Reduplication in Tok Pisin[1]
— Forms, Functions and Uses —

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This study is an attempt to survey the forms and functions of reduplication in Tok Pisin. Tok Pisin contains a number of words of repeated forms, and this study argues that we can classify them into two types: reduplication and repetition. Reduplication is a morphological process in which the attested base X is doubled and the reduplicated form XX (or, possibly, the form XX with an affix) is derived. In contrast, repetition is lexical items which contain a phonologically repetitive sequence. Investigation of spoken linguistic data based on fieldwork and written data collected from dictionaries and texts reveals that repetition forms are more common than reduplicated forms in Tok Pisin. Furthermore, it reveals that the reduplicated form is often derived from English-based verbs and that repetition forms are indigenous language-based nouns.

1. Introduction

Reduplication is a phonological and morphological process observed in many languages. This study attempts to survey its functions and characteristics in Tok Pisin.

Tok Pisin is a Creole language spoken mainly in Papua New Guinea[2]. English is the superstrate language of Tok Pisin, and other Melanesian languages like Tolai and Malay are substrate languages[3]. Data collected for this study shows that there are not many

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[2] Tok Pisin is one of official languages in Papua New Guinea, together with English and Hiri Motu.
[3] Pidgin and creole languages are developed from two or more languages in contact. Siegel (2008:1) described the contact languages, one is a superstrate language (or lexifier) that comes from its grammar and lexicon to a new language, and another is substrate language(s) whose grammar and lexicon are partly affected to a new language.

reduplication forms in Tok Pisin as usually considered (cf. Crowley *et al.* 1995). Further, although there are data of the repetition in Tok Pisin, they are not always classified as reduplication. Thus, this study argues that we classify them into two types. One is reduplication and the other repetition.

Reduplication is a morphological process in which the attested base X is doubled and the reduplicated form XX (or, possibly, the form XX with an affix) is derived (e.g., *pilai* "play" < *pilai-pilai* "play around"). In contrast, repetition forms happen to have a repeated form YY; however, the form Y is not attested as an independent morpheme[4], as such, it cannot be used as an independent word or as part of another word. Examples of this repetition include *natnat*, which means "mosquito." The repetition word *natnat* cannot be separated into **nat*.

Previous studies reported that reduplication and repetition are analyzed together. In contrast, this study distinguishes them in morphological terms and tries to clarify the functions of each. Finally, the specific characteristics of reduplication in Tok Pisin are clarified by taking into account the influence of the superstrate language, English.

2. Data and Classification

This study is based on data collected from field research conducted during the summer of 2010 in Sein village, Madang province, Papua New Guinea and published sources such as the descriptive grammar of Tok Pisin textbook (Mihalic, 1986[5]), a Bible-based text, "Sampela sam wantaim gutnius" (Selected psalms with good news, 1987), and Tok Pisin/English dictionaries and Tok Pisin phrasebooks (consisting of 6000–8000 words)[6].

There are several previous studies of reduplication in pidgin and creole languages. Bakker (1995) and Bakker & Parkvall (2005) cross-linguistically examined reduplication in pidgin and creole languages. In particular, Kouwenberg & LaCharité (2008) discussed reduplication of Caribbean Creole. Siegel (2008) considered the mechanisms of reduplication with a number of creole languages of Oceania, except Tok Pisin. In Melanesian pidgin, Crowley (2004) illustrated reduplication forms in Bislama. There is no reliable and comprehensive study of reduplication in Tok Pisin, although previous

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[4] The separated single Y exists accidentally, and its meaning has nothing to do with YY. Moreover, there is simple juxtaposition ZZ, like "He is an old old man" (Moravcsik 1978:301). This, too, can be regarded as repetition. This type of repetition ZZ has certain emphasizing meaning, but the pair is disjoint and beyond a word (Gil 2005:33)

[5] In particular, Mihalic (1986) is among reliable written sources of the grammar in Tok Pisin, but he does not describe either reduplication or repetition.

[6] Mihalic (1986)'s book includes 300 pages of grammatical description and English-Tok Pisin lexicon. "Sampela sam wantiam gutnius" is 66 pages of Christian texts. "Papua New Guinea Tok Pisin English dictionary" (2008) is 347 pages of bilingual dictionary of Tok Pisin-English. "Trilingual dictionary Tok Pisin English Bahasa Indonesia" (1997) has 200 pages of trilingual dictionary of Tok Pisin, English, and Bahasa Indonesian. Moreover, the author checked the newspaper "Wantok" written in Tok Pisin, but did not find either certain new reduplication or repetition form.

studies (Crowley *et al.* 1995, Siegel 2008) showed some reduplication examples in Tok Pisin.

According to Bakker & Parkvall (2005:511), "reduplication is fairly common in creoles, possibly more so than in languages in general." But reduplication uses in Tok Pisin turn out to be relatively poorer than expected by the argument. This study found less than 50 examples of reduplication and more than 50 examples of repetition in Tok Pisin.

This study illustrates examples of reduplication in Tok Pisin in terms of its forms and functions. First, this study considers the forms of reduplication and the distinction between partial and full as summarized in Rubino (2005:11) and illustrated in (1).

(1) Partial and full reduplication (Rubino 2005:11-12)
      Full: Japanese, *ie* "house" > *ie-ie* "houses,"
                         yama "mountain" > *yama-yama* "mountains"
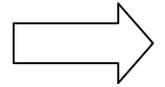   Partial: simple consonant germination or vowel lengthening;
           Ilocano; *lala'ki* "male" > *lalla'ki* "males"

In Tok Pisin, reduplication forms are realized in frequent full forms with only a few consisting of partial reduplication. Regarding the field data and written materials mentioned above, only one form of partial reduplication is observed, *tanim* "turm" > *tan-tanim* "to turn round and round[7]."

Second, word class changing by reduplication in Tok Pisin is examined. For instance, the noun *ting* "idea, opinion" turns into the verb *ting-ting* "think, worry" by reduplication. We classify tendencies of changing from sources to targets by observed reduplication, as shown in Table 1.

Table 1: Number of before and after reduplication

Sources	24	⟹	Targets	24 + 1
From noun	7		to noun	2
From verb	12		to verb	15 + (*haphap* > *haphap-im*)
From others	5		to others	7

As shown in Table 1, verbs appear the most frequently both in sources and targets. Moreover, these verbs are mostly based on English lexicon. Word class changing

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[7] Crowley (2004) claimed that there are more forms of partial reduplication in Bislama than in Tok Pisin, which provides insight into the historical development that Tok Pisin and Bislama evolved independently from the same source. Crowley (2004:73) provided examples of partial reduplication of Bislama: *tajem* "touch" > *ta-tajem*, *forgivim* "forgive" > *fo-fogivim*, *foldaon* "fall" > *fo-foldaon*. We cannot find the corresponding forms of partial reduplication in Tok Pisin. This lack of partial reduplication is due to a different word formation between Bislama and Tok Pisin.

(not-changing) from verb to verb (see the following examples (4)-(6)) is the most frequent type (11 examples are observed). On the other hand, there are only two examples of word class changing (not-changing) form noun to noun (*wil* "wheel" > *wi-lwil* "bicycle" and *kain* "kind"> *kain-kain* "all sorts, different kinds"). Both forms carry a meaning of plurality. Moreover, other possibilities of word class changings are from noun to verb, from adjective to verb and from adverb to adverb; however, their numbers are limited (seven examples).

Third, this study tries to classify reduplication forms in functional terms. Crowley *et al.* (1995:251–252) summarized the semantic effects of reduplication as shown in (2). Crowley *et al.* suggested eight types of functions and provided numerous examples in the languages of the Pacific, including Tok Pisin.

These eight cover the possible functions of reduplication.

(2) Semantic effects of reduplication: Crowley et al. (1995:251–252)
　　1. Plurality: Bahasa Indonesian; *buku* "book" > *buku-buku* "books"
　　2. Variety: Tok Pisin; *kala* "color" > *kala-kala* "multicolored"
　　3. Randomness: Bislama; *foldaon* "fall" > *fol-foldaon* "fall all over"
　　4. Reciprocal: Bislama; *save* "know" > *save-save* "know each other"
　　5. Habitual or continuous aspect: Bislama; *rao* "argue" > *rao-rao* "argue all the time"
　　6. Similarity: Bandjalang; *buluŋ* "kidney" > *buluŋ -buluŋ* "cumulus cloud"
　　7. Intensity: Bandjalang; *gaŋbe* "swallow" > *gaŋbe-gaŋbe* "gobble"
　　8. Diminution: Lenakel; *suk* "spear"> *suk-suk* "toy spear"

This study adopts the classification provided by Crowley *et al.* (1995), despite its allowing for the possibility of other functions of reduplication[8].

First, there are not many reduplication forms of plurality and variety in Tok Pisin, a few examples are shown in (3):

(3) Plurality and variety:
　　wil "wheel" > *wil-wil* "bicycle"
　　kala "color" > *kala-kala* "colorful"
　　mak "sign, mark" > *mak-mak* "colorful"
　　pas "tight" > *pas-pas* "crowded"

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8 Examples of other functions are provided by Roberts (1991:120–121), who described the functions of reduplication in Amele (Trans-New Guinea) as plurality, similarity, inclusiveness, intensification, iterativity, participial function, reciprocity, and creating the reflexive. Generally speaking, there is no unusual semantic effect in the reduplication of Tok Pisin.

kain "kind" > *kain-kain* "all sorts, different kinds"

Only one example of plurality was found in the language: *wil* "wheel" > *wi-lwil* "bicycle." Variety is represented by *kala-kala* "multicolored" and *mak-mak* "colorful".

However, as shown in (4), reduplicated verbs denote distributed action and reflexive meanings. Randomness expresses a distributed action or thing (e.g., *hait-hait* "hide at several places"and *pilai-pilai* "play around"). In (4), *was-was* "wash onself" has a reflexive meaning.

(4) Randomness and reciprocal:
    hait "hide" > *hait-hait* "hide at several places"
    raun "around" > *raun-raun* "travel around" (adverb > verb)
    pilai "play" > *pilai-pilai* "play around"
    tanim "turn around" > *tan-tanim* "to turn round and round"
    was "wash" > *was-was* "wash oneself"

In (5), reduplication forms express repetitive or continuous meanings. Tok Pisin commonly reduplicates English-based verbs. The reduplication forms of repetitive or continuous meanings are mainly observed in verbs, and aspectual meanings are partly grammaticalized (Siegel 2008:188–189). For instance, *danis-danis* indicates "to continue to dance" and *tok-tok* means "to chat" (to continue to talk). Both uses express repetitive or continuous action. The reduplicated verbs have additional and aspectual meaning different from their English source. Moreover, various kinds of verbs can reduplicate themselves, but not all verbs can reduplicate themselves[9].

(5) Repetitive or continuous aspect:
    paitim "beat" > *pait-paitim* "beat over and over again"
    danis "dance" > *danis-danis* "continue to dance"
    tok "talk" > *tok-tok* "chat"
    kalap "jump" > *kalap-kalap/kala-kalap* "jump over and over again"
    ron "run" > *ron-ron* "continue to run"
    luk "look" > *luk-luk* "look carefully, stare"
    lap "laugh, laughter" > *lap-lap"* continue to laugh" (noun/verb > verb)

In Tok Pisin, reduplication forms also express similarity and intensity as shown in (6).

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[9] It is not allowed to reduplicate **laik-laik* "to like, to want," **stadi-stadi* "to study," etc.

(6) Similarity and intensity:

　　kai "food, cuisine" > *kai-kai* "eat" (noun > verb)

　　ting "idea, opinion" > *ting-ting* "think, worry" (noun > verb)

　　sing "sing" > *sing-sing* "traditional festival" (verb > noun)

　　oltaim "always" > *oltaim-oltaim* "forever, permanently"

　　krai "cry" > *krai-krai* "cry like shouting"

Kai-kai "eat"and *sing-sing* "traditional festival"in (6) are remarkable examples and their semantic extensions are based on similarity. In (6), *kai-kai* "to eat" is considered to be a reduplicated form of *kai* "food." However, there is no entry for *kai* in the Papua New Guinea Tok Pisin English Dictionary (2008) or in Mihalic (1986)[10]. *Sing-sing* is a reduplication form of *sing*. The semantic extension of *sing* is obvious from the fact that the single form means "to sing" or "to sing a song," and that the reduplication form means "a traditional festival." Traditional festivals usually include many songs. The semantic extension is deeply related to the culture and lifestyle of the New Guinea's people. Other forms in (6) express similarity (*ting-ting*; idea > think) or intensity (*krai-krai*; cry > cry like shouting).

Reduplication forms of diminution are frequently observed in some languages. Nevertheless, Tok Pisin has few[11] and two examples below are of diminutive meaning:

(7) Diminution:

　　isi "softly, gently" > *isi-isi* "slowly, gently, carefully"

　　hamas "how much" > *hamas-hamas* "how much (uncertain, undetermined)"

Isi-isi "slowly, gently, carefully" implies a diminutive meaning. In the reduplication of *isi*, *isi-isi* acquires new meanings "slowly, carefully," and maintains its original meaning "gently" as well. In contrast, *hamas-hamas* "how much (uncertain, undetermined)" is unclear whether it implies a diminutive meaning. We can consider that it means an intensive nuance of uncertainty by reduplication.

Finally, some forms are difficult to classify according to their meanings.

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[10] The form *kai-kai* might not possibly be a reduplication form. Nevertheless, the word *trukai* "brand name of rice" and the word *kai bar* "bufe stand" attest to the existence of the single form *kai*. Thus, it can be presumed that *kai-kai* is a reduplication of *kai* or that *kai* is derived from *kai-kai* via a backward formation.

[11] Although there are a few examples of diminution in Tok Pisin, we can find many in other languages. Kouwenberg and LaCharité (2008:534) provided examples of diminution in Caribbean Creole languages. Jamaican Creole: *red* "red" > *redi-redi* "reddish, red-spotted," Ndyuka: *lon* "to run" > *lon-lon* "to be kind of running," and Sranan: *ferfi* "to paint" > *ferfi-ferfi* "to paint a bit."

(8) Others:
   bun "bone" > *bun-bun* "tiny, small" (Noun > adjective); possibly diminution?
   hap "half" > *hap-hap* "superficially, by halves" > *hap-hapim* "to do by half"
   (Noun > adverb > verb)
   wan > wan-wan, tu > tu-tu, tri > tri-tri, fou > fou-fou;
   "one by one, two by two, three by three, four by four, respectively"

First, *bun-bun* "tiny, small" is considered to be the reduplication of *bun* "bone," and the semantic relation is seemingly diminution. The adjective *bun-bun* can be considered to be derived from the noun *bun* by reduplication. However, this cannot be a reduplication form. It is rather a coincidence (cf. *sip* "ship" and *sipsip* "sheep"). Second, *hap-hap* "superficially," "by halves" has a meaning of plurality or intensity of *hap*. *Hap-hap-im* "to do half" is derived from *hap-hap* by affixing the suffix-*im* (a marker of a transitive verb) in derivational process (noun > adverb > verb). The final examples use numbers in juxtaposition (cf. *wan-wan* "one by one"and *tu-tu* "two by two")[12].

   Next, we observe examples of repetitions. Although repetition differs from reduplication, the two are similar. Moravcsik (1978:301–302) and Gil (2005:31–33) discussed differences between reduplication and repetition. According to their claims, there are two types of repetitions (YY type in section 1 and both ZZ (e.g. "old old man") and YY (e.g. "zig-zag") types[13] in footnote 4; this study focuses on YY type of repetition and does not deal with ZZ type). The YY type is repeating sound sequences in a word like "zigzag, ping pong" that are equal to or smaller than the word as a whole. It lacks any derivational process.

   As shown in Appendix 1, there is an extensive distribution of repetition in Tok Pisin. There are, at most, 100 examples of unproductive, not derivational processes. When calculating repetition forms in Tok Pisin, there are many (probably unlimited and productive) possible usages of repeating verbs (and adjectives) like *go go* "to go", *harim harim* "to listen"; however, usages of repeating sound sequences in Appendix 1 are limited. Moreover, there are many repetitions of nouns, but few of verbs. Noun repetitions constitute mostly indigenous (non-English-based) nouns referring to fruits, plants, and animals, as well as a few English-based lexicons, *sipsip* "sheep" and *koko* "cacao."

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[12] Crowley (2004:54) stated that these reduplications (*wan-wan, tu-tu*) can be found in Bislama, a form of Creole languages spoken in Vanuatu. Crowley classified the numbers in juxtaposition into reduplication of augmentation.

[13] One is repeating two words like "He is very very bright," which can be interpreted as more than a word. This type of simple juxtapositions of verbs/adjectives is rather frequent in spoken discourse of Tok Pisin, *kam kam* "to come," *simuk simuk* "to smoke" and *smol smol* "small." These juxtapositions of verbs are rarely observed in written texts and dictionaries. They don't add meaning and possibly implicate certain repeated actions or intensify the action.

Although many reduplication forms are English-based words, there are few repetition forms based on English.

3. Discussion and Explanation

This study showed that reduplication is limited (possibly productive), and that repetition is more frequent, but is non-productive and non-derivational.

Tok Pisin commonly reduplicates English-based verbs. As shown in (5), reduplicated verbs have additional and aspectual meanings different from their English source. This fact indicates that reduplication in Tok Pisin is a device used to construct new words for expressing the original meaning for the language (i.e., derivation). Reduplication in Tok Pisin shows mainly word class changing (not changing) from verb to verb. Reduplicated verb forms are, in general, related to English verbs. They imply not only repetitive or continuous aspects, but also other meanings, such as reciprocation, similarity, and intensity. The most common reduplication in the language expresses continuous and repetitive actions, e.g., *tok* "talk">> *tok-tok* "chat" and *luk* "look" >> *luk-luk* "look carefully, stare". As for reduplicated nouns, plurality itself is rarely observed (e.g., *wil-wil* "bicylce"). Instead, plurality combined with variety can be observed in the repetition of nouns, such as *matmat* "cemetary"and *pispis* "urine".

There are other notable derivations in the reduplication process. First, in the derivation process of *sing > sing-sing*, for example, the reduplication turns its word class from verb to noun, and adds new meanings "traditional festival" to the noun. Second, the adverb *raun*, meaning "around" turns into the verb *raun-raun* "to travel," as in (4). The reduplicated form implies a reciprocal or reflexive meaning. However, these types of derivations are rare in Tok Pisin.

The repetition of repeating sound sequences is observed in proper nouns like *Bilbil, Karkar* and *Toltol* "place names of Mandag Province". However, its repetitive process is not derivation. Nevertheless, numerous examples in Appendix 1 include certain semantic characteristics similar to reduplication. It is not certain whether such semantic effects are acquired by repetition or by original meanings of the substrate languages, such as Tolai and Malay (Mihalic 1986, Crowley 2004:40). *Matmat* "cemetary", *natnat* "mosquito", and *pekpek* "shit" are considered to have originated from Melanesia or New Guinea and appear indigenous to the area.

Tok Pisin, Solomon Pijin, and Bislama originated from contact with English and the indigenous languages in Melanesia. Tok Pisin is a Creole language and its lexicon derives from English. Reduplicated verbs in Tok Pisin derive from English-based verbs, whereas repetitive nouns are classified as mainly indigenous. It seems that reduplication can occur only from English-based words. Through the process of reduplication, Tok Pisin acquires

additional or aspectual meanings to their original English-based words. The reduplication examples mentioned above are uniquely observed in word formation, but only in Tok Pisin and not in English. People speaking Tok Pisin created the reduplicated forms from the English based words through daily conversations. This derivational process is easy and innovative. As a result, Tok Pisin can increase the number of semantically-related words without using other words. The resulting reduplication forms (e.g., *danis-danis* "continue to dance" and *ron-ron* "continue to run") do not exist in the English language. Moreover, the resulting (habitual and continuous) meanings of the verbs differ from their original English meanings. Conversely, repetitive words are related to words of indigenous New Guinea or Melanesia languages. Some words may have a certain plurality or variety meaning, whereas others do not[14].

4. Conclusion

Tok Pisin has relatively few reduplication forms and therefore, its formation is less productive. Reduplication in Tok Pisin mainly forms as a function to increase the degree of an action. The observed reduplication forms can be classified within the functions that the previous studies pointed out. Tok Pisin reduplicates several English-based verbs, constructs them, and adds new meanings to them. Second, the repetitions (repeating sound sequences) in Tok Pisin are based on substrate lexicon (particularly nouns) and frequent uses. This study claims that reduplication and repetition are different in their uses and functions, and that their morphological characteristics and lexical basis are described differently. There is a need to investigate lexical repetitions resulting from language contacts among Trans-New Guinea, Austronesian, and other languages in the area.

Appendix : Repetitive Construction in Tok Pisin:

Nouns:

baubau "collection offering," *bombom* "torch," *bubu* "grandparents," *kaskas* "tree kangaroo," *kaukau* "sweet potato," *koko* "cacao," *kokonas* "coconut," *laplap* "waistcloth," *laulau* "Malay apple," *malolo* "break, rest," *mama* "mother," *matmat* "cemetery," mumu "earth oven," *natnat* "mosquito," *papa* "father," *pekpek* "shit," *pispis* "urine," *pitpit* "asparagus," *popo* "papaya," *pukpuk* "crocodile," *purpur* "a plant for making a broom," *rokrok* "frog," *saksak* "sago palm," *supsup* "spear," susu "breast, milk," *talatala* "church leader," *taro konkon* "a kind of taro," *tiktik* "reed," *sipsip* "sheep"

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[14] Bakker (1995:39) stated "reduplication is a common, almost universal process in Creole languages, but it is rare in pidgins, though common in extended pidgins." Although Tok Pisin is already creole, it acquires limited reduplication and common repetition under its pidginization or creolization process.

Verbs:

katkat "cut," *marimari* "forgive, love, mercy," *seksek* "shake"

Adjectives:

benben "big," *liklik* "small, little," *longlong* "stupid, not clever," *luslus* "loose," *malummalum/malmalum* "not strong, soft," *warawara* "not strong"

Others:

aninit "below," *tata* "bye-bye"

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