Review Article

What's Perfect and What's Not: Indonesian and Acehnese Phonemic Correspondences

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ABSTRACT

This qualitative research aimed to identify the Indonesian phonemic correspondence with Acehnese. It was based on the comparative historical linguistic theory or diachronic theory by identifying the form and regularity of sound language changes. It was limited only to phonemic correspondence between Indonesian and Acehnese without reconstructing the proto of both languages and seeing its kinship. Ten (10) Acehnese from East Aceh who fitted the criteria for this research were selected as informants to obtain data. Data collection used field linguistic methods, namely direct elicitation methods, inspection of the elicitation, and reflection. Data were analyzed using the qualitative descriptive technique. The results showed that there were 19 Indonesian phonemic correspondences with Acehnese. The phonemic correspondences were found to occur in the initial, middle, and end of vowels. Meanwhile, for the consonants, they occurred in the initial and final. From the 19 correspondence findings, three phonemic correspondences were found to be impeccable, they were s ≈ h, h ≈ Ø, and r ≈ Ø, meanwhile, 16 other correspondences were found to be imperfect, such as u ≈ εə, a ≈ o, ε ≈ i, and k ≈ g. Henceforth, the results can be used as a reference for further research on other

linguistic relations between Indonesian and Acehnese, and even alternative learning materials for Acehnese speakers who study Indonesian or *vice versa.*

Keywords: Acehnese, Indonesian, phonemic correspondences

INTRODUCTION

Aceh is one of the provinces in Indonesia. In this province, about 90% of the population is of the Acehnese ethnic (McCulloch, 2005) and they speak the Acehnese language as their heritage language and Indonesian as their national language. Acehnese itself is one of the languages that are related to the Austronesian language family (Thurgood, 2007). Acehnese's relationship with Indonesia has long been established before Aceh became part of Indonesia and Indonesia became an independent country in 1945 (Istiqamah, 2017; Reid, 2005). The neighboring Malay is related to Acehnese since Aceh was the first receptacle of "classical" Malay literature in the 17th century (Reid, 2005), or Jawi Pasai it was once called (Hermansyah, 2014). In Jawi Pasai, the system writing is Malay in Arabic script (Reid, 2005). Meanwhile, the Malay language is known as the root of Indonesian. In 1928, the Congress of Indonesian Youth used Malay as the language of the congress, but the new name *Bahasa Indonesia* (Indonesian) was first introduced as the language of future independent Indonesia from the Dutch (Paauw, 2009).

Referring back to Acehnese as one of the spoken ethnic languages out of hundreds in the Indonesian archipelago is the relationship between Acehnese and Indonesian in terms of phonemic or sound correspondence. Typically, sounds have a regular shift between languages. Since the law of sound contains the tendency of strict bonding, this term is replaced by phonemic or sound correspondence. Thus, sound correspondence was defined by Brown et al. (2013) as "two sound segments that correspond when they occur in cognate words of genealogically related languages". There is an alignment of sound in the same position found in derived languages based on basic words. Segments that correspond or align to the same gloss are both seen in terms of form and meaning in different languages compared to each other (Crowley, 1987; Hock, 1986). Therefore, sound correspondence is the result of sound changes in a language over time and is the foundation of the comparative method of historical linguistics (Brown et al., 2013). The patterns of sound correspondence have an important role in linguistic reconstruction such as "to reconstruct proto-forms and for classical phylogenetic reconstruction based on shared innovations" (List, 2018).

Phonemic correspondences between Indonesian and Acehnese are relatively systematic, e.g. phoneme /a/ in Indonesian corresponds to phoneme /u/ in Acehnese, phoneme /s/ in Indonesian corresponds to phoneme /h/ in Acehnese, and so on. In addition to its systematic occurrence, the correspondence of Indonesian and Acehnese sounds also occurs in many words. The inter-language phonemic correspondence generally occurs between vowel

phonemes, including the correspondence of the Indonesian and Acehnese phonemes. Indonesian vowels consist of two types, namely monophthong, and diphthong, and there are no nasal vowels. According to Alwi et al. (2003), Chaer (2009) and Sanjoko (2015) there are ten monophthongs as shown in Table 1.

In Table 1, it is seen that there are two types of /i/ phonemes in Indonesian, namely the low phoneme /I/ as shown in example number two, and the high phoneme /i/ as shown in example number 3. Two phonemes of /u/ are also distinguished in Indonesian; the low phoneme /ʊ/ as shown in example

number four and the high phoneme /u/ as shown in example number 5.

In addition to monophthongs, there are three diphthongs in Indonesian (Alwi et al., 2003; Marsono, 1993) as shown in Table 2.

In the meantime, there are also two types of Acehnese vowels, namely monophthong, and diphthong. Acehnese has 17 monophthongs vowels, divided into ten oral monophthongs and seven nasal monophthongs (Asyik, 1987; Durie, 1985; Pillai & Yusuf, 2012; Wildan, 2010). The oral monophthong vowels are shown in Table 3, and the nasal monophthongs vowels are shown in Table 4.

Table 1

Indonesian monophthongs (Chaer, 2009)

No.	Vowels	Examples
1.	/a/	*anak* 'children', *apa* 'what', *anda* 'you'
2.	/I/	*ini* 'this', *kiri* 'left', *pipi* 'cheek'
3.	/i/	*itik* 'duck', *tabib* 'physician', *murid* 'student'
4.	/ʊ/	*susu* 'milk', *lucu* 'funny', *aku* 'me'
5.	/u/	*kapur* 'chalk', *duduk* 'sit', *sumur* 'well'
6.	/e/	*sate* 'satay', *gule* 'vegetable', *rante* 'chain'
7.	/ə/	*kera* 'monkey', *beli* 'buy', *kabel* 'cable'
8.	/ɛ/	*hemat* 'saving', *ember* 'bucket', *karet* 'rubber'
9.	/o/	*toko* 'shop', *risiko* 'risk', *kado* 'gift'
10.	/ɔ/	*tokoh* 'figure', *bola* 'ball', *bohong* 'lie'

Table 2

Indonesian diphthongs (Alwi et al., 2003)

No.	Vowels	Examples
1.	/ai/	*pantai* 'beach', *balai* 'hall', *andai* 'if'
2.	/au/	*kerbau* 'buffalo', *bakau* 'mangrove', *kilau* 'luster'
3.	/oi/	*amoi* 'greetings for Chinese girls', *konvoi* 'convoy', *asoi* 'delicious'

Table 3

Acehnese oral monophthongs (adapted from Asyik, 1987; Durie, 1985; Pillai & Yusuf, 2012; Wildan, 2010)

No	Vowel	Example
cit	/i/	*iku* 'tail', *cit* 'also, even', *ija* 'cloth, fabric'
peut	/ɯ/	*peut* 'four', *aneuk* 'child', *leubèh* 'more'
cut	/u/	*cut* 'small, countess', *bu* 'rice', *karu* 'noisy'
pét	/e/	*pét* 'to shut the eyes', *éh* 'sleep', *padé* 'paddy'
tet	/ə/	*tet* 'burn' *le* 'many', *tahe* 'pensive'
pôt	/o/	*pôt* 'blow; to fan', *ôk* 'hair', *lôn* 'I, me'
cèt	/ɛ/	*cèt* 'paint', *bèk* 'don't', *mugè* 'sales'
göt	/ʌ/	*göt* 'good, fine', *gadöh* 'disappear', *deungö* 'hear'
cop	/ɔ/	*cop* 'sew', *pujo* 'praise', *po* 'owner'
pat	/a/	*aduen* 'brother', *pat* 'where', *saka* 'sugar'

Table 4

Acehnese nasal monophthongs (adapted from Asyik, 1987; Durie, 1985; Wildan, 2010)

No.	Vowel	Example Words
1.	/ã/	*'ap* 'bribe, feed', *s'ah* 'whisper', *'adé* 'fair'
2.	/ĩ/	*t'ing* 'sound', *sa'i* 'be alone'
3.	/ɛ̃/	*'èt* 'short', *pa'è* 'gecko', *la'èh* 'weak'
4.	/ɯ̃/	*'eu* 'yes', *ta'eun* 'plague'
5.	/õ/	*'oh* 'when', *kh'op* 'stench', *ch'op* 'stab'
6.	/ʌ̃/	*is'öt* 'slide', *ph'öt* 'the sound of fire goes out'
7.	/ũ/	*meu'u* 'plowing the fields'

There are 17 diphthongs in Acehnese (Wildan, 2010). They are divided into 12 oral diphthongs (as shown in Table 5) and five nasal diphthongs (as shown in Table 6).

Consequently, research on phonemic or sound correspondence is not new and is one of the wide research issues undertaken by researchers in linguistics education (Earle & Sayeski, 2017; Musayyedah, 2014; Sayeski et al., 2017). Nevertheless, none has worked on the correspondence between Indonesian and Acehnese sounds. This research intended to fill in the gap. The existence of a systematic description of sound correspondences in Indonesian and Acehnese is believed to be helpful and can become a reference for further research on other linguistic relations between Indonesian and Acehnese, and even alternative learning materials for Acehnese speakers who study Indonesian or vice versa. Accordingly, one of the language learning hypotheses also

Table 5

Acehnese oral diphthongs (adapted from Asyik, 1987; Durie, 1985; Pillai & Yusuf, 2012; Wildan, 2010)

No.	Vowels	Examples
1.	/iə/	*ie* 'water', *iem* 'keep quiet', *tiep* 'every, each'
2.	/ɛə/	*batèe* 'stone', *bajèe* 'clothes', *kayèe* 'wood'
3.	/ɯə/	*beuet* 'study, learn', *pageue* 'fence', *keubeue* 'buffalo'
4.	/ɔə/	*adoe* 'sister', *bloe* 'buy', *toe* 'near'
5.	/ʌə/	*lagöe* 'shocking expression', *dhöe* 'clogged up'
6.	/uə/	*bue* 'monkey', *alue* 'groove', *buet* 'work, job, action'
7.	/ai/	*gatai* 'itching', *kapai* 'ship', *jai* 'many, much'
8.	/əi/	*hei* 'to call'
9.	/ɔi/	*boinah* 'treasure', *poih* 'mail, post'
10.	/oi/	*bhôi* 'sponge cake', *cangkôi* 'hoe', *dôdôi* 'a kind of cake'
11.	/ʌi/	*lagöina* 'very, greatly'
12.	/ui/	*bui* 'pig', *phui* 'light', *tikui* 'down'

Table 6

Acehnese nasal diphthongs (adapted from Asyik, 1987; Durie, 1985; Wildan, 2010)

No.	Vowels	Examples
1.	/ĩə̃/	*p'iep* 'suction'
2.	/ɛ̃ə̃/	*'èet* 'short'
3.	/ũə̃/	*'eue* 'crawl'
4.	/ũə̃/	*'uet* 'swallow', *c'uet* 'tighten up'
5.	/ãĩ/	*meuh'ai* 'expensive'

states that similarities in the first language (FL) learning process can influence the learning of the second language (SL) (Krashen, 1982). The language elements are obtained in the foreseen sequence where certain linguistic elements are obtained first, while other linguistic elements are obtained later (Chaer, 2003). Moreover, the knowledge on the phoneme-grapheme correspondence also contributes to language major students' understanding of the writing system principle because they are related to sound representation that deals with the systematic relations between letters and sounds (Huang et al., 2014; Larsen et al., 2020; Rangriz & Marzban, 2015).

METHODS

This research was based on the comparative historical linguistic theory developed by, among others, Bynon (1979), Dimmendaal

(2011), Driem (2018), and Hock (1986). This theory is also called a diachronic theory, which involves the analysis of the form and regularity of changes in languages equipped with sound changes, to reconstruct the language of the past, the ancient language (proto) that lived in thousands of years before that. However, this research is limited to only phonemic correspondences between Indonesian and Acehnese languages without reconstructing the proto of both languages or studying its kinship.

Following Erbach (2020), Mallinson and Blake (1981), Rasul (2018) and Swart (2016), there are three sources of data used in the study across languages, namely (1) the grammar books of the language being researched, (2) examples used by other authors who are recognized for their truth, and (3) native speakers of the language being studied. This research only uses all three of the sources. Data on sound examples of Indonesian were obtained from books and articles written by Marsono (1993), Alwi et al. (2003), Chaer (2009), and Sanjoko (2015). Data on examples of Acehnese sounds were obtained from Durie (1985), Asyik (1987), Wildan (2010), Djunaidi (1996), and Pillai and Yusuf (2012).

Data collection started by field linguistic methods, namely direct elicitation methods and elicitation check (Cortes et al., 2018; Liebenberg, 2019; Mithun, 2001). The direct elicitation method was carried out by collecting language data which began with preparing a list of Indonesian and Acehnese words that corresponded phonemically. Then, interviews with informants were done

to check the number of language sounds that were still questionable. This method was the elicitation check. Three out of the four authors of this paper were also native speakers of Acehnese.

Acehnese has four main dialect groups, which are the Greater Aceh dialect, the Pidie dialect, the North Aceh dialect and the West Aceh dialect (Asyik, 1987). Acehnese linguists claim that the standard form of Acehnese is the North Aceh dialect (e.g. Asyik, 1987; Durie, 1985; Hanafiah & Makam, 1984; Sulaiman et al., 1983). This is due to its consistency in language structure and a large number of speakers. Asyik (1987) further explained that this dialect was "phonologically homogeneous" compared to the other dialects in Acehnese, which meant that there was not much variation in the pronunciation from its speakers. The North Aceh dialect is spoken by speakers residing North Aceh and East Aceh. Therefore, for this research, the speakers of the North Aceh dialect were chosen, and the data were taken from those speakers residing in East Aceh with their consent to participate in this research.

The selection of these informants was intended to describe the nature of the language speakers (Bungin, 2007). The selection was not determined by the number of speakers, but more to the quality and abilities of the speakers in mastering Acehnese. The purposive sampling of the informants was based on these criteria: (1) native speakers, (2) between the ages of 20 and 70 years old who acquired Acehnese as their first language and use it widely

with family members and fellow Acehnese (3) physically and mentally healthy (no speech impairment), (4) had consented to participate in this research. Every interview with the speaker lasted for about half an hour and they were recorded, transcribed and extracted for relevant information (Djajasudarma, 2006; Etikan et al., 2016; Suri, 2011).

    a.   Furthermore, the data was analyzed qualitatively through the following steps:

    b.   Registered Indonesian and Acehnese words that have correspondence;

    c.   Identified the phonemes of each Indonesian and Acehnese word for correspondence;

    d.   Determined the corresponding sounds that occurred between two comparable languages.

The orthography of Acehnese presented in this paper follows the conventions proposed by Pillai and Yusuf (2012) and Yusuf and Pillai (2013).

RESULTS AND DISCUSSION

The results showed a number of 19 phonemic correspondences between Indonesian and Acehnese. Each correspondence is explained in the following sub-sections.

Correspondence of /u/ ≈ /ɛə/ -

The correspondence of phoneme /u/ in Indonesian with phoneme /ɛ/ in Acehnese occurs in the final syllable after a consonant, as shown in Table 7. This correlation does not depend on one or two consonants that precede it, but it can happen to many other consonants. The examples in Table 7 shows the consonant that precedes the phoneme /u/ is /j/, /y/, /t/, /l/, /g/, /b/, /p/, /b/, /r/ /k/ and /m/. This kind of correspondence is classified as an incomplete correspondence (Mahsun, 1995) because not all words ending in the phoneme /u/ in Indonesian turn into the phoneme /ɛ/ in Acehnese. For example, the words *madu* /ma·du/ 'honey' and *ragu* /ra·gu/ 'doubt' in Indonesian remain *madu* /ma·du/ 'honey' and ragu /ra·gu/ 'doubt' in Acehnese. There are some Acehnese who say *ie unoe* /iə·u·noə/ for 'honey', but this word also means 'bee'. However, according to the Acehnese dictionary by Bakar (1985), the word *madu* is 'honey' in Acehnese. In addition, some words end with the phoneme /u/ in Indonesian but in Acehnese, they change into other phonemes, for example, *sapu* /sa·pu/ 'broom' in Indonesian become *sampoh* /sam·poh/ 'broom' respectively.

Table 7

Phonemic correspondence of /u/ (Indonesian) with /ɛə/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	clothes	*baju* /ba·dʒu/	*bajèe* /ba·dʒɛə/
2.	wood	*kayu* /ka·ju/	*kayèe* /ka·jɛə/

Table 7 *(Continued)*

No.	Meaning	Indonesian	Acehnese
3.	stone	*batu* /ba·tu/	*batèe* /ba·tɛə/
4.	fur	*bulu* /bu·lu/	*bulèe* /bu·lɛə/
5.	sago	*sagu* /sa·gu/	*sage* /sa·gɛə/
6.	cane	*tebu* /tə·bu/	*teubèe* /tɯ·bɛə/
7.	grouper fish	*kerapu* /kə·ra·pu/	*kerapèe* /kə·ra·pɛə/
8.	cashew	*jambu* /ʤam·bu/	*jambèe* /ʤam·bɛə/
9.	teacher	*guru* /gu·ru/	*gurèe* /gu·rɛə/
10.	nail	*kuku* /ku·ku/	*ukèe* /u·kɛə/
11.	meet	*temu* /tə·mu/	*teumèe* /tɯ·mɛə/

Correspondence of /u/ ≈ /ɔ/ - K

The correspondence of phoneme /u/ in Indonesian with /ɔ/ in Acehnese occurs in the final syllable after a consonant, as shown in Table 8.

Examples in Table 8 show consonants that precedes the phoneme /u/, they are /ŋ/, /k/, /m/, /b/, /j/, and /n/. The consonant following the phoneme /ɔ/ in Acehnese is mostly the same as the consonant following the phoneme /u/ in Indonesian, except for Indonesian words ending with /s/, as in

hangus /ha·ŋus/ 'scorched' in Indonesian becomes *angoh* /a·ŋɔh/ 'scorched' in Acehnese. This is perhaps because Acehnese does not have the sound /s/ in its sound system (Asyik, 1987; Durie, 1985). The phoneme /u/ with phoneme /ɔ/ correspondence is not perfect, meaning that not all words ending in vowel /u/ in Indonesian correspond to the phoneme /ɔ/ in Acehnese because there is also correspondence to the phoneme /ɔ/, which is explained in the next sub-section.

Table 8

Phonemic correspondence of /u/ (Indonesian) with /ɔ/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	scorched	*hangus* /ha·ŋus/	*angoh* /a·ŋɔh/
2.	bowl	*mangkuk* /maŋ·kuʔ/	*mangkok* /maŋ·kɔʔ/
3.	mosquito	*nyamuk* /ŋa·muʔ/	*nyamok* /ŋa·mɔʔ/
4.	grow	*tumbuh* /tum·buh/	*timoh* /ti·mɔh/
5.	point	*tunjuk* /tun·ʤuʔ/	*tunyok* /tu·ŋɔʔ/
6.	crumble	*remuk* /re·muʔ/	*reumok* /rɯ·mɔʔ/

Correspondence of /u/ ≈ /o/ - K

The correspondence of phoneme /u/ in Indonesian with /o/ in Acehnese occurs in the final syllable after the consonants as seen in Table 9.

Table 9 shows the phonemic correspondence of /u/ in Indonesian to /o/ in Acehnese. The consonants that follow the phoneme /o/ in Acehnese is generally the same as the consonants following

the phoneme /u/ in Indonesian, except in Indonesian words, they end with /r/, i.e. the disappearance of this final consonant is as seen in *kendur* /ken·dur/ 'loose, slack' to *keundo* /kɯn·do/ 'loose, slack'. The

correspondence of sound /u/ with sound /o/ is not perfect, meaning that not all words ending in vowel /u/ in Indonesian correspond to the sound /o/ in Acehnese.

Table 9

Phoneme correspondence of /u/ (Indonesian) with /o/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	loose	*kendur* /ken·dur/	*keundô* /kɯn·do/
2.	pass	*lulus* /lu·lus/	*lulôh* /lu·loh/
3.	break (off)	*putus* /pu·tus/	*putôh* /pu·toh/
4.	cardboard	*kardus* /kar·dus/	*kardôh* /kar·doh/
5,	nose	*hidung* /hi·duŋ/	*idông* /i·doŋ/
6.	law	*hukum* /hu·kum/	*hukôm* /hu·kom/
7.	heart	*jantung* /dʒan·tuŋ/	*jantông* /dʒan·toŋ/
8.	sea	*laut* /la·ut/	*laôt* /la·ot/
9.	shoulder	*bahu* /ba·hu/	*bahô* /ba·ho/
10.	ten	*sepuluh* /se·pu·luh/	*siplôh* /sip·loh/
11.	receding	*surut* /su·rut/	*surôt* /su·rot/
12.	door	*pintu* /pin·tu/	*pintô* /pin·to/
14.	fart	*kentut* /ken·tut/	*geuntôt* /gɯn·tot/
15.	rib	*rusuk* /ru·suʔ/	*rusôk* /ru·soʔ/

Correspondence of /a/ ≈ /o/ - K #

The correspondence of phoneme /a/ in Indonesian with phoneme /o/ in Acehnese occurs in the final syllable after the consonant, as seen in Table 10.

Table 10 shows the consonant that precedes the phoneme /a/, they are /n/ and /m/. The consonants that follow is /h/. The phoneme /a/ and phoneme /o/ correspondence are not perfect because not all words ending in the vowel /a/ in Indonesian turn into /o/ in Acehnese, for example *malam* /ma·lam/ 'night' in Indonesian and *malam* /ma·lam/ 'night' in Acehnese, respectively. In addition, there are also words that end with the phoneme /a/

in Indonesian, but in Acehnese, these words are different words, for example the word *tertawa* /ter·ta·wa/ 'laugh' in Indonesian is *khem* /kɛm/ 'laugh' in Acehnese.

Correspondence /a/ ≈ /ɯ/ / - K #

The correspondence of phoneme /a/ in Indonesian with phoneme /ɯ/ in Acehnese occurs in the ultima or final syllable after the consonant as shown in Table 11.

The examples in Table 11 show consonants that precedes the phoneme /a/, such as /dʒ/, /t/, /n/, /p/, /r/, /h/, /y/, and /m/. Consonants following the phoneme /ɯ/ in Acehnese are mostly the same as consonants following the phoneme /a/ in Indonesian,

Table 10

Phoneme correspondence of /a/ (Indonesian) with /o/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	soil	*tanah* /ta·nah/	*tanoh* /ta·noh/
2.	home	*rumah* /ru·mah/	*rumoh* /ru·moh/
3.	limp, weak	*lemas* /lə·mas/	*leumoh* /lɯ·moh/
4.	pus (wounds)	*nanah* /na·nah/	*nanoh* /na·noh/

Table 11

Phoneme correspondence /a/ (Indonesian) with phoneme /ɯ/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	rain	*hujan* /hu·dʒan/	*ujeun* /u·dʒɯn/
2.	forest	*hutan* /hu·tan/	*uteun* /u·tɯn/
3.	right	*kanan* /ka·nan/	*uneun* /u·nɯn/
4.	board	*papan* /pa·pan/	*papeun* /pa·pɯn/
5,	wonder	*heran* /hɛ·ran/	*hireun* /hi·rɯn/
6.	centipede	*lipan* /li·pan/	*limpeun* /limpɯn/
7.	era	*zaman* /za·man/	*jameun* /dʒa·mɯn/
8.	child	*anak* /a·naʔ/	*aneuk* /a·nɯʔ/
9.	evil	*jahat* /dʒa·hat/	*jeuheut* /dʒɯ·hɯt/
10.	hour	*jam* /dʒam/	*jeum* /dʒɯm/
11.	oil	*minyak* /mi·nyaʔ/	*minyeuk* /mi·nyɯʔ/
12.	areca nut	*pinang* /pi·naŋ/	*peineung* /pi·nɯŋ/
13.	pay	*bayar* /ba·jar/	*bayeu* /ba·jɯ/
14.	giddy	*gamang* /ga·maŋ/	*gameung* /ga·mɯŋ/

except for some words such as *gamang* /ga·maŋ/ 'giddy' in Indonesia that is said *gameung* /ga·mɯŋ/ 'giddy' in Acehnese. The phoneme /a/ that corresponds with /ɯ/ happens not perfectly because not all words ending in vowel /a/ in Indonesian correspond to phoneme /ɯ/ in Acehnese, for example, *makan* /ma·kan/ 'eat' in Indonesian is not *makun* in Acehnese, but it is *pajoh* /pa·dʒoh/ 'eat'.

Correspondence /o/ ≈ /u/ / - # K –

The correspondence of phoneme /o/ in Indonesian with the phoneme /u/ in Acehnese occurs in the penultimate syllable or the initial syllable after the consonant as shown in Table 12.

The examples in Table 12 depict consonants that precedes the phoneme /o/. The phoneme /o/ in Indonesia and phoneme /u/ in Acehnese correspondence are not perfect because not all words beginning with the vowel /o/ in Indonesian correspond to the phoneme /u/ in Acehnese. For example, *bola* /bo·la/ 'ball and *dosa* /dɔ·sa/ 'sin' /sin/ in the Indonesian remains *bola* /bo·la/ 'ball and *desya* /dɛ·ʃa/ 'sin' /sin/ in Acehnese.

Table 12

Phoneme correspondence /o/ (Indonesian) with phoneme /u/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	coffee	*kopi* /ko·pi/	*kupi* /ku·pi/
2.	hat	*topi* /to·pi/	*tupi* /tu·pi/
3.	bread	*roti* /ro·ti/	*ruti* /ru·ti/
4.	jute	*goni* /go·ni/	*guni* /gu·ni/
5.	contest	*lomba* /lom·ba/	*lumba* /lum·ba/
6.	try	*coba* /ʧo·ba/	*cuba* /ʧu·ba/
7.	prayer	*do'a* /do·ã/	*du'a* /du·ã/
8.	tail	*ekor* /ɛ·kor/	*iku* /i·ku/
9.	cheers	*sorak* /so·raʔ/	*surak* /su·raʔ/

Correspondence /i/ ≈ /ɔə/ / -

The correspondence of /i/ in Indonesian sounds with /o/ in Acehnese occurs in the ultima or final syllable after the consonant as shown in Table 13.

The examples in Table 13 show consonants that precedes the phoneme /i/, these consonants are /g/, /l/, /r/, /t/, /k/, /ʤ/ and /m/. The phoneme /i/ in Indonesian corresponds with /ɔe/ in Acehnese is not perfect because not all words ending with /i/ in Indonesian correspond to /ɔe/ in Acehnese. For examples, the word *pergi* /per·gi/ 'go' in Indonesian is not *pergo* in Acehnese, but it is *jak* /ʤak/ 'go'.

Table 13

Phoneme correspondence/i/ (Indonesian) with phoneme /ɔe/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	yeast	*ragi* /ra·gi/	ragoe /ra·gɔə/
2.	aspect, facet, side	*segi* /sə·gi/	sagoe /sag·ɔə/
3.	loss	*rugi* /ru·gi/	rugoe /ru·gɔə/
4.	tooth	*gigi* /gi·gi/	gigoe /gi·gɔə/
5,	buy	*beli* /bə·li/	bloe /blɔə/
6.	chants	*bini* /bi·ni/	binoe /bi·nɔə/
7.	rope	*tali* /ta·li/	taloe /ta·lɔə/
8.	princess	*putri* /put·ri/	putroe /pu·trɔə/
9.	minister	*mentri* /mən·tri/	mentroe /men·trɔə/
10.	alone, ownership	*sendiri* /səndiri/	sidroe /si·drɔə/
11.	replace	ganti /gan·ti/	gantoe /gan·tɔə/
12.	saw	gergaji /gər·ga·ʤi/	gergajoe /gər·ga·ʤɔə/
13.	we	kami /ka·mi/	kamoe /ka·mɔə/
14.	men	laki /la·ki/	lakoe /la·kɔə/

Correspondence /i/ ≈ /e/ / - K

The correspondence of the phoneme /i/ in Indonesian with /e/ in Acehnese occurs in the ultima or final syllables after the consonants as shown in Table 14.

In the examples above, the words are of consonants that precede the phoneme /i/; these consonants are /b/, /d/, /j/, /l/, /p/, /r/, /s/ and /t/. The consonant following the phoneme /e/ in Acehnese is largely similar in form as the consonant following the phoneme /i/ in Indonesian. Hence,

when a word ends with /s/ in Indonesian, it corresponds to /h/ in Acehnese, such as *tipis* 'thin' in Indonesian is *lipèh* 'thin' in Acehnese. The phoneme /i/ in Indonesian correspondence with the phoneme /e/ in Acehnese occurs not perfectly, meaning that not all words ending with /i/ in Indonesian correspond to phoneme /e/ in Acehnese. For example, *bersih* /ber·sih/ 'clean' in Indonesian is not *berseh* in Acehnese, but its *glèh* /gleh/ 'clean'.

Table 14

Phoneme correspondence/i/ (Indonesian) with phoneme /e/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	out	*habis* /ha·bis/	*abèh* /a·beh/
2.	love	*kasih* /ka·sih/	*gasèh* /ga·seh/
3.	skin	*kulit* /ku·lit/	*kulèt* /ku·let/
4.	scabies	*kudis* /ku·dis/	*kudèe* /ku·deə/
5.	*lupis* 'traditional cake'	*lupis* /lu·pis/	*lupèh* /lu·peh/
6.	sore	*pedih* /pe·dih/	*peudèh* /pɯ·deh/
7.	sad	*sedih* /se·dih/	*seudèh* /sɯ·deh/
8.	pull	*tarik* /ta·riʔ/	*tarèk* /ta·reʔ/
9.	thin	*tipis* /ti·pis/	*lipèh* /li·peh/
10.	required	*wajib* /wa·dʒib/	*wajèb* /wa·dʒeb/

Correspondence /ɛ/ ≈ /i/ / # K –

The correspondence of phoneme /ɛ/ in Indonesian with /i/ in Acehnese occurs in the penultimate syllable or the initial syllable after the consonant, as shown in Table 15.

Table 15 portrays that correspondence does not depend on the phoneme that precedes it. In Table 15, it is shown that the sound of /ɛ/ in Indonesian is followed by /b/, /h/, /p/, /m/, /s/, and /t/. The phoneme that

follows the phoneme /i/ in Acehnese is the same as the phoneme following phoneme /ɛ/ in Indonesian. The correspondence of phoneme /ɛ/ with phoneme /i/ is not perfect, meaning that not every word with /ɛ/ in Indonesian corresponds to phoneme /i/ in Acehnese. For example, the word *lebar* /lɛ·bar/ 'width' in Indonesian is not *liba*r in Acehnese, but rather *luwah* /lu·wah/.

Table 15

Phoneme correspondence /ɛ/ (Indonesian) with phoneme /i/(Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	different	*beda* /bɛ·da/	*bida* /bi·da/
2.	defend	*bela* /bɛ·la/	*bila* /bi·la/
3.	saving, sparing	*hemat* /hɛ·mat/	*himat* /hi·mat/
4.	silver	*perak* /pɛ·raʔ/	*pirak* /pi·raʔ/
5.	football	*sepak* /sɛ·paʔ/	*sipak* /si·paʔ/
6.	askew	*serong* /sɛ·rɔŋ/	*sirong* /si·rɔŋ/
7.	shoot	*tembak* /tɛm·baʔ/	*timbaʔ* /tim·bak/
8.	red	*mɛrah* /me·rah/	*mirah* /mi·rah/

Correspondence /ə/ ≈ /Ø/ / # -

The correspondence of phoneme /ə/ in Indonesian with phoneme removal or /Ø/ in Acehnese occurs in the penultimate syllable or the initial syllable after the consonant as shown in the Table 16.

Table 16 portrays examples that correspondence, in this case, does not depend on the phoneme that precedes it. In the above examples, the consonants that precede the phoneme /ə/ in Indonesian are /b/, /c/, /g/, /p/, /s/ and /t/. The correspondence of phoneme /ə/ in Indonesian with this phoneme removal in Acehnese is not perfect because not all phonemes /ə/ in the initial syllable of Indonesian words correspond to this phoneme removal in Acehnese. For example, the word *benang* /be·naŋ/ 'thread' in Indonesian is not *bneng* in Acehnese, but *beuneung* /bɯ·nɯŋ/ 'thread'. Nevertheless, the consonant that appears following /ə/ is the one that determines this removal; it can be said that the occurrence of /l/, /r/ and /g/ in the Indonesian words cause the elimination of /ə/ in Acehnese.

Table 16

Phoneme correspondence /ə/ (Indonesian) with phoneme removal /Ø/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	buy	*beli* /bə·li/	*bloe* /blɔe/
2.	weight	*berat* /bə·rat/	*brat* /brat/
3.	give	*beri* /bə·ri/	*bri* /bri/
4.	divorce	*cerai* /cə·rai/	*crè* /cre/
5.	glass	*gelas* /gə·las/	*glah* /glah/
6.	motion	*gerak* /gə·raʔ/	*grak* /graʔ/
7.	war	*perang* /pə·raŋ	*prang* /praŋ/
8.	stomach	*perut* /pə·rut/	*pruet* /pruət/
9.	soon	*segera* /sə·ge·ra/	*sigra* /si·gra/
10.	bright	*terang* /tə·raŋ/	*trang* /traŋ/

Correspondence /ai/ ≈ /e/ / - #

The correspondence of the phoneme /ai/ in Indonesian with the phoneme /e/ in Acehnese occurs in the ultima syllable or the final syllable after the consonant as shown in Table 17.

In Table 17, it shows that the consonants preceding the diphthong /ai/ are /r/, /d/, /t/, and /p/. The phoneme /ai/ correspondence

the phoneme /e/ is not perfect because not all words ending in /ai/ in Indonesian correspond to phoneme /e/ in Acehnese, for example *kalau* /ka·lau/ 'if' in Indonesian is *miseu* /mi·sɯ/ 'if' in Acehnese. Nevertheless, in the Indonesian oral contemporary or daily language, Indonesia pronounces [ai] sound as [e] sound, i.e. *pandai* /pan·dai/ 'smart' is said as *pandè* /pan·de/.

Table 17

Phoneme correspondence /ai/ (Indonesian) with phoneme /e/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	divorce	*cerai* /ʧə·rai/	*crè* /ʧre/
2.	smart	*pandai* /pan·dai/	*pandè* /pan·de/
3.	beach	*pantai* /pan·tai/	*pantè* /pan·te/
4.	chain	*rantai* /ran·tai/	*rantè* /ran·te/
5.	battery	*baterai* /ba·te·rai/	*batrè* /bat·re/

Correspondence /ai/ ≈ /ɛə/ / - #

The correspondence of phoneme /ai/ in Indonesian with phoneme /ɛə/ in Acehnese occurs in the ultima or final syllable after the consonant. The data is as shown in Table 18.

Table 18 displays the consonants preceding diphthong /ai/, which are /m/, /l/,

and /p/. The correspondence of phoneme /ai/ with sound /ɛə/ occurs not perfectly, meaning that not all words ending in diphthong /ai/ in Indonesian correspond to phoneme /ɛə/ in Acehnese, for example, the work *pintar* /pin·tar/ 'clever' in Indonesian is *carong* /ca·roŋ/ 'clever' in Acehnese.

Table 18

Phoneme correspondence /ai/ (Indonesian) with phoneme /ɛə/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	crowded	*ramai* /ra·mai/	*ramée* /ra·mɛə/
2.	hall	*balai* /ba·lai/	*balée* /ba·lɛə/
3.	curry	*gulai* /gu·lai/	*gulée* /gu·lɛə/
4.	lax	*lalai* /la·lai/	*lalée* /la·lɛə/
5.	trunk	*belalai* /bə·la·lai/	*beulalée* /bə·la·lɛə/
6.	storm	*badai* /ba·dai/	*badée* /ba·dɛə/
7.	shop	*kedai* /kə·dai/	*keudée* /kɯ·dɛə/
8.	squirrel	*tupai* /tu·pai/	*tupée* /tu·pɛə/

Correspondence /ai/ ≈ /oə/ / -

The correspondence of the phoneme /ai/ in Indonesian with the phoneme /oə/ in Acehnese occurs in the ultima syllable or the final syllable after the consonant as shown in Table 19.

Table 19 only shows four consonants preceding the diphthong /ai/, they are /g/, /l/, /p/ and /s/. The phoneme /ai/ phoneme /oə/ correspondence is not perfect because not all words ending in diphthongs /ai/ in Indonesian correspond to the phoneme /oə/ in Acehnese, for examples *pakai* /pa·kai/ 'to wear' in Indonesian is *sôk* /sok/ 'to wear' in Acehnese, and *rantai* /ran·tai/ 'chain' in Indonesian is *rantée* /ran·tɛə/ 'chain' in Acehnese.

Table 19

Phoneme correspondence /ai/ (Indonesian) with phoneme /oə/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	palace	*mahligai* /mah·li·gai/	*meuligoe* /mɯ·li·goə/
2.	like	*bagai* /ba·gai/	*bagoe* /ba·goə/
3.	lax	*lalai* /la·lai/	*laloe* /la·loə/
4.	arrived	*sampai* /sam·pai/	*sampoe* /sam·poə/
5.	finish	*sələsai* /sə·lə·sai	*sələsoe* / sə·lə·soə /

Correspondence /al/ ≈ /ai/ / -

The correspondence of sound /al/ in Indonesian with sound /ai/ in Acehnese occurs in the ultima syllable or syllable after the consonant as shown in Table 20.

Table 20 shows the consonants preceding the phoneme /al/, which are /t/, /b/, /p/, and /k/. The phoneme /al/ and phoneme /ai/ correspondence is not perfect because not all words ending with ending /al/ in Indonesian correspond to diphthong /ai/ in Acehnese. For example, the word *sebal* /se·bal/ 'irritated' in Indonesian is not *sebai* in Acehnese, but it is *palak* /pa·laʔ/ 'irritated'.

Table 20

Phoneme correspondence /al/ (Indonesian) with phoneme /ai/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	pillow	*bantal* /ban·tal/	*bantai* /ban·tai/
2.	itchy	*gatal* /ga·tal/	*gatai* /ga·tai/
3.	thick	*tebal* /tə·bal/	*teubai* /tɯ·bai/
4.	immune	*kebal* /kə·bal/	*keubai* /kɯ·bai/
5.	ship	*kapal* /ka·pal/	*kapai* /ka·pai/

Table 20 *(Continued)*

No.	Meaning	Indonesian	Acehnese
6.	thick	*hafal* /ha·fal/	*hapai* /ha·pai/
7.	memorized	*jengkal* /dʒəŋ·kal/	*jengkai* /dʒəŋ·kai/
	span		

Correspondence /aŋ/ ≈ /ɯŋ/ / # K –

The correspondence of phoneme /aŋ/ in Indonesian with phoneme /ɯŋ/ in Acehnese occurs in the ultima syllable or final syllable after the consonant as seen in Table 21.

Table 21 shows that the consonants preceding the phoneme /aŋ/ are /r/, /s/. The correspondence of sound /aŋ/ in Indonesian with sound /ɯŋ/ is not perfect because not all words ending with ending /aŋ/ in Indonesian correspond to /ɯŋ/ in Acehnese. For example, the word *perang* /pe·raŋ/ 'war' in Indonesian is not *pereung* in Acehnese, but it is *prang* /praŋ/ 'war'.

Table 21

Phoneme correspondence /s/ (Indonesian) with phoneme /h/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	satisfaction	*puas* /pu·as/	puah, pueh /pu·ah/, /pu·əh/
2.	fan	*kipas* /ki·pas/	*kipah* /ki·pah/
3.	breathe	*nafas* /na·fas/	*napah* /na·pah/
4.	reply, response	*balas* /ba·las/	*balah* /ba·lah/
5.	glass	*gelas* /gə·las/	*glah* /glah/
6.	terrace	*teras* /te·ras/	*térah* /tɛ·rah/
7.	paper	*kertas* /kər·tas/	*kertah* /kər·tah/
8.	numb	*kebas* /kə·bas/	*keubôh* /kɯ·bôh/
9.	thin	*tipis* /ti·pis/	*lipèh* /li·peh/
10.	mouse	*tikus* /ti·kus/	*tikoh* /ti·koh/
11.	fare	*ongkos* /ɔng·kɔs/	*ongkoh* /ɔŋ·kɔh/
12.	finish, okay	*bɛrɛs* /be·res/	*béréh* /bɛ·rɛh/

Correspondence /s/ ≈ /h/ / # K –

The correspondence of phoneme /s/ in Indonesian with phoneme /h/ in Acehnese occurs in the ultima syllable or final syllable after the consonant as seen in Table 22.

Table 22 illustrates that the consonants that precedes the phoneme /s/, they are phonemes /a/, /o/, /e/, and /ɛ/. The correspondence of sound /s/ with sound /h/ occurs perfectly, that is, all words ending in

consonant /s/ in Indonesian correspond to consonant /h/ in Acehnese. Moreover, the Acehnese consonants do not have the sound /s/, /f/ and /z/ (Asyik, 1987).

Correspondence /k/ ≈ /g/ / # -

The correspondence of /k/ in Indonesian with /g/ in Acehnese occurs in the penultimate or Λearly syllable silos before vowels as shown in Table 23.

Table 22

Phoneme correspondence /s/ (Indonesian) with phoneme /h/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	satisfaction	*puas* /pu·as/	puah, pueh /pu·ah/, /pu·əh/
2.	fan	*kipas* /ki·pas/	*kipah* /ki·pah/
3.	breathe	*nafas* /na·fas/	*napah* /na·pah/
4.	reply, response	*balas* /ba·las/	*balah* /ba·lah/
5.	glass	*gelas* /gə·las/	*glah* /glah/
6.	terrace	*teras* /te·ras/	*térah* /tɛ·rah/
7.	paper	*kertas* /kər·tas/	*kertah* /kər·tah/
8.	numb	*kebas* /kə·bas/	*keubôh* /kɯ·bôh/
9.	thin	*tipis* /ti·pis/	*lipèh* /li·peh/
10.	mouse	*tikus* /ti·kus/	*tikoh* /ti·koh/
11.	fare	*ongkos* /ɔng·kɔs/	*ongkoh* /ɔŋ·kɔh/
12.	finish, okay	*bɛrɛs* /be·res/	*béréh* /bɛ·rɛh/

Table 23 shows that the vowels that follow the sound /k/ are the phonemes /a/, /ɯ/, and /u/. The correspondence of sound /k/ with sound /g/ occurs not perfectly because not all phonemes /k/ at the beginning of a word in Indonesia correspond to sound /g/ in Acehnese, for example, the word *kambing* /kam·biŋ/ 'goat' Indonesian is not *gambing* in Acehnese but *kameng* /ka·mɛŋ/ 'goat'.

Table 23

Phoneme correspondence /k/ (Indonesian) with phoneme /g/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	glass	*kaca* /ka·ʧa/	*gaca* /ga·ʧa/
2.	feet	*kaki* /ka·ki/	*gaki* /ga·ki/
3.	village	*kampung* /kam·puŋ/	*gampong* /gam·pɔŋ/
4.	cotton	*kapas* /ka·pas/	*gapeuh* /ga·pɯh/
5,	chalk	*kapur* /ka·pur/	*gapu* /ga·pu/
6.	potato	*kentang* /ken·taŋ/	*gantang* /gan·taŋ/
7.	fart	*kentut* /ken·tut/	*geuntôt* /gɯn·tʌt
8.	armpit	*ketiak* /ke·ti·aʔ/	*geutiʔ* /gɯ·tiʔ/
9.	horse	*kuda* /ku·da/	*guda* /gu·da/
10.	nail	*kuku* /ku·ku/	*gukée* /gu·kɛə/

Correspondence /h/ ≈ /Ø/ / # -

The correspondence of sounds /h/ in Indonesian with /Ø/ in Acehnese occurs in the penultimate or early syllabic syllables before the vowels as shown in Table 24.

Table 24

Phoneme correspondence /h/ (Indonesian) with phoneme removal /Ø/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	out	*habis* /ha·bis/	*abèh* /a·beh/
2.	scorched	*hangus* /ha·ŋus/	*angoh* /a·ŋoh/
3.	day	*hari* /ha·ri/	*uroe* /u·rɔə/
4.	life	*hidup* /hi·dup/	*udèp* /u·dep/
5.	black	*hitam* /hi·tam/	*itam* /i·tam/
6.	rain	*hujan* /hu·dʒan/	*ujeun* /u·jun/
7.	destroyed	*hancur* /han·tʃur/	*anco* /an·tʃo/
8.	memorize	*hafal* /ha·fal/	*aphai* /a·phai/

Table 24 presents vowels that follow the sound /h/ and they are phoneme /a/, /i/, and /u/. The correspondence of sound /h/ with sound disappearance /Ø/ occurs perfectly, that is, all words beginning with consonant /h/ in Indonesian correspond to the phoneme removal /Ø/ in Acehnese.

Correspondence /r/ ≈ /Ø/ / - #

The correspondence of /r/ in Indonesian with /Ø/ in Acehnese occurs in the ultima or final syllable after the vowel as seen in Table 25.

Table 25 shows the vowels that precede the sound /r/, which are phonemes /o/, /a/, /ɔ/, /e/, /u/, and /ɛə/. The phonemic correspondence /r/ with the with phoneme removal /Ø/ occurs perfectly because all words ending with the sound /r/ in Indonesian correspond to its sound disappearance /Ø/ in Acehnese.

The aforesaid phonemic correspondence between Acehnese and Indonesian languages supports the research results of Istiqamah (2017), which revealed that Acehnese and Malay (i.e. Indonesian) are two languages that have a kinship. She mentioned that out of 100 vocabularies from the Swadesh list, 48% of the words are closely related. The Acehnese and Malay (Indonesian) languages were separated about 1,650 years ago or since 367M. Based on this level of kinship (48%), there is a great possibility of lexical borrowing between both languages.

Table 25

Phoneme correspondence /r/ (Indonesian) with phoneme removal /Ø/ (Acehnese)

No.	Meaning	Indonesian	Acehnese
1.	dirty	*kotor* /kɔ·tɔr/	*kuto* /ku·tə/
2.	rotate	*putar* /pu·tar/	*puta* /pu·ta/
3.	say	*tutur* /tu·tur/	*tuto* /tu·to/
4.	leaked	*bocor* /bɔ·tʃɔr/	*buco* /bu·tʃɔ/
5.	destroyed	*hancur* /han·tʃur/	*anco* /an·tʃo/
6.	slack	*kendur* /kən·dur/	*keundo* /kɯn·do/
7.	sarcastic	*sindir* /sin·dir/	*sindè* /sin·de/
8.	patient	*sabar* /sa·bar/	*saba* /sa·ba/

Table 25 *(Continued)*

No.	Meaning	Indonesian	Acehnese
9.	lip	*bibir* /bi·bir/	*bibè* /bi·be/
10.	tomb	*kubur* /ku·bur/	*kubu* /ku·bu/
11.	carve	*ukir* /u·kir/	*ukée* /u·kɛə/
12.	kafir	*kafir* /ka·fir/	*kafè* /ka·fe/
13.	chalk	*kapur* /ka·pur/	*gapu* /ga·pu/

CONCLUSION

To conclude, there are 19 forms of phonemic correspondences in Indonesian with Acehnese. From these 19 forms, there are three perfect correspondences and they are s ≈ h, h ≈ ø, and r ≈ ø. Meanwhile, the others are not perfect correspondences and they are u ≈ ɛə, u ≈ ɔ, u ≈ o, a ≈ o, a ≈ ɯ, o ≈ u, i ≈ ɔə, i ≈ e, ɛ ≈ i, ə ≈ ø, ai ≈ e, ai ≈ ɛə, ai ≈ o, al ≈ ay, aŋ≈ ɯŋ and k ≈ g. The results further reveal that the vowel correspondences of Indonesian with Acehnese occur at the beginning, middle, and end of vowels as well as the initial and final consonants. Consequently, the findings on the Indonesian phonemic correspondence with Acehnese can be used as a reference for further research on other linguistic relations between Indonesian and Acehnese, and even alternative learning materials for Acehnese speakers who study Indonesian or vice versa.

Although the aim of this research has been accomplished; this research was not without shortcomings. This present research only focused on the vowel correspondences of Indonesian with Acehnese. Meanwhile, Indonesia is a super diverse country comprising many ethnic societies and languages. For that reason, future research studies are recommended to conduct more analysis on other vowel correspondences that may occur among the languages spoken in this country. Linguists are also able to investigate how the sound relation between languages can reveal the language history of the speakers.

ACKNOWLEDGEMENT

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