Cognates among the Karo, Alas and Gayo Languages

Dardanila

Department of Bahasa Indonesia
Faculty of Cultural Sciences, University of Sumatera Utara
Jl. dr. Mansoer No. 1 Medan-20155 (Indonesia)

Robert Sibarani

Dwi Widayati

Post-Graduate Department of Linguistics
Faculty of Cultural Sciences University of Sumatera Utara
Jl. dr. Mansoer No. 1 Medan-20155 (Indonesia)

Aron Meko Mbete
Faculty of Cultural Sciences
University of Udayana (Indonesia)

Abstract

This study is specifically concerned with description of cognates among the Karo, Alas, and Gayo languages and was conducted in three regencies: Karo, Alas and Gayo. The Karo is one of regencies in North Sumatera Province while the rest are part of Aceh; however, the three share the same borders. Data for this study were gathered among the native speakers. The comparative method is used here and the technique of lexicostatistics is also adopted. On the basis of the results of this research, it can be concluded that quantitatively there were close relations of kinship attributed to the cognate percentages by 73% between the Karo and Alas, by 43.5% between the Karo and Gayo, and by 52.5% between Alas and Gayo. The split time between Karo and Alas was predicted to be around 0,729 thousands of years ago. This means that Alas became a single language at around 0,729 thousands of years ago. The split time between Karo and Gayo was thought to be 1,926 thousands of years ago, meaning that Gayo became an independent language at about 1,926 thousands of years ago. The split time between Alas and Gayo was around 1,484; this means that Gayo was considered a single language at around 1,484.

Keywords: cognates, time separation, relation, Karo, Alas, Gayo.

1. Introduction

All languages in the world have high levels of kinship, or cognates, especially those which live in certain close areas, for instance, between languages in Aceh and North Sumatra. The cognates might be found in their lexical similarity of forms and meanings since the two have a direct inheritance. This is in line with what has been proposed by Keraf (1984: 37). Keraf argued that the fundamental basis to determine the cognates can be refered to the similarity of forms of words and their meanings because the two have direct inheritance. To compare the similar forms of different languages with their same or close meanings in other languages especially when those languages are equipped with some similarities of grammatical elements, all of this would conclude that these languages are derived from the same Proto languages. The Indonesian encyclopedia mentioned that words which are relatives can be considered to derive from the same source (www.wikipedia.bahasa_indonesia accessible encyclopedia 06.12201 million). In this respect the study is focused on three languages: the Karo language (KL), Alas language (AL), and Gayo language (GL) by looking at their levels of kinship which is based on time calculation that makes them separated.

1. Review of Related Literature

When carrying out some researches to nine local languages in Flores, Fernandez (1996) concluded that all nine languages being compared belong to a group of related languages. The language groups can be attributed by cognate percentage of $\pm 60.5\%$ and have a number of innovations.

Budasi (2010) did a research in Sumbar language groups in the province of West Nusa Tenggara (NTT) and argued that on the basis of quantitative analysis between Wawewa language and Laura isolects in West Sumba, the Wawewa and Laura have historical cognate relations reaching to 92%. Based on quantitative analysis between Lamboya language, Gaura isolects, and Gaura in West Sumba, Budasi also believed that these two languages have historical kinship relations approaching to 95%.

2. Research Method

This research acquired quantitative method and the locations included three regencies, namely Central and Southeast Aceh, and Karo. The research intruments for this research were based on Swadesh's 200 basic core vocabularies. The primary sources of data were taken from local informants and the secondary sources were obtained from books, S-2 theses, Ph.D. dissertations, and journal articles. In addition, this research also used library materials such as books, theses, dissertations, journals, articles. The techniques of data collection invloved interviews as its method so there was direct communication among the researcher and all informants (Sudaryanto, 1988: 7). This interview was done by asking the informants directly and in this case, of course, the conversation was primarily controlled by the researcher and the conversation should be in accordance with her interests, that is, she could obtain true and complete data. The techniques of data collection were carried out by giving worksheets and by asking for informants to write down the vocabularies in the source languages in which the vocabularies must be in relevant with the Swadesh's list.

At the same time, the researcher interviewed them to determine the proper phonetic transcriptions of each word. To avoid making mistakes the researcher was helped by video recording. All informants were native speakers of the three languages. Qualitative approach is used as technique of data analysis; this approach is combined with comparative method which is applied operationally with lexicostatistic techniques. The last techniques contain several procedures: to collect basic vocabularies of related languages, to describe the phonetic similarities among words those languages, to calculate the relative words, to calculate the time separation, and to calculate the span of errors and the age of the language. The lexicostatistic techniques are also employed in quantitative methods which include three procedures: to collect basic vocabularies in GL, AL, and KL by using Swadesh's list and to determine the cognate-words. The same words in their minimal pairs are then classified as cognates as proposed by Keraf (1984: 172) and indicated by the following formula:

$$C = \frac{K}{G} \times 100\%$$

C = cognates or related words
K = number of vocabularies
G = number of glosses

The last procedure is to group the cognate languages after they are judged to be cognates with formula laid down by Crowley (1992: 178) and Keraf (1984: 130):

$$t = \frac{\log c}{2 \log r}$$

t = time of separation in thousands (millenium) of years
r = retention or constant percentage in 1000(also called index)
c = percentage of relatives
log = logarithm of

The last formula can be operated by the next stages: (1) to find the logarithm c and r in logarithmic tables, to multiply the logarithm r 2, the results of the logarithm c is then divided by the product of (2), and the result of the division (3) shows the split time in units of thousands of years. This last stage can be converted into a regular year after the year is multiplied by 1000. Because of the separation does not happen in one particular year, it is better to maintain the form of units in thousands of years.

3. Results and Discussion

Of 200 Swadesh's basic words (see also the revised version by Blust, 1980) and with regard to the level of cognates and the separation time between the KL and AL, it is found that there are 146 related words (73%) between the two languages. This result is the same as what has been done by Crowley and Keraf who argued that KL is under Alas family.

While the relation between the KL and GL has been proved that there have been found 87 words (43.5%) that are related between the languages. This means that these two languages have taken the position in the same family or stock. There have been found that there are 105 words (52.5%) which are related each other between GL and AL. This shows that the two languages sits in the category of family (see also Graphics 1). The graph shows that the relative percentages of KL, AL, and GL are quite varied. The percentage of words between KL and AL reaches to 73%,GL and AL52.5%, and the smallest percentage exists between KL and GL touching only 43.5%. Based on the comparison of the percentages, it can be deduced that the KL and AL have the level of closer kinship than the GL and AL or than KL and GL (See also Graphics 2 informing the stammbaum among the KL, AL, and GL).

This result is relevant to what has been asserted by Swadesh (1955: 101) that if cognat percentage reaches 36% to 80%, two or three languages can be considered as language of family. If the lexicostatistic criteria is applied here, the range of percentage among the KL, Al, and GL is about to sit between 43.5% to 73%; this proves that the three languages is under language of family. Thus, the results from this lexicostatistic analysis can serve as working hypotheses for the next subsequent research stages, namely the qualitative analysis.The tme of separation between KL and AL is predicted to be around 0.729 thousands of years (see Table 1-1), between KL and GL 1.926 (see Table 1-2), and between AL and GL 1.484 (see Table 1-3).

4. Conclusion

Based on the analysis above the conclusion can be reached as follows: From 146 words of cognates (73%) the KL and AL is judged to be in close status of language family; based on 87 cognate words (43.5%) the KL and GL also have the same status as the previous ones; and from 105 cognate words (52.5%) the AL and GL can be decided to be in close language family, too. In case of separation of time KL and AL split in the past at about 0.729 years of age, KL and GL at 1.926, and AL and GL at 1.484.
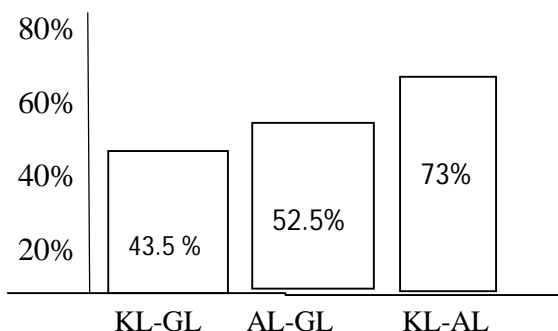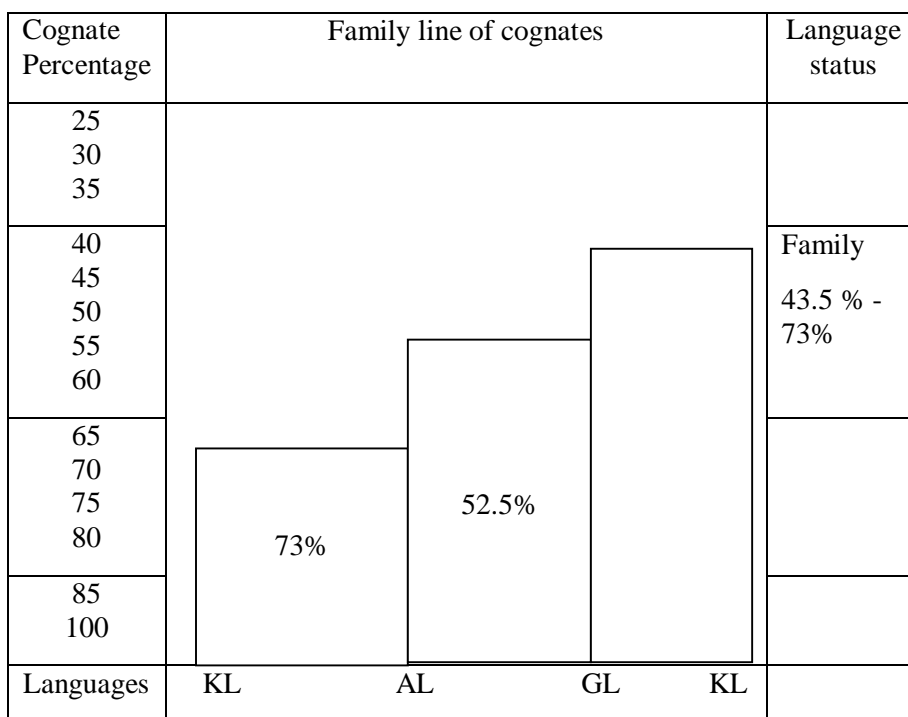
Acknowledgement

References

Blust, R.A. 2013. The Austronesian Languages. Australia: Asia-Pasific Linguistics.
Budasi, I Gede. 2010. "Status Kekerabatan Isolek Laura dan Gaura pada Kelompok Bahasa Sunda di NTT". Makalah Seminar Internasional V. Denpasar: Universitas Udayana.
Crowly, T. (1992). An Introduction to Historical Linguistics. Oxford: Oxford University Press.
Fernandez, I.Y. (1996). Relasi Historis Kekerabatan Bahasa Flores: Kajian Linguistik Historis Komparatif terhadap Sembilan Bahasa di Flores. Flores: Nusa Indah.
Keraf, G. 1984. Linguistik Bandingan Historis. Jakarta: Gramedia.
Swadesh, M.(1975). The Origin Deriversication of Language. London: Routledge & Kegan Paul.

Appendices

Graphics 1. Cognates among KL, AL, and GL

Graphics 2. Stammbaum among the KL, AL, and GL

Cognate Percentage	Family line of cognates				Language status
25 30 35					
40 45 50 55 60					Family 43.5 % - 73%
65 70 75 80	73%	52.5%			
85 100					
Languages	KL	AL	GL	KL	

Table 1. The time of separation

1

$$t = \frac{\log c}{2 \log r}$$
$$= \frac{\log\ 73\%}{2 \log 80{,}5\%}$$
$$= \frac{-0{,}137}{-0{,}188}$$
$$= 0{,}729\ thousands\ of\ years$$

2

$$t = \frac{\log c}{2 \log r}$$
$$= \frac{\log\ 73\%}{2 \log 80{,}5\%}$$
$$= \frac{-0{,}137}{-0{,}188}$$
$$= 0{,}729\ thousands\ of\ years$$

3

$$t = \frac{\log c}{2 \log r}$$
$$= \frac{\log 52{,}5\ \%}{2 \log 80{,}5\ \%}$$
$$= \frac{-0{,}279}{-0{,}188}$$
$$= 1{,}484\ thousands\ of\ years$$