Article

Phonological Change of Minangkabau Protolanguage in Tanjong Ipoh Isolect, Negeri Sembilan

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ABSTRACT

The traces of the Minangkabau language in Negeri Sembilan are evidence that the Minangkabau people not only migrated to the coastal areas of Sumatra but also to the Malay Peninsula. Despite historical evidence linking the Tanjong Ipoh isolect to Minangkabau, the extent of phonological change in this isolect remains undocumented. This study seeks to bridge this gap by systematically analyzing phonological evolution. This study aims to describe the forms and types of phonological changes observed in the Tanjong Ipoh isolect, located in Kuala Pilah, Negeri Sembilan, Malaysia. Data were collected through observation and interviews. We interviewed three native speakers of the Tanjong Ipoh isolect, selected through purposive sampling based on linguistic competence and community recognition, who participated in this study. Additionally, we also interview various speakers to help validate the data. We documented the data using both note-taking and recording techniques. We conducted the analysis using a top-down approach by identifying Minangkabau protolanguage (PBM) reflexes in the Tanjong Ipoh isolect. The results are that the vowels that have changed in Tanjong Ipoh isolect are *i, *u, *ə, *e, and *a, while PBM consonants that have changed in Tanjong Ipoh isolect are *t, *k, *s, *R, and *l. PBM consonant changes in the Tanjong Ipoh isolect consistently occur in environments where PBM vowels also change. The study concludes that all sound changes observed in the Tanjong Ipoh isolect are conditioned. Among the types of changes, lenition (weakening) is the most prevalent, with additional changes including assimilation, dissimilation, fortition, diphthongization, splitting, merging, and elimination. The findings align with established phonological theories and contribute to understanding language evolution in migrant communities.

I. INTRODUCTION

The Tanjong Ipoh isolect, spoken in Kuala Pilah, Negeri Sembilan, Malaysia, is one of the interesting subjects for diachronic study. The study of this isolect is closely connected to the Minangkabau language, introduced by Minangkabau migrants who settled in the region. This connection is supported by historical accounts, that Minangkabau migrants had settled in Negeri Sembilan by the 17th century (Adelaar, 2004; Aman et al., 2018; Atan et al., 2015; Jaafar et al., 2017). De Jong (1980) and Siregar et al. (2022) further suggest that this migration may have begun as early as the 15th century, with Minangkabau migrants occupying areas in Negeri Sembilan and Melaka. This migration is evidenced by clans in Negeri Sembilan tracing their origins to Minangkabau regions such as Limapuluh Kota and Tanah Datar Regencies. Additionally, researchers highlighted that the Minangkabau language spoken in West Sumatra and in Negeri Sembilan are closely related (Aman et al., 2018; Atan et al., 2015; Suhada et al., 2023). Jaafar et al., (2017) further mentioned that one of the most significant influences brought by the Minangkabau people to Negeri Sembilan is their language.

The historical reports mentioned above suggest that the language spoken in the area is still connected to its ancestral language, Minangkabau. Over time, however, this language has naturally changed, leading to differences from the language used in its original region. This evidence provides the basis for examining the reflexes of the Minangkabau protolanguage within the Tanjong Ipoh isolect (hereinafter referred to as the Tanjong Ipoh isolect).

This study aims to explain how the sounds of the Minangkabau protolanguage appear in the Tanjong Ipoh isolect, focusing on the specific changes in sounds that have happened there and identifying what kinds of sound changes have taken place.

Language changes can be identified by examining the reflexes of a protolanguage within the language being studied or in other related languages. A protolanguage reflex represents the characteristics of an ancestral language as they appear in a modern language or isolect. The term "isolect" was taken by Adelaar (1992) from Hudson (1970), which is used to refer to a language form without considering its status as a language or as a dialect. According to Fox (1995), a reflex is a derived form of a language that reflects an earlier protolanguage form. Therefore, this type of study inherently involves examining language development across at least two times. Nadra (2023) classifies such research within diachronic linguistics, a field that focuses on the historical development of language over time. Diachronic linguistics, also referred to as comparative historical linguistics, compares languages from different periods. Sometimes, during the development process, certain elements undergo changes, while at other times, they remain inherited.

The most basic and significant type of change in comparative historical linguistics is phonological change (Fernandez, 1996). Masrukhi (2002) and Santoso (2005) describe this phonological change as occurring at the earliest stage. Languages or isolects within the same group share a familial relationship, with the degree of closeness or distance depending on the changes each language or isolect has undergone. This relationship can be demonstrated through various linguistic levels, including phonology, lexicon, grammar, and semantics. We can conduct this analysis by examining the reflexes of protolanguage reconstructions in the derived languages or isolects.

There are several studies conducted by previous researchers related to this research. Among them is the work of Atmawati (2014), who studied the reflexes of Proto-Malayo-Polynesian (PMP) phonemes in the Rejang language, covering consonants, vowels, semivowels, and diphthongs. These sounds include (1) reflexes of PMP vowel phonemes of /*e/ > /e/, /ê/, /o/, /êa/, /oa/, /ø/; /*i/ > /i/, /e/, /ê/, /ea/, /êy/; /*u/ > /u/, /ê/, /o/, /oa/, /êw/; (2) reflexes of PMP consonant phonemes of /*b/ > /b/, /o/; /*d/ > /t/; /*D/ > /d/, /ø/; /*g/ > /g/; /*h/ > /ø/; /*j/ > /g/, /k/, /t/; /*k/ >/ k/, /?/; /*l/ > /l/, /ø/; /*m/ > /m/, /ø/; /*n/ > /n/, /ñ/; /*ñ/ > /ñ/, /n/; /*ŋ/ > /ŋ/, /ø/; /*p/ > /p/; /*q/ > /?/, /ø/; /*r/ > /r/, /ø/; /*R/ > /l/, /?/, /ø/; /*s/ > /s/; /*S/ > /ø/; /*t/ > /t/, /ø/; /*T/ > /t/; /*z/ > /j/, /y/; /*Z/ > /d/, /j/; (3) reflexes of PMP semivowel phonemes of /*w/ > /b/, /w/, /a/, /ø/; /*y/ > /y/, /e/;and (4) the reflex of PMP diphthong phoneme /*aw/ > /oa/.

Toha (2016) looked at how Proto-Malayic sounds have changed and been kept in Tamiang Malay and found that most of the original Proto-Malayic consonants and vowels are still present in Tamiang Malay (BMT). Adhiti (2019) analyzed the sound change patterns in the Kabola, Hamap, and Klon languages on Alor Island and identified several types of sound changes, including merger, split, monophonemization, diphonemization, phonemic loss, phoneme addition, and metathesis. Phonemic loss happened at the beginning (aphaeresis), middle (syncope), and end (apocope) of words, while phoneme addition took place at the beginning (prothesis), middle (epenthesis), and end (paragoge) of words. Ubaidillah & Norlaili (2020) explored phonological innovations and retentions of Proto-Malay in the coastal dialect of Riau Malay. They noted innovation rules classified as primary and secondary. The three types of primary innovations are substitution, split, and merger, while secondary innovations include lenition, fortition, metathesis, syncope, prothesis, and paragoge.

The Sakai language, described as a Malay variation, was studied by Burhanuddin (2021). His research found that the Sakai language (BS) keeps some sounds from Proto-Malay (PM) while also showing new changes, both in regular patterns and in unusual forms. The retention of the lexicon further supports BS as a Malay variant. Comparisons

between BS and the PM show that both have relatively large correspondences and variations, suggesting that the two isolects are variants of the same language despite some differences. Such evidence supports the classification of BS as a Malay variant. Djawa & Sampe (2021) examined the symptoms of Proto-Austronesian (PAN) language change in the Loli language spoken in the West Sumba District. In this language, researchers noted sound changes involving the removal of sounds at the beginning of words through apheresis, as in *hatay* changing to *ate* 'heart' and *qina* to *ina* 'mother'. Syncope, or the omission of sounds in the middle of words, was observed in examples like *maRi* becoming *mai* 'let' and *buwaq* changing to *wua* 'fruit'. Also, apocope (the removal of sounds at the end of words) was seen in cases, again, such as *hatay* becoming *ate* 'heart' and *salaq* changing to *jala* 'wrong'. Next, additions of sounds also occurred, including prothesis (adding sounds at the beginning of words), like *tuma* changing to *katuma* 'tuma' and *ikuR* changing to *kiku* 'tail', as well as paragoge (adding sounds at the end), as seen in *paqit* becoming *paita* 'bitter' and *udan* changing to *urangu* 'rain'.

Siregar et al. (2022) studied how sounds change of the Proto-Austronesian (PAN) language across the Karo, Toba, Pakpak, Simalungun, Mandailing, and Angkola languages. They found nine kinds of sound changes, such as metathesis, apheresis, syncope, apocope, prothesis, epenthesis, and paragoge, along with the repeating and adding of sounds in the middle and at the end of words. Their findings led them to conclude that the languages within the Batak family share a common origin, descending from the same protolanguage, Proto-Austronesian (PAN).

Novrizal et al. (2022) conducted a study titled 'Reflection of Minangkabau Protophonemes in the Batu Payuang Isolect (IBP)'. They identified lenition (weakening) sound changes in IBP, where */t/, */k/, */p/ in final positions shift to /ʔ/; apocope changes in */h/, */R/, and */r/; monophthongization in the diphthong */au/ > /w/; and diphthongization in the protophonemes */u/ and */i/. The types of sound changes observed in IBP include linear inheritance, deletion, transformation, splitting, and merging. Rahmi et al. (2023) published an article entitled 'Phonological Changes of Minangkabau Protolanguage in the Koto Tinggi Isolect' and identified sound change types such as lenition,

fortition, apheresis, syncope, apocope, prothesis, paragoge, nasal changes, and diphthongization. The specific types of phonological changes found include: (1) modifications such as lenition, fortition, and diphthongization; (2) deletions including apheresis, syncope, apocope, and haplology; (3) additions such as prothesis and paragoge; (4) mergers of *p, *t, *k, *ʔ into [ʔ] at word-final positions; and (5) splits of proto-phonemes, such as *i separating into *ɪ, e, ia*, and *ie.* Suparno (2018) also studied phonological variations in Egyptian and Saudi Arabic phonemes. His findings indicated language sound changes in the borrowing of Saudi Arabian vocabulary into Egyptian Arabic, specifically (1) lenition or sound change, (2) prothesis or sound addition at the beginning, middle, and end, and (3) the occurrence of diphthongization.

Reniwati et al. (2016) conducted a study on the Minangkabau language spoken in Negeri Sembilan. Their findings showed that there were differences in speech between two test points in the migrant areas, while differences in the areas where people originally came from were seen at the subdialect level. Using the dialectometry method, they calculated that the highest degree of language variation occurred at the subdialect level. In the following year, Reniwati et al. (2017) published an article that focused on the Minangkabau language spoken in the Negeri Sembilan dialect area of Malaysia. This study compared the Minangkabau language in the area of origin, particularly in 50 Kota and Tanah Datar Districts, with the Minangkabau language in the migrant areas covering Negeri Sembilan, Melaka, and Pahang. Similar to the previous study, the study found no variation at the language or dialect levels but at the subdialect and speech levels.

The studies above share common ground with the present study, as they investigate sound changes of the Minangkabau protolanguage, similar to the analyses by Rahmi et al. (2023) and Novrizal et al. (2022). However, the differences between the studies lie in their examination of reflexes across various languages. Toha (2016), Burhanuddin (2021), and Ubaidillah & Norlaili (2020) looked at how Proto-Malay/Malayic sounds are kept or changed in Tamiang Malay (BMT), Sakai Malay, and the coastal dialects of Riau Malay, respectively. Atmawati (2014) looked at how sounds from Proto-Malayo-Polynesian (PMP)

appear in the Rejang language, while Siregar et al. (2022) studied changes from Proto-Austronesian (PAN) in the Batak and Javanese languages. Djawa & Sampe (2021) also studied PAN changes within the Loli language, and Suparno (2018) examined sound changes between Egyptian and Saudi Arabic. Adhiti (2019), however, did not specify the protolanguage used in the research. Unlike these previous studies, our research focuses on phoneme changes of the Minangkabau protolanguage within the Minangkabau migrant community, which lives particularly in Tanjong Ipoh, Kuala Pilah, Negeri Sembilan, Malaysia.

The present study differs from the research conducted by Reniwati et al. (2016; 2017) in terms of approach, location, and objectives. While Reniwati et al.'s studies are synchronic, this study adopts a diachronic perspective. In terms of location, their research was conducted in Seremban, Rembau, Melaka, Pahang, and Simpang Tiga Gombak, whereas this study specifically focuses on Tanjong Ipoh, Kuala Pilah. The current study aims to show how the sounds of the Minangkabau protolanguage appear in the Tanjong Ipoh area by looking at the specific changes in sounds that have happened there and identifying what types of sound changes have occurred. This endeavor contrasts with the objectives of Reniwati et al. (2016; 2017), which explore the similarities and differences between the Minangkabau language in Negeri Sembilan and its region of origin.

While prior studies have explored Minangkabau phonological changes across various regions, no focused research has examined these changes in the Tanjong Ipoh isolect. Despite historical evidence linking the Tanjong Ipoh isolect to Minangkabau, the extent of phonemic change in this isolect remains undocumented. This study seeks to bridge this gap by systematically analyzing phonological evolution.

The phonological system of Tanjong Ipoh isolect, according to Zikri (2024), consists of thirty-two sounds: nine vocoids, namely [a], [i], [ɪ], [u], [ʊ], [e], [ɛ], [o], and [ɔ]; nineteen contoids, namely [p], [b], [t], [d], [k], [g], [ʔ], [m], [n], [ŋ], [ñ], [ɣ], [s], [h], [j], [c], [l], [w], and [y]; and four diphthong sounds, namely [aw], [ay], [uy], and [oy]. Meanwhile, twenty-seven phonemes were found in the Tanjong Ipoh isolect, consisting of five vowel phonemes, namely /a/, /i/, /u/, /e/, and /o/;

eighteen consonant phonemes, namely /p/, /b/, /t/, /d/, /k/, /g/, /m/, /n/, /ŋ/, /ñ/, /ɣ/, /s/, /h/, /j/, /c/, /l/, /w/, and /y/; and four diphthong phonemes, namely /aw/, /ay/, /uy/, and /oy/. Among them, these are both complete and incomplete distributions.

II. METHOD

This study constitutes field research conducted in Tanjong Ipoh. It adopted a top-down approach, focusing on identifying reflexes of the Minangkabau protolanguage within the isolect of Tanjong Ipoh. We collected data through observation and interviews, adhering to Sudaryanto's (2018) framework. The observation method involved close observation of utterances from native speakers and other speakers of the isolect, conducted discreetly to ensure naturalistic data collection.

We interviewed three native speakers of the Tanjong Ipoh isolect, selected through purposive sampling based on linguistic competence and community recognition (both male and female) who met specific, predefined criteria outlined by Nadra & Reniwati (2023): 1) aged 40–60 years, 2) not highly educated, 3) originating from the research area, 4) born, raised, and married to someone from the research area, and 5) possessing fully functional speech organs. A questionnaire was developed to guide the participants' responses in alignment with the research questions. We adapted this questionnaire from Nadra & Reniwati (2023) to better align with our study's objectives. To reduce the potential for misunderstandings, we also presented images related to the questions. Interviews were conducted with the participants at the customary leaders' gathering house in Tanjong Ipoh. Additional interviews with other speakers were carried out to ensure data accuracy, and we used telephone and video conversations on WhatsApp for further interviews to address data gaps and clarify ambiguous information. Observations and interviews were supplemented with note-taking and audio recording. The data were transcribed phonetically using the International Phonetic Alphabet (IPA).

We conducted the analysis using a top-down approach by identifying Minangkabau protolanguage (PBM) reflexes in the Tanjong Ipoh isolect. We analyzed the data using the identity method, which relies on external criteria not inherent to the language under examination (Sudaryanto, 2018). We specifically applied the

articulatory phonetic (identity) method to analyze the sounds produced by the speaker's speech organs, which facilitated the distinction between different sounds. This method also helped us compare forms of the Minangkabau protolanguage (PBM), based on the reconstruction created by Nadra (2006), with their reflexes in the Tanjong Ipoh isolect. If a protolanguage form was similar to its reflex in the isolect, it was considered a retention form, indicating preservation of the original structure. In contrast, if the protolanguage form was different, altered, absent, or unidentified, it was classified as an innovation form. The forms presented in this paper are only those that have undergone changes or innovations in the Tanjong Ipoh isolect.

The results of the data analysis are presented both formally and informally Sudaryanto (2018). The formal presentation uses standardized symbols, including phonetic notation for data transcription, asterisks (*) to denote protolanguage forms, greater-than symbols (>) to indicate linguistic changes, hashtags (#) to mark word boundaries, underscores (_) to specify the position of sounds or phonemes, blank symbols (ø) to represent missing forms, and single quotation marks ('…') to indicate meaning. Informally, the results were described in ordinary verbal language.

III. RESULTS

This section describes the changes of Proto-Minangkabau (PBM) phonemes as they appear in the isolect of Tanjong Ipoh, Kuala Pilah, Negeri Sembilan, Malaysia (abbreviated here as ITI). The changes of PBM phonemes in ITI can be classified into vowel changes and consonant changes.

Vowel Changes in ITI

(1) PBM *i

a. PBM *i / _*t# > ITI ɪ

The PBM *i in the final position before *t becomes ɪ in ITI. In this case, there is a change from a strong sound (*i) to a weak sound (ɪ), which is called lenition.

For examples:

PBM *sədikit 'a little' > ITI *sikɪt*
PBM *pahit 'bitter' > ITI *paʸɪt*
PBM "tumit 'heel' > ITI *tumɪt*
PBM *kulit 'skin' > ITI *kulɪʔ*
PBM *sakit 'sick' > ITI *sakɪʔ*

b. PBM *i / _*k# > ITI ɪ

PBM *i in the final position before *k becomes ɪ in ITI. As above, there is a change from a strong sound (*i) to a weak sound (ɪ), or lenition.

For examples:

PBM *itik 'duck' > ITI *itɪʔ*
PBM *sisik 'scale' > ITI *sisɪʔ*
PBM *balik 'return' > ITI *balɪʔ*
PBM *taRik 'pull' > ITI *naɣɪʔ*

In addition, there is also a change in the PBM *i to ɛ in the word *adik 'younger sibling' in ITI, which is caused by adapting the sound to the previous phoneme or what is called progressive assimilation. Here, two sounds that are not the same transform into sounds that are almost the same. The sounds *a and *i in PBM change to *a* and *ɛ* in ITI. The PBM form *adik 'younger sibling' changes to *adɛʔ* in ITI (PBM *adik ' younger sibling' > ITI *adɛʔ*.

c. PBM *i / _*s# > ITI ɪ

The PBM *i in the final position before *s becomes ɪ in ITI. Again, there is a change from a strong sound (*i) to a weak sound (ɪ), or lenition.

For examples:

PBM *manis 'sweet' > ITI *manɪh*
PBM *tipis 'thin' > ITI *nipɪh*
PBM *bətis 'calf' > ITI *botɪh*
PBM *baris 'line' > ITI *baɣɪh*

d. PBM *i / _*R# > ITI e; ɛ

In ITI, the PBM *i in the final position before *R changes to *e* or *ɛ*. This shift is influenced by the preceding vowel sound, occurring as either assimilation or dissimilation. For example, in PBM *baniR 'buttress', the form changes to *banɛh* in ITI due to assimilation, where the different sounds *a_*i become the more similar *a_ɛ*. This change also involves a shift from the strong sound *i to the weaker sound *ɛ*. Similarly, in PBM *lihir 'neck,' the form becomes *lehe*, showing a transition from the strong sound *i to the weaker sound *e*. In the case of PBM *bibiR 'lip,' which becomes *bibe*, dissimilation occurs as the identical sounds *i_*i shift to *i_e*. Such transformation also reflects the weakening of *i to *e*.

For examples:

PBM *baniR 'buttress' > *banɛh*
PBM *lihir 'neck' > *lehe*
PBM *bibiR 'lip' > *bibe*

e. PBM *i / _*h# > ITI ɪ, ɛ

The PBM *i in the final position before *h changes to ɪ and ɛ in ITI. The shift of PBM *i to ɪ in the final position before *h occurs in PBM *baRəsih

'clean' and PBM *putih 'white', becoming *bosıh* and *putıh,* respectively. In contrast, the shift of PBM *i to ɛ occurs in PBM *jənih 'clear', which changes to *jonɛh*. The change also involves a shift from the strong sound *i to the weaker sound ɛ (lenition).

For examples:

> PBM *baRəsih 'clean' > ITI *bosıh*
> PBM *putih 'white' > *putıh*
> PBM *jənih 'clear' > *jonɛh*

(2) PBM *u

a. PBM *u/_*h# > ITI ʊ

The PBM *u in the final position before *h changes to ʊ in ITI. The change involves a shift from the strong sound *u to the weaker ʊ or lenition.

For examples:

> PBM *kəRuh 'murky' > ITI *kowʊh*
> PBM *tujuh 'seven' > ITI *tujʊh*
> PBM *jatuh 'fall' > ITI *jatʊh*
> PBM *sa-puluh 'ten' > ITI *sepulʊh*

In addition, a sound change occurs through dissimilation, where the same sound shifts to a different sound. This can be seen in PBM *bunuh 'kill,' which becomes *bunoh* in ITI. Thus, the PBM *u_*u changes to u_o in ITI.

b. PBM *u / _*s# > ITI *uy*

The *u in the final position before *s changes to diphthong *uy* in ITI. In this case, a monophthong sound changes to a diphthong.

For examples:

> PBM *luRus 'straight' > ITI *luɣuyh*
> PBM *bagus 'good' > ITI *baguyh*
> PBM *saRatus 'a hundred' > ITI *saɣatuyh*
> PBM *tiga Ratus 'three hundred' > ITI *tigo ɣatuyh*

c. PBM *u / _*k# > ITI ʊ

The PBM *u in the final position before *k becomes ʊ in ITI. Here, a stronger sound is shifted into a weaker one. The sound change occurs with the shift of PBM *k, which becomes ʔ in ITI simultaneously.

For examples:

> PBM *tanduk 'horn' > ITI *tandʊʔ*
> PBM *busuk "rotten" > ITI *busʊʔ*
> PBM *duduk 'sit' > ITI *dudʊʔ*
> PBM *tunjuk 'index finger' > ITI *tolunjʊʔ*
> PBM *buRuk 'bad' > ITI *buɣʊʔ*

d. PBM *u / _*R# > ITI *o*

The PBM *u in the final position before *R changes to *o* in ITI. This change from *u to *o* can

also be classified as a weakening process, where a strong sound shifts to a weaker one. Additionally, this change occurs alongside the loss of the PBM *R in the final position of the word in ITI.

For examples:

> PBM *təluR 'egg' > ITI *tolu*
> PBM *ukuR 'measure' > ITI *uko*
> PBM *umuR 'age' > ITI *umo*
> PBM *kənduR 'loose' > ITI *kundo*

In spite of this, it was also found that PBM *u / *R# remains the same in ITI. For example, PBM *sayuR 'vegetable' in ITI corresponds with *sayu*. In this case, PBM *u is still reflected as *u* in ITI.

e. PBM *u / _*l# > ITI *o*

The PBM *u in the final position before *l becomes *o* in ITI. The shift of PBM *u to *o* in ITI, as previously explained, represents a change from a strong sound to a weak sound. This shift also occurs together with the loss of PBM *l in the final position of words in ITI.

For examples:

> PBM *caŋkul 'hoe' > ITI *caŋko*
> PBM *pukul 'hit' > ITI *puko*
> PBM *tumpul 'dull' > ITI *tumpo*
> PBM * bətul 'correct' > ITI *boto*

(3) PBM *ə

a. PBM *ə / penultimate > ITI *o*

The PBM *ə in the penultimate position shifts to *o* in ITI. This alteration involves a transition from a mid-central vowel to a back vowel.

For examples:

> PBM *bəRat 'heavy' > ITI *boɣɛʔ*
> PBM *ənəm 'six' > ITI *onam*
> PBM *kəniŋ 'forehead' > ITI *koniŋ*
> PBM *ləbah 'bee' > ITI *loba*
> PBM *təRaŋ 'bright' > ITI *toɣaŋ*
> PBM *bəŋkak 'swollen' > ITI *boŋkaʔ*

b. PBM *ə / _*m# > ITI *a*

The PBM *ə in the final position before *m becomes *a* in ITI. This alteration involves a change from a weak sound to a strong one, which is called fortition.

For examples:

> PBM *maləm 'evening' > ITI *malam*
> PBM *itəm 'black' > ITI *itam*
> PBM *ənəm 'six' > ITI *onam*
> PBM *daləm 'in' > ITI *dalam*
> PBM *tajəm 'sharp' > ITI *tajam*

c. PBM *ə / _*p# > ITI *a*

The PBM *ə in the final position before *p

becomes *a* in ITI. This sound alteration is also called fortition.

For examples:

PBM *atəp 'roof' > ITI *atap*
PBM *isəp 'suck' > ITI *isap*

d. PBM *ə / _*R# > ITI *a*

In PBM, *ə in the final position before *R changes to *a* in ITI. This shift from PBM *ə to *a* represents a fortition process involving a transition from a weaker sound to a stronger one. This sound change is also accompanied by the loss of PBM *R in the final position of the word.

For examples:

PBM *uləR 'snake' > ITI *ula*
PBM *lapəR 'hungry' > ITI *lapa*
PBM *dəŋəR 'hear' > ITI *doŋa*
PBM *pagəR 'fence' > ITI *paga*

(4) PBM *e

a. PBM *e / _*t# > ITI *ɛ*

In PBM, *e in the final position before *t becomes *ɛ* in ITI. This change involves a shift from a stronger to a weaker sound or from a higher to a lower sound. Typically, this sound change is also accompanied by the transformation of PBM *t to *ʔ*.

For examples:

PBM *ulet 'maggot' > ITI *ulɛʔ*
PBM *puset 'central' > ITI *pusɛʔ*
PBM *uRet 'vein' > ITI *uɣɛʔ*
PBM *aŋket 'lift' > ITI *aŋkɛʔ*

b. PBM *e / _*h# > ITI *ɛ*

The PBM *e in the final position before *h changes to *ɛ* in ITI. This represents the sound alteration of lenition.

For examples:

PBM *kəReh 'hard' > ITI *koɣɛh*
PBM *bəReh 'rice' > ITI *bɔɣɛh*
PBM *ləmeh 'suffocating' > ITI *lomɛh*

(5) PBM *a

a. PBM *a /_# > ITI *o*

The PBM *a in the final position changes to *o* in ITI. Here, the front sound a change to the back sound *o*.

For examples:

PBM *lada 'chile' > ITI *lado*
PBM *buta 'blind' > ITI *buto*
PBM *buŋa 'flower' > ITI *buŋo*
PBM *luka 'wound' > ITI *luko*
PBM *baRa 'embers' > ITI *baɣo*

Table 1. The Rules of Vowel Changes

No.	PBM	ITI
1.	*i	ɪ / _*t#; _*k#; _*s#
		e; ɛ / _*R#
		ɪ; ɛ / _*h#
2.	*u	ʊ / _*h# _*k#
		uy / _*s#
		o; u /_*R#
		o / _*l#
3.	*ə	o / penultima
		a / _*m# _*p# _*R#
4.	*e	ɛ / _*t# _*h#
5.	*a	o / __#

Table 1 displays the rules for vowel changes. Not only did PBM vowel reflexes shift in ITI, but we also found changes in PBM consonant reflexes. Interestingly, the environments where PBM consonant changes in ITI occur consistently involve PBM vowels that also change.

Consonant Changes in ITI

(1) PBM *t

PBM *t / *i_# > ʔ; t

The PBM *t in the final position following *i partially shifts to *ʔ* in ITI, while some instances are retained (inherited). This shift of PBM *t is categorized as a weakening process.

For examples:

PBM *kulit 'skin' > ITI *kulɪʔ*
PBM *sakit 'sick' > ITI *sakɪʔ*
PBM *tumit 'heel' > ITI *tumɪt*
PBM *gigit 'bite' > ITI *gigɪt*

(2) PBM *k

a. PBM *k /*i_# > ITI *ʔ*

The PBM *k in the final position following*i changes to *ʔ* in ITI. This kind of shift (*k to *ʔ*) also represents a weakening process.

For examples:

PBM *itik 'duck' > *itɪʔ*
PBM *sisik 'scale' > ITI *sisɪʔ*
PBM *balik 'return' > ITI *balɪʔ*

b. PBM *k / *u_# > ITI *ʔ*

The final PBM *k after *u changes to ʔ in ITI, representing a type of weakening change, as explained earlier. This shift occurs simultaneously with the change of the final PBM *u to ʊ in ITI.

For examples:

PBM *tunjuk 'index finger' > ITI *tolunjʊʔ*
PBM *buRuk 'bad' > ITI *buɣʊʔ*
PBM *duduk 'sit' > ITI *dudʊʔ*

(3) PBM *s

a. PBM *s / *i_# > ITI *h*

The PBM *s in the final position following *i changes to *h* in ITI. The shift of the PBM *s to *h* in ITI involves a weakening process. This shift occurs simultaneously with the change of the PBM *i to ɪ in ITI.

For examples:

PBM *manis 'sweet' > ITI *manɪh*
PBM *tipis 'thin' > ITI *nipɪh*
PBM *bətis 'calf' > ITI *botɪh*

b. PBM *s / *u_# > ITI *h*

The PBM *s in final position following *u changes to *h* in ITI, a type of weakening as previously noted. This shift happens simultaneously with the change of PBM *u to uɣ in ITI.

For examples:

PBM *luRus 'straight' > ITI *luɣuɣh*
PBM *bagus 'good' > ITI *baguɣh*
PBM *saRatus 'a hundred' > ITI *saɣatuɣh*

(4) PBM *R

PBM *R / *i_# > *h; ø*

The PBM *R in the final position after *i changes to *h* or *ø* in ITI. Thus, some instances of PBM *R following PBM *i are lost in ITI, while others shift to *h.* This change occurs concurrently with the shift of PBM *i to ɛ.

For examples:

PBM *baniR 'buttress' > *banɛh*
PBM *lihir 'neck' > *lehe*
PBM *bibiR 'lip' > *bibe*

b. PBM *R / *u_# > *ø*

The final PBM *R after *u becomes *ø* in ITI. In other words, all final PBM *R after the PBM *u is lost in ITI. This change usually occurs simultaneously as the PBM *u changes to *o* in ITI.

For examples:

PBM *ukuR 'measure' > ITI *uko*
PBM *umuR 'age' > ITI *umo*
PBM *ikuR 'tail' > *eko*

c. PBM *R / *ə_# > *ø*

The final PBM *R after *ə becomes *ø* in ITI. The change of PBM *R to *ø* occurred simultaneously with the change of PBM *ə to a in ITI.

For examples:

PBM *lapəR 'hungry' > ITI *lapa*
PBM *dəŋəR 'hear' > ITI *doŋa*
PBM *pagəR 'fence' > ITI *paga*

d. PBM *R / *a_# > *ø*

The PBM *R in the final position following *a becomes *ø* in ITI. In other words, the PBM *R in the final position after *a is lost in ITI.

For examples:

PBM *kasaR 'rough' > *kasa*
PBM *kabaR 'news' > *kaba*
PBM *cakar 'claw' > *caka*

(5) PBM *l

a. PBM *l / *u_# > *ø*

The PBM *l in the final position after *u becomes *ø* in ITI. PBM *l is deleted in ITI if PBM *u changes to *o.*

For examples:

PBM *pukul 'hit' > ITI *puko*
PBM *tumpul 'dull' > ITI *tumpo*
PBM *bətul 'right' > ITI *bɔto*

b. PBM *l / *a_# > *ø*

The PBM *l in the final position following *a also changes to *ø* in ITI.

For examples:

PBM *təbal 'thick' > toba
PBM *akal 'logic' > aka
PBM *bantal 'pillow' > banta

Table 2 displays the rules for consonant changes.

Table 2. The Rules of Consonant Changes

No.	PBM	ITI
1.	*t	ʔ; t / *i_#
2.	*k	ʔ / *i_#
		*u_#
3.	*s	h / *i_#
		*u_#
4.	*R	h; ø / *i_#
		ø / *u_#
		*ə_#
		*a_#
5.	*l	ø / *u_#
		*a_#

IV. DISCUSSION

The PBM vowels that change in ITI include i, u, ə, e, and a, while the consonants that undergo changes in ITI are t, k, s, R, and l. These changes are conditioned and occur only in specific environments. For instance, PBM i will change in ITI if it appears in the final position before t, k, s, R, and h. Similarly, PBM u will change in ITI if it is in the final position before h, s, k, R, and l. PBM ə undergoes changes in ITI when it is in the penultimate position (second-to-last syllable) or in the final position before m, p, and R. PBM e changes in ITI if it is in the final position before t and h, while PBM a changes in ITI only when it is in the final position of the word.

The shift of PBM *i to ɪ in the final position before *t, *k, and *s indicates a tendency toward vowel weakening in ITI. Lenition, a process of sound weakening, is observed in the transformation of PBM i to ɪ in ITI. This aligns with patterns seen in other Minangkabau-derived dialects, supporting the idea of systematic lenition in Malayic languages. Likewise, the change of PBM *i to e and ε in the final position before *R in ITI is also a type of lenition, influenced by the preceding vowel sound *a. This influence aligns with progressive assimilation, where a preceding sound affects the following one, resulting in a shift from the combination *a_*i to a more similar sequence, a_ε. An example of this progressive assimilation is seen in the transformation of PBM *baniR ('banir') to banεh in ITI. However, when PBM *i in the final position before *R changes to e in ITI, this process is due to dissimilation rather than assimilation. Here, the identical sounds *i_*i in sequence shift to become dissimilar, as in the example where PBM *bibiR ('lip') changes to bibe in ITI. Additionally, the lenition process also applies to the shift of PBM *i to ɪ and ε in the final position before *h, as discussed earlier. Therefore, the changes involving PBM *i in ITI can be categorized into three primary patterns: 1) PBM *i / _*t#, _*k#, _*s# > ITI ɪ; 2) PBM *i / _*R# > ITI e and ε; 3) PBM *i / _*h# > ITI ɪ and ε.

The alteration of PBM u in the final position before h and k to ʊ in ITI represents a form of lenition characterized by a transition from a strong sound to a weaker one. For instance, PBM tujuh 'seven' transforms into tujʊh in ITI. Conversely, PBM u in the final position preceding s transforms into the diphthong uy in ITI, indicating a process of diphthongization. Subsequently, PBM u in the final position before R and l change to o in ITI, signifying a shift from a high sound to a medium sound. This alteration also exemplifies a type of lenition change. For example, PBM ukuR 'measure' becomes uko, and PBM pukul 'beat' becomes puko in ITI. In light of this, the changes affecting PBM u in ITI can be outlined into three rules: 1) PBM u / h#, *k# > ITI ʊ; 2) PBM u / s# > ITI uy; and 3) PBM u / R#, _*l# > ITI o. Subsequently, PBM *ə in the penultimate position changes to o in ITI. This alteration represents a form of lenition. In contrast, the reflex of PBM *ə in the final position preceding _*m#, _*p#, and _R# is realized as a in ITI, indicating a fortition. Two rules governing the changes of PBM *ə in ITI can be made as follows: 1) PBM *ə / penultimate > ITI o; and 2) PBM *ə / _*m#, _*p#, _R# > ITI a.

The PBM *e undergoes a transformation to ε in ITI if it occurs in the final position before *t and *h. This modification is classified as a form of lenition. The governing rule for this change is: PBM *e / _*t#, _*h# > ITI ε.

Another vowel, PBM *a, also experiences a change, shifting to o in ITI when in the final position of a word. We categorize this alteration as lenition, and it follows the rule: PBM *a / _# > ITI o.

The PBM consonants that undergo changes in ITI include the PBM *t, *k, *s, *R, and *l. All of these occur in the final position of the word. This change represents a conditioned sound change, as it only manifests after certain vowels and typically follows a transformation of the vowel sound itself. PBM *t experienced a split in ITI, with some remaining retained (inherited) and some changing to ʔ. This change takes place in the final position after *i, which then also transforms to ɪ. We classify this alteration as a type of lenition. For example, PBM *kulit 'skin' changed to kulɪʔ in ITI. PBM *k also underwent a split in ITI, with some retaining the inherited form as k and some changing to ʔ. This alteration occurs solely in the final position following PBM *i and *u, with the corresponding vowel weakening to ɪ and ʊ. A split also occurs in the PBM *s, which is retained (inherited) as s and changes to h in the final position after PBM *i and PBM *u. In this context, PBM *i weakens to ɪ, and PBM *u change to the diphthong uy. Furthermore, the PBM *R disappears (deleted), or there is an

abolition in the final position after PBM *i, *u, *ə, and *a, while it remains inherited as *R* in other positions within ITI. Finally, PBM *l is missing in the final position of the word after PBM *u and *a. The last two changes can be classified as a type of sound deletion, which includes a specific kind of deletion occurring at the end of a word known as apocope.

Several changes also demonstrate similarities with the contemporary Minangkabau isolects, such as PBM *k at the end of a word transforming into a glottal stop (*k / _# > ʔ), PBM *s at the end of a word changing to *h* (*s / _# > h), PBM *R at the end of a word becoming empty (*R / _# > ø), and PBM *l at the end of a word also becoming empty (*l / _# > ø). Additionally, PBM *t at the end of a word following *e changes to ʔ (*t / e_# > ʔ), while *t at the end of a word after *i similarly becomes ʔ (*t / i_# > ʔ). Furthermore, PBM *u at the end of a word before PBM *s shifts to *uy* (*u / *_s > uy), PBM *ə at the end of a word before *m transforms into *a* (*ə / *_m# > a), PBM *ə at the end of a word before *R also becomes *a* (*ə / *_R# > a), PBM *a at the end of a word changes to *o* (*a / _# > o), PBM *u at the end of a word before PBM *l shifts to *o* (*u / *_l# > o), and PBM *u at the end of a word before PBM *R similarly becomes *o* (*u / *_R# > o).

Apart from splitting, mergers also take place. For instance, there is the PBM *a that transforms into *o* in ITI, as well as PBM *ə, which also becomes *o*, and PBM *u, which similarly changes to *o* in ITI. Consequently, there is a merger of PBM *a, PBM *ə, PBM *u, and PBM *o itself into *o* in ITI. In other words, the *o* sound in ITI is derived from PBM *a, PBM *ə, PBM *u, and PBM *o. A merger also occurs between PBM *t and PBM *k, resulting in both becoming ʔ. Similarly, PBM *R and PBM *s undergos a merger to form *h* in ITI.

The observed phonetic changes in ITI align with broader trends in Austronesian diachronic phonology, particularly in Malayic languages, where lenition and vowel shifts reflex the natural phonological evolution of isolated speech communities (Blust, 1982; Blevins, 2004; Smith, 2022). Similar vowel weakening processes have been observed in Proto-Malayic derivations in Riau Malay (Toha, 2016), supporting the hypothesis that phonological drift in isolated Malayic communities follows predictable lenition patterns (Jaworski,

2009; Krulikowska et al., 2020; Lynch, 2003).

This study, when compared to previous research, clearly contributes to our understanding of linguistic adaptation in migrant areas and the types of sound changes that occur in Malayic languages. Unlike previous studies, such as those conducted by Toha (2016), Burhanuddin (2021), and Ubaidillah & Norlaili (2020), who studied changes of PM phonemes in Tamiang Malay (BMT), Sakai Malay (BS), and Riau Malay coastal dialects, this study uses PBM to see the changes that occur in ITI, as conducted by Novrizal et al. (2022) in the Batu Payuang isolect (IBP) and Rahim et al. (2023) in the Koto Tinggi isolect (IKT). This is not the same as the study of Atmawati (2014) that looked at the evolution of Proto-Malayo-Polynesian (PMP) in Rejang.

When compared with the findings of research conducted by Reniwati et al. (2016; 2017), it is clear that this study also reveals distinctive differences. The research by Reniwati and her teams shows that the Minangkabau language spoken in Negeri Sembilan, especially in places like Seremban, Rembau, Melaka, Pahang, and Simpang Tiga Gombak, has different subdialects and ways of speaking compared to the Minangkabau language from its original area (Lima Puluh Kota). The evolution of the Minangkabau language highlights the impact of migration, geographical factors, and social factors on linguistic development. As a result, the variations observed in these subdialects reflex local identities and demonstrate the dynamic nature of language as it adapts to new contexts and influences. However, those variations do not go beyond dialect boundaries. On the other hand, this study is diachronic and focuses on the phonological changes that occur in the Tanjong Ipoh isolect, Kuala Pilah, Negeri Sembilan. This study also contributes new empirical evidence on sound changes in Minangkabau-derived languages, filling a gap in diachronic phonology research.

While this study offers valuable insights, a more extensive dataset is necessary to confirm phonetic changes among various speaker, generations, and social groups. This study concentrated on phonological shifts; subsequent research could investigate lexical borrowing patterns or syntactic variation in ITI to achieve a more thorough comprehension of its linguistic evolution.

V. CONCLUSION

This study concludes that all sound changes occurring in ITI consist of conditioned sound changes. These changes take place in both the ultimate and penultimate syllables. The PBM consonants that undergo changes are those in the final position of the word, specifically *t, *k, *s, *R, and *l. In contrast, the vowels that experience changes are located in the final position of the word, the final position before the consonants *t, *k, *s, *R, and *l, as well as in the penultimate position. The PBM vowels subject to change include *i, *u, *ə, *e, and *a. Notably, in the final position of the word, the vowel *a is the one that changes, while in the penultimate position, only PBM *ə is affected. The context in which the changes to PBM consonants occur is consistently associated with the PBM vowels that also undergo alterations. When categorized by the type of sound change, lenition is the most frequently observed change. Additionally, the study identifies instances of assimilation, dissimilation, fortition, diphthongization, splitting, merging, and elimination. Based on the observed changes, it is evident that the isolects of Tanjong Ipoh, Kuala Pilah, in Negeri Sembilan historically retain numerous similarities with the changes that have taken place. These findings reinforce the role of phonetic drift in migrant communities, contributing to our understanding of linguistic adaptation and sound change mechanisms in Malayic languages. Although this study offers valuable insights, a larger dataset is required to confirm phonetic changes across various speaker generations. So, future studies should look into how grammar and word choices affect ITI to better understand its language history and the social groups involved.

ETHICS STATEMENT

This study was reviewed and approved by the Faculty of Humanities, Universitas Andalas Research Committee. Informed consent was obtained from all participants, and their identities have been kept strictly anonymous to ensure confidentiality. The research fully complies with the ethical standards and publication guidelines of Jurnal Arbitrer.

CREDIT AUTHOR STATEMENT

Nadra Nadra has conceptualised, studied literature, formal evaluation, funding approval, inquiry, methodology, analyzed data, and edited for final draft production. *Aslinda Aslinda* verified subjectivity, checked data, and reviewed. A*hmad Zikri* collected data, processed the concept, and verified data.

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DECLARATION OF COMPETING INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES

Adelaar, K. A. (1992). *Proto Malayic: The reconstruction of its phonology and parts of lexicon and morphology*. Departement of Linguistics Research School of Pacific Studies, The Australian National University.

Adelaar, K. A. (2004). Where does Malay come from? Twenty years of discussions about homeland, migrations and classifications. *Bijdragen Tot De Taal- Land- En Volkenkunde / Journal of the Humanities and Social Sciences of Southeast Asia*, *160*(1), 1–30. https://doi.org/10.1163/22134379-90003733

Adhiti, I. (2019). Kajian linguistik historis komparatif pada pola perubahan bunyi. *Jurnal Bahasa & Sastra*, 3(2), 75–85. https://doi.org/10.22225/kulturistik.3.2.1203

Aman, I., Jaafar, M. F., & Awal, N. M. (2018). Bahasa Melayu Negeri Sembilan dan Isu Imperialisme Linguistik. *Jurnal Antarabangsa Alam Dan Tamadun Melayu*, *6*(1). https://doi.org/10.17576/jatma-2018-0601-02

Atan, E., Aman, R., & AH, S. (2015). Rekonstruksi vokal bahasa Minangkabau: Pengintegrasian merentasi geopolitik. *Malaysian Journal of Society and Space*, *17*(2). https://doi.org/10.17576/geo-

2021-1702-30

Atmawati, D. (2014). Refleks fonem-fonem Proto Malayo-Polynesian (PMP) terhadap Bahasa Rejang. *Sawerigading*, 20(3), 343–352. https://doi.org/10.26499/sawer.v20i3.32

Blevins, J. (2004). The mystery of Austronesian final consonant loss. *Oceanic Linguistics*, *43*(1), 208–213. https://doi.org/10.1353/ol.2004.0003

Blust, R. (1982). An overlooked feature of Malay historical phonology. *Bulletin of the School of Oriental and African Studies*, *45*(2), 284–299. https://doi.org/10.1017/s0041977x00066386

Burhanuddin. (2021). Bahasa sakai sebagai variasi Melayu: Tinjauan aspek linguistik diakronis. *Ranah: Jurnal Kajian Bahasa*, 10(2), 326–340.

De Jong, de J. (1980). *Minangkabau and Negeri Sembilan: Socio-Political Structure in Indonesia*. Martinus Nijhoff.

Djawa, A., & Sampe, M. (2021). Gejala perubahan bahasa dalam Bahasa Loli di Kabupaten Sumba Barat. *Bianglala Linguistika: Jurnal Linguistik*, 9(2), 29–34. Gejala perubahan bahasa dalam Bahasa Loli di Kabupaten Sumba Barat. *Bianglala Linguistika: Jurnal Linguistik*, 9(2), 29–34. https://doi.org/10.35508/bianglala.v9i2.8601

Fernandez, I. (1996). *Relasi Historis Kekerabatan Bahasa Flores*. Nusa Indah.

Fox, A. (1995). *Linguistics Reconstruction: An Introduction to Theory and Method*. Oxford University Press.

Hudson, B. (1970). A note on Selako: Malayic Dayak and/Land Dayak languages in Western Borneo. *Sarawak Museum Journal*, 18(36–37), 301–318.

Jaafar, S. (2017). Pembentukan struktur suku kata dialek Melayu Kuala Pilah. *Jurnal Bahasa*, 17(1), 61–83.

Jaafar, M. F., Aman, I., & Awal, N. M. (2017). Dialek Negeri Sembilan dan Dialek Minangkabau (Morphosyntax of Negeri Sembilan and Minangkabau Dialects). *GEMA Online Journal of Language Studies*, *17*(2), 177–191. https://doi.org/10.17576/gema-2017-1702-11

Jaworski, S. (2009). Inertial and Non-Inertial lenition processes. *Poznań Studies in Contemporary Linguistics*, *45*(1). https://doi.org/10.2478/v10010-009-0006-6

Krulikowska, Å., Nadra, N., & Yusdi, M. (2020). Phonological Sketch of Malay Jambi Language of Sarolangun, Indonesia. *Jurnal Arbitrer*, *7*(2), 173–181. https://doi.org/10.25077/ar.7.2.173-181.2020

Lynch, J. D. (2003). Issues in Austronesian historical phonology. In *Pacific Linguistics, Research School of Pacific and Asian Studies, Australian National University eBooks*. https://doi.org/10.15144/pl-550

Masrukhi, M. (2002). Refleksi fonologis Protobahasa Austronesia (PAN) pada Bahasa Lubu (Bl). *Humaniora*, 14(1), 86–93. https://doi.org/10.22146/jh.749

Nadra. (2006). *Rekonstruksi Bahasa Minangkabau*. Andalas University Press.

Nadra. (2023). The basic concept of the field of linguistics. In N. Hasyim (Ed.), *Introduction to Linguistics*. Surakarta: Tahta Media Group.

Nadra, & Reniwati. (2023). *Dialektologi: Teori dan Metode* (2nd ed.). Yogyakarta: Textium.

Novrizal, N., Nadra, N., & Reniwati, R. (2022). Refleksi Protofonem Bahasa Minangkabau dalam Isolek Batu Payung. *KREDO: Jurnal Ilmiah Bahasa dan Sastra*, 5(2), 596—609.

Rahmi, H. M., Nadra, & Reniwati. (2023). Perubahan fonologis Protobahasa Minangkabau dalam Isolek Koto Tinggi. *Diglosia: Jurnal Kajian Bahasa, Sastra, dan Pengajarannya,* 6(2), 513–526. https://doi.org/10.30872/diglosia.v6i2.660

Reniwati, Midawati, & Noviatri. (2017). Lexical variations of Minangkabau Language within West Sumatra and Peninsular Malaysia: A Dialectology Study. *Malaysia Journal of Society and Space*,

13(3), 1–10.

Reniwati, Noviatri, Aslinda, & Midawati. (2016). Bahasa Minangkabau di daerah asal dengan Bahasa Minangkabau di daerah rantau Malaysia: Kajian Dialektologis. *Jurnal Arbitrer*, 3(2), 173–180. https://doi.org/10.25077/ar.3.2.173-180.2016

Santoso, T. (2005). Refleks Fonem Proto Austronesia pada Bahasa Aceh. *Diksi*, 12(2), 185–203.

Siregar, F., Yulika, F., Novialdi, Harahap, I., Ridwan, B., & Syahputra, I. (2022). Merantau in the ethnic tradition of Minangkabau: Local Custom without Sharia Basis? *Samarah: Jurnal Hukum Keluarga dan Hukum Islam*, 6(1), 15–38. http://dx.doi.org/10.22373/sjhk.v6i1.9954

Smith, A. D. (2022). Reconstructing non-contrastive stress in Austronesian and the role of the mora in stress shift, gemination and vowel shift. *Diachronica*, *40*(1), 111–152. https://doi.org/10.1075/dia.20032.smi

Sudaryanto. (2018). *Metode dan Aneka Teknik Analisis Bahasa: Pengantar Penelitian Wahana Kebudayaan secara Linguistik*. Yogyakarta: Sanata Dharma University Press.

Suhada, N., Hamid, S., & Ayun, S. (2023). Perbandingan inventori bunyi vokal dialek Minangkabau antara Penutur di Negeri Sembilan dan Bukit Tinggi Sumatera. *Malim: Jurnal Pengajian Umum Asia Tenggara*, 24(2), 173–182.

Suparno, D. (2018). Refleksi variasi fonologis pada fonem Bahasa Arab Mesir dan Arab Saudi. *Arabiyat: Jurnal Pendidikan Bahasa Arab dan Kebahasaaraban*, 5(2), 214–232. https://doi.org/10.15408/a.v5i2.7035

Toha, M. (2016). Retensi dan inovasi fonologis Protobahasa Melayik pada Bahasa Melayu Tamiang. *Ranah: Jurnal Kajian Bahasa*, 5(1), 87–100. https://doi.org/10.26499/rnh.v5i1.40

Ubaidillah, N., & Norlaili, N. (2020). Inovasi dan Retensi Fonologis Proto Bahasa Melayu pada Bahasa Melayu Riau Dialek Pesisir. *Ranah Jurnal Kajian Bahasa*, *9*(1), 141. https://doi.org/10.26499/rnh.v9i1.1392

Zikri, A. (2024). Sistem fonem Isolek Tanjong Ipoh Negeri Sembilan Malaysia. Skripsi Fakultas Ilmu Budaya Universitas Andalas.