

Research Article

# The Reduplication that Denotes Ethnomathematical Signification: Exemplification from the Bidayuh Somu Language

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This study rationalizes how reduplication as a morphological process denotes number signification in the Bidayuh Somu indigenous language, which is spoken in the western part of Indonesian West Borneo. The significations manifest ethnomathematical numbers as local genius are plurality, frequency, cardinal, ordinal, enumeration, and quantity. The study is field and descriptive linguistics, and the data is primary, collected by interviewing and recording native informants. The recorded data is then transcribed phonemically. The data selection is analyzed by applying the technique called Item and Process and Item and Arrangement. The process is reduplication, and the item is word reduplicated, while the arrangement is the morphs, the word constituents. This study discovers that the reduplication of the language is repeated and repeating syllables, that is, total and partial. The repeated syllable of the language reduplication word is the bound morpheme, while the repeating one is the free morpheme. The total and partial reduplication words of the language are nominal and verbal. The reduplication word arrangement involves the patterns of *root + root* or *base + base* that are repeating syllables. Moreover, the reduplication word arrangement also incorporates *affix + root + affix + root* or *affix + base + affix + base* that are repeated and repeating syllables. The affix, as the bound morpheme, is *si-*, *niN-*, *buN-*, *puN-*, and *pari-*. The element N in the bound morphemes is the nasalization representing allomorph /m-/ , /n-/ , /ŋ-/ , and /ɲ-/ exist in the Bidayuh Somu language.

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## Introduction

This study is on morphology, a complex word formation engaging process and structure. The process is reduplication, and the structure, as a word constituent, is a free and bound morpheme. The process is the repeated and repeating syllables of the word, which is, in this case, reduplication words. The language studied for the reduplication that denotes ethnomathematical signification is the Bidayuh Somu, spoken by Dayak indigenous people in Indonesian West Borneo.

The people speaking the language may not have realized that their reduplication word, for instance, denotes the signification of frequency and reciprocity. The speakers are unconscious of the reduplication process and its structure that serves as an indigenous intelligent procedure to indicate meaning. The local genius procedure is learning and knowing (Battiste & Henderson, 2009), architecture (Turkusic, 2011), and knowledge and practice (Gupta & Padel, 2019). Hence, indigenous intelligence, including the word reduplication formation to signify numbers, is an association of knowing and doing. Despite that unawareness, the procedure of the reduplication is an indomitable heritage to the language speaker's successor.

In terms of affixation, the morphology of the Bidayuh Somu language is prefixal. It means that the affixation as a complex word formation predominantly includes prefix-bound morphemes. In line with the affixation process, this language, as a confirmation of the prefixality, is identified to have only one suffix, that is, *-ŋəh*. The language reflexive pronoun formation, as a case to perform, contradicts the English language suffix *-self/-selves* as in word *themselves*. In this language, the reflexive pronoun is formulated by attaching the prefix *goni-* to pronouns. The instance is *gonidat* which is equivalent to *themselves* (Bunau, 2021).

Furthermore, the language is peculiar in terms of nasalization allomorph involvement as the prefix-bound morpheme constituents. The morpheme {buN-} that forms verbal, used to illustrate the nasalization allomorph, comprises the allomorphs of /bu-/, /bum-/, /bun-/, /buŋ-/, and /buŋ-/. Hence, the nasal prefix allomorphs of the language are /m-/, /n-/, /ŋ-/, and /ɲ-/. The features of the nasals as constituents of the bound morpheme are replacive and additive to the particular first phoneme of the root word (Bunau & Yusof, 2018). In other words, the nasal allomorphs are phonologically conditioned to the root's initial phoneme.

The issue designated in this study is the reduplication word of the language consisting of the total and partial formation. The intention of the study is to portray the two types of reduplication formations

and constituents. Another objective is to imply the ethnomathematical meaning the reduplication words signify. In addition, the aim of the study is to demonstrate the morphemes in reduplication words that are repeated and repeating syllables.

In terms of orthographical writing, the reduplication is similar to the compound morphology (Haspelmath, 2020). It involves a hyphen to unify two words. Unlike the compound that employs syntactic word types and prepositional word categories, reduplication never includes prepositions as its constituents. For morphology is a study of words integrating form and meaning, the principle of reduplication and compound is the same, that is, a new word and new meaning. The process of the two types of morphology is the unification of two different words in formatting a new word with a new meaning. Yet, the compound is not the concern of this study but the reduplication one.

The reduplication and repetition are seemingly alike in terms of the words they repeat (Denistia & Baayen, 2019). Nevertheless, in repetition, like the ones mostly found in rap song lyrics, the syllable is only a repeating. It repeats the root or base as a repeating syllable. Furthermore, the signification the repetition implies is only to emphasize. Reduplication, to distinguish it from repetition, is the process that duplicates the repeated and repeating syllables of the words. The meaning this reduplication implies varies depending on the constituents it involves. Moreover, the meanings are affected by the language's situational context and social usage (Levesque et al., 2019).

As a process of morphology, reduplication encompasses forms and meanings. It is what Ferdinand de Saussure postulated as the signifier and the signified, or popularized as exponent and meaning by Marcus Kracht (2008). The signifier or the exponent is morph or form while the signified or meaning is what the morph indicates or implies. By the morphological process, the signifier is syllabic affixes and nasal prefixes being repeated and repeating together with the root and base. Moreover, the common signifier or exponent, as exemplified in English, is the suffix /-s/ or /es-/, /-est/, /-er/, /-ed/ or /-d/, and /-ing/, and the meaning it carries is tense for verbs, plurality for regular nouns, agentive to refer to verbs, and comparative and superlative for adjectives.

Word constituent is the key element in morphology (Crosson et al., 2020). It is a member of the structure in complex word formation. The constituent is the root, base, and other elements glued as a combination. The element can be of bound morphemes and its allomorphs which are affixes and phoneme changes as a result of internal modifications of lexemes in complex words (Carstairs-McCarthy, 2006). For this reduplication study, the element is the prefix and suffix that is syllabic and nasal phonemes, and vowel or consonant changes as internal modifications.

Reduplication as a process of morphology includes the repetition of root and root, or base and base, partially and totally (Carstairs-Mccarthy, 2007). Moreover, the process can even embrace root and base, and the elements which are morphemes and allomorphs. The morphemes and allomorphs are prefixes, infixes, and suffixes (Carden et al., 2019). In terms of position in word structures, the prefix is initial while the suffix is final. Additionally, the infix is an insertion located between the first and second phonemes of the words. In the reduplication, the root, base, and element are repeated partially and totally.

Ethnomathematical signification is the values or units of quality and quantity to refer to the mathematics of particular ethnicities or race groups (Chemillier, 2012). The value or unit can be an abstract number or word number. In the reduplication meaning, the form or morph of the morpheme repeated indicates the word number or quantity word of numeral, ordinal, and enumeration (Nagaya, 2020; Wang, 2005).

## Methods

The method of this study is field and descriptive linguistics. Field linguistics (Bennett & Samarin, 1967; Halawa, 2017) was carried out in a site namely District Sanggau, the western part of Indonesian West Borneo to collect primary data. The data is the word that is simplex and complex, gathered by interviewing and recording the Bidayuh Somu language native speaker informants. The interview under direct consent from interviewees was on the word forms or morphs comprising root and base, and their constituents. The recorded data is then transcribed phonemically and glossed by employing the Leipzig Glossing Rules (Leipzig et al., 1982). The source language for glossing is Bidayuh Somu and the target language is English. In addition, the data selection for this study is only the reduplication words.

Descriptive linguistics (Dirven, 2021; Himmelmann, 2012) is a method used to describe language features of the data collected. The model used to apply descriptive linguistics is Items and Arrangement, or IA, and Items and Process, or IP (Matthews, 2014; Subota, 2023). The IA deals with root and base words, and constituent members like morphemes and allomorphs exist in the complex words' structures. The allomorphs are prefixes, both syllable and nasal prefixes. Additionally, allomorph that is suffix, is also included to describe. Moreover, the IP refers to the morphological process that in this case is a reduplication. Since the reduplication word is a word syllable, the incorporation of the IA and IP model is implementable to determine whether the reduplication syllable

is repeated or repeating. In this study, the reduplication word formation can be repeated, repeating, or both repeated and repeating syllables. Besides applying the IA and IP models, this study also employs the Word Form Variety or WFV technique (Andrew Carstairs-McCarthy, 2016). The WFV to contextualize in this study is the bound morpheme and allomorphs, root, and base. The bound morpheme is the affix consisting of prefixes and suffixes that can be syllabic and nasal affixes.

## Results and Discussion

Based on the data, the reduplication of the Bidayuh Somu indigenous language is total and partial. The total and partial reduplication of the language are nominal and verbal. The construction of the reduplication is the combination of affix (henceforth A), root (abbreviated R), and base (henceforth abbreviated B). The structure of the two reduplication formations is R + R, or B + B, and A + R + A + R, or A + B + A + B.

### *The Total Reduplication of the Nominal*

The total reduplication of the nominal is the reduplication of the root or base that is nominal by assigning the structure of R + R, the repeating syllables of the reduplication word, and the structure of A + R + A + R, the repeated and repeating syllables of reduplication words. For this nominal total reduplication, the A is the morpheme of prefix-nasalization {puN-} and prefix /si-/. This nominal total reduplication is divided into nouns and numbers.

### *The Total Reduplication of the Noun*

This type of reduplication is applied by repeating the root or base totally. The element of affix applied to this noun total reduplication is morpheme {tiN-}, {puN-}, and prefix /si-/. Moreover, the total reduplication of the nouns in the language signifies 'plurality'. Please look at the examples in following Table 1:

Count	Root or base, and reduplication	Gloss
1.	/payat/	Jar
	/payat-payat/	Jars
	/tipayat/	Jars
2.	/puncutak/	Grumbler
	/puncutak-puncutak/	Grumblers
3.	/buja/	Bachelor
	/buja-buja/	Bachelors
	/sibuja-sibuja/	Bachelors

**Table 1.** Noun total reduplication

Table 1 shows that reduplication, as in number 1, is a root repeating syllable to signify plurality. Another procedure to signify the same meaning, that is plurality, is by prefixing /ti-/, the prefix allomorph of morpheme {tiN-}. The plurality for the total noun reduplication is also base word repeating syllable as seen in example number 2. The root of the reduplication word is the verb /cutak/ 'grumble.' In this case, the attachment of prefix /pun-/, the allomorph of morpheme {puN-} to root functions to change word class, from verb to noun. Moreover, the same signification may also be indicated through root and base repeating syllables as in example number 3. This reduplication formation that involves the prefix /si-/ is base reduplication repeated syllable with root /buja/ 'bachelor'.

The ethnomathematical signification of this noun total reduplication, besides plurality, is specifically 'group', 'all', and 'each.' The procedure is by preceding quantity word /agal/ 'group of', /bal/ or its synonym /nidik/ 'all' before root or base. The example is in Table 2 below:

Count	Root or base, and reduplication	Gloss
1.	/sibuja-sibuja/	Bachelors
	/agal buja/	Group of bachelors
2.	/sidayua-sidayua/	Girls
	/balɔ dayua/	All girls
3.	/sidari-sidari/	Boys
	/ɲidik dari/	All boys

**Table 2.** Noun total reduplication by quantity word

The quantity word, referring to the examples provided, is the cardinal word with an abstract amount. The presence of quantity word /agal/ 'group', and /balɔ/ or its synonym /ɲidik/ 'all' in Table 2 before the root or base, eliminates the repetition of word syllables. The preceding of the quantity word before the root or base is at a glance similar to compounding or phrasing processes. In fact, it is not a compound word or phrase for the meaning this procedure indicates is numbers. It is a cardinal word in which the amount is abstract.

### *The Total Reduplication of the Numeral*

The data exhibits that the numeral total reduplication is root repeating syllables. This type of reduplication signifies 'enumeration'. The root and its total reduplication procedure are as displayed in the following Table 3:

Count	Root or base, and reduplication	Gloss
1.	/ijuʔ/	Seven
	/ijuʔ-ijuʔ/	Seven by seven
2.	/puri/	Nine
	/puri-puri/	Nine by nine

**Table 3.** Numeral total reduplication

Table 3 shows that the meaning the numeral total reduplication infers is an enumeration, that is, ‘each’. Enumeration refers to the example in number 1, which is a list of seven after another seven.

### *The Total Reduplication of the Verbal*

The total reduplication of the verbal is the process that repeating the root or base that is verbal, totally. From the examples collected, it was shown that the total reduplication of the verbal in this language prevails similarly to the total reduplication of the nominal. Its reduplication constituent is a root repeating syllable and affix and root repeated and repeating syllable. This type of reduplication is identified to have morphological functions, that is, class-maintaining and class-changing. Moreover, this verbal total reduplication consists of verbs and adjectives. The affix as morph this reduplication process employs is constituents of nasalization, morpheme {kuN-}, {puN-}, {buN-}, and prefix /pari-/ and /si-/.

### *The Total Reduplication of the Verb*

The verb total reduplication is the procedure to reduplicate the root or base, totally. Since this type of reduplication generates complex words that are verbs and nouns, the reduplication is present as word class-maintaining and class-changing. The meaning this verb total reduplication implies is ‘repetition’ or ‘persistence.’ The example of the root and base verbs total reduplication is in Table 4 as follows:



Count	Root or base, and reduplication	Gloss
1.	/oyap/	To hang around
	/oyap-oyap/	Hang around persistently
2.	/gona/	Drum
	/bugona-bugona/	To heat drum repeatedly
3.	/paribudut/	Drop
	/paribudut-paribudut/	Drop persistently

**Table 4.** Root and base verbs total reduplication

Based on Table 4, the reduplication in example number 1 is the root repeating syllable, and the one in number 2 is repeated and repeating syllables. The repeated syllable is the prefix /bu-/, and the repeating one is the root /gona/ 'drum'. Furthermore, the one in number 3 is a base repeating syllable from root /budut/ 'drop'. The reduplication process as exemplified in numbers 1 and 3 is class-maintaining. The process maintains the word class remaining verb. Oppositely, the reduplication process as seen in number 2 is class-changing. It changes noun to verb.

### *The Total Reduplication of the Adjective*

This adjective total reduplication is the morphological process that reduplicates the root and base of the adjective. This type of total reduplication is applied using the structure of R + R which is a repeating syllable and prevailed with the construction of A + R + A + R which is a repeated, and repeating syllable. The constituent A is nasalization, allomorph of morpheme {kuN-} and {buN-}. This means that the constituents enter the root with additive and replacive nasalization and prefixation to process the reduplication. Moreover, the meaning this adjective total reduplication implies is the word quantity, that is 'all'. The procedure of root adjective total reduplication formation is seen in Table 5 as follows:

Count	Root or base, and reduplication	Gloss
1.	/ijouw/	Green
	/ijouw-ijouw/	All green
2.	/tubus/	Shallow
	/tubus-tubus/	All shallow

**Table 5.** Root adjectives total reduplication

Furthermore, the process of the language's adjective total reduplication includes the repeated syllable of a constituent, that is, nasal /m-/ , /n-/ , /ŋ/, and allomorph /ku-/ and /bu-/, and repeating syllable that is root word as exemplified in the following Table 6:

Count	Root or base, and reduplication	Gloss
1.	/pora/	Rare
	/mpora-mpora/	All are rare
2.	/sikak/	Full
	/ŋikak-ŋikak/	All are full
3.	/sidɔʔ/	Sweet
	/nsidɔʔ-nsidɔʔ/	All are sweet
4.	/ridiʔ/	Thin
	/kuridiʔ-kuridiʔ/	All are thin
5.	/roraʔ/	Fractured
	/buroraʔ-buroraʔ/	All are fractured

**Table 6.** Root adjectives total reduplication

Both repeating syllables as in Table 5 and the repeated and repeating syllable in Table 6 indicate the same meaning, that is, 'all'. The repeated syllable employing nasal /m/ and /n/ as constituent members in example number 1 and 3 are additive nasalization while nasal /ŋ/ in example number 2 is replacive. It replaces initial phoneme /s/ in word /sikak/ 'full' to become /ŋikak/ 'full' before it is totally reduplicated /ŋikak-ŋikak/ 'all are full'.

### *The Partial Reduplication of the Nominal*

The partial reduplication of the nominal in the Bidayuh Somu language is the repeating root without involving affixes. This type of partial reduplication, based on the data collection, consists of the partial reduplication of the numeral or quantity word that is cardinal and ordinal. The structure of the nominal partial reduplication of the language is A + R + R.

### *The Partial Reduplication of the Numeral*

A numeral or quantity word is a word number in which the amount is not real (Asmah, 2009). The numeral partial reduplication of the language is the process that reduplicates the cardinal word, partially. Based on the examples, this numeral partial reduplication exists with nouns and numbers. This type of reduplication accepts morpheme {buN-} to root to signify 'plurality'. Please see the following Table 7:

Count	Root or base, and reduplication	Gloss
1.	/maji/	Morning
	/bumaji-maji/	Mornings
2.	/onu/	Day
	/buonu-onu/	Days
3.	/poja/	Carrier
	/bupoja-poja/	Carriers
4.	/bolas/	Teen
	/bubolas-bolas/	Teens

**Table 7.** Numeral partial reduplication

The numeral partial reduplication of the language as displayed in Table 7 is repeated and repeating syllables. The constituent members of this partial reduplication are affix and root, and the signification it implies is ‘plurality’. The affix is prefix /bu-/, the allomorph of morpheme {buN-}.

### *The Partial Reduplication of the Ordinal*

An ordinal word is a word number that does not show its actual quantity but signifies the order or sequence of the quantity (Asmah, 2009). This ordinal partial reduplication employs morpheme {kuN-} as the element to root. Moreover, this type of ordinal partial reduplication signifies the meaning ‘total quantity’. In the following Table 8 is the example collected from the language:

Count	Root or base, and reduplication	Gloss
1.	/idu/	Two
	/kuidu-idu/	The two
2.	/rəməh/	Five
	/kurəməh-rəməh/	The five
3.	/puri/	Nine
	/kupuri-puri/	The nine

**Table 8.** Ordinal partial reduplication

This ordinal partial reduplication, as exemplified in Table 8, is repeated and repeating syllables. The repeated constituent is prefix /ku-/, the member allomorph of morpheme {kuN-}. The meaning this prefix and ordinal reduplication infers is ‘total quantity’.

### *The Partial Reduplication of the Verbal*

The partial reduplication of the verbal is the process that repeating the root that is verbal with no involvement of affix attached to the root. This verbal partial reduplication of the verbal is repeating syllable, and constructed with the structure of A + R + R, and R + R + A. This partial reduplication of the verbal comprises the partial reduplication of the verbs and adjectives. Furthermore, the members of constituents involved are the morphemes {buN-}, {kuN-}, {niN-}, and suffix /-ŋəh/.

### *The Partial Reduplication of the Verb*

The verb partial reduplication of the language is the process of reduplication involving the root that is a verb, and therefore, it is a repeating syllable. The prefix and morpheme this verb partial reduplication involves is {buN-}, and {niN-}. In terms of meaning, this verb partial reduplication infers ‘intensity’. The example of this type of reduplication is presented in the following Table 9:

Count	Root or base, and reduplication	Gloss
1.	/goyu/	To scratch
	/bugoyu-goyu/	Intensively scratch
2.	/roka/	To discard
	/niroka-roka/	Intensively discarded
3.	/total/	Chop
	/ninotal-notal/	Intensively chopped

**Table 9.** Verb partial reduplication

Table 9 shows that verb partial reduplication is a root repeating syllable. Furthermore, the nasal /n/ in example number 3, as in base word /notal/, is a replacive allomorph of morpheme {niN-} that changes the initial phoneme /t/ in root word /total/. This morpheme and its allomorphs are the constituents to signify passive verbs. The verb partial reduplication as exemplified above implies ‘intensity’.

### *The Partial Reduplication of the Adjective*

In terms of structure, the partial reduplication of the adjective is like verb partial reduplication. This partial reduplication signifies ‘excessiveness’ and assigns adjectives as its root repeating syllables. The prefix it involves in forming the reduplication is allomorph /ku-/ and /bu-/. Please have a look at the examples in Table 10 below:

Count	Root or base, and reduplication	Gloss
1.	/bisɔʔ/	Wet
	/bubisɔʔ-bisɔʔ/	Extremely wet
2.	/marəp/	Black
	/bumarəp-marəp/	Extremely black
3.	/tuey/	Long
	/kutuey-tuey/	Extremely long

**Table 10.** Adjective partial reduplication

As a root repeating syllable, the adjective partial reduplication of the language indicates extremity or excessiveness. The examples in Table 10 indicate that the root or base syllables reduplicated are adjectives without repeating the prefix constituents.

### *The Reduplication with Phoneme Changes*

The reduplication with phoneme changes is the reduplication with phoneme variations (Akinbo, 2023; Avram, 2011). The variation can be vowel or consonant changes as repeating syllables. The process of this reduplication type is similar to internal modification morphology to signify plurality for nouns as found in the English word /feet/ that is internally modified from lexeme /FOOT/. The example of the reduplication with phoneme changes of the language is presented in the following Table 11:

Count	Root or base, and reduplication	Gloss
1.	/dorit/	Mountain
	/dorit-morit/	Mountains
2.	/bolia?/	Back
	/bolia?-bolua/	Bac and forth

**Table 11.** Reduplication with phoneme changes

Table 11 indicates that the reduplication is repeating syllables with phoneme variations. The signification of this type of reduplication implies ‘plurality’. Unlike, the English internal modification process that is applied in a word, the reduplication with phoneme changes.

## Conclusion

This study exposes that the reduplication of the Bidayuh Somu language to denote ethnomathematical signification is total and partial repeated and repeating syllables. The construction of the reduplication word formation constituent comprises root, base, and other elements attached as a union. The element is bound morpheme and allomorphs, and the allomorphs are affixes, the real usages of bound morphemes. In complex word structures like reduplication, the affixes are prefixes that are initial, infixes that are insertions, and suffixes that are finals. Moreover, the element can be stuck to the first or second syllable of the root or base word to repeat to form the reduplication words.

The implication of this reduplication is the inflectional system of the language. The meaning it signifies, besides ethnomathematical quantity word, is plurality. It applies like the English inflection for nouns to indicate plurality. If the inflection signifier in the English language is the suffix /-s/ or /-es/ for regular plural nouns and internal modification for irregular plural nouns, the Bidayuh Somu language applies the same signifier, that is affixes. The affixes are prefixes and suffixes repeated partially or totally with root or base to indicate the plurality.



## References

- Akinbo, S. K. (2023). Reduplication, repetition and sound symbolism in Fungwa. *Phonological Data and Analysis*, 5(2). <https://doi.org/10.3765/pda.v5art2.72>
- Avram, A. A. (2011). Pseudo-reduplication, reduplication and repetition: The case of Arabic-Lexified pidgins and creoles. *Revue Roumaine de Linguistique*, 56(3).
- Battiste, M., & Henderson, J. (Sa'ke'j) Y. (2009). Naturalizing Indigenous Knowledge in Eurocentric Education. *Canadian Journal of Native Education*, 32(1).
- Bennett, A. K., & Samarin, W. J. (1967). Field Linguistics: A Guide to Linguistic Field Work. *Man*, 2(3). <https://doi.org/10.2307/2798792>
- Bunau, E. (2021). Reflexive Pronoun of the Bidayuh-Somu Language: Its Comparable Process to English Language Suffix -self/-selves. *Lingua Cultura*, 15(1). <https://doi.org/10.21512/lc.v15i1.6897>
- Bunau, E., & Yusof, R. M. (2018). Morpheme {buN-}: an Example of Morphological Process through Affixation in Bidayuh-Somu Language. *Lingua Cultura*, 12(2). <https://doi.org/10.21512/lc.v12i2.3962>
- Carden, J. R., Barreyro, J. P., Segui, J., & Jaichenco, V. (2019). The fundamental role of position in affix identity. *The Mental Lexicon*, 14(3). <https://doi.org/10.1075/ml.19009.car>
- Carstairs-McCarthy, A. (2007). Phonological Constraints on Morphological Rules. In *The Handbook of Morphology*. <https://doi.org/10.1002/9781405166348.ch7>
- Carstairs-McCarthy, A. (2006). Internal Modification. In *Encyclopedia of Language & Linguistics*. <https://doi.org/10.1016/b0-08-044854-2/00116-4>
- Carstairs-McCarthy, Andrew. (2016). What can linguistic typology contribute to research on language evolution? *Linguistic Typology*, 20(3). <https://doi.org/10.1515/lingty-2016-0028>
- Chemillier, M. (2012). Fieldwork in Ethnomathematics. In *The Oxford Handbook of Linguistic Fieldwork*. <https://doi.org/10.1093/oxfordhb/9780199571888.013.0015>
- Crosson, A. C., McKeown, M. G., Lei, P., Zhao, H., Li, X., Patrick, K., Brown, K., & Shen, Y. (2020). Morphological analysis skill and academic vocabulary knowledge are malleable through intervention and may contribute to reading comprehension for multilingual adolescents. *Journal of Research in Reading*. <https://doi.org/10.1111/1467-9817.12323>
- Denistia, K., & Baayen, R. H. (2019). The Indonesian Prefixes PE- and PEN-: A Study in Productivity and Allomorphy. *Morphology*, 29(3). <https://doi.org/10.1007/s11525-019-09340-7>
- Dirven, R. (2021). Review of Nehls (): Studies in Descriptive Linguistics. *ITL - International Journal of Applied Linguistics*. <https://doi.org/10.1075/itl.62.09dir>

- Gupta, M., & Padel, F. (2019). Indigenous Knowledge and Value Systems in India: Holistic Analysis of Tribal Education and the Challenge of Decentralising Control. In *Shifting Perspectives in Tribal Studies*. [https://doi.org/10.1007/978-981-13-8090-7\\_4](https://doi.org/10.1007/978-981-13-8090-7_4).
- Halawa, A. (2017). An Analysis of Derivational and Inflectional English Morphemes. *Jurnal Ilmiah Langue and Parole*. <https://doi.org/10.36057/jilp.v1i1.13>
- Haspelmath, M. (2020). The Morph as a Minimal Linguistic Form. *Morphology*, 30(2). <https://doi.org/10.1007/s11525-020-09355-5>
- Himmelmann, N. (2012). Linguistic data types and the interface between language documentation and description. *Language Documentation and Conservation*, 6.
- Kracht, M. (2008). *Introduction to Linguistics*. Department of Linguistics, University of California Los Angeles.
- Leipzig, T., Rules, G., Anthropology, E., Comrie, B., Haspelmath, M., Bickel, B., Rules, L., Rules, T., & Rules, L. G. (1982). The Leipzig Glossing Rules. *Folia Linguistica*.
- Levesque, K. C., Kieffer, M. J., & Deacon, S. H. (2019). Inferring Meaning From Meaningful Parts: The Contributions of Morphological Skills to the Development of Children's Reading Comprehension. *Reading Research Quarterly*, 54(1), 63–80. <https://doi.org/10.1002/rrq.219>
- Matthews, P. H. (2014). *The Concise Oxford Dictionary of Linguistics* (3rd ed.). Oxford University Press. <https://doi.org/10.1093/acref/9780199202720.001.0001>
- Nagaya, N. (2020). Reduplication and repetition from a constructionist perspective. *Belgian Journal of Linguistics*, 34. <https://doi.org/10.1075/bjl.00051.nag>
- Subota, S. V. (2023). Phonemic structure of the root morpheme in the Gothic language (a complex quantitative analysis of lexicographic sources). *MESSENGER of Kyiv National Linguistic University. Series Philology*, 26(1). <https://doi.org/10.32589/2311-0821.1.2023.286210>
- Turkusic, E. (2011). Neo-vernacular architecture – contribution to the research on revival of vernacular heritage through modern architectural design. *Architectural Topics, Sustainable Re-Use in Disused Building and Abandoned Sites.*, January 2011.
- Wang, S. P. (2005). Corpus-based approaches and discourse analysis in relation to reduplication and repetition. *Journal of Pragmatics*, 37(4). <https://doi.org/10.1016/j.pragma.2004.08.002>

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