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Evolution of Phonology in Language: Case of Timor Leste

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Abstract

This study observed nine languages: two languages in Kisar Island and seven in East Timor. The data were collected through interviews and face-to face conversations with the informants who were selected by purposive sampling until a point of saturation was reached. The data analysis was done by using vertical-horizontal syncomparative and diacomparative method which led to the following conclusions.
Oirata (Or), Bunak (Bn), Makasai (Mk) were diachronically and convincingly proved to have a close genetic relationship with a split patterned family tree. The Oirata-Fataluku-Makasai (OFM) group that was once the ancestor of the three languages underwent a split into Oirata-Fataluku (OF) and Mk. It means that Or is closer o Ft than Mk and at the same time it refuted the opinions of Greenberg (1971) and Capell (1975) that Or is closer to Mk.
Or turned out to have undergone an internal phonological evolution as the result of a diachronic interaction with languages that were genetically related to it in the form of: (1) vocal split */i//_#, */a//#_ and /_#; (2) vocal merger */e//_#, (3) vocal centralization, (4) consonant split and (5) voiced stop consonant formation. The external phonological evolution was caused by the contact with the languages in the region and Or has undergone: (1) enrichment of consonant phonemes: /b/, /c/, /d/, /j/, /g/, /ng/, /f/, /v/, and /z/, (2) formation of clusters, (3) addition of homorganic nasal stop consonant clusters: /mp/,/mb/, /nt/, /nđ/, and (4) shift toward a non-vocalic language

1. Introduction

Indonesia's historical-comparative linguists have so far been more interested in studying AN languages, despite the long time recognition of the presence of AN languages in South East Asia. In the same manner, interest among the researchers of NAN languages has not been so great. Even, Wurm (1975) says that the historical comparative language researchers have not so far shown any interest in NAN languages of TNG phylum and its relationship with AN languages. On the other hand,

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the languages in this region are very potential and important to study. This study is intended to fill in the gap and at the same time, stimulates other researchers to be interested in NAN languages.

Or as one of the NAN languages in this region is interesting to be studied. First, the language is assumed to be related to the languages in Timor (de Jong, 1937) Second, Greenberg (1971) states that Or has a close relationship with Bn and Mk languages in East Timor and Ab in Alor which are categorized as TA internal subgroup. Third, Capell (1975) even completes the TA group to include Ab language in Alor, Bn, Mk, Ft and Lov languages in East Timor and Or language in Kisar Island. However, Capell adds that the position of each language in the TA group has not yet been coherent and needs to be studied further. Fourth, Or is used in two villages and spoken side by side with the other languages in Kisar Island. The population of Kisar Island speaks Or as NAN language and also uses Ks language which belongs to AN languages. As a language which is spoken side by side with other languages in a small island, the speakers of the two languages, who have different cultures, are believed to interact with each other and this leads to language contact phenomenon. Slowly by surely, this phenomenon in the long run makes room for the language change process to take place.

This study has the aims which can be described as follows. (1) To identify the essential characteristics of Or, Ft, and Mk languages to obtain a phonological concrete synchronic description of each of them. Hence, their characteristics will become clear as languages which are different from other languages. (2) To clarify genetic relationships of Or, Ft and Mt by grouping and reconstruction of their protolanguage. The clarity of the pattern of genetic relationship of Or, Ft and Mk realized by the grouping and the reconstruction of their protolanguage can also imply as a verification of the grouping made by Greenberg (1971) and Capell (1975). (3) To trace the origin of the phonemes of Or language in order to provide historical facts of this language development as a language which is internally related to the languages that are genetically similar as the NAN language group and interacts externally with the other languages in the region.

2. Materials and Methods

2.1 Literature Review

Some research findings are relevant and worth reviewing in relation to the present study. In "Oirata, a Timorese Settlement on Kisar", de Jong (1937) studied Or with its various aspects which were assumed to be related to the languages in Timor by using synchronic approach; hence, the work does not give an explicit description about its history and relationship with the genetically similar languages as expected in this study.

In "People and Languages of Timor", Capell (1944) mentions that in Timor Island there are two language groups, i.e. Indonesian and non-Indonesian. The Indonesian language group comprises Tt, Mb, Tk, Gl and Id. The non- Indonesian language group found in Timor (East Timor) mountainous area comprise Bn, Mk, Wm, and Kr. The last two languages have been proved as AN languages (Mandala, 1999 and 2000). Capell focuses more on Bn and Mk as non- Indonesian languages that are compared to the languages with a similar type as Or language in Kisar Island and languages in HU and contrasted with Indonesian language.

Cowan (1965) in "The Oirata Language" classifies Or language in Kisar Island as NAN language which belongs to a group with Mk and Bn in Timor (East Timor) and interrelated with the languages in the south coast of Bird Head (in Papua Island). However, he did not give convincing linguistic facts since the study was based on a limited number of data.

Greenberg (1971) in "The Indo-Pacific Hypothesis" focuses his discussion on the TA language group of NAN languages and decides that Ab language in Alor Island, Or language in Kisar Island, and Bn and Mk languages in Timor (East Timor) belong to TA internal subgroup. In that subgroup,

it is stated that Ab language is closer to Bn, while Or is closer to Mk. This decision is based on the similarity in pronouns (the first and second singular and plural persons) that the languages have.

All of the studies above in principle synchronically compare the structural aspects of the languages by using a limited number of words. The present study is diachronic and is based on quantitative and qualitative evidence by grouping and reconstruction of their protolanguage. Even the study goes to the point where the phonological evolution, both internally and externally, is described.

2.2 Theoretical Framework

Language evolution is a process of language transformation, in a long period of time in a natural way from the initial form to the final one as can be seen today with various variations, adaptations, natural selections, and the characteristics of a phylum (Nerlich, 1989; Lass, 1990; and McMahon, 1999). The concept of language evolution in the historical comparative linguistic phenomena tends to be more relevant to the concept of Darwinian biological evolution (McMahon, 1999). The argument is that historical linguistics and historical biology are two special fields that are specially related to the theory of evolution in general (Stevick, 1963). Language and species are two systems that exist and undergo changes. Hence, language and species undergo the same change of forms which end up in the development of classification represented in a family tree. Biologically, language and population share two common characteristics, i.e., (1) the structure can be passed on from one generation to the next, (2) the variation is isolated one from another and develops separately (Lass, 1990).

Based on the concept of evolution described above, the theoretical framework of this study is based on *the theory of language change* (Labov, 1994 and McMahon, 1999). Change in a language, generally, can occur as the result of internal and external processes. In a historical comparative linguistic study, an internal language change, i.e. a change in language as the result of a long development in time leads to individual languages which originates from a common ancestral language, which can be traced by applying the theory of *language genetic relationship* (Bynon, 1979; Hock, 1988; Jeffers and Lehiste, 1979). External change in language occurs as the result of language in contact process, both in the context of linguistic area as well as in the framework of socio-political relation that can be traced with *the theory of diffusion* (Rickford, 1986; Labov, 1994 and Dixon, 1997).

The genetic relationship among languages of the same family in the historical comparative linguistic study in principle can be proved on the basis of the inherited elements of the original language or protolanguage (Hock, 1988). The linguistic facts manifested in orderliness and correspondence found in the languages which are genetically related show the evidence of the authenticity inherited from a common ancestor (Bryon, 1979:47). The grouping means the determination of the family tree of the language groups for the purpose of clarifying the genetic structure. Through the grouping, the status of each language is established. On the other hand, the reconstruction of the protolanguage clarifies the genetic relationship and the bond of origin of the languages in accordance with the level of genetic relationship depicted in the family tree.

2.3 Method

The method of data collection used in this study was the speak, record and note technique (Sudaryanto, 1988:7) and implemented in face-to-face interaction (Moleong, 1997:25-27). The in-

strument of data collection used was the 200 basic words from Swadesh List (revised by Blust, 1980) and Holle List of 1600 words.

The data analysis used was Syncomparative and diacomparative method as suggested by Lass (1969:15). Syncomparative was applied to analyze data synchronically while diacomparative was based on the diachronic analysis. The synchronic and diachronic analyses have autonomous characteristics, but are interdependent. Saussure states that synchronic analysis is limited to the perspective of finding the entirety of the language system in a particular time. In contrast, diachronic analysis followed the language evolution, does not view the entirety of the language, but the particular elements at different times (Gordon, 2002: 34). The application of diacomparative method in the present study was made with vertical and horizontal approach.

3. Results and Discussions

3.1 The Genetic Relationship of Or, Ft, Mk Languages and the Languages in the Surrounding Area

The quantitative evidence found in the nine languages under observation and on the basis of lexicostatistical computation of the cognate set collected by using the 200 basic words of Swadesh list, showed that Or, Ft, and Mt languages are the languages which belong to a separate group as OFM that are related by the 33% genetic relationship. The closest relation is between Or and Ft as an OF subgroup by the 47% genetic relationship, followed by Ft and Mk by 28%, and Or and Mk by only 24%. Hence, the family tree of the group genetic relationship has a split pattern, i.e. the OFM language group as the ancestor language which is divided into two subgroups, i.e. OF and Mk. The OF subgroup as mesolanguage which is divided into Or and Ft which finally become autonomous languages of Or, Ft, and Mk.

The qualitative evidence also confirms the quantitative one, particularly in the integrating and at the same time separating evidence of the OFM group in the form of: (a) OFM: Mk /b/ ≠ Ft /p/ ≠ Or /h/, OFM: MK /s/ ≠ Ft ≠ /h/ ≠ Or /≠/, (c) OFM: Mk /t/ ≠ Ft /c/ ≠ Or /d/, and (e) a number of OFM protolanguages are found. The OF language subgroup is realized by the separating and at the same time integrating evidence of the OF subgroup in the form of: (a) OF phonemic correspondence with Mk phonemes in the initial position, word-middle and word- final positions, (b) *metathesis* in Mk, (c) *prothesis* in Mk, (d) *aphaeresis* in Mk, (e) *syncope* in Mk, (f) *apocope* in Mk, and a number of exclusively lexical innovations in OF. On the basis of the quantitative evidence in the percentages of genetic relationship and the qualitative evidence in the form of the OFM group integrating evidence and the OF separating and at the same time integrating evidence as described above, the genetic relationship between Or, Ft, and Mk languages can be formulated in the form of a family tree that follows the binary split, i.e. OFM group as the ancestor of the three languages which is divided into OF and Mk. Then, OF as mesolanguage which is divided into Or and Ft.

3.2 The Reconstruction of the Protolanguage of Or, Ft, and Mk

Reconstructing OFM protolanguage is a process of tracing abstract relationship of common origin comprising vocal protophonemes, consonant protophonemes, and protowords of that language group.

a. Reconstructing Vocal Protophonemes

Through the tracing of Or, Ft and MK vocal phonemes and the vocal phonemic change system that occurs in the three languages, five vocal phonemes have been reconstructed, namely, */i/,*/u/, */e/, */o/ and */a/, both at the level of OFM group and at the OF subgroup. The proto phonemes generally underwent split in mesolanguage and modern language by the dom-

inant phonemic change rule in the form of progressive assimilation followed by regressive assimilation and dissimilation. In addition, a merger process occurred in the form of vowel centralization.

b. Reconstructing Consonant Protophonemes

On the basis of the result of the tracing of Or, Ft and Mk consonant phonemes and the consonant phonemic change system that occur in the three languages, 10 consonant protophonemes could be reconstructed at the OFM subgroup level, namely: */p/, */t/, */k/, */'/, */m/, */n/, */l/, */r/,*/s/,*/w/ and 12 consonant protophonemes at the OF subgroup level by adding */h/ and */y/ consonants. The consonant protophonemes tended to undergo split at mesolanguage and modern language through the rule of phonemic change in the form of voicing, palatalization, and nasalization (homorganic nasal stop consonant cluster).

c. Reconstructing Proto Words

In addition to vocal and consonant protophonemic reconstruction, OFM proto words have also been reconstructed as the realization of the common origin of the OFM group and the OF protowords as the realization of the OF language subgroup. The OFM protowords that were found have 180 etymons in the form of exclusive joint innovation that is only possessed by the language group and is not found in the other languages. The OF protowords consist of 209 etymons that are only found in the subgroup. The OFM protowords have undergone innovations at the mesolanguage level and modern language level through the rule of phonemic change in the form of apocope, voicing, fricativization, and metathesis in Mk language; palatalization, laryngalization, and fricativization in Ft language, and syncope, laryngalization, metathesis, aspiration, and /h/ phoneme release in Or language.

3.3 Phonological Evolution of Or Language

1) Internal Evolution

In the historical perspective, as the effect of diachronic interaction with languages in the OFM group, Or language underwent vocal phonemic change and consonant phonemic change.

In vocal phonemic evolution in the form of OFM vocal protophonemes: */u/ and */o/, a retention occurred together in the OF subgroup and in the vocal phonemes */u/, */o/ and */a/ a retention occurred in Or language in all positions. Three vocal protophonemes of OFM */i//_#, */e//_# and */_# underwent split and merger in OF and two OF vocal protophonemes */i//_# and */e// _# underwent split and merger in Or, and the vowel centralization in that language group.

In consonant phonemic evolution a change occurred from 10 consonant protophonemes in OFM into 12 consonant protophonemes, by adding phonemes

*/y/ and */h/ in OF and 13 consonant phonemes in Or, by adding phoneme /d/.

2) External Evolution

Externally, the phonology of Or also underwent evolution as the result of language contact with In, Bel, Por, Ks and Am languages. The forms of change are as follows: (a) enrichment of consonant phonemes /b/, /c/, /d/, /j/, /g/, /ng/, /f/,
/v/, and /z/; (b) the cluster formation: dw, kl, kr, pl, pr, sl, sr, st and tr; (c) the addition of homorganic nasal stop consonant cluster: /mp/, /mb/, /nt/, and /nđ/; (d) enrichment of syllabic patterns; (e) shift from vocalic to non-vocalic language.

3.4 New Findings

1) The relationship between Or and Ft turned out to be closer than that between Or and Mk. This finding at the same time refutes Greenberg the opinions of Greenberg (1971) and Capell (1975) who state that Or is closer to Mk than to Bn.
2) Greenberg (1971) classifies NAN languages in the region of TAP, HU, KB and the surrounding areas as West Papuan Phylum with a very low genetic relationship (12% and below). The findings of the present study showed that the relationship of the three languages (Or-Ft-Mk) falls into the stock category and the average of the cognate similarity is 33%. Moreover, the relationship of Or and Ft belongs to the family category with 47% genetic relationship.
3) The method of an accurate protolanguage reconstruction is not enough by relying on the so far applicable correspondence rules. But, it should be done up to the point of finding the phonemic change that occurred in the language group under study. Hence, the use of symbols and capital letters and alternative phonemes are no longer needed.
4) In this study, the vocal phonemic change system was found in the form of vowel centralization. The rules of change in the form of split and merger and assimilation and dissimilation correspondence that occurred in the group ended in the vowel centralization. The implication is that if there is a high- medium-low vocal correspondence in some words it can be reconstructed as high or low vowel.
5) It was also found that consonant phonemes in the form of voicing in the voiceless stop consonants were traced through the split rule with the correspondents. This finding also serves as the internal evolution of voiceless stop consonants that occurred in the OFM language group in a balanced manner.
6) This study also found Or to have lost its natural identity including a shift toward non-vocalic language. The factors leading to this include: (a) Or belongs to the substratum of languages of its surrounding areas; (b) the hegemony of Indonesian language over Or is very strong, particularly. In the religious domain; (c) the less dominant role of the Or language users in their environment; (d) the language development system (internal & external) that does not work; (e) the closed language users' culture toward the existence of their language and (f) the image of Or as a dead language.

4. Conclusion

Synchronically, Or, Ft and Mk have phonological identity as follows:

a) Or, Ft and Mk share five vocal phonemes (/i/, /u/, /e/,/o/ and/e/, /a/) that can distribute completely and share a common diphthong phoneme /ai/.
b) Or has 13 consonant phonemes (p/, /t/. /d/, /k/, /'/, /m/, /n/, /l/, /r/, /f/, /v/, /s/, /h/, /w/ and /y/) and Mk 15 consonant phonemes (/p/, /t/, /b/, /d/, /k/, /g/, /'/, /m/, /n/, /l/, /r/, /f/, /s/, /h/, and /w/), all of which can have initial and middle word positions.
c) In terms of the syllabication of the three languages, Or has more complex syllabication than Ft and Mk. The complexity of Or is the result of the language users' tendency to delete vocal phonemes in the middle word position and the dominant influence of foreign languages that contribute to the enrichment of its vocabulary.
d) In terms of the structural aspect of the phonemes of words in the final syllable, Or, Ft and Mk

have open syllable pattern and diachronically, the three languages are similarly vocalic languages.

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