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**PHONOLOGICAL AND LEXICAL VARIETIES OF
LIO LANGUAGE IN FLORES, EAST NUSA TENGGARA:
A STUDY OF GEOGRAPHICAL DIALECT**

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ABSTRACT

This study aims at describing and analyzing phonological and lexical varieties of Lio language in the regions where it is spoken, classifying its dialects and subdialects, and identifying the identity of its relation to Ende language.

The theories used in this study are the theory of traditional dialectology and the theory of generative. The data used were obtained from the primary and secondary sources. The observation method and the participative method were applied to collect the data needed. The data were analyzed using descriptive-comparative method which was continued with dialectometric and mapping method.

The segments vowels, consonants and syllables grouped under regular and sporadic varieties. The regular vowel variety and the regular syllable variety were found just one and on the other hand 20 regular consonant varieties. The vowel sporadic varieties found 37, the consonant sporadic varieties found 176, and the syllable sporadic varieties found 17.

Lexically, Lio Language highly varied, indicated by the description of each gloss having more than 10 lexical varieties.

Based on the isogloss bundles composed and based on the calculation obtained from both the lexical dialectometry and lexical dialectometry for the TPs which were close to each other, and on the permutation, DBL could be grouped into seven. (1) East Lio Language Dialect; (2) Central Lio Language Dialect; (3) Western Lio Language Dialect; (4) Ende Lio Language Dialect; (5) Welamosa Dialect; (6) Wololele A Dialect; and (7) Konara Dialect. From such groupings of dialects and subdialects, it could be identified that Lio Language and Ende Language were different dialects.

Key words: domains of meanings, dialect, isogloss, and dialectometry

1. Introduction

Lio language ‘bahasa Lio’ (hereinafter referred to as BL) is interesting to be explored from the perspective of geographical dialect, as far as the language spoken by the people living in Ende Regency is concerned, there are different opinions of the areas where BL is spoken. According to Fernandez (1996: 34), the speakers of BL spread in six districts; they are 1) Nagapanda, 2) Ende, 3) Ndonga, 4) Wolo Waru, 5) Maurole/Nagahoda, and 6) Detu Seko. This means that all the areas in Ende Regency are the areas of BL speakers. Many people say that there is so high intelligibility between the Ende Language (hereinafter referred to as BE) speakers and the BL ones. However, many people also say that Ende Regency has two languages; they are BL and BE. Several informants also say that BL is also spoken in the areas where Ende Regency and Sikka Regency meet, especially those located in the western part of Sikka Regency.

As can be seen in several parts of Indonesia, the people living in Lio are also classified into several social classes. In general, the people living in Lio can be divided into two social classes; they are the upper/leading class referred to as *mosa laki, ata ngga'e, ata ria* and the lower class or the common people referred to as *ana kalo fai walu*. In several areas, there are also a group of people regarded as coming from the lower class and they are referred to as *aji ana* (children of family members) (Mbetete et al., 2006: 111-112).

As a language spoken from generation to generation by the Lio ethnic group, BL has a set of important functions. It identifies and unifies its speakers. Through the language they speak, they express their existence and feel that they belong to one ethnic group existing among the other ethnic groups in Indonesia. Through BL they also feel that culturally they belong to one ethnic group. This cannot be separated from the cultural function that BL has. Its cultural function can be seen from the fact

that it is used as a means of creating, recording and expressing their culture from generation to generation. In practice, BL also functions as a means of communication among the Lio ethnic groups in the rural areas (Mbetse, 1991-1994: 1-2).

Based on the highly important function and position of BL, if connected with the geographical condition and different social statuses of the Lio community, it can be assumed that BL has varieties. The varieties resulting from the two classifications above are referred to as dialects (Fishman, 1975: 22; Linn (ed.), 1998: 5).

Based on the results of the research conducted by Londa (1985), the daily BL has nine dialects, which have not been clearly named yet. Londa only investigated lexical varieties with 350 lexical items as the instrument; however, the phonological varieties had not been explored yet.

Therefore, it is necessary to conduct research in geographical dialect in which phonological varieties and lexical varieties are integrated. More instruments should be used in order to obtain more comprehensive results. The location where the research was conducted should be extended and should be done in all the areas of Ende Regency and in the western border of Sikka Regency. In this way, dialect and sub dialect groupings of BL could be better made and that the status of relationship between BL and BE could be clearly identified.

Based on the background above, the problems in this study can be formulated into four questions; they are (1) What the phonological varieties of BL are like and where they are used? (2) What the lexical varieties of BL are like and where they are used? (3) How the dialects and sub dialects of BL are grouped based on the isogloss bundle and dialectometry? (4) What is the status of relationship between BL and BE?

In particular, this study aims at (1) describing and analyzing the phonological varieties of BL and the areas where they are used; (2) identifying the lexical varieties of BL and the areas where they are used; (3) classifying the lects of BL as dialects and sub dialects based on the isogloss bundle and dialectometry; and (4) identifying the status of relationship between BL and BE.

In theory, the answers to the problems mentioned above are expected to be theoretically useful to the development of linguistics in general and philology and generative dialectology in the mapping of the languages spoken in Indonesia. In practice, it is expected that the results of the study may be used a reference when making policies regarding how to direct the development of BL in Ende Regency.

2. Research Method

Before the research method is discussed, several things need to be discussed first. The research was conducted in Ende Regency and a few areas in Sikka Regency. The data were obtained at 26 villages as the points of distribution 'Tempat Pengamatan' (TP) with two villages in Ende Regency, where BL was spoken, as the points of distribution, and at three villages located in Sikka Regency, where the use of BL had never been explored. Three key informants were chosen from each village. The data were obtained from the primary and secondary sources.

Nine hundred words covering 20 fields of meaning were used as the instrument. The 20 fields of meaning are (1) numbers; (2) measurements; (3) names of the parts of the body and their parts; (4) pronouns and terms of address; (5) kinship system; (6) diseases and medicine; (7) rural life; (8) houses and their parts; (9) equipment; (10) foods and beverages; (11) plants; (12) animals and their parts; (13) time and season; (14) adjectives, condition, and colors; (15) activities; (16) clothes and jewelry; (17) people's livelihoods; (18) the nature and natural objects; (19) smell and taste; and (20) directions and instructions.

Observation and interview were the methods used to collect the data (Sudaryanto, 1988: 2-9; Mahsun, 2007: 92-96).

Selecting the determining elements was the technique used to analyze the data. Then the data were compared, contrasted and matched (Sudaryanto, 1993: 13-30); compare to Djajasudarma, 1993: 58; and Mahsun, 2005: 120-122). The technique of comparing and contrasting were used to sort the linguistic elements of BI, especially the elements which were not similar and those which were similar. By

using this technique, the similar elements could be separated from those which were not similar. Then, the elements already analyzed were listed in the form of tables. In this way, the varieties of phonological and lexical elements were clearly seen (compare to Putra, 2007: 56).

The dialects and sub dialects were grouped using the method of isogloss bundle and the method of dialectometry. Before the method of isogloss bundle was applied, 900 lexical items were mapped. In each map, the isogloss, the line connecting two points of observation, was made. After that, the isogloss bundle was made by (1) grouping the maps of ostentation based on the isogloss pattern in every field of meaning; (2) copying all the isoglosses of a particular group in a map containing the areas of observation; and (3) collecting the isoglosses in every map resulting in the isogloss bundle (Lauder, 1993: 89-90).

The relationship of all the points of observation was determined quantitatively and was initiated with a triangle of dialectometry. The points of observation forming the triangle were then compared in regard to their lexical items, and then the differences in their percentages were calculated using the following role.

$$\text{The formula is: } \frac{(s \times 100\%)}{n} = d$$

s = the number of differences

n = the number data/the maps compared

d = the percentage of the differences in lexical items

The criteria used to determine whether lects were dialects and sub dialects and whether there were differences or not referred to the lect grouping proposed by Guiter (1993: 96), as adopted by Bawa (1983), Lauder (1993), and Putra (2007) with the following formula.

- Over than 81% : regarded as different languages
- 51 - 80% : regarded as different dialects
- 31 - 50% : regarded as different sub dialects

21 - 30% : regarded as different speeches

Less than 20% : regarded as not being different

The results of the study are formally, informally, inductively and deductively presented.

3. Results of the Study

3.1 Phonological Varieties in BI

Before the phonological varieties in BL are discussed, the BL phonology, the characteristics of BL, and how the original forms were determined are discussed. It can be stated that BI had six sound segments. They had the status as vowels such as /i, u, e, ə, o, a/. Their distributions were: five had complete distributions; in the beginning, in the middle and in the end of words. One vowel segment, that is, /ə/ did not have final distribution. It was found that the contoid sounds totaled 29; they are: [p, b, β, ^mb, m, t, d, ^fd, ⁿd, n, j, k, g, ^gg, ^ŋg, ŋ, f, v, s, z, l, ^ʒʒ, r, ɹ, h, ʔ, w, ^{w, y}]. Those with the status as segments of the consonant phonemes totaled 22; they are /p, b, t, d, j, k, g, m, n, ŋ, ^mb, ⁿd, ^ŋg, β, ^fd, ^gg, f, s, l, r, h, w/. Most of the twenty two segments of consonants had initial and central distributions, except the consonant /h/, which only had the initial distribution. Four sounds such as [v, z, ^ʒʒ, ɹ] in TP were found to have the status of being phonemes.

The varieties of linguistic forms obtained by comparing 900 glosses included: (1) 727 glosses whose descriptions lexically varied; (2) 121 glosses whose descriptions phonologically varied; and (3) 52 glosses whose descriptions did not vary both lexically and phonologically. In the 727 glosses whose descriptions lexically varied, there were also phonemes and syllables which phonologically varied.

The fact showed that one gloss frequently had different lexical and phonological descriptions. If one gloss which had different lexical descriptions also had phonological descriptions, then the description of such a gloss would be considered lexically different, as the degree of the lexical difference was higher than that of the phonological difference.

The segments vowels, consonants and syllables grouped under regular and sporadic varieties. The regular vowel variety and the regular syllable variety were found just one and on the other hand 20 regular consonant varieties. The vowel sporadic varieties found 37, the consonant sporadic varieties found 176, and the syllable sporadic varieties found 17.

Based on the varieties of segments found in the field, there were several segments specifically featuring TP (such segments were only found at particular TP). (1) The fricative, apicoalveolar and lateral consonants featured by [+son] and [+lat], [+frik] were only found in TP 7, that is, in Kebirangga Tengah. (2) The segment of approximant, apicoalveolar and glottal consonant /ɹ/ featured by [+and], [+ant], [korn], [-lat], [+par] was only found in TP 11 (Bao Feo) and in TP 7 (Kebirangga Tengah). (3) The segment of voiced apicoalveolar fricative consonant /z/ featured by [+ant], [+korn], [+strid], [+bers] was found in TP 15 (Kota Ratu) and TP 26 (Mbongawani).

The phonological processes taking place in BL can be classified into three. 1) The only reciprocal assimilation was found. 2) The change in syllabic structure included: (1) insertion of vowel sounds and slide sounds; (2) the deletions taking place included: vowel deletion, obstruent deletion, lateral deletion, obstructed implosive deletion, pre obstructed nasal deletion, semi-vocal deletion, and syllabic deletion; (3) the change in vowel and consonant segments. 3) The metathesis included: (1) the change from vowel into another vowel, (2) the change from a consonant into another consonant, and (3) the change from a vowel into a consonant. In general, such phonological processes were included in 55 KF 'Kaidah Fonologis' (phonological rules).

Viewed from the numbers of KFs (phonological rules) available in all the TPs, TP 23 (Maubasa) had 38 (the most), and TP 22 (Demulaka) had 17 (the least). If

related to the way in which BA (original form) was determined, it could be stated that TP 22 (Demulaka).

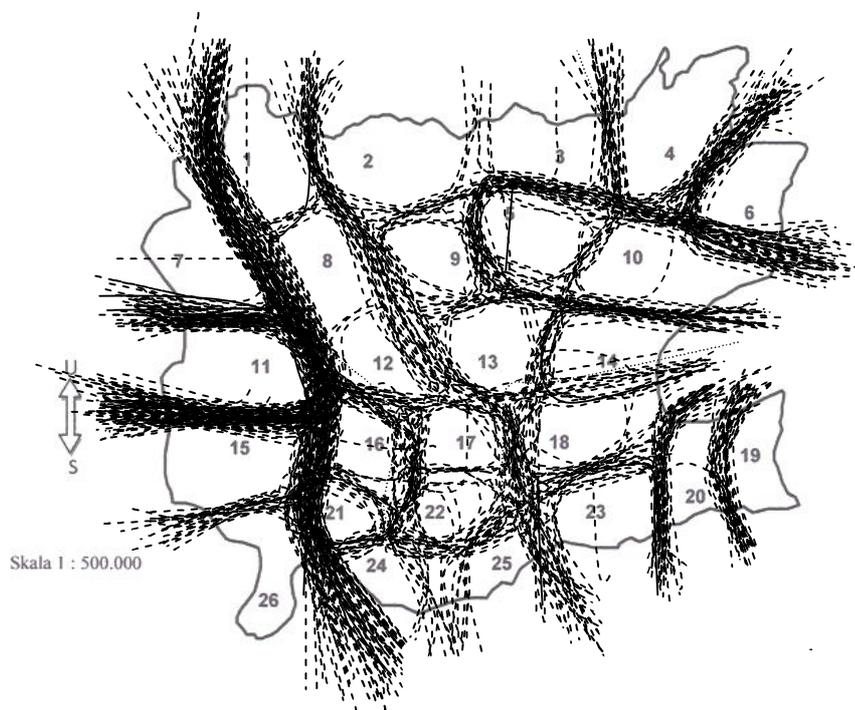
3.2 Lexical Varieties

Lexically, BL highly varied, indicated by the description of each gloss having more than 10 lexical varieties. In addition, from the BL dialect and sub dialect groupings, almost each TP formed one dialect, which in the other TPs was a sub dialect, except in TP 8:12 it was stated that there was no difference and in TP 1:8, 15:26, 18:23 it was stated that it was a speech difference.

3.3 The BL Lect Groupings as Dialects and Sub Dialects

3.3.1 Isogloss Bundle Application

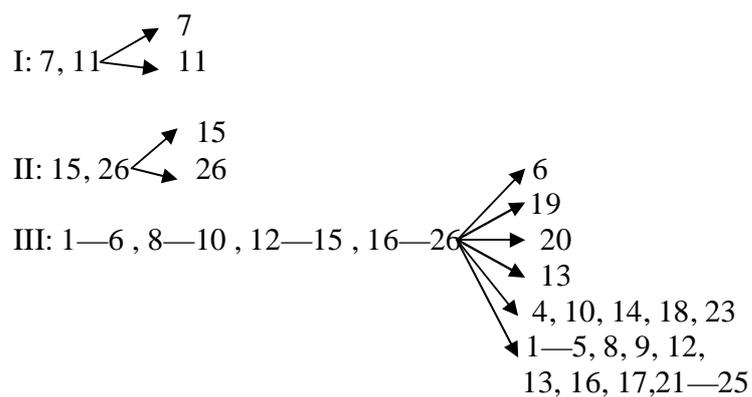
The application of BL isogloss bundle included the phonological variety isogloss bundle and the lexical variety isogloss bundle. The isogloss bundle based on the phonological varieties included vowel varieties and consonant varieties totaling 121.



Explanation: ----- isophone

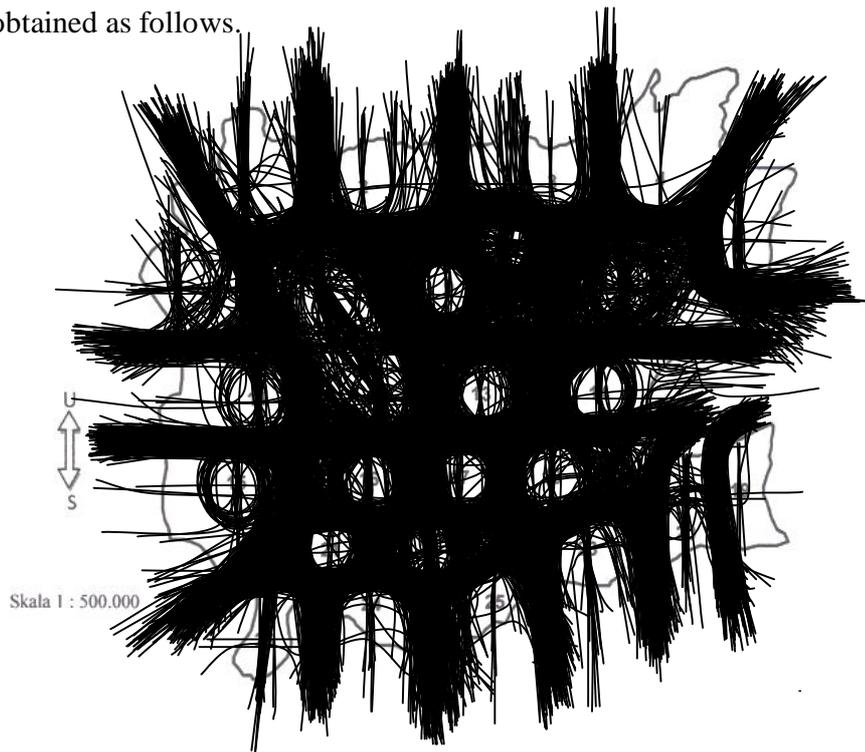
Map Isophone bundle of vowels and consonants

Based on the isophone bundle above, phonologically it could be estimated that the dialects in BL could be grouped into three; they are:



The isogloss bundle was made based on 727 research instruments which lexically varied for which a map was already made and isogloss was put. The 727

maps of lexical varieties were poured into 20 fields of meaning and; as a result, twenty bundles of isogloss were obtained. Based on the twenty bundles of isogloss of all the fields of meaning, the bundles of isogloss of all the fields of meaning were obtained as follows.



Explanation: _____ Isogloss

Map of The Bundles of Isogloss of All The Felds of Meaning

No group of dialect could be seen from the bundles of isogloss above as the numbers of lines among TP were almost the same. In detail, the dialects and sub dialects of BL could be observed through the dialectometry method as follows.

4.3.2 Application of Dialectometry Methode

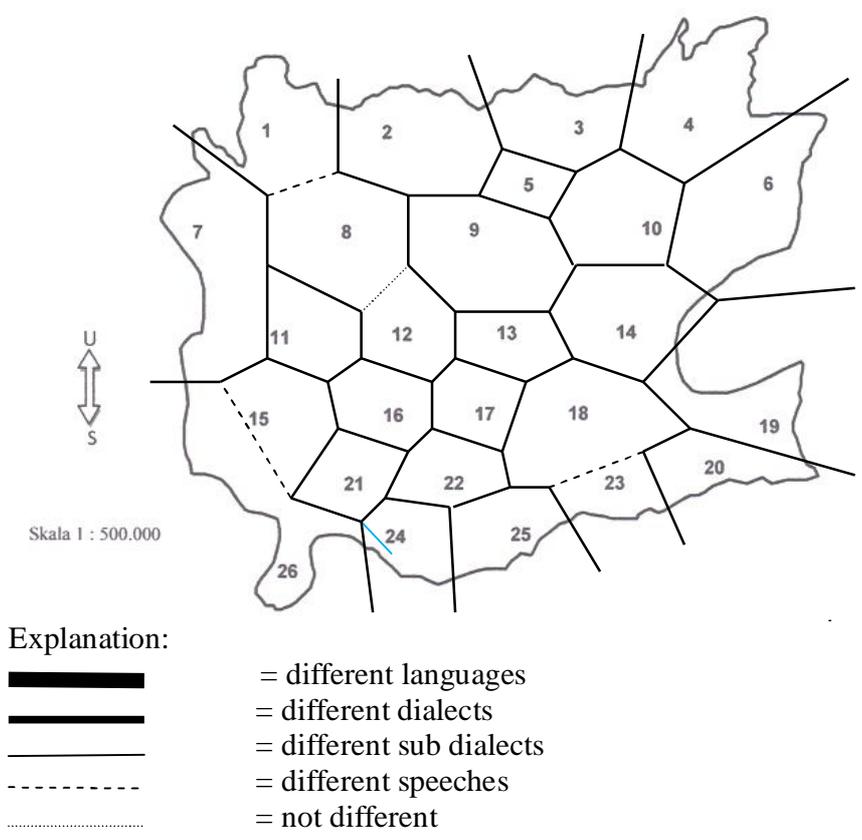
Dialectometry method was applied in four stages; they are (1) lexical dialectometry; (2) phonological dialectometry; (3) mixed dialectometry (lexical dialectometry was mixed with phonological dialectometry); and (4) permutation.

The calculation of lexical dialectometry of all the fields of meaning produced the percentages of distances of lexical items as presented in the following table.

Table of Lexical Dialectology of All the Fields of Meaning

No of TP	%						
1:2	36	6: 19	36	12:13	31	18:19	47
1:7	41	7:8	45	12:16	34	18:20	39
1:8	28	7:11	37	12:17	38	18:22	37
2:3	32	7:15	41	13:14	40	18:23	29
2:5	32	7:26	40	13:17	37	18:25	37
2:8	32	8:29	36	13:18	37	19:20	45
2:9	38	8:11	44	14:18	34	20:23	39
3:4	36	8:12	3	14:19	40	21:22	38
3:5	34	9:10	36	15:16	46	21:24	37
3:10	32	9:12	37	15:21	47	21:26	45
4:6	48	9:13	34	15:26	30	22:24	36
4:10	36	9:14	44	16:17	38	22:25	34
6:10	43	11:15	33	17:18	31	24:26	45
6:14	46	11:16	43	17:22	38		

The calculation of the lexical dialectometry of all the fields of meaning above can be mapped as follows.



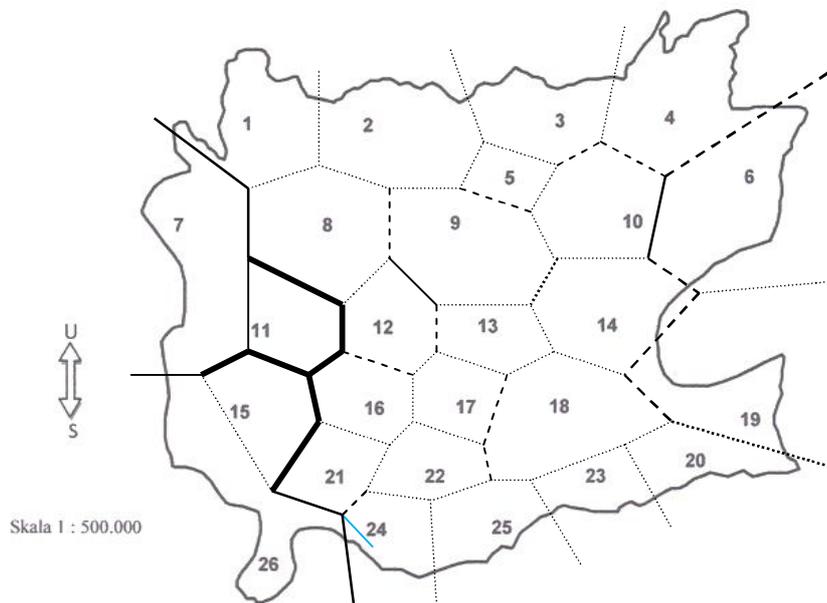
It can be seen from the calculation of the lexical dialectometry of all the fields of meaning above that there was no independent dialect or group of dialects. Almost all the relationships among TPs expressed different sub dialects; only three lines showed different speeches; they are the line connecting TP 1:8, the line connecting 15:26, and the line connecting 18:23; the line connecting TP 8:12 showed no difference. Three TPs formed sub dialects. Group I which included TP 1, TP8, and TP 12; group II which included TP 15 and TP 26; group III which included TP 18 and TP 23. The other points of observation constituted independent sub dialects.

The calculation of phonological dialectometry produced distances of sounds as presented in the table below.

Table of Phonological Dialectometry

No of TP	%						
1:2	19	6:19	18	12:13	22	18:19	23
1:7	47	7:8	47	12:16	21	18:20	18
1:8	3	7:11	50	12:17	5	18:22	24
2:3	3	7:15	51	13:14	16	18:23	10
2:5	19	7:26	44	13:17	20	18:25	17
2:8	18	8:9	21	13:18	14	19:20	16
2:9	7	8:11	72	14:18	8	20:23	19
3:4	15	8:12	2	14:19	26	21:22	20
3:5	19	9:10	18	15:16	56	21:24	24
3:10	23	9:12	22	15:21	57	21:26	40
4:6	21	9:13	8	15:26	18	22:24	12
4:10	23	9:14	17	16:17	19	22:25	18
5:9	21	10:14	17	16:21	10	23:25	19
5:10	9	11:12	52	16:22	19	24:25	10
6:10	45	11:15	52	17:18	27	24:26	48
6:14	21	11:16	53	17:22	6		

The calculation of phonological dialectometry above can be mapped as follows.



Explanation:

- = different languages
- = different dialects
- = different sub dialects
- - - - - = different sub speeches
- = not different

Map of the Application of Phonological Dialectometry

The map of the phonological dialectometry above did not show clear groups of dialects. The two TP which were independent dialects were TP: 11 and TP:15; however, there was one line in each indicating different dialects (the lines connecting TP: 11: 7 and TP 15:26); as a result, the two TPs were not merely different dialects. Out of the 63 phonological comparisons, 37 indicated not being different; 12 indicated being different speeches; 7 indicated being different sub dialects; and 7 indicated being different dialects; none indicated being different languages.

The lexical dialectometry and phonological dialectometry could be combined by comparing the calculation of the lexical dialectometry and that of the phonological dialectometry in the form of a table as presented below.

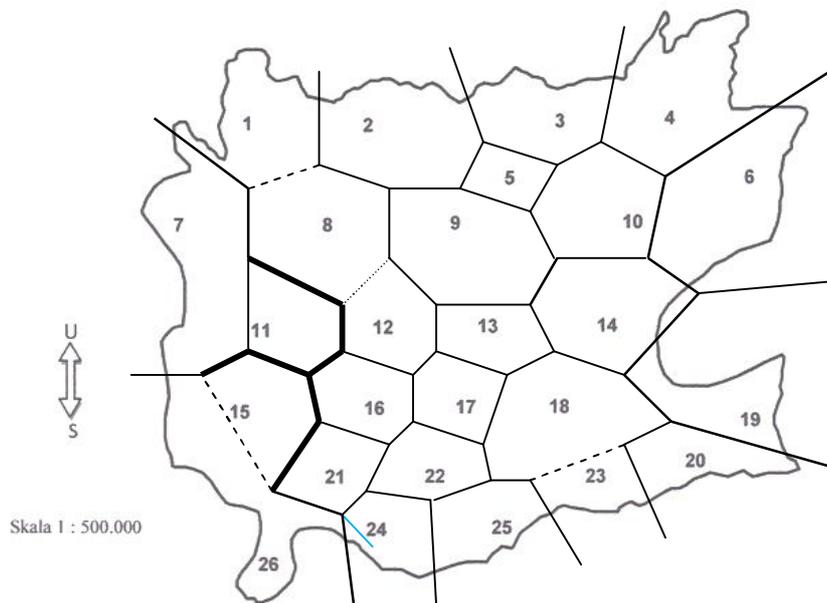
The Table Presenting The Combination of The Calculatio Based on The Lexical Dialectometry and That Based on Phonological Dialectometry

No of TP	Different						
1:2	dsd	6:19	dsd	12:13	dsd	18:19	dsd
1:7	dsd	7:8	dsd	12:16	dsd	18:20	dsd
1:8	dsd	7:11	dsd	12:17	dsd	18:22	dsd
2:3	dsd	7:15	dd	13:14	dsd	18:23	ds
2:5	dsd	7:26	dsd	13:17	dsd	18: 25	dsd
2:8	ds	8:9	dsd	13:18	dsd	19:20	dsd
2:9	dsd	8: 11	dd	14: 18	dsd	20:23	dsd
3:4	dsd	8:12	nd	14: 19	dsd	21:22	dsd
3:5	dsd	9:10	dsd	15:16	dd	21:24	dsd
3: 10	dsd	9:12	dd	15:21	dd	21:26	dsd
4: 6	dsd	9:13	dsd	15:26	dd	22:24	dsd
4:10	dsd	9:14	dsd	16:17	dsd	22:25	dsd
5:9	dsd	10:14	dsd	16:21	dsd	23:25	dsd
5:10	dsd	11:12	dd	16:22	dsd	24:25	dsd
6:10	dsd	11:15	dd	16:22	dsd	24:25	dsd
6:14	dsd	11:16	dd	17:22	dsd		

Explanation:

dd= different dialects ds= different speeches
 dsd= different sub dialects nd= not different

The combination of the calculation of the lexical dialectology and that of the phonological dialectology above can be mapped as follows.



Explanation:

- = different languages
- = different dialects
- = different sub dialects
- - - - - = different speeches
- = not different

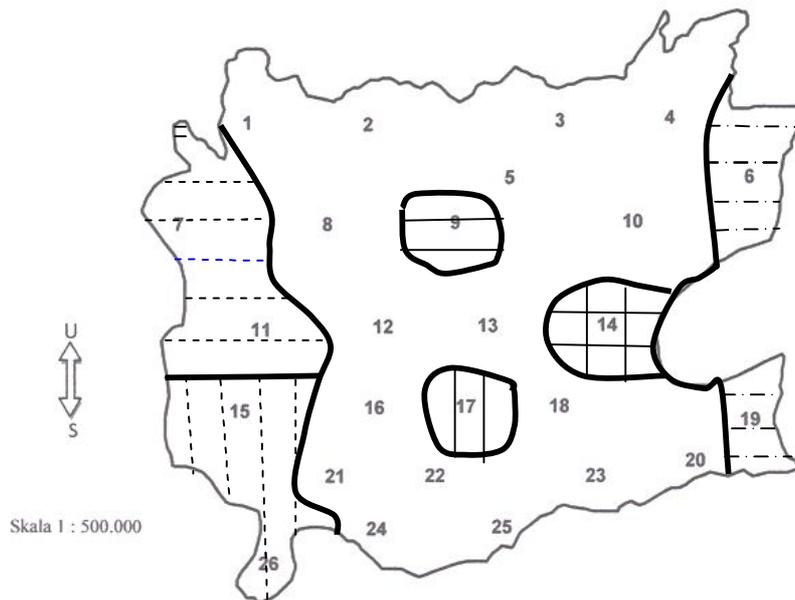
The map of the combination of the calculation of the lexical dialectometry and that of the phonological dialectometry.

The map of the combination of the calculation of the lexical dialectometry and that of the phonological dialectometry above showed that there was no group of dialects. There were two TPs which constituted two independent dialects; they are TP 11 and TP 15; however, each line in the TPs which were close to each other showed no different dialect. The two lines were those connecting TP 11: 7, indicating different sub dialects and those connecting TP 15:26, indicating different speeches. 17 TPs showed independent dialects; they are TP 1—7, 9, 10, 13, 14, 17, 19—22, 24, 25. TP 1, TP8, and TP 12 formed one group of dialects. The other group of sub dialects was formed by TP 18 and TP 23.

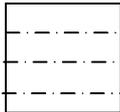
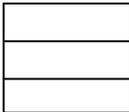
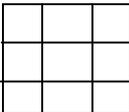
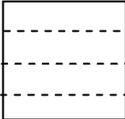
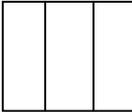
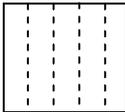
Permutation was made to obtain groups of dialects and sub dialects more clearly, meaning that one TP was compared as the center, which was then compared

with all the TPs. In this current study, 5 TPs were used for permutation; they are TP6, TP7, TP17, TP19, and TP 26.

The calculation made by the permutation produced groups of dialects and sub dialects as mapped below.



Keterangan:

	DBLT		DW
	BBLTeng		DWA
	DBLB		DK
	DBLE		

Explanation:

DBLT = Dialek Bahasa Lio Timur (East BL Dialect)

DML Teng = Dialek Bahasa Lio Tengah (Central BL Dialect)

DBLB = Dialek Bahasa Lio Barat (Western BL Dialect)

DBLE = Dialek Bahasa Lio Ende (Ende BL Dialect)

DW = Dialek Welamosa (Welamosa Dialect)

DP = Dialek Paga (Paga Dialect)

DWA = Dialek Wololele A (Wololele A Dialect)

DK = Dialek Koanara (Koanara Dialect)

The map of the groups of dialects and sub dialects BL

Based on the lects grouped as dialects and sub dialects above, it could be concluded that BL and BE were different dialects, if viewed from their status of relationship.

3.4 Novelties

3.4.1 Novelties in The Found

The novelties were found in the study entitled “Phonological and Lexical Varieties of *Lio* Language in Flores, East Nusa Tenggara: a Study of Geographical Dialect. 1) Three phonemes were found; they were (1) fricative, apico alveolar, lateral consonant /ʒ/ featured by [+son], [+lat] and [+frik] was only found in TP 7 (Keberingga Tengah); (2) the segment of approximant, apico alveolar, vibrate /ɹ/ featured by [+ant], [+korn], [korn], [+mal], [-lat], [+apr] was only found in TP 11 (Bao Feo) and TP 7 (Keberingga Tengah); and (3) voiced apico alveolar fricative consonant /z/ featured by [+ant], [+korn], [+strid], [+bers] was found in TP 15 (Kota Baru) and TP 26 (Mbongawani). 2) The phonological varieties included syllabic, consonant and vowel varieties; most of the BL phonological rules were sporadic/irregular. 3) The phonological processes included reciprocal assimilation,

consonant deletion, change in vowels and consonants, metathesis among vowels, consonants, and among vowels and consonants. 4) Based on the phonological rules compared, if connected with how the BA (original form) was determined, it was found that TP 22 (Demulaka) was the BA (the native form) of the BL phonological varieties. 5) The lexical varieties were found to highly vary. 6) Based on the lexical dialectometry and phonological dialectometry, and the permutation, BL was found to have seven dialects. 7) Viewed from the status of relationship between BL and BE they were found to be different dialects.

3.4.2 The theoretical Finding

The theoretical finding is that the generative theory in dialectology was only used to analyze the phonological process with its differing features, and to trace the derivational forms of words in the previous studies; however, in this current study, it was used to compare the phonological rules among the dialects (TP); as a result, the native forms of BL phonological varieties were found as a whole.

3.4.3 Methodological Development

Methodological development. 1) whereas one of the TP horizontal numbering systems already applied was from the right to the left and zigzagged, in this current study it was horizontally applied to the right as when we read books (starting from the left to the right repeatedly; and (2) while in the previous studies, the method of phonological dialectometry was applied based on regular varieties only, in this current study the method of dialectometry was applied based on both regular and sporadic varieties by comparing all the maps of phonological varieties.

4. Conclusions and Suggestions

4.1 Conclusions

Based on what was described above, several conclusions could be drawn as follows. Phonologically, it could be concluded that BL had six segments of vowels such as /i, u, e, ə, o, a/. Their distributions were that five had complete distributions; initial distribution, central distribution, and final distribution; one, that is, the segment of vowel /ə/ did not have final distribution. It was found that the contoid sounds totaled 29; they were [p, b, β, ^mb, m, t, d, d̪, ⁿd, n, j, k, d̪, ^ŋg, f, v, s, z, l, ʃ, r, ɹ, h, ʔ, w, ^{w,y}]; those which had the status as the segments of consonant phonemes totaled 22; they were /p, b, t, d, j, k, g, m, n, ŋ, ^mb, ⁿd, ^ŋg, β, d̪, d̪, f, s, h, l, r, w/. Most of them had initial and central distributions, except for consonant /h/ which only initial distribution. Four sounds such as [v, z, ʃ, ɹ] were found to have the status of being phonemes.

The segments of vowels, consonants and syllables were found to highly vary. The vowel, consonant, and syllabic varieties were still grouped under regular and sporadic varieties. However, as far as the vowel and syllabic varieties are concerned, only one was found for each, and the regular consonant varieties were found to total 20.

Based on the varieties of segments found in the field, several were found to feature several particular TPs. (1) The fricative, apico alveolar, and lateral consonant /ʃ/ was only found in TP 7 (Keberingga Tengah) substituting for the lateral consonant /l/. (2) The approximant, apico alveolar, and vibrate consonant /ɹ/ featured by [+ant],

[+korn], [+mal], [-lat], [+apr] was only found in TP 11 (Bao Feo) and TP 7 (Keberinga Tengah) substituting for /r/ and /l/ in TP 11; however, in TP 7 the consonant /ɺ/ was found to substitute for /r/. (3) The segment of voiced, apico alveolar, and fricative consonant /z/ featured by [+ant], [+korn], [+strid], [+bers] was found in TP 15 (Kota Baru) and TP 26 (Mbongawani), substituting for the consonant /l/ used in the other TPs, excluded TP 11 (Bao Feo).

There were three of phonological processes in BL. 1) There was only one assimilation found, that is, reciprocal assimilation. 2) The change in syllabic structure which included (1) vowel insertion and glide insertion; (2) the deletions taking place included vowel deletion, obstruent deletion, lateral deletion, semi vocal deletion, and syllabic deletion; (3) the change in segments of vowels and consonants. 3) Metathesis which included (1) the change from one vowel into another vowel, (2) from one consonant into another consonant, and (3) from a vowel into a consonant. Such three processes were included in the general 55 KF 'Kaidah Fonologis' (phonological rules).

Based on the phonological processes among the dialects found in BL, many conclusions could be drawn as follows. (1) Most of the phonological processes took place in DBL Teng; (2) the change in vowels was scarcely found to take place in BL; however, it took place in all the dialects; (3) the change in consonants took place in all the dialects and in the twenty six TPs; (4) several voiced phonemes could change into voiceless ones in all dialects; (5) several voiceless phonemes could change into voiced ones in several TPs including DBL Teng and Welamosa dialect; (6) the least

phonological processes took place in DBLT; (7) the intra vowel metathesis was found in four dialects, Koanama dialect, Western BL Dialect, Ende BL Dialect , and Central BL Dialect; the intra consonant metathesis took place in six the dialects excluding Ende BL Dialect; the intra vowel and consonant metathesis was in East BL Dialect, Central BL Dialect, Koanara Dialect, and Wololele A Dialect.

Viewed from the number of the phonological rules 'Kaidah Fonologis' (KF), TP 23 (Maubasa) was found to have the most, totaling 38, and TP 22 (Demulaka) was found to have the least, totaling 17. If viewed from how the BA (the original form) was determined, it could be concluded that TP 22 (Demulaka) located in South Flores was the BA as it had 17 KFs.

Lexically, BL highly varied, indicated by the description of each gloss having more than 10 lexical varieties. In addition, from the BL dialect and sub dialect groupings, almost each TP formed one dialect, which in the other TPs was a sub dialect, except in TP 8:12 it was stated that there was no difference and in TP 1:8 , 15:26, 18:23 it was stated that it was a speech difference.

Based on the isogloss bundles composed and based on the calculation obtained from both the lexical dialectometry and lexical dialectometry for the TPs which were close to each other, and on the permutation, DBL could be grouped into seven. (1) Dialek Bahada Lio Timur (East Lio Language Dialect); (2) Dialek Bahasa Lio Tengah (Central Lio Language Dialect) which were made up of TP 1 (Mukusaki), TP 2 (Rerorejo), TP 3 (Aewora), TP 4 (Kota Baru), TP 5 Watunggere, TP 8 (Ratewati), TP 10 (Tiwosora), TP 12 (Tana Li), TP 13 (Wologai), TP 16 (Saga), TP

18 (Wolosoko), TP 20 (Paga), TP 21 (Demulaka), TP 23 (Maubasa), TP 24 (Wolotopo), and TP 25 (Nggela); (3) 'Dialect Bahasa Lio Barat' (Western Lio Language Dialect) was made up of 2 TPs such as TP 7 (Kebirangga Tengah) and TP 11 (Bao Feo); (4) Dialek Bahasa Leo Ende (Ende Leo Language Dialect) was made up of TP 15 (Kota Ratu) and TP 26 (Mbongawani); (5) Welamosa Dialect (TP 5); (6) Wololele A Dialect (TP 14); and (7) Konara Dialect (TP 17). From such groupings of dialects and sub dialects, it could be identified that BL and BE were different dialects. In other words, the people in Ende Regency only spoke one language, that is, Lio language.

4.2 Suggestions

Based on what has been explored, several suggestions are provided for further studies.

Viewed from the studies already conducted, further research in phonology needs to be particularly conducted to obtain more accurate and complete sounds available in Lio language. In the next research phonological rules should be more accurately compared.

Seeing that DBL Teng was supported by so many TPs, as obtained from the dialect and sub dialect groupings, more techniques of permutation, supported by a wider list of words, should be applied so that more complete groups of dialects would be obtained.

Any particular research in phonological varieties totally using the phonological dialectometry of varieties of sporadic phonemes should be conducted to

group the dialects and sub dialects in BL, as it is rich in the varieties of sporadic phonemes. In this way, the dialects and sub dialects in BL can be clearly grouped.

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