological process where two different speech stimuli's phonemes combine to create a longer, more complex percept. **In short,** Fusion is one of the phonological processes which combine two sounds to become a new one (Cutting, 1975). For example:

Table 1. Coalescence or fusion in Kupang Malay

Indonesian	Kupang Malay	English
/Pantai/	/pante/	'beach'
/Kalau/	/kalol/	'if'
/Nilai/	/nile/	'score'
/Walau/	/walol/	'although'
/Silau/	/silol/	'dazzed'

2. **Metathesis.** It is an exchange in the positions of two segments in a word, either as a historical change or as a synchronic rule (Trask : 1996, p.222). They may simply switch places with another consonant or be transposed to a different position. For example:

Table 2. Metathesis in Uab Meto

Uab Meto	Metathesis	English
/Usi/	/uis/	'God'
/Fatu/	/faut/	'Stone'
/Nitu/	/niut/	'Ghost'
/Fanu/	/faun/	'Shirt'
/Manu/	/maun/	'Chicken'

3. **Assimilation.** It is a phonological process in which a segment changes to resemble its neighbors more closely, Frawley (2003). In other words, a sound influences other sounds to become more alike or identical. For example:

Table 3. Assimilation in English

English	Pronunciation
Scooped	/skupt/
Backed	/bækt/
Left	/lɛft/
Hissed	/hɪst/
Hushed	/hʌft/

4. **Dissimilation.** It is a Process by which one segment systematically avoids taking on a feature (or a set of features) of a neighboring segment (Alderete: 1997). In other words, this phonological process makes two segments less similar to each other. For example:

Table 4. Dissimilation in English

Nouns	Adjectives
Electric	Electrical
Region	Regional
Orbit	Orbital
Angle	Angular
Circle	Circular
Table	Tabular

5. **Deletion.** Deletion or elision is expressed in terms of a segment 'becoming Ø' (zero) (Davenport, 2005). The word deletion is usually used in historical linguistics for a historical sound change, and elision is most frequently used in the linguistic description of living languages. Simply speaking, deletion is a process which erases a sound from a word. For examples:

Table 5. Final consonant deletion in Sabunesse

Indonesian	Sabunesse	English
/ikan/	/ika/	'fish'
/makan/	/maka/	'to eat'
/dalam/	/dala/	'deep'

/kapan/	/kappa/	'when'
/bikin/	/biki/	'to do'

6. **Insertion.** It is the opposite of deletion. If deletion is a process to erase a sound, then insertion is a process to add a sound to a word. According to Natan (2008), not only are they deleted, but sometimes they can be inserted instead.

Table 6. Vowel insertion in Tamil

Word pronunciation in Tamil	Sound 'u' Insertion	English
/u:t/	[u:tu]	'to blow'
/a:l/	[a:l[u]	'to rule'
/tu:n/	[tu:nu]	'pillar'
/ko:r/	[ko:ru]	'to collect'
/ʊe:r/	[ʊe:ru]	'root'
/e:ʊ/	[e:ʊu]	'tos'

7. **Lenition and fortition.** Sonority and strength are two key factors influencing sound change in phonology. Sonority is the overall loudness of a sound relative to others of the same pitch, stress, and duration. The sonority hierarchy is a scale used to determine sounds from the most sonorant to the least sonorant. Sonority is calculated along a scale from voiceless stops to low vowels, influenced by lenition and fortition processes. Both concepts are not independent but are two poles of the same gradient, similar to strength and weakness in everyday life.

- a) **Lenition.** Lenition, commonly called 'weakening' means any phonological change in which a segment becomes less consonant-like than previously (Trask: 2000). In other words, lenition usually occurs when the sound is influenced by other sound (in common the consonant sounds become weak because of vowel sounds). For examples:

Table 7. Lenition of consonants between vowels in Western Romance (Rudder: 2012)

Romance Lenition between vowels in Western Romance					
Consonant	Vulgar Latin	Portuguese	Spanish	French	Italian
P	*Supre/*supra	/sobri/	/soβre/	/syr/	/sopra/
T	*kontatu	/kōtadu/	/kontaðo/	/kōte/	/kontato/
K	*akwa	/agwa/	/aywa/	/o/	/ak:wa/
features:	voiceless stop	voiced stop	voiced fricative	Deleted	(not lenited)

- b) **Fortition.** Fortition is any phonological process in which some segment becomes 'stronger' (more consonant-like) (Trask; 1996, p.149). So, fortition or what we can call strengthening is the opposite of the weakening. For examples:

Table 8. Fortitions in Javanese

Indonesian	pronunciation	Javanese	Pronunciation	English
Alasan	/alasan/	Alesan	/aləsan/	'reason'
Enam	/ənam/	Enem	/ənəm/	'six'
Ingat	/lŋat/	Inget	/ingət/	'remember'

Ajak	/adʒak/	Ejak	/ədʒak/	'invite'
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METHODOLOGY

The writer employed a descriptive qualitative analysis as the research design, aligning with Bogdan and Taylor's definition of qualitative research as an exploration of data through descriptive analysis of written and oral words (Bogdan & Taylor, 1975: 21-22). This design was considered appropriate for the investigation of lenition and fortition processes in Kupang Malay. The preliminary phase involved comprehensive library research, where relevant books and literature on fortition were studied to guide the research.

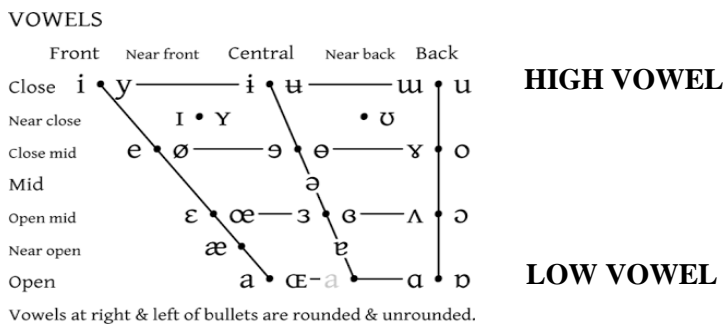
The data for this study were sourced from both oral and written contexts. Written data included excerpts from the Kupang Malay Bible and other literature, providing a foundation for the research. Additionally, oral data were collected through dialogues with two informants, native speakers of Kupang Malay. The elicitation technique was employed, with the writer presenting examples of fortition, followed by specific questions to prompt discussion and examples from the informants.

In the data collection process, the writer utilized a combination of elicitation and interviews, leveraging these techniques to gather comprehensive information from individuals in Kupang City. In the data analysis phase, the writer followed a structured approach: 1. Transcription of oral data from recordings and noting written data obtained earlier. 2. Identification of fortition forms in Kupang Malay. 3. Classification based on types or rules of fortition. 4. Analysis of the identified fortition forms in Kupang Malay. Ultimately, this analytical process led to the formulation of conclusions addressing the research problem.

FINDING AND DISCUSSION

Findings

Based on the sonority scale from Davenport and Hannash, the writer focuses his analysis solely on vowels. The loudness of the vowel is from most sonorant (low vowel) to least sonorant (high vowel). The sound changing from high vowel to low vowel is called fortition and the opposite is lenition which is the sound changing from low vowel to high.



The writer finally identifies 51 data of vowel change and categorizes them into 5 forms based on their sound changes (shown in table 9 below).

Table 9. Vowel Changes Kupang Malay

DATA IN KUPANG MALAY VARIETY				
[i]—[e]	[e]—[a]	[u]—[o]	[ə]—[o]	[ə]—[u]
<i>bikin/bekin</i>	<i>belum/balom</i>	<i>belum/belom</i>	<i>besong/bosong</i>	<i>keliling/kuliling</i>
<i>air/aer</i>	<i>terang/tarang</i>	<i>tahun/tahon</i>	<i>penuh/ponu</i>	<i>mesti/musti</i>
<i>naik/naek</i>	<i>gelap/galap</i>	<i>ikut/ikot</i>	<i>belum/bolom</i>	<i>gemuk/gumuk</i>
<i>lain/laen</i>	<i>senang/sanang</i>	<i>daun/daon</i>	<i>ketong/kotong</i>	<i>katemu/katumu</i>
<i>ambil/ambel</i>	<i>keluar/kaluar</i>	<i>hidup/hidop</i>	<i>betong/botong</i>	
<i>lebih/lebe</i>	<i>kembali/kambali</i>	<i>atur/ator</i>	<i>tegor/togor</i>	
<i>balik/balek</i>	<i>ketumu/katumu</i>	<i>dulu/dolo</i>	<i>sentuh/sontoh</i>	
<i>lai/lae</i>	<i>kepala/kapala</i>	<i>kursi/korsi</i>		
<i>main /maen</i>	<i>keliling/kaliling</i>	<i>tunduk/tondok</i>		
	<i>ketong/katong</i>	<i>tidur/tidor</i>		
	<i>betong/batong</i>	<i>tegur/tegor</i>		
	<i>besong/basong</i>	<i>senduk/sendok</i>		
	<i>mengkali/mangkali</i>	<i>pikul/pikol</i>		
	<i>gerogi/garogi</i>	<i>peluk/pelok</i>		
	<i>tenang/tanang</i>	<i>tiup/tiop</i>		
	<i>sekolah/sakolah</i>			
9 words	16 words	15 words	7 words	4 words

Discussion

Fortition in Kupang Malay represents a linguistic phenomenon that adds a distinctive flavour to the language spoken in the Kupang region. Fortition is a phonological process whereby sounds within words undergo a specific transformation, enhancing the language's phonetic intricacies. In Kupang Malay, this phenomenon manifests in the alteration of vowel sounds, leading to a unique and characteristic pronunciation. This linguistic feature not only enriches the auditory experience of the language but also reflects the cultural identity of the speakers in the Kupang region, providing linguists and language enthusiasts with a fascinating glimpse into the linguistic diversity found in this particular Malay variant. There are three transformations based on the data: Fortition of [i]—[e], Fortition of [e]—[a], and Fortition of [u]—[o].

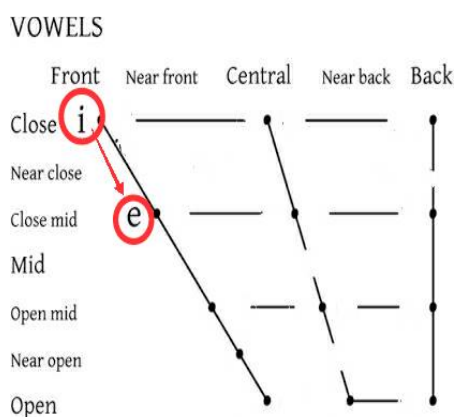
a. Fortition of [i]—[e]

In the context of the fortition of [i] to [e], it typically involves a change in the quality of the vowel sound. In Kupang Malay, the transformation from [i] to [e] indicates a shift towards a slightly more open and centralized articulation. If a word originally had the vowel sound [i], fortition might cause it to evolve into [e]. For example Data 6: **/bikin/** → **/bekin/** which means to make; to do; to create. To see the vowel change through fortition in this word, the elements of this transformation will be broken down into:

1. Original Word: **/bikin/**. The vowel in the original word is represented as [i], which is a close-front unrounded vowel. This means that the tongue is positioned close to the front of the mouth, and the lips are unrounded.
2. Transformed Word: **/bekin/**. The transformed word exhibits the fortition of the vowel, resulting in a change from [i] to [e]. In phonetic terms, this signifies a shift from a close-front unrounded vowel to a close-mid-front unrounded vowel. The [e] vowel is still front (tongue positioned close to the front of the mouth), but it is now slightly more open or less close than the original [i].

The reason behind this fortition could be influenced by factors such as phonetic assimilation to nearby sounds or the desire for a more distinct or sonorous pronunciation. In this case, it seems that the language is favoring a slightly more open and centralized articulation for this particular vowel.

Based on the data, there are 9 words including **/bikin/** → **/bekin/** where the close high front unrounded vowel is regularly changed into the close-mid front unrounded vowel. Those words can be seen below:



Vowels at right & left of bullets are rounded & unrounded.

Datum 1	:	/air/ becomes /aer/: water (n)	Close front unrounded vowel [i] transforms to a close-mid front unrounded vowel [e].
Datum 2	:	/lai/ becomes /lae/: again; more; very (adv)	Close front unrounded vowel [ai] transforms to a close-mid front unrounded vowel [ae].
Datum 3	:	/naik/ becomes /naek/: to rise (v); go up (v)	Close front unrounded vowel [ai] transforms to a close-mid front unrounded vowel [ae].
Datum 4	:	/lain/ becomes /laen/: different (adj); (an)other (...)	Close front unrounded vowel [ai] transforms to a close-mid front unrounded vowel [ae].
Datum 5	:	/main/ becomes /maen/: to play (v)	Close front unrounded vowel [ai] transforms to a close-mid front unrounded vowel [ae].
Datum 6	:	/bikin/ becomes /bekin/: to make (v); to do (v); to create (v)	Close front unrounded vowel [i] transforms to a close-mid front unrounded vowel [e].
Datum 7	:	/ambil/ becomes /ambel/: take	Close front unrounded vowel [i] transforms to a close-mid front unrounded vowel [e].
Datum 8	:	/lebih/ becomes /lebe/: more	Close front unrounded vowel [i] transforms to a close-mid front unrounded vowel [e].
Datum 9	:	/balik/ becomes /balek/: turn back	Close back unrounded vowel [a] transforms to a close-mid back unrounded vowel [e].

From the fortition data **Fortition of [i]—[e]** in Kupang Malay, we can conclude that the common pattern of the data above is the fortition of close front unrounded vowels [i] or [ai] to close-mid front

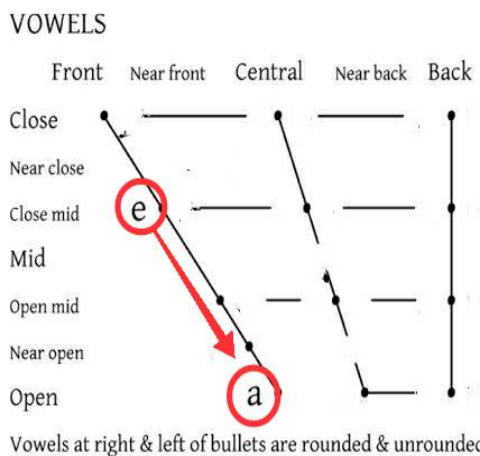
unrounded vowels [e] or [ae]. The shift from close to close-mid suggests a systematic change in the phonological structure, indicating a preference for a slightly more open or centralized articulation in the affected vowels.

b. Fortition of [e] – [a]

The fortition of [e] to [a] typically involves a change in the quality of the vowel sound. The transformation from [e] to [a] indicates a shift towards a more open articulation. If a word originally had the vowel sound [e], fortition might cause it to evolve into [a]. In summary, the fortition of [e] to [a] involves a change from a close-mid front unrounded vowel to an open front unrounded vowel, reflecting a shift towards a more open and centralized articulation of the vowel sound within the word.

Datum 10 **belom/** → **/balom/** for instance. This transformation involves the fortition of the vowel [e] to [a]. To see the vowel change through fortition in this word, the elements of this transformation will be broken down into:

1. Original Word: **/belom/**. The vowel in the original word is represented as [e], which is a close-mid front unrounded vowel. This means that the tongue is positioned between close and open-mid and is towards the front of the mouth.
2. Transformed Word: **/balom/**. The transformed word exhibits the fortition of the vowel, resulting in a change from [e] to [a]. In phonetic terms, this signifies a shift from a close-mid front unrounded vowel to an open-back unrounded vowel. The [a] vowel is open and pronounced with the tongue positioned towards the back of the mouth.



The reason behind this change could be influenced by various linguistic factors, including the desire for a more distinct or sonorous pronunciation, assimilation to nearby sounds, or dialectal variations, however, these reasons need to be examined further.

Based on the data, there are 16 words including **belom/** → **/balom/** where the close-mid unrounded vowel is regularly changed into the open front unrounded vowel. Some of those words can be seen below:

Datum 10	:	/belom/ → /balom/: not yet (adv)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 11	:	/terang/ → /tarang/: light (adj)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 12	:	/gelap/ → /galap/: dark (adj)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 13	:	senang/ → /sanang/: happy (adj)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 14	:	/keluar/ → /kaluar/: out (adv)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 15	:	/kembali/ → /kambali/: come back (v)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].

Datum 16	:	/ketemu/ → /katemu/: to meet (v)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].
Datum 17	:	/kepala/ → /kapala/: head (n)	Close-mid front unrounded vowel [e] transforms to an open back unrounded vowel [a].

By observing these changes, we can draw a conclusion that the common pattern in these data is the fortition of close-mid front unrounded vowels [e] to open-back unrounded vowels [a] where this systematic shift indicates a preference in Kupang Malay for a more open and centralized articulation of the affected vowels. Nevertheless, the process of fortition seems to be consistent across different words, suggesting a regular phonological rule in the language.

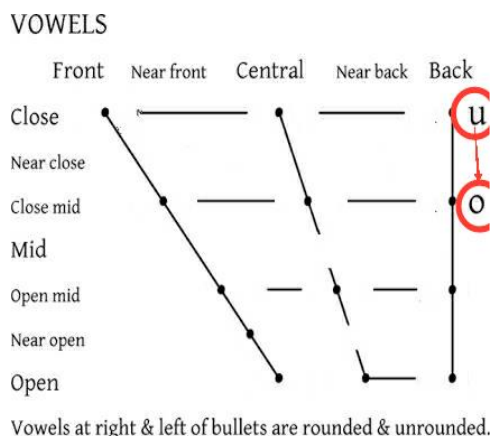
c. Fortition of [u] – [o]

The fortition of [u] to [o], typically involves a change in the quality of the vowel sound. The transformation from [u] to [o] indicates a shift towards a more open articulation. 15 data show the original data had the vowel sound [u], but the fortition caused them to evolve into [o], one of the examples is datum 27: **/tahun/ → /taon/**. To see the vowel change through fortition in this word, the elements of this transformation will be broken down into:

1. Original Word: **/tahun/**. The vowel in the original word is represented as [u], which is a close-back rounded vowel. This means that the tongue is positioned close to the back of the mouth, and the lips are rounded.
2. Transformed Word: **/taon/**. The transformed word exhibits the fortition of the vowel, resulting in a change from [u] to [o]. In phonetic terms, this signifies a shift from a close-back rounded vowel to a close-mid-back rounded vowel. The [o] vowel is still rounded, but it is slightly more open or less close than the original [u].

In conclusion, the fortition of [u] to [o] involves a change from a close-back rounded vowel to a close-mid-back rounded vowel reflecting in both the quality of the vowel and the sonority.

Based on the data, there are 15 words including **/tahun/ → /taon/** where the close high back rounded vowel is regularly changed into a close-mid back rounded vowel. Some of those words can be seen below:



Datum 26	:	/belum/ → /belom/: not yet (adv)	Close-mid front unrounded vowel [e] transforms to open-mid front unrounded vowel [o]
Datum 27	:	/tahun/ → /taon/: year (n)	Close back rounded vowel [u] transforms to close-mid back rounded vowel [o]

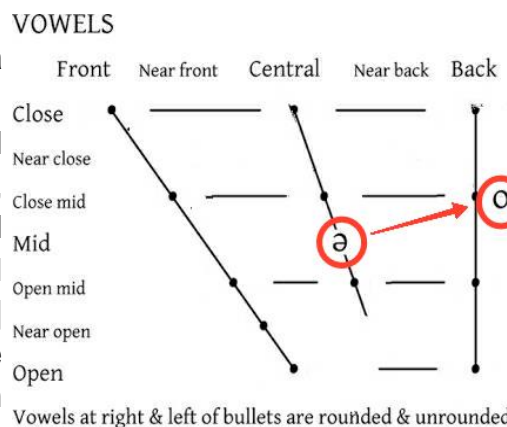
Datum 28	:	/ikut/ → /ikot/: to follow (v)	Close-mid front unrounded vowel [e] transforms to open-mid front unrounded vowel [o]
Datum 29	:	/daun/ → /daon/: leave (n)	Close-mid back rounded vowel [u] transforms to open-mid back rounded vowel [o]
Datum 30	:	/hidup/ → /hidop/: life (n)	Close-mid front unrounded vowel [e] transforms to open-mid front unrounded vowel [o]
Datum 31	:	/atur/ → /ator/: to manage (v)	Close-mid front unrounded vowel [e] transforms to open-mid front unrounded vowel [o]
Datum 32	:	/tidur/ → /tidor/: to sleep (v)	Close back rounded vowel [u] transforms to close-mid back rounded vowel [o]
Datum 33	:	/tegur/ → /tegor/: to greet (v)	Close-mid front unrounded vowel [e] transforms to open-mid front unrounded vowel [o]
Datum 34	:	/senduk/ → /sendok/: spoon (n)	Close back rounded vowel [u] transforms to close-mid back rounded vowel [o]

By observing these changes, we can conclude that the common pattern of these examples is the fortition of close-mid vowels [e] and [u] to open-mid vowels [o]. This systematic shift indicates a preference in Kupang Malay for a more open and centralized articulation of the affected vowels. The process of fortition seems to be consistent across different words.

However, some data shows changes but do not belong to either fortition or lenition in the traditional senses. They are:

1. The changes of sound [ə] to [o]

The vowel changes from [ə] to [o] in Kupang Malay involves a shift from a neutral, unstressed mid-central vowel to a more distinct, close-mid back rounded vowel. There are 7 data found regarding these changes and one of them is: the change from /bəton/ to /boton/, where the vowel [ə] shifts to [o]. The schwa sound, represented by [ə], is a mid-central vowel with a neutral or unstressed quality. It is typically used in unstressed syllables and has a relatively neutral articulation. While the [o] sound is a close-mid back rounded vowel. It is more sonorous and has a more distinct articulation compared to the neutral and unstressed quality of the schwa. So, the shift from [ə] to [o] involves a change from a mid-central, neutral vowel to a close-mid back rounded vowel. This shift increases the sonority and distinctiveness of the vowel sound. See other examples below:



Datum 35	:	/besong/ → /bosong/: you	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 36	:	/penuh/ → /ponu/: full (adj)	[ə] (mid-central) changes to [o] (close-mid back rounded)

Datum 37	:	/belum/ → /bolum/: not yet (adv)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 38	:	/ketong/ → /kotong/: we; us (Pro)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 39	:	/betong/ → /batong/: we; us (Pro)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 40	:	/tegor/ → /togor/: to greet (v)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 41	:	/sentuh/ → /sontol/: to touch (v)	[ə] (mid-central) changes to [o] (close-mid back rounded)

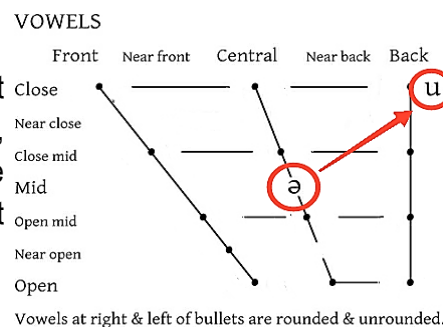
If we talk about Lenition, then this term typically refers to the weakening or softening of consonants, such as stops becoming fricatives or fricatives becoming approximants. It is not commonly used to describe vowel changes. However, Fortition refers to the strengthening or fortifying of consonants, such as fricatives becoming stops and it is also not commonly used to describe vowel changes. So the writer draws a simple conclusion that to describe this change are might be "vowel substitution" or "vowel shift." These terms indicate that one vowel sound ([ə]) has been replaced by another vowel sound ([o]).

In conclusion, the transformation from /bətoŋ/ to /botoŋ/, where [ə] changes to [o], is best described as a vowel shift or substitution rather than lenition or fortition.

Datum 35	:	/besong/ → /bosong/: you	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 36	:	/penuh/ → /ponu/: full (adj)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 37	:	/belum/ → /bolum/: not yet (adv)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 38	:	/ketong/ → /kotong/: we; us (Pro)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 39	:	/betong/ → /batong/: we; us (Pro)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 40	:	/tegor/ → /togor/: to greet (v)	[ə] (mid-central) changes to [o] (close-mid back rounded)
Datum 41	:	/sentuh/ → /sontol/: to touch (v)	[ə] (mid-central) changes to [o] (close-mid back rounded)

2. The changes of sound [ə] – [u]

The change from [ə] to [u] involves a significant shift in the vowel's articulation, making it higher (close), more back, and rounded. This transformation increases the vowel's sonority and prominence, making it more distinct



and easier to hear. Such changes are not classified as lenition or fortition but rather as a vowel shift or substitution, reflecting systematic phonological patterns that enhance clarity and pronunciation in the language. Words in Kupang Malay that undergo this sound change are:

Datum 42	:	/keliling/ → /kuliling/: go around (v)	The mid-central vowel [ə] is replaced by the close-back rounded vowel [u]. This change involves raising the tongue and moving it back in the mouth, as well as rounding the lips, which increases the sonority and distinctiveness of the vowel
Datum 43	:	/mesti/ → /musti/: must	Similar to the first example, the mid-central vowel [ə] is replaced by [u]. The change enhances the prominence of the vowel, making it more resonant and easier to distinguish in speech.
Datum 44	:	/gemuk/ → /gumuk/: fat (adj)	the mid-central vowel [ə] shifts to the close back rounded vowel [u], following the same pattern of raising the tongue, moving it back, and rounding the lips. This increases the clarity and sonority of the vowel sound.
Datum 45	:	/katemu/ → /katumu/: we; us (Pro)	The vowel [ə] is replaced by [u], involving the same phonetic changes: height (raising the tongue), backness (moving the tongue back), and rounding. This shift makes the vowel more sonorous and distinct within the word.

The changes from [ə] to [u] in your examples are not considered fortition. They are vowel shifts that involve increasing the sonority and distinctiveness of the vowel sounds. Fortition is a term specifically used for the strengthening of consonants, and thus, does not apply to these vowel changes.

CONCLUSION

The research found 51 vowel changes in fortition, with three forms of fortition and two forms of vowel substitutions/shift. These changes include transforming vowels from [i] to [e], [e] to [a], [u] to [o] (fortition), [ə] to [o], and [ə] to [u] (vowel substitution/shift). The writer suggests that this research paper will provide readers with knowledge about fortition in Kupang Malay. It also serves as a reference for researchers studying sound change, suggesting that they should analyze other sound changes in Kupang Malay. The writer is aware that sound change can be influenced by various linguistic factors, including regional dialects, linguistic history, or neighboring sounds within a word. So further research on these topics might enrich the academic perspective on the

phonological process in Kupang Malay. The writer also hopes that this can help students understand sound changes and contribute to the learning process, especially in Phonology study.

BIBLIOGRAPHY

- Alderete, John. 1997. Dissimilation as local conjunction. Proceedings of North East linguistic society
- Arikunto, Suharsimi. 2006. Prosedur penelitian suatu pendekatan praktik . Jakarta: rineka cipta
- Blust, Robert. 2013. The Austronesian Language. Australian National University.
- Bogdan, Robert and Steven. J. Taylor. 1975. Pengantar metode penelitian kualitatif. Surabaya: usaha nasional.
- Cambridge Advanced Learner's Dictionary 4th edition, Cambridge: University Press
- Cooke, N.J. (1994). Varieties of knowledge elicitation techniques. International Journal of Human-computer studies,41. 801-849
- Crytal, David (2008). A Dictionary of Linguistics and Phonetics 6th edition. Blackwell Publishing Ltd.
- Crowley, Terry and Bower, Claire (2010). An introduction to historical linguistics.Oxford University Press, Inc.
- Cutting, JE. 1975. Aspects of phonological fusion. Retrieved on September 30th 2018 from <https://www.ncbi.nlm.nih.gov/pubmed/1194864/>
- Davenport, Mike and Hannahs, S.J. 2015. *Introducing Phonetics & Phonology*. Oxford University Press Inc.
- Frawley, J. William. 2003. International Encyclopedia of Linguistics Second Edition: Oxford University Press.
- Gordon, Raymond G., Jr. (ed.), 2005. Ethnologue: Language of the world, fifteenth edition. Dallas, Tex.: SIL International.
- Hayes, B. 2009. Introductory phonology. Oxford: Blackwell
- Hock, Hans Henrich (1991). Principles of historical linguistics.2nd rev. ed. Berlin: Mouton de Gruyter.
- Jacob, June and Grimes, Charles E (2003). Kamus Pengantar Bahasa Kupang [Introductory Dictionary of the Kupang Language](Paradigma Centre for Regional Studies, series B, 10).Kupang: Artha Wacana Press.
- Katamba, Francis. 1996. An introduction to phonology. Addison Wesley Longman publishing.
- McMahon, April. 2002. An introduction to English phonology. Edinburg University Press. Ltd
- Nathan, G. 2008. Phonology.A cognitive grammar introduction. The USA.
- Oxford Learners Pocket Dictionary 3rd edition, 2003, China: University Press.
- Paauw, H. Scott. 2008. The Malay contact varieties of Eastern Indonesia: A typological comparison. Buffalo: State University of New York (PhD dissertation). Retrieved on September 29th 2018 from <https://www.acsu.buffalo.edu/~dryer/PaauwMalayIndonesia.pdf>.
- Rudder, Josua. 2012. Comparative grammar of Romance language. Create Space independent publishing platform.
- Trask, R. L. 1996. A dictionary of phonetics and phonology, USA and Canada: Routledge.
- Trask, R. L. 2000. The dictionary of historical and comparative linguistics, Edinburgh: Edinburgh University Press.

Travers, M. W. Robert. 1978. An introduction to educational research. New York: Macmillan Publishing Co., Inc.