Cognate in Indonesian and Berau Language
Comparative Linguistics Study

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Abstract: Indonesian language (IL) and Berau language (BL) are classified into Austronesia family, sub-family of Malay-Polynesia. Based on the classification, this study was conducted to validate the statement above. The aims of this study were to describe the similarity, resemblance, and distinction of the root word in Indonesian and Berau language based on correspondence analysis; and to clarify the cognate level between Indonesian and Berau language based on lexicostatistic extrapolation. The study used descriptive, comparative, and observation methods, based on lexicostatistic and correspondence theory. The findings revealed that out of 200 root words analyzed, 75 of them to be the similar, 72 are alike, and 53 to be different. Findings also revealed that several formulas namely, "each phoneme /h/ in IL will always correspond with zero in BL"; "each phoneme /ə/ in IL will always correspond with phoneme /a/ in BL"; and "each phoneme /o/ in IL will always correspond with phoneme /u/ in BL". These happen because of the lack of phonemes /ə/, /h/, and /o/ in BL. Several consonants cluster in BL were found, i.e. /bb/, /dd/, /jj/, /ll/, /pp/, /rr/, /ss/, and /tt/. New consonants in BL were also found such as [l], [m], [ñ], [ŋ], and [p]. Cognates which were successfully identified were 73. Lastly, these findings proved that IL and BL are at the level of family classification.

1   INTRODUCTION

Austronesia Family Language commonly classified into two categories namely (1) East Irian languages and Melanesia an (2) Malay-Polynesia languages. Malay-Polynesia languages are divided into three sub-categories. One of which is Hesperonesia languages (West Indonesian languages). Indonesian language (IL) and Berau language (BL) are included in the sub-categories of Malay languages. Sudarno (1992) also states that IL is Austronesia language. In addition, the classification is also reinforced by SIL in Ethnologue (2007) who also claims that IL is also contained within Austronesia Family. However, Existing research only focused on separate classification such as in Sudarno (1992), and SIL in Ethnologue (2007; 2010) which have been elaborated before. Therefore, the similar research was conducted to see cognate level or the kinship of both of the languages.

2   LITERATURE REVIEW

Linguistic comparative is a branch of linguistics that studies the phonological, grammatical, and lexical equivalence of the related languages or from the historical periods of a language (Kridalaksana, 2011).

Theory included is correspondence and lexicostatistic theory. Wiyanti (2016) suggests that correspondence is an alignment or commensuration of sound in the same position of languages in terms of horizontal characteristic. The alignment or commensuration is compared to each other. In terms of correspondence stages namely registering words from language under scrutiny and associating phoneme by phoneme in the same position.

Lexicostatistic is a technique in language classification which tends to underline word observation (lexicon) statistically, to try to determine the classification based on the percentage of similarity and difference in a language with other language (Keraf, 1996).

3 METHODOLOGY

The research methodology employed in the study is descriptive. Descriptive method is a method used to unmask actual problem with gathering some data, organizing the data, classifying the data, analysing the data and interpreting the data based on actual phenomenon at hand.

The research methodology employed in the study is comparative method. Comparative method is a method that is more prone to depend on sound and meaning correspondence, therefore the primary attention should be given at how a systematic sound comparison is done. The first step is to conduct a comparison based on sound system e.g. as studied in sound classification phonologically. Initially, consonant sounds should be compared to homogeny sounds (Parera, 1991). Comparative method is characterized as qualitative. Data transcription is collected through this method. Data analysis by means of corresponding each word is done through the transcription result, and then the classification result of the root word to be the similar, same, and different will be retrieved.

4 RESULTS AND DISCUSSION

Keraf (1996) states that correspondence is alignment or commensuration of sound in the same position of languages in terms of horizontal characteristic. The alignment or commensuration is seen at the similarity or sameness of form and meaning. The corresponding pair is compared to each other. As for the correspondence stages which are registering words from language under scrutiny and associating phoneme by phoneme in the same position.

Gloss used in the study amounts 200 glosses (in Keraf, 1996) with each being compared between Indonesian language and Berau language. 200 glosses are deemed universal and used to comparative research (Comparative Linguistics or Comparative Historical Linguistics).

In the category of similarity, root word within the category is the root word which writing, pronunciation, and meaning are the same. The gloss that is included in the same category namely: *abu, air, aku, anak, angin, api, awan, baik, banyak, baru, batu, binatang, bintang, bulan, bulu, buruk, burung, cium, daging, danau, datang, daun, di dalam, di/pada, di mana, di sini, dua, garam, garuk, gigi, gigit, gosok, gunung, ikat, ini, jalan, jantung, kami, kanan, kiri, kuku, kulit, kuning, kutu, lain, langit, laut, licin, lima, lutut, makan, malam, mata,* *matahari, mati, minum, napas, panas, panjang, punggung, rambut, rumput, satu, siang, siapa, sungai, tajam, takut, tali, tangan, tarik, tidur, tiga, tua,* dan *tumpul*. The total of the root words is 75.

In the category of different, root words which are included is the root words that have the same meaning with extremely different writing and pronunciation. During the correspondence, phoneme comparison of the gloss can be dominantly different as to conclude that the phoneme is within different root word. Gloss included in different category namely: *akar, anjing, apung, asap, bagaimana, bakar, balik, bapak, benar, bengkak, cacing, cuci, dekat, dingin, dorong, ekor, hisap, gali, hantam, ia, ibu, ikan, istri, jatuh, kabut, kaki, kalau, berkata, kecil, kotor, lebar, leher, lelaki, lempar, lidah, lihat, lurus, mereka, nyanyi, pasir, pegang, perempuan, pohon, potong, sayap, sedikit, semua, suami, tetek, tidak, tikam,* dan *ular*. The total of the different root word is 53.

In the category of almost similar, root words which are within the category are those which the writing and pronunciation are almost similar on each phoneme and its comparison. It can be said that each pair of the phoneme in a gloss is dominantly related. The category can be seen during the inference of determining gloss in the same root word category due to the phoneme comparison 50:50. Gloss included in this category namely: *mengalir, apa, baring, beberapa, belah, benih, berenang, berjalan, berat, beri, besar, buah, bunga, bunuh, berburu, busuk, dan, darah, debu, dengan, dengar, berdiri, duduk, engkau, empat, gemuk, hapus, hati, hidung, hidup, hijau, hitam, hitung, hujan, hutan, itu, jahit, jauh, kamu, karena, berkelahi, kepala, kering, berludah, main, merah, mulut, muntah, nama, orang, pendek, peras, perut, pikir, pusar, putih, sempit, tahu, tahun, tanah, tebal, telinga, telur, terbang, tertawa, tipis, tiup, tongkat, tulang, usus, di situ,* dan *basah*. The total of the root words in the category of sameness is 72.

Below are several correspondences from each category of similarity, distinction, and sameness. The correspondences are as follows.

4.1 *Abu*

Either in IL or BL, the gloss of *abu* uses the word [abu]. Phoneme /a/ in IL corresponds with phoneme /a/ in BL. Both of those phonemes posit the initial place. Both of those phonemes are found to be related. Phoneme /b/ in IL corresponds with phoneme /b/ in BL. Both of these phonemes are flanked by VCV (Vowel-Consonant-Vowel). These

phonemes are related to each other. Phoneme /u/ in IL corresponds with phoneme /u/ in BL. Both of these phonemes posit the last place. These phonemes are related to each other. Based on the correspondence above, both of the root words are categorized as the same. This correspondence is as depicted below.

IL	BL			
[abu]	[abu]			
a ~	a	/ #--	; #--	+
b ~	b	/VCV	; VCV	+
u~	u	/--#	; --#	+

4.2 *Akar*

The term *akar* is used in IL whereas the term *burakat* is used in BL. Phoneme /b/ in BL which posits initial place corresponds with zero in IL. These phonemes are found to be unrelated. Phoneme /u/ in BL is edged by CVC (Consonant-Vowel-Consonant) corresponds with zero in IL. These phonemes are found to be unrelated. Phoneme /r/ in BL is flanked by VCV (Vowel-Consonant-Vowel) corresponds with zero in IL. Phoneme /a/ in IL posits the initial position and corresponds with phoneme /a/ in BL which flanked by CVC (Consonant-Vowel-Consonant). These phonemes are found to be related to each other. Phoneme /k/ in IL edged by VCV (Vowel-Consonant-Vowel) corresponds with phoneme /k/ in BL also flanked by VCV (Vowel-Consonant-Vowel). These two phonemes are related to each other. Phoneme /a/ in IL edged by CVC (Consonant-Vowel-Consonant) corresponds with phoneme /a/ in BL edged by CVC (Consonant-Vowel-Consonant). Both of these phonemes are related to each other. Finally, phoneme /t/ in IL corresponds with phoneme /t/ in BL which both posit last position. These phonemes are found to be related to each other. Based on the correspondence above, both of those words are under the same category of different. This can be seen as follows.

IL		BL	
[akar]		[burakat]	
Ø	~	b/#-- ; #--	-
Ø	~	u /CVC; CVC	-
Ø	~	r /VCV; VCV	-
a	~	a/#--; CVC	+
k	~	k/ VCV; VCV	+
a	~	a/ CVC; CVC	+
r	~	t /--#; --#	-

4.3 *Basah*

In IL, the word *basah* is used whereas the word *basa* is used in BL. Phoneme /b/ in IL corresponds with phoneme /b/ in BL. Both of them are located in the beginning. These two phonemes are related to each other. Phoneme /a/ in IL corresponds with phoneme /a/ in BL. Both of these phonemes are lined with CVC (Consonant-Vowel-Consonant). These two phonemes are found to be related to each other. Phoneme /s/ in IL corresponds with phoneme /s/ in BL. Both of these two phonemes are flanked by VCV (Vowel-Consonant-Vowel) and also are found to be related to each other. Phoneme /a/ in IL edged by CVC (Consonant-Vowel-Consonant) corresponds with phoneme /a/ in BL which is located in the end. These two phonemes are related to each other. Phoneme /h/ in IL which is located in the end corresponds with zero BL. These two phonemes are found to be unrelated. Based on the correspondence above, both of those words are under the same categorization which is the category of sameness. This is as depicted below.

IL		BL	
[basah]		[basa]	
b	~	b /#-- ; #--	+
a	~	a /CVC; CVC	+
s	~	s / VCV; VCV	+
a	~	a/CVC; --#	+
h	~	Ø /--#	-

After the formula of lexico-statistic is employed, similar words (72 root words) adds with same words (75 root words) divided by the total words under scrutiny (200 root words) times 100, the cognate level retrieved is 73. The result demonstrates that IL and BL are included in the family classification with the cognate percentage between 36-81. Based on the result analysis conducted, it was found several formulas. The formula is "each phoneme /h/ in IL will always correspond with zero in BL". The second formula namely, "each phoneme /ə/ in IL will always correspond with the phoneme /a/ in BL". The next formula is that "each phoneme /o/ in IL will always correspond with phoneme /u/ in BL.This is because in BL phonemes /ə/, /h/, and /o/ are not present. In BL consonant clusters that are found namely /bb/, /dd/, /jj/, /ll/, /pp/, /rr/, /ss/, and /tt/. Consonant cluster /bb/ is found in the words [dabbu], [tabbal], and [tarabbang]. Consonant cluster /dd/ is found in the word [duddUk]. Consonant cluster /jj/ is found in the word [ijjaw]. Consonant cluster /ll/ is found in the word [tallUr] and [tullaŋ]. Consonant cluster /nn/ is found in the word [banni]. Consonant cluster /pp/ is found in the word [nippis].

Consonant cluster /rr/ is found the words [barranaŋ], [barrat], [barri], [karrIŋ], and [parrUt]. Consonant cluster /ss/ is found the word [bassar]. Consonant cluster /tt/ is found in the word [ittam] and [attu].

Based on the data analysis above, new consonant in BL namely [l], [m], [ñ], [ŋ], and [p] are found. Consonant [l] is found in the words [gallaŋ-gallaŋ], [maliyur], [laup], [balImpaŋ], [bala], [bajalan], [pabila], [bulan], [bulu], [pijammIl], [jalan], [gallap], [lamUn], [alUs], [bakalai], [kapala], [kulIt], [lain], [laŋit], [laut], [laki-laki], [licIn], [ilat], [maliyat], [lima], [baluja], [lutUt], [malam], [paŋgal], [laki], [tali], [tabbal], [talIŋa], [tallUr], [tullang], and [tUmpUl]. The new discovery amounts 36 root words.

The discovery of new consonant [m] is found in the words [maliyur], [amma], [balImpaŋ], [ciyum], [manappas], [di dalam], [di mana], [pijammIl], [mañurUŋ], [ampat], [maŋakay], [garam], [gamUk], [maŋapUs], [ittam], [manjait], [lamUn], [kami], [cammar], [maliyat], [lima], [bamain], [makan], [malam], [mata], [matahari], [mati], [mira], [minUm], [muta], [gaman], [rambUt], [rumpUt], [sampIt], [tajam], [mañucUk], [maniyup], dan [tUmpUl]. The words are as much as 38 root words. The discovery of new consonant [ñ] is found in the words [bañak], [mañurUŋ], [babuñi], [ñama], and [mañucUk]. It amounts to 5 root words.

The discovery of new consonant [ŋ] is found in the words [aŋin], [tutUŋ], [bapanIŋ], [balImpaŋ], [barranaŋ], [binataŋ], [bintaŋ], [gallaŋ-gallaŋ], [dagIŋ], [daŋan], [dataŋ], [daŋar], [mañurUŋ], [ikkUŋ], [maŋakay], [gunUŋ], [aŋkUp], [maŋapUs], [idUŋ], itUŋ], [jantUŋ], [karrIŋ], [kunIŋ], [laŋit], [bataŋ], [sUŋut], [badIndaŋ], [uraŋ], [panjaŋ], [paŋgal], [pUŋgUŋ], [siyaŋ], [suŋay], [taŋan], [talIŋa], [tarabbaŋ], [tUŋkat], [tullaŋ], and [taddUŋ]. It amounts to 38 root words.

The discovery of new consonant [p] is found in the words [api], [biniyapa], [bapanIŋ], [balImpaŋ], [barapa], [pabila], [manappas], [di, pada], [pijammIl], [ampat], [angkUp], [maŋapUs], [idUp], [irUp], [gallap], [kapala], [napas], [panas], [panjaŋ], [pandak], [para], [parrUt], [bapikIr], [puun], [paŋgal], [pUŋgUŋ], [pusat], [puti], [rUmpUt], [kapay], [siyapa], [sampIt], [kaparais], [nippIs], [maniyup], and [tUmpUl].

This study conducted in 2017 which classifies IL and BL into Austronesia family. This is demonstrated by comparing both of languages and extrapolating the cognate level. After lexicostatistic formula is employed, cognate level retrieved is 73. The result shows that IL and BL are included in the family classification with cognate percentage between 36-81.

5 CONCLUSIONS

After attempting correspondence analysis towards Indonesian language and Berau language in Comparative Linguistics study, it can be inferred that 75 of the root words in both languages are similar, 72 are almost similar, and 53 are different. Based on the result analysis, several formulas are found namely "each phoneme /h/ in IL will always correspond with zero in BL, each phoneme /ə/ in IL will always correspond with phoneme /a/ in BL, and each phoneme /o/ in IL will always correspond with phoneme /u/ in BL". This is because in BL phonemes /ə/, /h/, and /o/ do not exist. Several consonant clusters in BL are found, i.e. /bb/, /dd/, /jj/, /ll/, /pp/, /rr/, /ss/, and /tt/. Moreover, discovery of new consonants in BL are also identified namely [l], [m], [ñ], [ŋ], and [p].

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