

Compounding Signs in *Kata Kolok*: A Morphological Point of View

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Abstract—This study aims to identify and describe the compounding in *Kata Kolok*, a sign language used in Bengkala Village, Buleleng, Bali. This descriptive qualitative study used a generative morphological approach as defined by Aronoff (1976) with his colleagues. Aronoff (2005) developed the theory applied to sign language morphology. This research was an experimental development in which the researcher attempted to find the phenomena of compounding, such as those in oral language, in *Kata Kolok* sign language. Data were video recordings of dialogs using *Kata Kolok* which were then converted into images and interpreted according to the images of the signs and the meaning signified. By using the corpora, compounding signs in *Kata Kolok* were discovered by using the regulations of the morphological compounding process as the indicator. The results of this study showed that some combinations of word-classes for sign-compoundings were found, namely a noun with a noun, a verb with a noun, a verb with a verb, noun with adjective and noun with a verb. These results may contribute to the documentation of *Kata Kolok* which in the future is attempted to materialize in the form of the *Kata Kolok* Dictionary.

Keywords: *compounding, Kata Kolok, morphological process, sign language*

I. INTRODUCTION

This paper describes compounding in *Kata Kolok*. *Kata Kolok* is a natural sign language which is created by the Bengkala village inhabitants in Buleleng Regency. Several efforts by the villagers, researchers, academicians, and the village government have been conducted to preserve *Kata Kolok*. This research aims to identify the compounding phenomena of *Kata Kolok* sign language. There are some explanations on how a compounding sign which consists of more than one sign has a single meaning.

There were several previous studies about *Kata Kolok*. Firstly, the study about the meanings of modalities found in sign languages natural in *Kata Kolok* was conducted by Putri (2017). This sign language was agreed upon by residents of Bengkala Village in the Buleleng Regency area. There were five meanings of the modalities outlined in this study, namely: have to, must, should, have and have not. The method used was the method of cognitive anthropology, which is also known as the new ethnographic method. The research techniques used were observation, recording, and interviews. Another research was about the various natural signs of the *Kata Kolok* vocabulary

used by Bengkala signers to show their basic needs (Putri, 2017). There are ten meanings and signals discussed. *Kata Kolok* is a simple and conventional gesture by all communities in Bengkala Village. The third previous study was about variations in *Kata Kolok* for the same meanings which is described the meaning of a single third person pronoun, meaning modality 'must', meaning related to religion: *mebanten* and *Pura*, meaning related to customs: *ngaben*, cultural-related meaning: *tajen*, the meaning of the basic need 'speaking', and emotional expressions: 'sad' and 'surprised'. There are also discussions about polysemy and homonymy (Putri, 2018).

There are two previous studies about NSM (Natural Semantic Metalanguage). The first is on *Kata Kolok* signs expressing process-meaning of to 'cut' in *Kata Kolok*, which results compiling thirteen meanings of the process of to 'cut', namely: *ngētēp*, *ngudud*, *nēktēk*, *ngodot*, *ngiyis*, *ngēēt*, *ngandik*, *ngarit*, *ngabas*, *nyēpēg*, *ngēmpug*, *nyēpih*, and *nampah* (Putri, 2018). The second research is about natural semantic metalanguage applied on the explication of verbs meaning 'to carry' (Putri, 2019). There are six meanings of the process of 'to carry' which are expressed in a number of *Kata Kolok* that are interpreted based on the Balinese language, namely: *ngaba*, *negen*, *nengteng*, *nikul*, *nyangkol*, and *nyuwun*.

The latest research is about morphology, especially the reduplication in *Kata Kolok* (Putri, 2019). All of the studies are being developed and elaborated of which the wider and long-term target is to build corpora about *Kata Kolok* as wide as possible.

A. Morphological process and Compounding

Aronoff (1976) in his hypothesis mentioned that all regular word-formation processes are word-based where a new word is formed by applying a regular rule to a single already existing word. Both the new word and the existing one are members of major lexical categories. Generally, morphological processes are formed by combining morphemes with words, morphemes with morphemes or words with words to form new words from existing words or morphemes. Morphological processes can be found in the level of affixation, reduplication, and compounding. Furthermore, Aronoff et al. (2005) state that sign-language morphology comprises two radically different types. One is rich, complex, and simultaneous, and the other is sparse, relatively simple, and sequential.

Meir et al. (2010) explain that compounding is traditionally defined as combining two (or more) words to create a new word. Compounding is the most common type of word formation process. It is the combination of two (or more) words in order to form a new word. A compound word is a single word that is made up of two (or more) root or free morphemes. According to Loe (2018), compounding is a morphological process by combining two or more words and modify each other. The result of the integration of the process will produce a new form of construction called compound words. Compound words are classified as concentrated construction. Because of its density, between the elements cannot be inserted form or element, the other either with "which" (as the attributive construction of the phrase), "and" (as the coordinate construction of the phrase) or with "its" or "belonging" (as possessive construction of the phrase).

B. *Compounding in Sign Languages*

Some scholars mentioned compound sign languages. Klima and Bellugi (1979) undertook the first major study of ASL compound signs. They point out that the fact that two words form a unit with its own meaning does not necessarily imply that the unit is a phonological word. For example, the two English words 'eat' and 'crow' have combined to form a lexical unit with a specialized meaning, but have not combined to form a single phonological word. Klima and Belugi use several lines of evidence to demonstrate that compound signs in ASL do behave as single words. Lidell and Johnson (1986) explain about ASL, which has a very rich morphology, that consists of almost the whole segment building processes, stem modifying processes, reduplication rules, and compound formation rules. Johnston and Schembri (2016) point out that compounding seems to be a relatively common way in which new sign develops. Compounding is the process of combining two or more free morphemes to form a new sign. Pfau (2016) suggests that in compounds, two or more words are combined into a complex word. In sign compounding, the signs are produced one after the other, but the movement is often reduced. Furthermore, Pfau explains that compound signs normally involve changes in meaning that are not predictable on the basis of the parts.

II. METHOD

The research took place in Bengkala Village, Kubutambahan District, the Regency of Buleleng. Bengkala is around 96 kilometers from Denpasar. Data were obtained from video recordings of *Kata Kolok* deaf signers. These primary data were directly collected from the villagers, the *kolok* (deaf) and the *inget* (hearing). There were three Bengkala deaf villagers involved, namely Pindu, Sukesti and Ariana.

The method of collecting data consisted of some steps namely: open discussion, observation and deciding the right moments of video-taking, video recording and making direct interviews with informants namely the *kolok* and *inget* community of Bengkala Village who lived in Bengkala village. The video files were changed into images by a converter application program. Having had those sorted according to the right meaning in the spoken language (target text), the images were converted into sketches which are only in black and white colours. The meaning in the spoken language was taken from the Balinese Dictionary, online dictionary LEXICO powered by

OXFORD and online *Kamus Besar Bahasa Indonesia* (KBBI), an Indonesian Dictionary. Thus, corpus data was ready for the analysis.

The data were analysed according to the generative morphology theory which pioneered by Aronoff (1976) with his theory of *word-based morphology*, from a spoken language point of view and elaborated by the recent research on sign languages conducted by Johnston and Schembri (2016). According to Aronoff (1976), a new word is formed by applying a regular rule to a single already existing word. Both the new word and the existing one are members of major lexical categories." Generally, morphological processes are formed by combining morphemes with words, morphemes with morphemes or words with words to form new words from existing words or morphemes. Morphological processes can be found in the level of affixation, reduplication, and compounding. Aronoff et al. (2005) stated, "compounding is one of the few sequential word formation processes found across sign languages."

Johnston and Schembri (2016) mention that the smallest meaningful units of a language are known as *morphemes*. Morphemes are used in the language to create the larger units we call words and signs, as well as to modify existing words and signs. Furthermore, they discuss the sign formation process namely *lexical extension, reduplication, affixation, compounding, and numeral incorporation*. The present research discusses the compounding signs of *Kata Kolok*. Compounding is the process of combining two or more free morphemes to form a new sign. Compounds are an important way to create new lexical items, particularly known as loan translation.

The data are presented in both formal and informal methods. There are pictures and explanations with verbal and visual techniques. The *Kata Kolok* sign language is presented in black-white sketches so that the result is focusing on signs and the meaning of the signs.

III. FINDINGS AND DISCUSSION

This research is actually a continued study of the generative morphology in *Kata Kolok*. Previously, there was a proceeding about reduplication in *Kata Kolok* (Putri, 2019), on the occasion of the Fifth PRASASTI International Seminar On Linguistics 2019 in Solo, Central Java. Basically, according to the generative morphology, the word-formation can be conducted through three types of procedure namely affixation, reduplication and compounding.

There are eight compound signs of the *Kata Kolok* discussed in this paper. Below are the signs and explanations.

1. A nominal compound sign consisting of nominal-signs
Construction: [N+N] → [N]

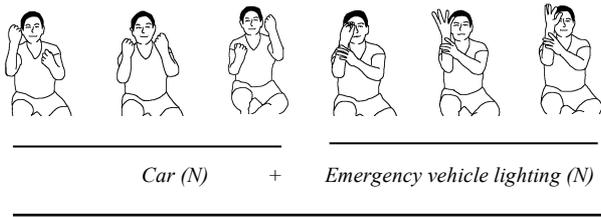


Fig. 1. Ambulance (N)

The sign for 'Ambulance' as shown in Figure 1, which words-class is a noun, derived from two nominal-signs for 'car' and 'emergency vehicle lighting'. The type of compound-sign is endocentric since the sign for 'car' is the head and the sign of 'emergency vehicle lighting' is the modifier.

Below is the other sign having the same formula
[N + N] → [N]

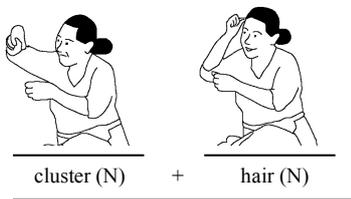


Fig. 2. Rambutan (N)

The sign for 'Rambutan' (name of fruit) as shown in Figure 2, which words-class is a noun, derived from two nominal-signs for 'cluster' and 'hair'. The type of compound-sign is exocentric since it lacks the head meaning; the two signs are the modifiers that brings to the image of Rambutan fruits.

2. A nominal compound sign consisting of verbal and nominal-signs
Construction: [V+N] → [N]

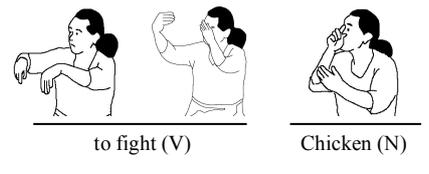


Fig. 3. Tajen/Cockfighting (N)

The sign for *Tajen* or 'cockfighting' as shown in Figure 3, which words-class is a noun, derived from a verbal sign 'fight' and a nominal sign 'chicken' (in this case, the meaning is specified into cock (male chicken)). The type of the compound-sign is endocentric since the head is the sign 'to fight' and the modifier is the sign 'chicken/cock'.

3. A nominal compound sign consisting of verbal-signs
Construction: [V + V] → [N]

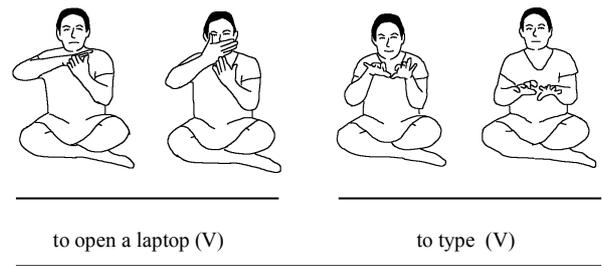


Fig. 4. Computer (N)

The sign for 'computer' as shown in Figure 4, which words-class is a noun, derived from a verbal sign 'to open a laptop' and another verbal sign 'to type'. The type of the compound-sign is endocentric since the head is the sign 'to open a laptop' and the modifier is the sign 'to type'.

Below is the other sign having the same formula
[V + V] → [N]

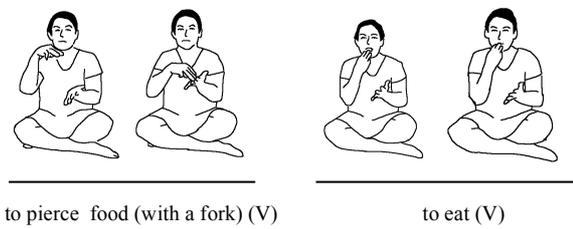


Fig. 5. Fork (N)

The sign for 'fork' as shown in Figure 5, which words-class is a noun, derived from a verbal sign 'to pierce food (with a fork symbolized by three fingers pointing at the other palm)' and another verbal sign 'to eat'. The type of the compound-sign is endocentric since the head is the sign 'to pierce food (with a fork)' and the modifier is the sign 'to eat'.

4. A nominal compound sign consisting of nominal-sign and adjectival sign
Construction: [N + A] → [N]

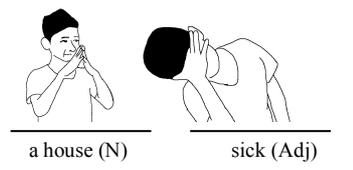


Fig. 6. Hospital (N)

The sign for 'hospital' (N) as shown in Figure 6, which words-class is a noun, derived from a nominal sign 'a house' and an adjectival sign 'sick'. The type of compound-sign is endocentric since the head is the sign 'house' and the modifier is the sign 'sick'.

5. A nominal compound sign consisting of nominal-sign and verbal-sign

Construction: [N+V] → [N]

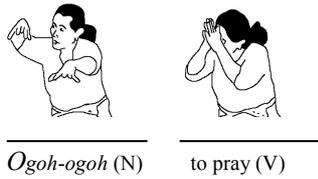


Fig. 7. Nyepi (N)

As shown in Figure 7, Nyepi is Balinese silent day which is a special Hindu-Bali ceremony that obliges all Balinese people to keep silent for the whole day. Normally all people in Bali on Nyepi day stay at home for one night with very minimum activities; no traveling, no cooking, no light especially during the night. The sign for ‘Nyepi’ (N), which words-class is a noun, derived from a nominal sign ‘ogoh-ogoh’ which is demonic huge-creation built by Balinese villagers to symbolize the negative energy of Earth, and a verbal-sign ‘to pray’. The type of compound-sign is endocentric since the head is the sign ‘to pray’ and the modifier is the sign ‘ogoh-ogoh’.

Below is the other sign having the same formula [N + V] → [N]

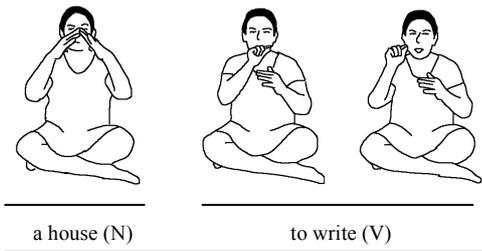


Fig. 8. School (N)

The sign for ‘school’ (N) as shown in Figure 8, which words-class is a noun, derived from a nominal sign ‘a house’ and a verbal sign ‘to write’. The type of compound-sign is endocentric since the head is the sign ‘house’ or ‘building’ and the modifier is the sign of ‘to write’ which is a part of studying activities.

Based on the findings, it is concluded that there are some combinations of word-classes for sign-compoundings, namely a noun with a noun, a verb with a noun, a verb with a verb, a noun with an adjective and a noun with a verb. All compound signs cannot be inserted by conjunctions (and, or) or possessive adjectives (whose, which). In this paper, some of the compounding signs *Kata Kolok* are described namely ambulance (N) derives from two nominal signs mean ‘car’ and ‘emergency light’; computer (N) derives from two verbal signs mean ‘to open a laptop’ and ‘to type’; Fork (N) derives from another verbal signs combination: ‘to pierce food using fork’; Hospital (N) which are combinations of nominal sign and adjective sign: ‘a house’ and ‘sick’; Nyepi (N) derives from nominal sign and verbal sign: ‘ogoh-ogoh’ and ‘to pray’; Rambutan (N) derives from two nominal signs: ‘cluster’ and ‘hair’; school (N) derives from nominal and verbal signs: ‘a

house’ and ‘to write’, and *Tajen* Cocks-fighting (N), which derives from verbal and nominal signs: ‘to fight’ and ‘chicken’.

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