

TYPES AND FUNCTIONS OF REDUPLICATION IN PALEMBANG

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Abstract

In this paper, we study the morphosemantic aspects of reduplication in Palembang (also known as Musi). In Palembang, both content and function words undergo reduplication, generating a wide variety of semantic functions, such as pluralization, iteration, distribution, and nominalization. Productive reduplication includes full reduplication and reduplication plus affixation, while fossilized reduplication includes partial reduplication and rhyming reduplication. We employed the Distributed Morphology theory (DM) (Halle and Marantz 1993, 1994) to account for these different patterns of reduplication. Moreover, we compared the functions of Palembang reduplication to those of Malay and Indonesian reduplication. Some instances of function word reduplication in Palembang were not found in these languages, such as reduplication of question words and reduplication of negators. In addition, Palembang partial reduplication is fossilized, with only a few examples collected. In contrast, Malay partial reduplication is productive and utilized to create new words, especially words borrowed from English (Ahmad 2005).

Keywords: Reduplication, affixation, Palembang/Musi, morphosemantics

ISO 639-3 codes: mui

1 Introduction

This paper has three purposes. The first is to document the reduplication patterns found in Palembang based on the data collected from three Palembang native speakers. Second, we aim to illustrate some shared features of Palembang reduplication with those found in other Malayic languages such as Indonesian and Malay. The third purpose is to provide a formal analysis of Palembang reduplication based on the Distributed Morphology Theory.

Palembang, or Musi¹, is a Malayic language (Adelaar 1992), in the Malayo-Chamic subgroup of the Greater North Borneo group in the Austronesian family (Blust 2010, 2013). It is spoken by roughly 3,105,000 speakers (Ethnologue.com) in the Palembang metropolitan area near the Musi river in Southern Sumatra island in Indonesia. Despite the large number of speakers in South Sumatra, Palembang remains little studied when compared to other languages of Indonesia, such as Minangkabau, Javanese, Balinese and Achenese.

Reduplication is a productive word-formation process across languages (e.g. Inkelas and Zoll 2005). Reduplication is a morphological process involving complex morphophonological processes and expressing a complex range of semantic-syntactic senses and functions. While reduplication is observed in a wide range of languages, its level of linguistic productivity varies (Ghomeshi et al 2004 and Marantz 1982). It is well-known among linguists that Austronesian languages extensively use the morphological process of reduplication (Clark 2009; Himmelmann 2005; Macdonald 1967). The data in this study shows that reduplication in Palembang is rathe productive, and many interpretations and new words are derived by copying word bases.

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We used Palembang as the name of the national language since that is the name most commonly used by its speakers and in the literature about the Palembang language in *Morfologi dan sintaksis bahasa Melayu Palembang* (Morphology and Syntax of the Palembang Language) by Arifin et al. (1987).

This paper is primarily based on data collected from three native Palembang speakers through elicitation tasks. We started working with a native Palembang consultant during our field methods class taught by Professor Martha Ratliff at Wayne State University in Fall 2015. This informant was born in Palembang and moved to the US several years ago as an adult. The data were collected initially in four sessions of one hour each from the first informant in the United States. After that, we travelled to Palembang to work with the other two informants who live in Palembang city in Indonesia. We collected more data from May to June 2017. After further field work on Palembang, the data used in this paper was expanded by the second author for her master's thesis (Taibah 2017).

This paper focuses on the different types and functions of reduplication in Palembang. These types include full reduplication, which is the most productive type of reduplication, partial reduplication, and rhyming reduplication, which are fossilized forms. The semantic functions of reduplication in Palembang include pluralization, iteration, diversity, distribution, universal quantification, deriving the exhaustive meaning, delimitation, resemblance, nominalization, concession, deriving subjunctive prohibitive mood, and association with new meaning not associated with the non-reduplicated word. In this study, all of these functions are explored and compared to other reduplication functions in other Malayic languages such as Malay and Indonesian.

1.1 Definition of Reduplication

Reduplication is a word-formation process that involves copying some part of a base (a segment, syllable, or morpheme), or even the whole base. The term "reduplicant" refers to the copied part of a word, while the term "base" is used to refer to the root to which the reduplication process applies (McCarthy and Prince 1995). Kiyomi has also provided a definition of reduplication that suits our analysis.

"Given a word with a phonological form X, then reduplication refers to XX or xX (where x is part of X and x can appear either just before X, just after X, or inside X). Conditions: (i) XX or xX must be semantically related to X. (ii) XX or xX must be productive." (Kiyomi 1995:2)

Kiyomi proposed two conditions for reduplication: semantic relevance and productivity of the process. In the case of fossilized reduplication, those words were once formed through a regular process of productive reduplication, and in current usage, they have become fossilized.

Several syntactic and semantic properties are associated with reduplication among languages (Inkelas 2014). Among a wide variety of languages, the outcome of copying the word base entails generating new semantics of the root, thus causing change in the whole meaning of the reduplicated stem or adding new information along with the existing meaning of the basic word. The common semantic changes associated with reduplication include diminutivization, intensification, quantification, and conveying a sense of distribution or lack of control (Inkelas 2014 and Kiyomi 1995). Some of these semantic functions of reduplication overlap with Palembang reduplication. Among the common syntactic changes are associated with reduplication is inflection. Reduplication may serve as an inflectional device (e.g. Inkelas 2014). For example, a reduplicated word may be a plural form of the noun root as in the case of Indonesian *buku~buku* 'books' from the base *buku* 'book' (Cohn 1989:185), and as in Tohono O'Odham, a native American language, with the partially reduplicated *pa-pado* 'ducks' from the root *pado* 'duck' (Fitzgerald 2001:942-945). In addition, reduplication can affect the transitivity of verbs, rendering the overall structure intransitive of potentially transitive verbs. Kiyomi (1995) provides an example of "valence-reducing" reduplication from Paamese, a Malayo-Polynesian language, in which the transitive verb *lahi-e* 'is carrying him' is reduplicated, resulting in the intransitive verb *lahi-lahi* 'is occupied'.

In Palembang, reduplication can be applied to almost all content and function words. Some categories, such as verbs and adjectives, undergo reduplication to convey more than one semantic function. For example, verbs can be reduplicated for either iteration or delimitation. In other cases, some words, such as verbs, adjectives, and pronouns, when reduplicated, generate the same semantic functions. For instance, the iteration function can be achieved through reduplication of verbs, adjectives, or pronouns.

Cross-linguistically, reduplication is considered iconic in some languages and non-iconic in others. According to Kiyomi (1995) and Inkelas (2014), the primary Malayo-Polynesian of Austronesian has examples of both iconic and non-iconic reduplication. Moreover, Palembang is also a language in which reduplication is considered both iconic, where a more complex form may intensify (bigger, more intense, longer, etc.), and

non-iconic, where a more complex form does not (Lakkoff and Jonson 1980). The iconic and non-iconic functions of reduplication in Palembang are illustrated in Table 1 in section 4.1.1.

According to Inkelas and Zoll (2005), there are two basic approaches to reduplication: the phonological copying and morpho-semantic (MS) feature reduplication. Phonological copying is a process that copies the whole or part of a phonological constituent, feature, or segment. The morpho-semantic feature reduplication is triggered by a morphological, rather than phonological, process of reduplication, which generates a new semantic function. Moreover, McCarthy and Prince (1986) have analyzed reduplication as a morphological and morphophonological process. Travis (2001) argued that there are three types of reduplication: phonological, syntactic, and what Ghomeshi, Jackendoff, Rosen and Russell (2004) call contrastive reduplication. According to Ghomeshi et al. (2004), contrastive reduplication involves copying of words and phrases to give a real or a prototypical reading to the copied element. An example of contrastive reduplication in English is I'll make the tuna salad, and you make SALAD-salad, in which the reduplication can be considered neither phonological nor syntactic. The reduplicated form SALAD-salad in this example denotes specifically green salad as opposed to salads in general (Ghomeshi et al 2004 and Travis 2001:10). This indicates that reduplication is not a mere phonological process and that it has other effects on the structure and the semantics of the sentence. Our analysis of reduplication in Palembang focused on the semantic effects of reduplication. Reduplication as a morphological process is triggered to achieve certain semantic effects that could otherwise be challenging to express in Palembang.

2 An Overview of Reduplication in Malayic Languages

Reduplication is a productive process among Malayic languages, such as Standard Indonesian and Malay (Rafferty 2002 and Uzawa 2012).

In Standard Indonesian (SI), the national language of Indonesia, there are three types of reduplication: full, partial, and rhyming reduplication (Rafferty 2002; Sneddon 1996). Reduplication in SI is extensively used in primary classes of words, namely, nouns, verbs, and adjectives. The semantic functions of reduplication in Indonesian include plurality, as in *anak~anak* 'children' from *anak* 'child', collectivity, diversity, as in *buah~buah-an* 'all kinds of fruit' from the root *buah* 'fruit', intensity, reciprocity, as in *pukul~mukul* 'hit each other' from the verb *pukul* 'hit', iteration, as in *lari~lari* run continuously' from the verb *lari* 'run', concessive, and imperfective aspects of verbs (Macdonald 1976; Mistica et al 2009; Rafferty 2002; Sneddon 1996). However, function word reduplication has not been deeply researched even though it is present in Indonesian. Pronouns, question words, and some negators, such as *tidak* (in SI) and *idak* (in Palembang) used to negate verbal predicates and *bukan* to negate nominal predicates, are reduplicated in both Indonesian and Palembang.

In addition, Gil (2005) shows that Riau Indonesian (RI), spoken in the Riau province in the central eastern coast of Sumatra, uses full reduplication as in (1), partial reduplication as in (2), and multiple reduplication as in (3). In example (1), full reduplication of the word *kecil* 'small' is non-iconic and carries a concessive interpretation. Examples (2) and (3) represents partial reduplication in RI and is associated with an interpretation that is iconic, involving spatial distributivity. Example (3) differs from example (2) in that the former involves multiple (partial) reduplication.

(1) kecil-kecil punya cewek itu. [Gil 2005:19]
RED~small have girl DEM-DEM: DIST
'Even though he's small, he's got boyfriend.'

(2) bajunya ko-koyak itu. [Gil 2005:20] cloths RED~tear DEM-DEM: DIST 'Your shirt's all frayed' from the root koyak 'tear.'

(3) *udah* si-si-siap? [Gil 2005:20]

PRF RED~ready

'Is everything ready?'

In Malay, the national language of Malaysia, reduplication is also productive (Uzawa 2012). Different types of reduplication are utilized in Malay, such as full reduplication, partial reduplication, and rhyming reduplication (Hassan 1974; Sharum et al. 2010; Uzawa 2012). Partial reduplication in Malay is productive

and it is sometimes used in creating new Malay words for words that are translated from English (Ahmad 2005). Reduplication in Malay can be used to express various semantic functions: plurality, variety, similarity, and entirety (Uzawa 2012). Reduplication applies to several parts of speech, including content words, such as nouns, verbs, and adjectives; and some function words, such as pronouns, and, interestingly, the nominal negator *bukan*. Example (4) is taken from (Uzawa 2012), in which the reduplicated negator *bukan* is proceeded by the nominalizer *yang*.

(4) empat hari aku dah kau orang tak pulang, fikir bukan-bukan. yang Four 2 people NEG go.home, 1.SG have think **NMLZ** RED~NEG 'For four days, you all hadn't come back, so I had a nonsensical idea.'

In (4), the expression *yang bukan-bukan* is no longer a negator. It has been nominalized by reduplication first and by attaching the nominalizer *yang*, which we discuss in detail in Section 4.1.2.2, since this form also exists in Palembang.

Palembang is relatively understudied, compared to other Malayic languages. Not much work has been done on Palembang, and only a few resources can be found about Palembang in English publications, including an online page on Ethnologue.com and Anderbeck (2008)'s historical study, which used the comparative method to reconstruct Proto-Malayic using data from sixteen Malayic languages including Palembang/Musi, Jambi, and Minangkabau (OLAC.com). We also found some valuable resources written in Indonesian by Zainal Abidin et al (1981), Dunggio et al. (1983), Arif et al. (1985), and Arifin et al. (1987). These resources provide sketches of Palembang grammar, and they discuss several aspects of morphology and syntax of the language. Arifin et al. (1987), in their book *Morfologi dan sintaksis bahasa Melayu Palembang (The Morphology and Syntax of Malay Palembang Language*), introduced two basic types of reduplication in Palembang: full and rhyming reduplication. They analyzed the two forms of Palembang reduplication, with more focus on the morphophonemic part of reduplication. Throughout their book, they provided Indonesian translations of their examples, but we give roughly equivalent English translations for each example. Examples of full reduplication in Palembang (from Arifin et al. 1987) are as follows: *ghuma* 'house' and *ghuma~ghuma* 'houses'; *mein 'to play'* and *mein~mein* 'to continuously play'.

In addition, Arifin et al. (1987) provided examples of rhyming and chiming reduplication (Ahmad 2005 and Hassan 1974) in Palembang, which is also referred to as imitative reduplication (Eades 2005; MacDonald 1967; Raimy and Yanti 2010; Sneddon 1996), in which the reduplicant copies the base with a change in a certain element of the base, such as the consonants, syllables, or vowels, to create harmonizing sounds in pronunciation (Sharum et al. 2010). According to their examples, the change was either in the first consonant, as in (1a and 1b), or in the vowels of the root, as in (2a and 2b), to create a phonological harmony. Consider examples (5a) to (6b) of the rhyming reduplication in Palembang, taken from Arifin et al. (1987), which show this type of imitative reduplication, such as alternation of the initial in (5b) and alternation of a vowel in (6b).

(5a) *ceghai* separate 'to divorce'

(5b) ceghai~beghai seperate~RED 'to divorce'

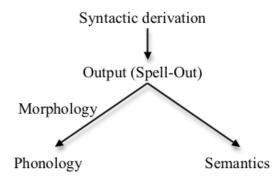
(6a) balik
return
'to return'

(6b) bulak~balik return~RED 'to return'

3 Distributed Morphology Theory

The theory of Distributed Morphology (DM) was proposed by Halle and Marantz (1993, 1994) and represents the interaction between different grammatical components (Bobaljik 2015; Embick and Noyer 2007; Halle and Marantz 1993, 1994; Harley and Noyer 1999). According to Bobaljik (2015:1), "morphology, in DM, is (a part) of the mapping from the output of a syntactic derivation to the (input to) the phonology". In DM theory, word-formation processes (such as affixation and reduplication of morphemes) are distributed (hence the name) and occur at different points in morphosyntactic derivation. The hierarchical representation of morphemes is shown in Diagram 1.

Diagram 1: Levels in Distributive Morphology



In DM theory, there is no single lexicon (i.e., a lexicon that consists of a list of words and their meanings). Instead, there are two main lists: (i) a list of roots and (ii) a list of syntactic nodes and features such as number (Num), aspect (Asp), and other nodes that are in many cases language-specific (Bobaljik 2015). DM theory proposes that a single generative system (syntax) is responsible for both word structure and phrase structure; that is, the derivation of all complex words and phrases are syntactic. In DM theory, unlike the lexicalist approach, syntax does not operate on single lexical items, but rather structures are formed by combining morphosyntactic features, with each combination governed by properties and principles (Embick and Noyer 2007; Harley and Noyer 1999). For instance, when the suffix -an is attached to a nominal root such as anak, the suffix -an requires the nominal root to be reduplicated before the suffix can be attached, generating the form anak~anak-an 'doll'. On the other hand, when the suffix -an is attached to verbal roots, it does not require the verbal root to be reduplicated first. Rather, it allows for the affixation to apply first, and the whole deverbal nominal stem will be reduplicated, as in pukul-an~pukul-an 'hits'. Therefore, the order in which the process apply in word formation is not free; for each case, the suffix selects the order of the processes based on the type of the input root (Sato 2009).

3.1 Distributed Morphology Approach to Palembang Reduplication

Some theories of morphology are better at accounting for the different forms of reduplication in Palembang than other theories. For example, forms such as pukul-an-pukul-an 'hits' and anak-anak-an 'doll' pose an empirical challenge to the traditional lexicalist view of the lexicon-syntax interface, as described in Chomsky (1970), Anderson (1982), Kiparsky (1982), Mohanan (1986), and Di Sciullo and Williams (1987). The lexicalist view (Lieber 1992) proposes that non-productive, irregular processes occur in the pre-syntactic lexical level, while productive, regular processes occur in the syntactic/transformational component (Chomsky 1970, Sato 2008). In Palembang, both reduplication and affixation are productive, and in some cases, reduplication must apply first, as in anak-ana' doll'. In other cases, affixation must apply prior to reduplication, as in pukul-an~pukul-an 'hits'. Therefore, the lexicalist theory does not account for the two cases that we studied in Palembang reduplication. For example, we first adopted the lexicalist theory for our analysis. Based on the lexicalist approach, we applied reduplication before affixation to the verbal root pukul 'to hit', and then the nominalizer -an entered the derivation, resulting in a form such as *pukul~pukul-an 'hits', which is ungrammatical. Additionally, when the noun anak 'child/ren' is first attached by the suffix -an, the whole derivation is duplicated, again generating an ungrammatical form such as *anak-an~anak-an 'doll'. Thus, we found a more suitable approach, the Distributed Morphology theory (Halle and Marantz 1993, 1994), to account for this phenomenon. In DM theory, as discussed earlier, words are formed by combining morphosyntactic features, which can occur at different levels in the derivation. DM theory provided a unified formal analysis of the different morphosyntactic derivations of the suffix -an and its affixation to different stems.² Thus, we also apply the theory to the other basic types of reduplication to provide a unified formal account to the reduplication patterns found in Palembang.

We use abbreviations in our tree diagrams. The description of each expression is as follows: AspP (Aspect Phrase); Asp (Aspect); AP (Adjective Phrase); A (Adjective); AdvP (Adverbial Phrase); Adv (Adverb);

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² Iteration, continuation, or duration, are all subsumed under the imperfective aspect of the verb "action not completed" Kiyomi (1995). We use the term iteration to refer to all of them due to their closely related semantics and for convenience.

DVRSP (Diversity Phrase); DVRS (Diversity), NegP (Negation Phrase); Neg (Negation); NumP (Number Phrase); Num (Number); NMLZP (Nominalizer Phrase); NMLZ (Nominalizer); RED (Reduplication). Some of these labels denote morphosyntactic features and syntactic nodes/projections, which we propose, are specific to Palembang.

4 Types and Semantic Functions of Palembang Reduplication

In this section, we introduce two main types of reduplication in Palembang: productive and fossilized. Productive reduplication is formed through a regular process of full reduplication or through full reduplication and affixation. Fossilized reduplication is not formed through a regular process anymore. It includes partial reduplication, rhyming reduplication, and words that are reduplicated in their roots. Not only content words but also function words can undergo reduplication in Palembang. Some of the function words that can be reduplicated are pronouns, negators, and question words. We describe each type of Palembang reduplication in sub-sections in which we analyze each content and function word reduplication along with their semantic functions.

4.1 Full Reduplication

Full reduplication is the most productive type of reduplication in Palembang. Most word classes undergo full reduplication for various iconic and non-iconic functions.

4.1.1 Content Word Reduplication

Content words refer to classes of words that are "open" in that words can be added to them.

4.1.1.1 Nouns

Nouns in Palembang undergo the process of full reduplication for two functions: marking pluralization or iteration. Nouns in Palembang are not specified for number, so *anak* can be 'a child' or 'children,' and *bola* can be 'a ball' or 'balls.' Reduplicating the noun specifies the plural interpretation. Therefore, *anak*~anak can only be interpreted as 'children,' and *bola*~bola can only be interpreted as 'balls'. Additionally, non-count nouns are reduplicated to generate the meaning of plural containers of the non-count noun as in examples (7) to (10).

(7) susu~susu

RED~milk

'containers of milk'

(8) gendom~gendom RED~flour 'containers of flour'

(9) uya~uya RED~salt 'containers of salt' (10) bras~bras
RED~rice
'containers of rice'

Moreover, Palembang exhibits full reduplication in compound nouns. Reduplicated compound nouns are achieved via full reduplication, and the function of reduplicated compounds is to pluralize either the head noun or the whole compound. This applies to the whole compound noun so that the output is in the form of ABAB, rather than the grammatical form of AAB, as in examples (11a) to (12b).

- (11a) buku cirito book story 'storybook'
- (11b) buku cirito buku cirito book story book story 'storybooks'

- (12a) sepeda motor bicycle motor 'motorcycle'
- (12b) sepeda motor sepeda motor bicycle motor bicycle motor 'motorcycles'
- (12c) *sepeda sepeda motor bicycle bicycle motor

The case of compound reduplication is different in Indonesian. Widjaja (2010) notes that the use of reduplication in compounding involves the full reduplication of head nouns to pluralize a whole compound noun. In Indonesian, all examples of compound nouns given by Widjaja (2010) illustrate that only the head noun or the leftmost noun of the whole compound is reduplicated, as in (13a) and (13b). This conveys the same desired plural interpretation (pluralization), but is achieved by a different compound reduplication pattern than in Palembang.

(13a) sepeda motor
bicycle motor
'motorcycle'

(13b) sepeda sepeda motor
bicycle bicycle motor
'motorcycles'

[Widjaja 2010:34]

Pluralization is one of the most common functions of reduplication cross-linguistically (Haiman 1980 and Lakoff and Johnson 1980), and it is also iconic because the meaning of plural consists of more than one item, and the form of reduplication contains more than one word as well. Nouns in Indonesian are reduplicated for the purpose of plurality as well (MacDonald 1967; Sneddon 1996), but it does not seem to be the case in Malay. Nouns in Malay are said to be reduplicated for the purpose of indicating variety or the indefinite plural. Carson (2000) claims that the plurality meaning is derived from the variety meaning, that is, the meaning of 'all kinds of', which is the main purpose of noun reduplication in Malay. However, in Palembang, a separate form is used to express variety, which is reduplication and affixation, , for example, *pohon* 'tree' or 'trees', *pohon~pohon* 'trees', and *pohon~pohon-an* 'all kinds of trees', as discussed more in Section 4.3.2.1. The fact that Palembang has a separate form to indicate variety suggests that the main function of noun full reduplication in Palembang is pluralization.

The other function of noun reduplication, which is to express iteration is restricted to bare common nouns,. The iterative function of noun reduplication is to show that the referent of the reduplicated noun has undergone the same situation multiple times. Consider the example in (14a) and (14b).

- (14a) ngapo yang lanang bae yang kau gawa? why NMLZ boy just NMLZ 2 take? 'Why do you just take the boy with you?'
- (14b) ngapo yang lanang~lanang bae yang kau gawa? why NMLZ RED~boy just NMLZ 2 take? 'Why do you always take the boy with you?'

The examples in (14a) and (14b) represent a minimal pair since the only difference is the reduplicated noun *lanang* 'boy'. Reduplicating the word *lanang* in (14b) adds the iterative interpretation to the overall action of the sentence, which is represented by the English frequency word 'always'. Iteration, which is also iconic by using repetition of morphological materials to indicate semantic repetition, is among the most frequent functions of reduplication cross-linguistically (Haiman 1980; Inkelas 2014; Lakoff & Johnson 1980). Although Haiman (1980), Inkelas (2014) and Lakoff and Johnson (1980) refer to the function of iteration as associated with verb reduplication, we find this example of noun reduplication in (14b) to be representative since it

denotes frequent occurrence of the event to the same referent of the noun. Example (14a) is interpreted according to the context in which it was uttered, while example (14b) is interpreted with the iterative meaning independent of the previous context. This function is only applicable to bare common nouns. If the noun were modified by an adjective or a quantifier in a sentence, it would be ungrammatical to reduplicate the modified noun to denote the iteration function, as in example (15).

- (15)*ngapo gala? tigo lanang~lanang kau mara?-i? yang why like three RED~boy 2 angry-TR **NMLZ** 'Why are you continuously angry at three children?'
- (16)gala? tigo mara?-i? ngapo lanang kau yang why like three boy 2 angry-TR **NMLZ** 'Why are you continuously angry at three children?'

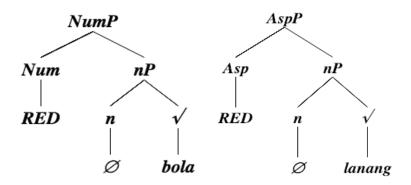
Example (16) is the grammatical way to indicate that someone is constantly angry at the modified noun referent through the verb *gala?* 'like' and not through reduplication. The verb *gala?* 'like' implies the iterative meaning. Example (16) could have an alternative translation as 'Why do you like to be angry at those three children?' This suggests that reduplication of nouns to indicate iteration is restricted to bare common nouns, which in turn excludes proper nouns from being reduplicated to denote iteration. Consider the ungrammatical example (17a).

- (17a) *ngapo cuma tono~tono yang kau mara?-i? why just RED~Tono NMLZ 2 angry-TR 'Why is it just Tono that you are always angry at?'
- (17b) ngapo cuma tono yang kau mara?-i?
 why just Tono NMLZ 2 angry-TR
 'Why is it just Tono that you are angry at?'

On the other hand, the sentence in (17b) is grammatical since it does not include reduplication of a proper noun for the purpose of iteration. In short, nouns in Palembang are reduplicated to specify plural interpretation or to denote iteration, which is only applicable to bare common nouns, excluding proper names and modified nouns. It is important to highlight that when a bare common noun is reduplicated for iteration, it cannot have a plural interpretation. The reduplicated noun in an iterative reading is usually singular in number.

The pluralization and iteration functions of noun reduplication look similar on the surface. However, they go through different derivations. Following DM theory, the roots *bola* 'ball' and *lanang* 'boy' enter the derivations under the *n*P node. Then, reduplication (RED) applies to both nouns, but under different nodes. In the case of *bola* 'ball' RED applies under the number phrase (NumP), which specifies the plural interpretation of the noun *bola* 'balls'. In the case of *lanang* 'boy', RED applies under the aspect phrase (AspP), resulting in iterative interpretation of the reduplicated noun *lanang*~lanang 'boys', as shown in Diagram 2.

Diagram 2: Derivation of bola~bola 'balls' (reduplication for pluralization) and lanang~lanang 'boys' (reduplication for iteration)



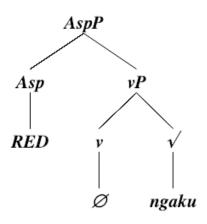
4.1.1.2 Verbs

Verbs are reduplicated in Palembang for different functions, among which is iteration, which is clearly iconic. Iteration or event repetition is a very common function of verb reduplication among languages (Haiman 1980; Inkelas 2014; Lakoff & Johnson 1980). Sentences (18) and (19) are taken from a Palembang folktale *Si Dempu Awang* "Mr. Dempu Awang", in which the child *Dempu Awang* renounced his mother and scolded her when she came to see him after he left her.

- (18)dio marah ngaku~ngaku aku anak ma? aku suda mati. 3 angry RED~claim 1.SG child mother 1.SG already die 'He grew angry, "You claim me as your child. My mother died a long time ago!"
- (19) suda itu belum puas dio kato~kato-i wong tuwo. already that not.yet satisfied 3 RED~scold-REP person old 'And still he was not satisfied, and continued scolding the old woman.'

Words from different categories, such as nouns and verbs can go through similar derivations to achieve the same semantic function—iteration. In Diagram 3, the root ngaku 'to claim' entered the derivation under vP and was reduplicated under the node AspP to denote the iterative function.

Diagram 3: Derivation of ngaku~ngaku 'to claim' expressing iteration through reduplication



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³ Iteration, continuation, or duration, are all subsumed under the imperfective aspect of the verb "action not completed" Kiyomi (1995). We use the term iteration to refer to all of them due to their closely related semantics and for convenience.

Another function of verb reduplication in Palembang is to delimit the action of the verbs. Usually, this kind of reduplication indicates that a situation only lasts for a certain amount of time or that a person is doing something a little bit, as illustrated in examples (20) to (22).

- (20) bicaro~bicaro

 RED~see

 'have a small talk'
- (21) aku jingo?~jingo?
 1.SG RED~talk
 'I take/took a glance/a look.'
- (22) aku cuma baco~baco

 1.SG just RED~read

 'I just flip the pages.' or 'I read a bit (not seriously).'

Sneddon (1996) refers to this function of reduplication in Indonesian as if the action was done with a connotation of "in a casual or a leisurely way." The examples he provided are *duduk~duduk* 'sit about', from *duduk* 'sit', and *jalan~jalan* 'to go for a stroll', from the verb *jalan* 'walk'. The delimitative function of verb reduplication is also common across languages such as Mandarin Chinese (Li & Thompson 1981), in which case volitional verb reduplication results in reduplicated verbs denoting a delimitative action as in (23) and (24).

(23) shuo~shuo

RED~say

'say a little'

(24) zou~zou

RED~walk

'walk a little'

Moreover, concessive reduplication has a unique form in which verb reduplication occurs on verbs that involve non-volitional actions, those over which the subject has no control. When a non-volitional predicate is reduplicated for concession, it might co-occur with a volitional verb in the same sentence. In other words, when non-volitional predicates, such as *mati* 'to die', *ujan* 'to rain', *keci?* 'to be small', or *besa* 'to get wet', are reduplicated, the semantic effect of reduplication is that the reduplicated stem has concessive denotation. This kind of reduplication shows that some actions in the sentence are in contrast to what is usually expected to happen. In the case of the example (25), it is unexpected for the child to *datang di-jabo* 'to play outside' while it is raining. The same analysis goes with the second example in (26), in which the reduplicated *mati~mati* 'to die' corresponds to the fact that the subject unexpectedly did not die.

- (25) ujan~ujan dio datang di-jabo.

 RED~rain 3 play LOC-outside

 'Even though it is raining, s/he plays outside.'
- (26) mpo? dio di-tuja be-kali~kali dio (i)dak mati~mati. although 3 PASS-stab one-RED~time 3 NEG RED~die 'Although s/he was stabbed many times, s/he did not die.'

4.1.1.3 Adjectives

In Palembang, adjectives follow nouns in noun phrases and in sentences. Adjectives can be reduplicated in Palembang, and many semantic functions are expressed through adjective reduplication. The surface meaning of adjective reduplication seems to be pluralization of the modified noun, as in example (27).

(27) kambeng tuwo~tuwo
goat RED~old
'old goats'

However, after examining a large number of examples from our data and reading about the same phenomenon in closely-related languages, we concluded that adjective reduplication cannot be interpreted as pluralization of the modified noun. Rather, it has the semantic function of distributing the character or the quality of the adjective over more than one entity, which specifies the number of the noun. For instance, in example (28a), reduplicating the adjective *besa?* 'big' causes the noun *jalan* 'street' to have a plural interpretation. Other evidence that supports this analysis is in sentence (28b). In example (28b), when the adjective *besa?* 'big' is not reduplicated, the noun *jalan* 'street' is not specified for number. It can have both singular and plural interpretations. This suggests that adjective reduplication in Palembang has the semantic effect of distributivity.

- (28a) jalan yang di jakarta besa?~besa?. street NMLZ LOC Jakarta RED~big 'Streets, the ones in Jakarta, are big.'
- (28b) *jalan* yang di jakarta besa?. street NMLZ LOC Jakarta big 'A street/streets, the one(s) in Jakarta, is/are big.'

It may appear that the adjective reduplication in example (28a) denotes intensity, but to say that 'streets in Jakarta are very big', using the same utterance as in (28a) is not correct. If one wants to express that 'the streets in Jakarta are very big', the adverb *nian* 'very' is used with the non-reduplicated adjective to express this kind of meaning, as in example (29).

(29) jalan yang di-jakarta besa? nian. street NMLZ LOC-Jakarta big very 'A street/streets, the one(s) in Jakarta, is/are very big.'

The same analysis applies to the sentences in (30a) and (30b). In example (30a), the reduplicated adjective *keci?* 'little' restricts the number of the noun *anak* to a plural interpretation 'children'. It cannot carry a singular interpretation. Nevertheless, the sentence in (30b) in which the adjective *keci?* 'little' is not reduplicated allows for both singular and plural interpretations of the noun *anak* 'child/ren'.

- (30a) anak ku mase keci?~keci?. child 1.SG still RED~little 'My children are still little.'
- (30b) anak ku mase keci?. child 1.SG still little 'My child/ren is/are still little.'

We conclude that since a noun with a non-reduplicated adjective can be interpreted as singular or plural, then adjective reduplication is associated with an iconic interpretation, involving distributivity, which is closely related to the notion of plurality and gives an immediate indication of plural interpretations.

Adjective reduplication can also describe the frequency of a person's main characteristics. This type expresses that a person is habitually in a certain mood or condition. This situation is expressed through full reduplication of stative verbs or adjectives, as in examples (31) to (33).

- (31) tono gala? masem~masem.

 Tono like RED~smile

 'Tono likes smiling/always smiles.'
- (32) ani sakit~sakit.

 Ani RED~sick

 'Ani is often sick.'
- (33) dio marah~marah.

 3 RED~angry

 'S/he is continuously angry.'

It is unclear whether the word *sakit* is an adjective or a stative verb in Palembang, but it is not surprising to see it participating in contexts where verb reduplication is also applicable to denote the delimitative aspect. Example (32) can have either a delimitative interpretation as 'Ani is a little bit sick' or the iterative reading depending highly on the context.

In addition to iterative and distributive functions, adjective reduplication carries concessive denotation, in which the adjective must be reduplicated at the beginning of the sentence, and the rest of the sentence carries information that is contrary to what is usually expected, as in (34) and (35).

- (34) sakit~sakit kau pegi.

 RED~sick 2 go

 'Although you are sick, you go.'
- (35) renko~renko kau mase gawe.

 RED~tired 2 still work

 'Even though you are tired, you are still working.'

Table 1 summarizes the semantic functions of content word reduplication in Palembang.

Iconic Non - iconic Iteration Distribution **Delimitation Function Pluralization** Concession $\sqrt{}$ Noun $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Verb $\sqrt{}$ $\sqrt{}$ $\sqrt{}$ Adjective

Table 1: Types and functions of content word reduplication in Palembang

4.1.2 Reduplication of Function Words

Function words belong to closed classes of words, so-called because adding words to those classes is not possible. This contrasts with content words, which are known as open-class words, which accept new words, and which have potentially an unlimited number of words, such as verbs and nouns. Function words include pronouns, negators, question words, quantifiers, and aspect adverbials. Reduplication in Palembang applies to some function words, resulting in one of two general functions: (1) nominalization of function words where function words lose their original grammatical category or (2) association with additional meanings not associated with their non-reduplicated counterparts. Personal pronouns are stand-alone words in Palembang. This fact will make it clear that pronoun reduplication should fall under the second main function of function word reduplication. Question words, quantifiers, and negators are more likely to fall under the first function, which illustrates that these words lose their grammatical status after they have been reduplicated. The

following subsections of the paper illustrate and analyze the semantics of function word reduplication in Palembang.

4.1.2.1 Pronouns

Pronouns can be reduplicated like many other content categories in Palembang. Since pronouns behave like nouns in most cases, one would expect them to behave like nouns in reduplication as well. This is the case of the third-person pronoun *dio* 's/he, they', which is reduplicated, like nouns, for the iconic productive purpose of specifying the plural interpretation and derived through the same steps. However, common nouns are not specified for number in Palembang. Noun reduplication restricts its reference to the plural referent, which is less free in number interpretation than its non-reduplicated counterpart as mentioned in Section 4.1.1.1. This function of pluralizing pronouns applies only to second- and third-person pronouns, but not to the first-person pronoun *aku* '1.SG'. This can be explained by the fact that first-person plural pronouns have separate forms of their own *kami* '1.PL.EXCL' and *kito* '1.PL.INCL', which block the form **aku* from being interpreted as '1.PL'. However, reduplicating the first-person pronoun *aku* for other semantic functions is possible, which will be illustrated below. The sentence in (36) is an example of personal pronoun reduplication for plurality.

(36) dio~dio itu suda pegi.

RED~3 that already go

'They have left.'

The other function of pronoun reduplication is to express a sense of iteration in which the reduplicated pronoun referents undergo the same situation repeatedly. Iteration is usually a function of verb reduplication to indicate that an event has occurred more than once, as discussed in Section 4.1.1.2, or to multiply the actors (Inkelas 2014). However, the case in Palembang is different because the argument reduplication, noun reduplication as in Section 4.1.1.1 and pronoun reduplication, is the one pluralizing the event and not vice versa. Consider the examples (37a) and (37b).

- (37a) aku~aku bae yang kau sala-ke
 RED~1.SG just NMLZ 2 blame-BEN
 'It is always poor old me that you blame.'
- (37b) aku bae yang kau sala-ke 1.SG just NMLZ 2 blame-BEN 'You just blame me.'

In example (37a), the reduplicated pronoun denotes a sense of iteration of frequently or persistently being blamed. The iterative meaning of pronoun reduplication is represented in the English translation by the frequency word 'always'. On the other hand, when the pronoun is not reduplicated in the same linguistic context in (37b), the meaning lacks the iterative interpretation. The sentence in (37b) is used in a situation in which the speaker was blamed once, but not constantly, as in example (37a). When the pronoun is reduplicated under AspP, it obtains iterative meaning just like nouns (see Section 4.1.1.1).

- (38a) ngapo cuma kau~kau yang dio mara?-i why just RED~2 NMLZ 3 angry-TR 'Why is it just you that he is always angry at?'
- (38b) ngapo cuma kau yang dio mara?-i why just 2 NMLZ 3 angry-TR 'Why is it you that he is angry at?' or 'Why is he angry at you?'

The examples in (38a) and (38b) clearly show the contrast between the reduplicated second-person pronoun and the non-reduplicated counterpart. In the former example, reduplicating the pronoun indicates that someone is consistently angry at the second-person pronoun's referent. Meanwhile, in the latter example, someone is angry at the second-person pronoun's referent in a specific situation where the sentence was uttered. The reduplicated pronoun for the iterative function is in complementary distribution with its non-reduplicated form since each can be used in a specific context and they cannot be used interchangeably.

It has been shown from all the examples above that pronoun reduplication in Palembang has two iconic functions: one is pluralization, which is only applied to second- and third-person pronouns. The second function is to express iteration, which indicates that the referent of the reduplicated pronoun has undergone the same event multiple times. This raises the question of whether the two functions can be applied in one instance of reduplication since the second- person pronoun, as in example (38a), can be reduplicated for pluralization as well as for iteration. Pronoun reduplication cannot express both pluralization and iteration in the same instance of reduplication since each semantic function has its own syntactic node. It is either the function of pluralization under NumP or the function of iteration under AspP.

4.1.2.2 Negation

Some of Palembang negators: *idak* 'not (for verbs or adjectives)', *bukan* 'not (for nouns)', *jangan* 'don't', and *belum* 'not yet', when reduplicated, are associated with new semantics. The former two negators are reduplicated and nominalized by *yang* 'that which is', generating a noun that means 'nonsense' as in examples (39) and (40).

- (39) jangan ngomong yang idak~idak

 PROH talk NMLZ RED~NEG

 'Do not talk nonsense.' Or 'do not talk about something that is made up.'
- (40) jangan ngomong yang bukan~bukan

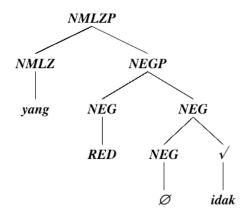
 PROH talk NMLZ RED~NEG

 'Do not talk nonsense.' Or 'do not talk about something that is made up.'

Reduplication of the negator does not nominalize the reduplicated word by itself, nor does *yang* nominalize the non-reduplicated negator by itself. According to Inkelas (2014), reduplication sometimes serves as a repair, which means that in order for the root to be attached to some affixes, sometimes the root needs to be reduplicated first to fix some ill-formed phonological or templatic structures. In such cases, there is no clear meaning or syntactic function of the reduplication process itself. In example (39), the reduplication in *yang idak~idak* serves as a repair (Inkelas 2014), which means that for *idak* to be nominalized, it needs to be both reduplicated and preceded by *yang*. This is the main reason that neither **idak~idak* nor **yang idak* are considered nominalized forms in Palembang.

The derivation of *yang idak~idak* is illustrated in Diagram 4. The negator enters the derivation under NEGP, and it is reduplicated under the same node. However, **idak~idak* is an intermediate stage in the derivation, which cannot be used as a stand-alone form. It is also under the NEGP node, which indicates that it is not a nominalized form yet. Finally, the nominalizer *yang* is attached to nominalize the whole phrase. *Yang* cannot attach to the non-reduplicated *idak* because it needs the form to be reduplicated first to repair its template.

Diagram 4: Derivation of yang idak~idak



Negator reduplication resulting in a noun is not specific to Palembang. Other languages have this structure too. An example of this is English 'no-no', which is usually preceded by an article signaling that it has been nominalized, as in example (41).

(41) A: Mom, can I play outside?

B: That is a no-no!

The other two negators in Palembang are different from *idak* and *bukan*. *Jangan* 'don't' is a prohibitive negator often used in imperative sentences. Onn (1980) classifies *jangan* as a "prohibitive negator," which makes it easily used in imperative constructions since it has the prohibitive interpretation, as in example (42).

(42) jangan nyasar
PROH be.lost
'Don't get lost.'

On the other hand, when *jangan* is reduplicated, it carries the meaning of doubt and the probability that a negative event has taken place. Our analysis is that if *jangan* is a prohibitive negator, it makes it possible for the speaker to derive the subjunctive mood from it. In example (43), *jangan* is reduplicated to generate a new meaning, which seems to be the subjunctive negative sense of the sentence.

(43) jangan~jangan nyasar.

RED~PROH be.lost

'I am worried that he might be lost.'

Jangan~jangan seems to change in multiple ways when it is reduplicated.

- 1. The function is not as a grammatical negator anymore.
- 2. The semantics have changed but are still related to the older semantics:
 - a- The prohibition of *jangan* is still retained because the speaker does not want the action to take place; the speaker wishes that the action does not occur. Therefore, a better translation of the sentence would be 'he should not get lost.'
 - b- The mood of the sentence has changed from imperative prohibitive to subjunctive prohibitive. The subjunctive is defined as nonfactual. The speaker worries that the person is lost, but the speaker does not really know whether the person is actually lost.

The idea of linking the prohibitive negator and transferring it to a subjunctive sense is not unusual among languages. Modern Greek happens to have a similar phenomenon, but the process of change is done by affixation. When the subjunctive prefix attaches to the negator $\mu\eta\nu$, the mood of the sentence changes to a subjunctive prohibitive as in example (44).

(44) Να μην πατάτε το πράσινο SBJV NEG walk-2.PL.PRF the green 'You may not walk on the grass.' (Chondrogianni 2011)

Although the morphology of Palembang is different from the morphology of Modern Greek, the semantics of the negators and subjunctives are what concern us. Palembang seems to perform many functions through reduplication. Yoon (2012) also mentions a strong connection between expletive, empty or meaningless negation, and subjunctive mood in a variety of languages from different language families, including Spanish, Polish, Catalan, and Old Japanese. Thus, as another similar instance, Palembang employs reduplication to transform a negator to a subjunctive.

Finally, the negator *belum* 'not yet' is used to negate the perfective aspect of the verb. This means that the verb has not occurred yet, but it may occur in the future, as in example (45).

(45) tono belum makan dari pagi
Tono not.yet eat since morning
'Tono hasn't eaten since this morning.'

Reduplicating *belum* indicates that the subject has already developed an undesirable emotion before knowing what the situation is, or before any undesirable event takes place.

(46) belum~belum kau marah

RED~not.yet 2 angry

'You are angry.' (although nothing has happened yet)

The negator is not a grammatical word here. *Belum~belum* has a perfective sense of having developed certain undesirable emotions despite the fact that the situation warrants this emotion or not. Therefore, the adjective *marah* 'angry' can be substituted with another word that has an undesirable implication, such as *nganis* 'cry' or even a desirable implication such as *sinang* 'happy'. In example (47), the sentence is stated before knowing the truth and indicates perhaps there is nothing to be happy about, or maybe there is bad news. To the speaker, the addressee's happiness is not justified.

(47) belum~belum sudah sinang RED~not.yet already happy 'You are happy.'

The main point to highlight here is that the pragmatic context plays a significant role in determining the meaning of this type of reduplication. There might not be a linguistic context prior to this utterance, but the pragmatic one fills in the gaps.

4.1.2.3 Question words

In Palembang, some question words, such as those in Table 2, lose their function as question words when they are reduplicated.

Question word	Gloss	Reduplicated form	Gloss	
аро	what	apo~apo	everything, anything, whatever	
siapo	who	siapo~siapo	whoever, everyone	
mano	where	mano~mano	everywhere	
ngapo	why	ngapo~ngapo	why (emphatic)	
kapan	when	kapan~kapan	whenever (emphatic)	

Table 2: Question words of Palembang and their reduplicated counterparts

Question words do not all behave in the same way in Palembang when they are reduplicated. $Apo\sim apo$ and $siapo\sim siapo$ can be translated to the English 'whatever' and 'whoever', respectively, as indefinite pronouns. Reduplication of question words that refer to arguments -apo and siapo – creates universal quantifiers that can be relativized. This suggests that they are not used as question words in this situation. They can also be used as relative pronouns as in (48a) and (49a) and be relativized, as in sentences (48b) and (49b).

- (48a) aku suko apo~apo (yang) dio suko 1.SG like RED~what NMLZ 3 like 'I like whatever/everything he likes.'
- (48b) aku suko apo (yang) dio suko 1.SG like what NMLZ 3 like 'I like what he likes.'
- (49a) aku suko siapo~siapo (yang) kau suko 1.SG like RED~who NMLZ 2 like 'I love whoever/everyone you love.'
- (49b) aku suko siapo (yang) kau suko 1.SG like who NMLZ 2 like 'I love who he loves.'

Examples (48a - 48b) and (49a - 49b) show contrasts between the reduplicated question words and their non-reduplicated counterparts. The reduplication of *apo* and *siapo* creates universal quantifiers that refer to 'everything' or 'everyone', while the question words themselves refer to singular entities. Although question words can be relativized, they have meanings that are different from those of their reduplicated counterparts.

The third question word is *di mano* 'at what place, where'. The first part of this question word is a preposition that specifies the meaning of the expression. There are two different prepositions that can appear before the word *mano* 'what place, where'. The two prepositions are best translated in English as *di* 'at' and *ke* 'to'. This question word is different from the previous ones since it cannot be used as a relative pronoun. *Ke mano~mano* is used as a universal quantifier meaning 'everywhere, all over the place', as in example (50).

(50) dio pegi ke mano~mano 3 go to RED~place 'He is running all over the place.' Moreover, the question words *apo* 'what' and *siapo* 'who' also function as universal quantifiers as 'everything' and 'everyone', but the difference is that *apo~apo and siapo~siapo* can be relativized, while *ke mano~mano* cannot, as in the ungrammatical example (51).

```
(51) *aku pegi ke mano~mano dio pegi 1.SG go to RED~place 3 go 'I go wherever/everywhere he goes.'
```

The reason why some question words can be relativized and some cannot has to do with reference. The key in this situation is the referent of each question word. The first two question words *apo* 'what' and *siapo* 'who' can take argument referents, namely, subjects and objects. Palembang allows relativizing of arguments but does not allow relativizing of adjuncts. The other three information question words have adjunct referents, which is why they are not capable of being relativized. This actually matches the relative clause accessibility hierarchy (AH) that was proposed by Keenan and Comrie in 1977/

```
Subject (SU) > Direct Object (DO) > Indirect Object (IO) > Oblique Object (OBL)> Genitive (GEN) > Object of Comparison (OCOMP)
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Relativizing subjects and objects is a universal norm, and relativizing the categories to the right of them is less common. This explains why it is possible to create relative clauses using question words that are actually used to ask about subjects or objects, but not those which are used to ask about adjuncts in the sentence.

On the other hand, the last two question words do not behave in the same way. The question word *ngapo* 'why' is reduplicated to denote emphatic meaning, and it cannot be relativized. The reduplicated form of the question word *ngapo* is just an emphatic version of the non-reduplicated question word, as in (52).

```
(52) ngapo~ngapo dio datang
RED~why 3 come
'Why (the hell) is he coming?'
```

On the other hand, when *kapan~kapan* is reduplicated, it forms a rhetorical question in which the speaker is not expecting an answer. *Kapan~kapan* can also be interpreted as an indefinite pronoun "whenever" since it refers to an unspecified point of time. Example (53) is analyzed as a rhetorical question as if the speaker is saying, 'When, when will I go to Jakarta?' as if he is not sure when he will go to Jakarta, and he is waiting for that time to come.

```
(53) kapan~kapan aku pegi ke jakarta
RED~when 1.SG go to Jakarta
'When (the hell) will I go to Jakarta?'
```

Question word reduplication creates different functions. *Apo, siapo*, and *di mano* can function as universal quantifiers. The former two can be relativized, while the latter one cannot. Reduplicating *kapan* results in an indefinite pronoun that cannot be relativized with either. Finally, reduplicating the information question word *ngapo* is merely emphatic. We can see here that question word reduplication is iconic because *apo, siapo*, and *di mano* create universal quantifiers which refer to more than one entity. Moreover, *kapan* and *ngapo* reduplication can be interpreted as rhetorical unanswerable questions that are considered emphatic iconic reduplication.

4.1.3 Reduplication of Onomatopoeic Words (Animal Sounds)

The reduplication of onomatopoeic words such as animal sounds have two interpretations. The first is iteration, in which the reduplicated stem of animal sounds indicates that the animal keeps producing those sounds. The other semantic function is to presuppose that there are many animals producing the same sound simultaneously. It follows that the reduplicated sound has the semantic effect of distributivity.

The various reduplicated sounds collected include the sounds of cats, dogs, lions, tigers, goats, chickens, ducks, and birds. Sentences (54-56) are examples of reduplicated animal sounds. Each sentence can have both interpretations: distribution or iteration.

(54) kucing nyaw~ nyaw

cat RED~meow

'One cat keeps meowing.' or 'The cats are meowing simultaneously.'

(55) anjeng ngongong~ngongong

dog RED~bark

'One dog keeps barking.' or 'The dogs are barking simultaneously.'

(56) singo ngraung~ngraung

lion RED~roar

'One lion keeps roaring.' or 'The lions are roaring simultaneously.'

4.2 Fossilized Reduplication

Other types of reduplication include partial reduplication and rhyming reduplication, which will both be discussed in this section. Neither of the two types are productive in Palembang.

4.2.1 Partial reduplication

Partial reduplication is formed as Ce + root, in which C is the first consonant of the root and V is probably an epenthetic vowel, schwa. The schwa is perhaps inserted to break the consonant cluster at the beginning of the word. This particular type of partial reduplication is also known as CV reduplication (Blust 1998). There might be other explanations for this particular vowel, but we did not focus on the vowel property since there are only few examples of CV reduplication in Palembang. Although this type is common among Austronesian languages, only a few fossilized examples were found in Palembang. This form is not productive in Palembang because it can no longer generate new forms. For example, $te \sim towu$ 'elder' from towu 'old', towelde meng 'uncle' from towelde meng 'uncle', and $te \sim tapi$ 'but' from tapi 'but'. It is obvious from the previous examples that the reduplicated forms have a related semantic as or even the same semantics as the non-reduplicated forms. This indicates that the function of partial reduplication has ceased, and the forms have become fossilized.

 Table 3: Examples of partial reduplication in Palembang, Indonesian, and Malay

	Palembang examples		Indonesian examples (Sneddon 1996)		Malay examples (Ahmad 2005)		
	Word	Gloss	Word	Gloss	Word	Gloss	
	towu	old	tua	old	tekos	mouse	
1	te~towu	elder	te~tua	elders	te~tekos	computer mouse	
	meng	uncle	tamu	guest	langet	sky	
2	me~meng	uncle	te~tamu	guest	le~langet	ceiling, mouth palate	
2	tapi	but	jaka	bachelor	sendi	joint	
3	te~tapi	but	je~jaka	bachelor	se~sendi	rheumatism	

Partial reduplication is not productive in Indonesian either (MacDonald 1967; Sneddon 1996); only a few examples are found in both languages which have been lexicalized and are not identified as reduplicated items anymore. In other words, new words cannot be created through partial reduplication in Indonesian or Palembang. However, in Malay, partial reduplication is highly productive, especially in coining new words for words that are translated from English (Ahmad 2005). Examples of this type of reduplication in Palembang, Indonesian, and Malay are illustrated in Table 3.

As shown in Table 3, the Palembang examples are very limited, and the meaning of the word that contains partial reduplication is the same as the non-reduplicated root as is the case in Indonesian (Sneddon 1996). These words seem to have been lexicalized with the reduplicant as part of the word form. Malay, on the other hand, seems to use this type of reduplication more productively than Indonesian and Palembang, especially since 1956, when the *Dewan Bahasa dan Pustaka* (Government Language Planning Agency) attempted to revive this type of reduplication as a way of coining new words for terms and concepts borrowed from English (Ahmad 2005).

At some point in history, partial reduplication was one way to form new words related in meaning to the root. It is also obvious from the surrounding languages that this type of reduplication is still productive, but not in Palembang. This type of reduplication in Palembang is merely morphological now because it has already been fossilized and lexicalized in the language.

4.2.2 Rhyming reduplication

Rhyming reduplication, which is also referred to as rhyming and chiming reduplication (e.g. Hassan 1974, Ahmad 2005, etc.) or as imitative reduplication (e.g. Sneddon 1996, MacDonald 1967, Eades 2005, etc.), in which the reduplicant copies the base with a change in certain element of the base, such as the consonants, syllables, or vowels, to create harmonizing sounds in pronunciation (Sharum et al. 2010). The changes could be in the consonants or in the vowels in a way that creates a rhyme, which is the reason behind its name. Some instances of rhyming reduplication have been lexicalized in the language. This is applicable to Palembang, Indonesian, and Malay. According to MacDonald (1967), creating new words using this type of reduplication is not possible because the changes that apply to the base are not predictable. Nevertheless, Sharum et al. (2010) examined and studied the formation of rhyming reduplication in Malay and found that the change in vowels or consonants of the reduplicated items are limited by some constraints. Therefore, we examined rhyming reduplication in Palembang and tested Sharum et al.'s constraints to see whether they are applicable to Palembang examples, which were elicited from our informants. The result is that Palembang rhyming reduplication follows the sound mapping of Malay as well as the semantic functions of this type of reduplication. The reduplicant falls on either side of the base word in Malay (Onn 1979) and Indonesian (MacDonald 1967).

The semantic functions of rhyming reduplication differ from the semantic functions of full reduplication in Palembang. Nouns that undergo full reduplication are usually interpreted as the canonical iconic plural, but when the nouns undergo rhyming reduplication, rhyming reduplication "diversifies the multiplication" (Sharum et al. 2010). For example, *selu?~selu?* means 'in detail', while *selu?~belu?* means 'in detail from every angle'.

The functions of full reduplication in verbs are also different from the functions of rhyming reduplication. Full reduplication functions include continuity of the action or the delimitative aspect of the action, while rhyming reduplication of the verbs indicates variety (Sharum et al. 2010). For example, when the verb <code>jingo?</code> 'see' undergoes full reduplication, it denotes the delimitative aspect of the verb <code>jingo?~jingo?</code> 'take a glance'. On the other hand, when the same verb undergoes rhyming reduplication, it denotes the reciprocal aspect of the verb <code>jinga?~jingo?</code> 'see each other'.

4.2.2.1 Consonant alternation (rhyming)

The change in consonants usually applies to the first consonant of the reduplicant, for example, selu?~belu? 'in detail from every angle'. The root in this word is selu?, which means 'details', and reduplicating it with changing the first consonant results in a rhyming reduplication. The choice of the alternate consonant b- is not random but rather systematic based on "specially defined characters" mapping (Sharum et al. 2010), as explained in the following section. The reduplicant word with the alternate consonants falls on either side of the lexical root in Palembang. Sharum et al. (2010) suggested that certain consonants in the root word in Malay map into certain other consonants in the reduplicant word. We have adopted their consonant

mapping of Malay and applied it to the examples we elicited from our informants. The examples that our informants came up with match some of the patterns that Sharum et al. suggested in their paper. Table 4 illustrates the consonant mappings suggested by Sharum et al., along with examples from Palembang that match their suggested patterns. Other patterns that exist in Malay but are not found in Palembang, according to our informants' knowledge, include $[\emptyset \rightarrow b]$, $[c \rightarrow m]$, $[h \rightarrow b]$, $[h \rightarrow d]$, $[\emptyset \rightarrow tem]$, $[h \rightarrow p(i)]$, $[a \rightarrow pi]$, $[r \rightarrow t]$, and $[s \rightarrow l]$.

Table 4: Rhyming reduplication of alternate consonants in Palembang (based on Sharum et al. (2010) consonants mapping chart of Malay's rhyming reduplication)

	Palembang word	Meaning	Consonant mapping (Sharum et al. 2010)	Rhyming reduplication	Meaning	
1	garut	scratch	[g→m]	garut~marut	scratch each other	
2	pukul	hit	$[p \rightarrow m]$	pukul~mukul	hit each other	
3	campur	mix one thing	[cam→b]	campur~baur	mix all varieties	
4	selu?	details	$[s \rightarrow b]$	selu?~belu?	all kinds of details	
5	lau?	meat and vegetables	[l→p]	lau?~pau?	all kinds of meat and vegetables	
6	sayor	vegetable	[s→m]	sayor~mayor	all kinds of vegetables	
7	tolang	bones	[t→bel]	tolang~belolang	all kinds of bones	
8	kayo	rich, wealthy	Ø	kayo~rayo	very wealthy	
	rayo	greater	$[s \rightarrow l]$, ,		

We notice in Table 4 that patterns 1 to 7 of Malay match approximately the sound alternations of the Palembang examples. Examples 1–7 not only match the form of Malay rhyming reduplication but also are parallel to their semantic functions. Examples 1–2 are verbs that include two arguments. When these two verbs are reduplicated under this type of reduplication, it denotes the semantics of "all directions" or, to be specific, the reciprocal meaning since there are only two directions in these two cases. Pattern 3 also involves a verb but differs from the previous two patterns in that it cannot have the reciprocal function. Instead, it indicates variety. Consider example (57).

(57) aku campur~baur lau?~pau?.
 1.SG mix~RED meat.and.vegetable~RED
 'I mixed all varieties of meat and vegetables together.'

This sentence uses two examples of rhyming reduplication campur~baur 'mix all varieties' and lau?~pau? 'all kinds of meat and vegetables,' which is an intensified expression to indicate that perhaps the speaker has mixed every possible kind of meat and vegetables in the kitchen in that dish. Pattern 8 in Table 4 does not match Sharum et al.'s consonant mapping since it represents the mapping of $k \rightarrow r$, which is not a possible pattern in Malay rhyming reduplication. Moreover, kayo~rayo is unlike the other examples since both the base kayo 'wealthy' and the reduplicant rayo 'very' are lexical items. This does not contradict Sharum et al. (2010)'s mapping for two reasons. First, it can be an instance of compounding since both parts are lexical items, unlike the other examples, where only one part is a lexical item. This raises questions of what the

difference is between compounding and rhyming reduplication and what the rules of compounding are. We could say that $kayo\sim rayo$ is a compound because both parts are lexical items. Another possible explanation is that the pattern $k\rightarrow r$ is not a pattern of Malay rhyming reduplication, but it is a pattern of Palembang rhyming reduplication. The fact that rayo is a lexical item may be explained as a coincidence that two items in a language are near homophones. It could also be the case that $kayo\sim rayo$ is a borrowed item from Indonesian; Sneddon (1996) mentions that $kaya\sim raya$ 'very wealthy' is an instance of imitative reduplication of Indonesian, which is composed from kaya 'rich' and raya 'greater'. However, he does not mention specific patterns that Indonesian rhyming reduplication follows, and he also mentions other examples of imitative reduplication where the two parts are actually lexical items, such as $cerai\sim berai$ 'scattered, dispersed' from cerai 'separated' and berai 'dispersed'.

Compounding and rhyming reduplication in Indonesian seem to have no clear-cut division. A close look at the consonant mapping of Malay shows that Palembang consonant mapping is slightly different as in patterns 1 and 7. Palembang follows a majority of the consonant mapping rules of rhyming reduplication in Malay. However, exceptions include patterns that do not exist in Malay.

4.2.2.2 Vowel alternation (chiming)

In reduplication, Malay has 11 different vowel patterns that change into 19 different vowel patterns. A vowel pattern in the left component of the reduplicated word changes into one or more patterns in the right component. Palembang exhibits only 4 different vowel patterns of the 11 patterns of Malay. This kind of reduplication is fossilized in Palembang and less productive than its Malay cognates. The functions of Palembang rhyming reduplication also seem to be the same as those of Malay rhyming reduplication. The reduplicant may fall on either side of the lexical word as is the case in consonant alternation reduplication. A reduplicant with changed vowels cannot stand alone, as in jinga?-jingo? 'see each other' from the base jingo? 'see': the word *jinga? does not exist as a lexical item in Palembang. Table 5 shows other Palembang examples that follow the same pattern. Table 5 is based on Sharum et al.'s paper (2010), which illustrates that each set of vowels in the words that undergo rhyming reduplication change into a specific set of vowels in the reduplicant. The patterns in bold are found in Palembang rhyming reduplication. Other patterns of Malay vowel alterations that are not found in Palembang include $[a,i] \rightarrow [a,a]$, $[a,u] \rightarrow [a,a]$ or [a,i], $[e,a] \rightarrow [e,u]$ or [e,i], $[e,u] \rightarrow [e,a]$, $[e,a] \rightarrow [e,o]$, $[e,o] \rightarrow [a,a]$, and $[u,u] \rightarrow [a,a]$.

Note that in Table 5, the second word in pattern 1, the second example in 2, and the last two words in pattern 4 do not have non-reduplicated counterparts. Nonetheless, they denote the semantics of variation. These items might have had non-reduplicated counterparts historically, but it is possible that the reduplicated forms might have replaced their base words because they were used more frequently by native speakers because of their rhyming sounds. This is also evidence that rhyming reduplication is not productive anymore in Palembang because those forms are now lexicalized, although they were formed by rhyming reduplication at some point in history. Therefore, creating new forms by chiming reduplication is not possible. Interestingly, the same situation happens in Indonesian, in which rhyming reduplication of vowel alternation may not have non-reduplicated counterparts as in *teka~taki* 'riddle' (Sneddon 1996) and *kopat~kapit* 'dangling limply' (MacDonald 1967).

The functions of both types of rhyming reduplication in Palembang are iconic in a very elegant way. As we mentioned, reduplication expressing plurality is iconic since it represents more than one. Moreover, rhyming reduplication does not only increase number but also adds diversity to the meaning by changing some sounds of the reduplicant. It seems that the unchanged part of the reduplicant indicates plurality, and the changed sound indicates diversity.

In conclusion, a historical study of Palembang is needed to further investigate the formation and functions of rhyming reduplication. Since the Palembang examples that our informants were able to identify were limited in number (only 17 examples), perhaps future research will identify more such examples.

Table 5: Vowel mapping in Malay rhyming reduplication with Palembang examples

	alternation	of vowel as in Malay et al. 2010)	Examples of rhyming reduplication from Palembang				
	Left component	Right component	Rhyming reduplication	Meaning	Lexical item	Meaning	
	[a,a]	[a, i] , [u, u], [a, u]	taka~take	puzzle; mystery			
1			salang~saling	alternate; alternatively: red, blue, red, blue			
2	2 [i, a]	[i, u], [a, u]	jinga?~jingu?	look at each other	jingu?	look	
			lika~liku	zigzag	liku~liku	zigzag	
3	3 [o, a]	[a, i], [o, é]	gonta~ganti keep cha differen	keep changing in	ganti~ganti	keeps changing	
				different ways	ganti	change	
	[u, a]	[u, i], [a, i]	bulak~balik	go back and forth	balik	return home	
4			kula?~kuli?	resting while changing positions (lying down, sitting, etc.)			
			puntang~panting	running around in all directions			

4.3 Reduplication and Affixation

Full reduplication and rhyming reduplication have been discussed in the previous sections of this paper, where only roots of words were under the influence of reduplication. What if affixes interfered with reduplication? Which theory of morphology would be able to account for the different patterns of reduplication and affixations? As we mentioned in Section 3 and 3.1, two cases of Palembang reduplication were the main reason for selecting the DM approach (Halle and Marantz 1993, 1994) to analyze Palembang reduplication:

- 1. The derivation (root + affix) is reduplicated, as in *pukul-an~pukul-an* 'hits'.
- 2. Reduplication applies to the root only, and the reduplicated stem gets affixed, as in *anak*~ *anak*-an 'doll'.

The examples in cases 1 and 2 are both grammatical, so how can nouns that are affixed with the same suffix appear in different patterns and still be grammatical? Assuming that reduplication applies before affixation would account for the example in 2 anak~anak-an 'doll'. Nevertheless, it would predict forms like *pukul~pukul-an 'hits', which is an ungrammatical form. Assuming that affixation applies first would account for pukul-an~pukul-an, but again it would wrongly predict *anak-an~anak-an 'doll'. A unified formal analysis of the different morphosyntactic derivations of the suffix -an and its affixation to different stems is available through DM theory (Halle and Marantz 1993, 1994). The order of the processes that apply in word formation is not random. It is determined by the affixes. Based on the type of the root (nominal or verbal), the affix determines what morphological process would apply first. For example, the suffix -an requires that nominal roots must be reduplicated first, but the same suffix does not require verbal roots to be reduplicated before attaching to them (Sato 2009). Reduplication and affixation is discussed further in the following sections.

4.3.1 Reduplication of affixed words

In Palembang, when certain affixes such as -an, peng-, and N- attach to the root, the whole stem can be reduplicated. The suffix -an must attach to a verbal root in order for it to be copied along with the reduplicated word. For instance, the verb pukul 'to hit' is nominalized by the suffix -an to become pukul-an 'a hit'. When the nominalized verb is reduplicated, the reduplicated word is basically a plural noun pukul-an~pukul-an 'hits'. This analysis is also applicable to the nominalizer peng-, which attaches to verbs, resulting in agentive nouns, as in penyani~penyani 'singers' from the verb nyani 'sing'.

The third affix that participates in this type of reduplication is the homorganic nasal prefix N-, which is an active voice marker that does not change the part of speech of the word. For example, the form $mukul \sim mukul$ 'hit many times' is a reduplicated active verb (the prefix N- + the root pukul 'to hit'). It is derived as follows: the root pukul 'to hit' ($\sqrt{}$) enters the derivation as a verb, and the prefix N- attaches to it without changing its part of speech under the node vP. The prefix N- and the initial consonant of the root [p] undergo homorganic assimilation; that is, they become nasalized: N- + pukul > mukul. Then the stem mukul undergoes the process RED for the purpose of iteration or continuity of action under the node AspP, as illustrated in Diagram 5. As mentioned in Section 4.1.1.2, Palembang verbs undergo reduplication for one of two possible functions: iteration or delimitation.

Diagram 5: Derivation of mukul~mukul 'hit many times'

4.3.2 Affixation of reduplicated words

The second type of interaction between reduplication and affixation can also be explained in the framework of DM theory. In this section, we describe the three patterns—*RED~noun-an*, *ka-RED~noun-an*, and *se-RED~root-nyo*—that participate in this type of Palembang reduplication. Each pattern has its own semantics that differ from regular full reduplication. We proposed that these three patterns are derived through two steps: a root must be reduplicated first, and then an affix or a combination of affixes is attached to the reduplicated stem, generating a new semantic function.

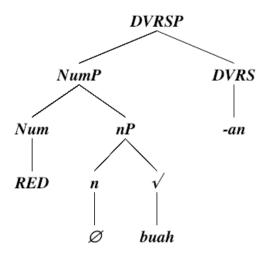
4.3.2.1 *RED~noun-an*

This reduplicative pattern represents two different functions: diversity and resemblance. The function of diversity creates the sense 'all kinds of [noun]'. When a noun root is reduplicated in Palembang and suffixed with -an, it results in a form that conveys the diversity of the root noun. Plurality and diversity are two semantically close terms, but diversity is slightly different from pluralization in terms of including "all kinds of" an item, for example, pohon pohon-an 'all kinds of trees', from the root pohon 'tree', buah~buah-an 'all kinds of fruits' from buah 'fruit'.

The nominal root must be reduplicated prior to the attachment of the suffix -an. Nouns must be reduplicated first to restrict their interpretations to plurality, and then the suffix -an can attach to the reduplicated nouns to indicate diversity of the plural noun. The suffix -an can only be attached grammatically to reduplicated noun stems. Therefore, forms like *buah-an 'all kinds of fruits', *pohon-an 'all kinds of trees',

and *sayur-an 'all kinds of vegetables' are ungrammatical and ungeneratable. Diagram 6 shows the derivation of the word buah~buah-an 'all kinds of fruits'.

Diagram 6: Derivation of buah~buah-an 'all kinds of fruits'



This form of full reduplication and affixation with -an also expresses resemblance. When the root is reduplicated and suffixed by -an, the meaning becomes something that has the same properties of the root, but is not identical to it, as in anak~anak-an 'doll' from the root anak 'child', kuda goyang~kuda goyang-an 'toy rocking horse' from the root kuda goyang 'rocking horse', and telipon~telipon-an 'toy phone' from the root telipon 'phone'. The derivation of this form is similar to the derivation of the diversity form. The only difference is that reduplication here serves as a repair (Inkelas 2014) because the outcome form does not convey any plural interpretation. This means that the nominal root has to be reduplicated first to fix some ill-formed phonological or templatic structures before the suffix -an can attach to it. Since the reduplicated word is a noun, one would expect it to be pluralized by reduplication. However, this form blocks further reduplication. Forms like *anak~anak-an anak~anak-an 'dolls' are ungrammatical. Therefore, these forms are pluralized by a preceding quantifier banya 'many', as in banya anak~anak-an 'many dolls'.

4.3.2.2 ke-RED~noun-an

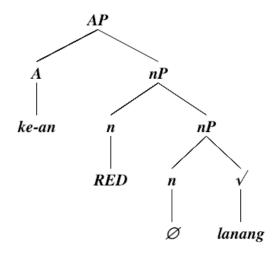
The function of resemblance is also achieved through the form $ke\text{-RED}\sim noun\text{-}an$. The outcome form is an adjective or an adverb. Although -an and ke- are independent affixes in Palembang, in this pattern, the reduplicated stem must be attached simultaneously by the combination of both affixes -an and ke- in order to convey the semantic function of resemblance. Therefore, we refer to this pattern of affixation as a circumfix rather than a prefix and a suffix, as in (58) to (60).

- (58) dio ngomong ke-bitinu~bitinu-an 3 talk ke-RED~girl-an 'He talks like a girl.'
- (59) ke-lanang~lanang-an ke-RED~man-an 'Acting like a man'
- (60) ke-anak-anak-an ke-RED~child-an 'Acting like a child; childish'

This form is derived through two steps: the noun is first reduplicated under nP node, and then the circumfix is applied to generate the outcome form under AP or ADVP nodes. The reduplication in this form again serves as a repair (Inkelas 2014), and the outcome form is an adjective or an adverb. Although the

circumfix adds the resemblance function, it cannot attach to a root noun unless the noun is reduplicated first. Thus, forms like *ke-lanang-an are ungrammatical. Diagram 7 illustrates the derivation of this form.

Diagram 7: Derivation of ke-lanang~lanang-an 'acting like a man'



4.3.2.3 se-RED~root-nyo

This pattern is composed of a reduplicated word with the suffix se- and the clitic -nyo attached to it. Adverbs of manner are derived as a result of the full reduplication of adjectives, as examples (61) to (63) illustrate.

- (61) cepat~cepat dio pegi RED~quick 3 go 'S/he went quickly.'
- (62) dio ngomong kwat~kwat 3 talk RED~loud 'S/he talks loudly.'
- (63) kau jalan lambat~lambat

 2 walk RED~slow

 'You all walk slowly.'

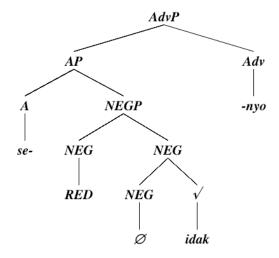
Furthermore, these adjectives could also be reduplicated to derive adverbs and attached to a combination of *se*- and *-nyo* that adds the exhaustive meaning of the adjective or the adverb as illustrated in examples (64) to (67).

- (64) kirim aku duit se-cepat~cepat-nyo send 1.SG money one-RED~quick-ADV 'Send me the money as quickly as possible.'
- (65) anak nganis se-kwat~kwat-nyo child cry one-RED~loud-ADV 'The child cries very very loudly.'
- (66) se-idak~idak-nyo one-RED~NEG-3.POSS 'at the very least'

(67) se-banya~banya-nyo one-RED~many-3.POSS 'as many as possible (of it)'

As we can see, this pattern attaches to roots of different parts of speech, including negators, quantifiers, and adjectives. The part of speech of the derived form is always an adverb, which is described by Sneddon (1996) as "as [base] as possible." We will refer to this pattern as the exhaustive meaning pattern.

Diagram 8: Derivation of se-idak~idak-nyo 'at the very least'



In this case, Palembang adjective reduplication has the same function as that in Indonesian. According to Rafferty (2002:319), for the semantic function of intensity, adjectives in Indonesian are reduplicated to derive adverbs first. Then, the combination of *se*- and *-nya* is attached to the reduplicative stem to create a new meaning. She provided the following example to illustrate her point.

(68) dia lari se-cepat~cepat-nya.

3.SG run one-RED~fast-ADV

'He runs as fast as he can.'

The exhaustive meaning reflects the iconicity of both reduplication and the combination of the prefix *se*-and the clitic *-nyo*. This is because the intensification function is derived through reduplication itself, while the combination of *se*- and *-nyo* adds more intensification until it reaches the maximum (exhaustive).

5 Conclusion

We have introduced novel data documenting reduplication patterns in Palembang and provided a formal analysis of these patterns in the framework of the Distributed Morphology theory. One of the advantages of the DM approach is that it captures the similarities of the different patterns in Palembang reduplication. In addition to reduplication of content words, function word reduplication, such as reduplication of pronouns, negation, and question words, is also productive. The semantics of these function words has been extended through reduplication. We found that Palembang relies on reduplication to achieve several semantic functions. Some of these functions are hard to achieve without reduplication. Additionally, we studied reduplication in contemporary Palembang. Some patterns can only be explained if studied historically. For example, some roots are themselves reduplicants with no clear base form, such as *kupukupu* 'butterfly' and *labalaba* 'spider'. Palembang has also other uses of reduplications, not studied here, and these would be an interesting subject for future research.

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Appendix A: List of abbreviations

First Person

Second Person

Third Person

A Adjective

ADV Adverb

Asp Aspect

BEN Benefactive

DEM Demonstrative

DIST Distal
EXCL Exclusive
INCL Inclusive
LOC Locative
N Noun

NEG Negation, Negative

NMLZ Nominalizer Num Number **PASS** Passive PL Plural **POSS** Possessive **PRF** Perfect **PROH** Prohibitive **RED** Reduplication **REP** Repetitive **SBJV** Subjunctive SG Singular TR Transitive

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