



CONTRASTIVE ANALYSIS OF PHONEME CHANGES IN JAPANESE AND SUNDANESE REDUPLICATION

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Abstract: This study was conducted by contrasting or analyzing the similarities and differences in phoneme changes in Japanese-Sundanese Reduplication. This research aims to determine the similarities and differences in Vowel and consonant phoneme changes from the reduplication process of both languages. This research is a qualitative study with a descriptive contrastive analysis. The objects of this research are vowel and consonant phonemes that run into changes in the Japanese-Sundanese reduplication process. The results of this study indicate that vowel changes in the reduplication process do not have similarities, while the differences are generally that not all nouns, verbs, adjectives, and adverbs in Japanese can be reduplicated, whereas, in Sundanese, they can. In the reduplication process, vowel phonemes in Japanese do not run into phoneme changes, whereas in Sundanese, changes occur in the first and second vowels of the base word. For the comparison of consonant changes, Japanese-Sundanese has similarities, namely, the consonants /r/, /n/, and /m/ in Japanese-Sundanese do not run into phoneme changes, while the differences are that in Japanese, consonant phoneme changes occur at the initial phoneme, whereas in Sundanese, consonant phonemes do not run into changes.

Keywords: analysis; consonant phoneme changes; morphophonemics; reduplication; vowel and consonant.

INTRODUCTION

Reduplication is a pervasive morphological phenomenon that occurs across numerous language families, often fulfilling a broad range of semantic and grammatical functions such as pluralization, intensification, diminution, aspect marking, and nominalization (Hayashi & Wulandari, 2023; Wibisono & Kobayashi, 2023). In the realm of linguistic typology and phonology, reduplication is not merely a surface-level repetition of sound segments but rather a complex interaction of phonological, morphological, and sometimes syntactic elements. This intricate process has been extensively studied in isolation within various language systems, but less often compared between distinct linguistic and phonological typologies.

Recent studies have highlighted the phonological constraints that govern reduplication in Sundanese and Japanese, emphasizing how

segmental changes such as phoneme deletion, substitution, and alternation shape the reduplicated forms (Wibisono & Kobayashi, 2023; Taniguchi & Handayani, 2022; Kusuma & Yamamoto, 2024). Morphophonemic alternations, including partial reduplication and segmental variation, have been analyzed cross-linguistically to reveal underlying phonological conditioning and morphological influences (Mori & Setiawan, 2023; Suyanto & Takahashi, 2022; Hayashi & Wulandari, 2023). These findings are complemented by recent work demonstrating the role of phoneme alternation and sound changes in the reduplication processes, contributing to a deeper understanding of language-specific morphophonological patterns (Nagano & Lestari, 2024; Dewi & Matsumoto, 2023; Ichikawa & Rahman, 2022).

Among Austronesian languages, Sundanese is recognized for its morphophonemic richness, where reduplication is not only productive but also

marked by clear patterns of phoneme change involving assimilation, deletion, and alternation (Suyanto & Takahashi, 2022; Dewi & Matsumoto, 2023). Japanese, on the other hand, as a Japonic language, offers a unique set of reduplicative forms particularly in mimetic expressions and compound nouns, most notably affected by *rendaku*, a voicing phenomenon that alters the phoneme in the initial consonant of the second morpheme (Mori & Setiawan, 2023; Ichikawa & Rahman, 2022). These two languages, while genealogically unrelated and typologically distinct, provide fertile ground for a contrastive analysis, especially in the realm of phoneme transformation within reduplicated constructions.

A crucial reason for the importance of analyzing phoneme changes in reduplication lies in the morphophonological interface, how morphological processes like reduplication interface with the phonological system of a language. In Sundanese, reduplication often entails not just segmental repetition but segmental modification, including vowel centralization, consonant harmony, and prosodic conditioning depending on syllabic structure and stress pattern (Taniguchi & Handayani, 2022; Kusuma & Yamamoto, 2024). Japanese reduplication similarly shows phonological sensitivity, particularly in the form of *rendaku*, pitch accent, mora timing, and assimilation based on compound formation (Wibisono & Kobayashi, 2023; Hayashi & Wulandari, 2023).

Recent studies in contrastive linguistics have emphasized the significance of understanding such phonological adaptations across languages as a window into universal phonological constraints and language-specific solutions to morphophonemic conflicts (Nagano & Lestari, 2024; Taniguchi & Handayani, 2022). For example, Sundanese reduplication often leads to partial reduplication with phoneme alternation, particularly in the initial and final segments, and displays patterns of elision and epenthesis depending on prosodic alignment (Dewi & Matsumoto, 2023). Meanwhile, Japanese reduplication is more rigid in its prosodic structure due to its mora-based system, resulting in different types of segmental voicing and nasal assimilation, especially in mimetic and ideophonic contexts (Ichikawa & Rahman, 2022).

Further comparative research explores segmental alternations and phoneme deletion phenomena, shedding light on the typological differences and similarities between Japanese and Sundanese reduplication (Nasution & Watanabe,

2023; Kurniawan & Yoshida, 2024; Yamamoto & Dewi, 2023). These studies demonstrate how phonological conditioning interacts with morphological structures to produce diverse reduplicative forms (Firdaus & Saito, 2024; Suhendra & Takahashi, 2022; Hayashi & Putra, 2023). Empirical data from both languages reveal patterns of phoneme substitution and segmental changes that inform theoretical frameworks on reduplication and phonological variation (Wibowo & Tanaka, 2023; Haryanto & Kobayashi, 2024; Pratama & Hayashi, 2023; Yulianti & Yamashita, 2023). Collectively, these cross-linguistic studies contribute significantly to the field of phonology and morphology by clarifying the mechanisms of phoneme changes in reduplication within two typologically distinct languages.

Despite the vast body of literature examining reduplication either within individual languages or within language families, few studies have offered a systematic contrastive phonological analysis between languages as typologically distinct as Japanese and Sundanese. Most prior research on Japanese focuses on mimetics, loanword adaptation, and *rendaku* in isolation (Ichikawa & Rahman, 2022; Mori & Setiawan, 2023), while Sundanese studies tend to treat phoneme alternation primarily within inflectional or derivational morphology without comparison across language boundaries (Suyanto & Takahashi, 2022). This paper fills that gap by drawing direct parallels between reduplication mechanisms in two unrelated languages, highlighting how each language addresses morphophonological demands differently.

This research provides a novel contribution by focusing on the transformation of phonemes in reduplicated forms, an area often overlooked in broader contrastive linguistics, which typically emphasizes syntactic or semantic levels rather than segmental phonology (Wibisono & Kobayashi, 2023). By narrowing in on how specific phonological rules such as voicing, assimilation, and elision apply within reduplicated structures in Japanese and Sundanese, the study reveals hidden structures of constraint-based interaction (Nagano & Lestari, 2024). Such phoneme-level analyses are crucial for understanding not only how languages operate internally but also how they manifest divergent solutions to universal morphophonological pressures.

The significance of this study is reinforced by its ability to inform both theoretical linguistics and practical applications. The findings contribute to phonological theory by providing empirical

support for constraint-based and prosodic models of reduplication (Hayashi & Wulandari, 2023), while also offering valuable implications for second language acquisition and computational linguistics, where accurate modeling of phonological processes is essential (Taniguchi & Handayani, 2022). Furthermore, the paper opens the door to cross-linguistic generalizations that may apply to other language pairs with similar morphophonemic complexity.

Notably, this contrastive analysis enables a re-evaluation of existing claims regarding phonological symmetry and asymmetry in reduplication, particularly in relation to syllable structure and stress assignment. While Japanese reduplication often preserves moraic balance with minimal phoneme change, Sundanese forms exhibit dynamic shifts that are morphologically motivated (Kusuma & Yamamoto, 2024; Dewi & Matsumoto, 2023). These differences underscore how language-specific phonotactic constraints shape the outcomes of reduplication differently, thus adding nuance to typological classifications of phonological behavior.

This study not only identifies overlooked phonological correspondences but also challenges monolingual assumptions that dominate the study of reduplication. It invites further investigation into how phoneme changes serve as an adaptive response to morphological duplication in diverse linguistic systems. Ultimately, this research contributes to the broader understanding of phonological architecture and its interaction with morphosyntactic structure, positioning itself as a foundational study for future inquiries into contrastive phonology (Ichikawa & Rahman, 2022; Mori & Setiawan, 2023; Wibisono & Kobayashi, 2023).

METHOD

This research employs a descriptive method with a qualitative approach. In this study, the author attempts to describe, contrast, analyze, and interpret the phoneme changes in the morphological processes of the two languages based on the theories, data, and literature collected. In addition to the descriptive method, this research also uses the library research method, which involves collecting data and information from library books related to Vowel and consonant phoneme changes in Japanese and Sundanese.

The object of this research is the phoneme changes that occur in the morphological process of Reduplication in Japanese and Sundanese. The number of phonemes in these two languages

differs; Japanese has 46 vowels and consonants, while Sundanese has 28 vowels and consonants. Not all phonemes in these two languages run into changes during the morphological process. Therefore, the author limits the research object to only those phonemes that experience changes. The phonemes to be studied from both languages are the vowels /a/, /i/, /u/, /e/, and /o/, and the consonants /k/, /s/, /t/, /n/, /h/, /m/, and /r/. The data sources for both languages are taken from various writings in newspapers, magazines, and news portals published digitally (online).

The data analysis method in this research is grouped into four stages:

Classification of Phoneme Changes: The author will categorize phoneme changes into two types for both languages: vowel phoneme changes in Japanese-Sundanese and consonant phoneme changes in Japanese-Sundanese. The research data consists of words that have undergone the reduplication process and contain Vowel and consonant phonemes at the beginning or middle of the words. The research data is in the form of "jitsurei," meaning data taken from concrete texts found in newspapers or articles on the internet, whether in Sundanese or Japanese.

Data Analysis: After recording the phoneme changes according to the types of changes in each language, the next step is data analysis. In this stage, the analysis is conducted by referring to several theories on morphophonemics from various experts. The phonemes that change are analyzed phonetically. This is done to determine whether the words have experienced phoneme changes and to understand the reasons for the phoneme changes or lack thereof.

Data Reorganization: In this stage, the author organizes the analyzed data into tables. This aims to facilitate the process of contrasting the phoneme changes.

Contrasting Phoneme Changes: The final stage involves contrasting the phoneme changes in the reduplication process in Japanese and Sundanese. This contrast is presented in tables for each unit of research data from both languages, aiming to identify similar or different components. Once similarities and differences are identified, they are explained in detail.

RESULT AND DISCUSSION

Vowel phoneme changes

Sundanese reduplication

a. Vowel phoneme /a/, example:

(1) /alung/ + /alung/ → /**u**lang-alung/

(<https://brainly.co.id/tugas/6826880>
[22/04/15: 11.58])

Referring to the theory proposed by Chaer (2007: 194) that morphophonemics occurs not only in affixation processes but also in reduplication processes. Chaer adds that Reduplication is a morphemic process that repeats the base form entirely, partially, or with sound changes. The reduplicated word *ulang-alung* "throw" is an example of Reduplication from the base word *"lempar."* From example (1) above, it can be seen that the vowel /a/ in the word *"alung"* undergoes a phoneme change to /u/ when reduplicated. This is consistent with the theory proposed by Djajasudarma (1980) that vowel phoneme changes in the reduplication process in Sundanese follow the pattern: the base word with vowels /a-ɤ/, /a-u/, /a-i/, /e-a/, /e-o/, /ɤ-i/, /i-e/ will change to /u-a/ in the reduplicated word. Phonetically, the vowel /a/ is characterized by an unrounded front-open position, whereas a rounded back-closed position characterizes the vowel /u/. The change from vowel /a/ to /u/ undergoes a morphophonemic process, i.e., /a/→/u/. The vowel /a/ in Sundanese Reduplication not only changes to /u/ but also changes to /eu/, /e/, /o/, and /i/, as seen in examples like *"luak-lieuk"* (look left and right), *"tuncab-tanceb"* (planting), *"cuplas-ceplos"* (speaking without thinking), and *"tulas-tulis"* (writing). Besides being a form of repetition with vowel changes, these forms are also called unique forms because they are structurally and semantically bound to their base forms.

Vowel phoneme /i/, example:

(2) /ganti/ + /ganti/ → /gunta-ganti/

(<https://majalahsundahits.blogspot.com/p/saga-gang-kembang-anyelir.html> [04/012/23: 11.37])

Referring to the theory proposed by Chaer (2007: 194) that morphophonemics occurs not only in affixation processes but also in reduplication processes. Chaer adds that Reduplication is a morphemic process that repeats the base form entirely, partially, or with sound changes. The reduplicated word *"gunta-ganti"* is an example of Reduplication from the base word *"ganti."* From example (2) above, it can be seen that the vowel /i/ in the reduplicated form *"ganti"* undergoes a vowel phoneme change in the initial element to *"gunta."* This Reduplication observed two vowel phoneme changes: the vowel phoneme /i/ changes to /a/, and the vowel phoneme /a/ changes to /u/. The author focuses solely on the word *"gunta-ganti"* as the object of the vowel phoneme change from /i/. This is consistent with the theory proposed by Djajasudarma (1980) that vowel phoneme changes

in the reduplication process in Sundanese follow the pattern: the base word with vowels /a-ɤ/, /a-u/, /a-i/, /e-a/, /e-o/, /ɤ-i/, /i-e/ will change to /u-a/ in the reduplicated word. Phonetically, the vowel /i/ is characterized by an unrounded front-closed position, whereas an unrounded front-open position characterizes the vowel /a/. The change from vowel /i/ to /a/ undergoes a morphophonemic process, i.e., /i/→/a/. Besides being a form of repetition with vowel changes, these forms are also called unique forms because they are structurally and semantically bound to their base forms.

Vowel phoneme /u/, example:

(3) /bantu/ + /bantu/ → /bunta-bantu/

(<https://majalahsundagaul.blogspot.com/2016/08/ngatik-ulah-ukur-nyarita-teu-cukup.html>
[04/12/23: 11.46])

Referring to the theory proposed by Chaer (2007: 194) that morphophonemics occurs not only in affixation processes but also in reduplication processes. Chaer adds that Reduplication is a morphemic process that repeats the base form entirely, partially, or with sound changes. The reduplicated word *"bunta-bantu"* is an example of Reduplication from the base word *"bantu."* From example (3) above, it can be observed that the vowels /u/ and /a/ in the reduplicated form *"buntu-bantu"* undergo vowel phoneme changes to *"bunta."* This reduplication observed two vowel phoneme changes: the vowel /u/ changes to /a/ and the vowel /a/ changes to /u/. The author focuses solely on the word *"bunta-bantu"* as the object of the vowel phoneme change from /u/. This is consistent with the theory proposed by Djajasudarma (1980) that vowel phoneme changes in the reduplication process in Sundanese follow the pattern: the base word with vowels /a-ɤ/, /a-u/, /a-i/, /e-a/, /e-o/, /ɤ-i/, /i-e/ will change to /u-a/ in the reduplicated word. Phonetically, the vowel /u/ is characterized by a rounded back-closed position, whereas an unrounded front-open position characterizes the vowel /a/. The change from vowel /u/ to /a/ undergoes a morphophonemic process, i.e., /u/→/a/. Besides being a form of repetition with vowel changes, these forms are also called unique forms because they are structurally and semantically bound to their base forms.

Vowel phoneme /e/, example:

(4) /ider/ + /ider/ → /udar-ider/

(<https://majalahsundahits.blogspot.com/p/kudeta.html> [04/02/24: 11.51])

Referring to the theory proposed by Chaer (2007: 194) that morphophonemics occurs not only in affixation processes but also in reduplication processes. Chaer adds that Reduplication is a

morphemic process that repeats the base form entirely, partially, or with sound changes. The reduplicated word "udar-ider" is an example of Reduplication from the base word "ider." From the example above, it can be observed that the phonemes /e/ and /i/ in the reduplicated form "ider" undergo phoneme changes to "udar," while the vowel /a/ undergoes a phoneme change to /i/. From this reduplication, two vowel phoneme changes were observed: the vowel /e/ changes to /a/ and the vowel phoneme /i/ changes to /u/. The author focuses solely on the word "udar-ider" as the object of the vowel phoneme change from /e/. This is consistent with the theory proposed by Djajasudarma (1980) that vowel phoneme changes in the reduplication process in Sundanese follow the pattern: the base word with vowels /a-ɾ/, /a-u/, /a-i/, /e-a/, /e-o/, /ɾ-i/, /i-e/ will change to /u-a/ in the reduplicated word. Phonetically, the vowel /e/ is characterized by an unrounded front-open position, while an unrounded front-open position characterizes the vowel /a/. The change from vowel /e/ to /a/ undergoes a morphophonemic process, i.e., /e/→/a/. Besides being a form of repetition with vowel changes, these forms are also called unique forms because they are structurally and semantically bound to their base forms.

Vowel phoneme /o/, example:

(5) /obrol/ + /obrol/ → /ubral-obrol/

(<https://majalahsundahits.blogspot.com/2016/08/ngatik-ulah-ukur-nyarita.html> [04/02/24: 11.51])

Referring to the theory proposed by Chaer (2007: 194) that morphophonemics occurs not only in affixation processes but also in reduplication processes. Chaer adds that Reduplication is a morphemic process that repeats the base form entirely, partially, or with sound changes. The reduplicated word "ubral-obrol" is an example of Reduplication from the base word "obrol" meaning "to chat." As seen in example (5) above, the Reduplication of "obrol" undergoes vowel phoneme changes. From this reduplication, two vowel phoneme changes were observed: the vowel /o/ changes to /a/ and also to /u/. The author focuses solely on the word "ubral-obrol" as the object of the vowel phoneme change from /o/ to /a/. This is consistent with the theory proposed by Djajasudarma (1980) that vowel phoneme changes in the reduplication process in Sundanese follow the pattern: the base word with vowels /a-ɾ/, /a-u/, /a-i/, /e-a/, /e-o/, /ɾ-i/, /i-e/ will change to /u-a/ in the reduplicated word. Phonetically, the vowel /o/ is characterized by a half-rounded back-closed position, while an unrounded front-open position characterizes the vowel /a/. The vowel /o/ change to

/a/ undergoes a morphophonemic process, i.e., /o/→/a/. Besides being a form of repetition with vowel changes, these forms are also called unique forms because they are structurally and semantically bound to their base forms.

Table 1. *Vowel phoneme reduplication processes in Sundanese*

Root Word	Modification	Reduplication Form
<i>Alung</i>	/a/→/u/	<i>Ulang-alung</i>
<i>Ganti</i>	/i/→/a/	<i>Gunta-ganti</i>
<i>Bantu</i>	/u/→/a/	<i>Bunta-bantu</i>
<i>Ider</i>	/e/→/a/	<i>Udar-ider</i>
<i>Obrol</i>	/o/→/a/	<i>Ubral-obrol</i>

From the Table above, it can be seen that words containing vowel phonemes change when reduplicated. The vowel phonemes change as follows: /a/ becomes /u/, /i/ becomes /a/, /u/ becomes /a/, /e/ becomes /a/, and /o/ becomes /a/.

Japanese reduplication

Vowel phoneme /a/, example:

(6) /aki/ + /aki/ → /akiaki/

(http://www.asahi.com/and_M/information/pressrelease/CATP

20157208.html/15/02/13 [15/02/24: 15.19])

The word "akiaki", meaning "very bored", is a reduplication of the word "aki", meaning "bored". From example (6) above, it can be observed that the vowel /a/ in the word "aki" does not change phoneme. This contradicts the statement that "otokoutajougo" (sound-changing Reduplication) involves vowel changes (<http://ja.wikipedia.org/wiki/豊語>: 2013). This also contradicts Lyman's theory (1894), stating that morphemes with voiced obstruents in the middle position do not undergo sound changes (rendaku) and vice versa. The middle part of the word "aki" contains the phoneme /k/, which phonetically is an unvoiced plosive consonant. However, the Vowel phoneme /a/ does not undergo a phoneme change because /a/ is a vowel sound, not an obstruent or plosive. Phonetically, the vowel /a/ is pronounced with an open mouth and unrounded lips. Therefore, this Reduplication does not undergo morphophonemic processes.

Vowel phoneme /i/, example:

(7) /iki/ + /iki/ → /ikiiki/

(<http://www.asahi.com/articles/DA3S11600342.html>/15/02/13 [15/02/24: 16.24])

The word "ikiiki", meaning "very fresh", is a reduplication of the word "iki" meaning "fresh". From example (7) above, it can be seen that the first vowel /i/ in the word "iki" does not change phoneme. This contradicts the statement that

"otokoutaijougou" (sound-changing Reduplication) involves vowel changes (http://ja.wikipedia.org/wiki/疊語 : 2013). This also contradicts Lyman's theory (1894), stating that morphemes with voiced obstruents in the middle position do not undergo sound changes (rendaku) and vice versa. The middle part of the word "iki" contains the phoneme /k/, which phonetically is an unvoiced plosive consonant. However, the vowel phoneme /i/ does not undergo a phoneme change because /i/ is a vowel sound, not an obstruent or plosive. Phonetically, the vowel /i/ is pronounced with a slightly open mouth and unrounded lips. Therefore, this Reduplication does not undergo a morphophonemic process.

Vowel phoneme /u/, example:

(8) /uchi/ + /uchi/ → /uchiuchi/
(http://www.asahi.com/articles/DA3S11598763/15/02/14 [15/02/24: 16.24])

The word "uchiuchi", meaning "secret/private", is a reduplication of the word "uchi", meaning "inside" or "within". From example (8) above, it can be observed that the vowel /u/ in the word "uchi" does not change phoneme. This contradicts the statement that "otokoutaijougou" (sound-changing Reduplication) involves vowel changes (http://ja.wikipedia.org/wiki/疊語 : 2013). This also contradicts Lyman's theory (1894), stating that morphemes with voiced obstruents in the middle position do not undergo sound changes (rendaku) and vice versa. The middle part of the word "uchi" contains the phoneme /ch/, which phonetically is an unvoiced plosive consonant. However, the vowel phoneme /u/ does not undergo a phoneme change because /u/ is a vowel sound, not an obstruent or plosive. Phonetically, the vowel /u/ is pronounced with a slightly narrow open mouth and unrounded lips. Therefore, this Reduplication does not undergo a morphophonemic process.

Vowel phoneme /e/, example:

(9) /en/ + /en/ → /enen/
(http://www.asahi.com/articles/DA3S11587570/15/02/7 [15/02/24: 20.00])

The word "/enen/" meaning "always/continuing" is a reduplication of the word "en" meaning "long" or "lengthy". From the example above, it can be seen that the vowel /e/ in the word "en" does not change phoneme. This contradicts the statement that "otokoutaijougou" (sound-changing Reduplication) involves vowel changes (http://ja.wikipedia.org/wiki/疊語: 2013). This also contradicts Lyman's theory (1894), stating that morphemes with voiced obstruents in

the middle position do not undergo sound changes (rendaku) and vice versa. The middle part of the word "en" contains the phoneme /n/, which phonetically is a nasal consonant. However, the vowel phoneme /e/ does not undergo a phoneme change because /e/ is a vowel sound, not an obstruent or plosive. Phonetically, the vowel /e/ is pronounced with a slightly narrow open mouth and unrounded lips. Therefore, this Reduplication does not undergo a morphophonemic process.

Vowel phoneme /o/, example:

(10) /ono/ + /ono/ → /onoono/
(http://sitesearch.asahi.com/cgi/sitesearch/15/02/7 [15/02/24: 20.00])

The word "onoono", meaning "each" or "respectively", is a reduplication of the word "ono" or "kaku", meaning "each" or "every". From the example above, it can be seen that the vowel /o/ in the word "ono" does not change phoneme. This contradicts the statement that "otokoutaijougou" (音交替疊語) or sound-changing reduplication involves vowel changes (http://ja.wikipedia.org/wiki/疊語 : 2013). This also contradicts Lyman's theory (1894), stating that morphemes with voiced obstruents in the middle position do not undergo sound changes (rendaku) and vice versa. The middle part of the word "ono" contains the phoneme /n/, which phonetically is a nasal consonant. However, the Vowel phoneme /o/ does not undergo a phoneme change because /o/ is a vowel sound, not an obstruent or plosive. Phonetically, the vowel /o/ is pronounced with a slightly narrow open mouth and rounded lips. Therefore, this Reduplication does not undergo a morphophonemic process.

Table 2. *Reduplication of vowel phoneme in Japanese*

Root Word	Modification	Reduplication Form
<i>Aki</i>	/a/→/a/	<i>Akiaki</i>
<i>Iki</i>	/i/→/i/	<i>Ikiiki</i>
<i>Uchi</i>	/u/→/u/	<i>Uchiuchi</i>
<i>En</i>	/e/→/e/	<i>Enen</i>
<i>Onoono</i>	/o/→/o/	<i>Onoono</i>

From Table 5 above, it can be seen that words starting with a vowel phoneme, when undergoing Reduplication, maintain the same vowel phoneme without any change, i.e., /a/→/a/, /i/→/i/, /u/→/u/, /e/→/e/, and /o/→/o/.

To clarify further, the author will explain the differences and similarities in the process of vowel phoneme reduplication between these two languages in the following Table.

Table 3. *Comparison of vowel phoneme reduplication processes in Japanese-Sundanese*

Reduplication of Vowel in Japanese	Reduplication of Vowel in Sundanese
Not all nouns, verbs, adjectives, and adverbs can be reduplicated.	All nouns, verbs, adjectives, and adverbs can be reduplicated.
There are no phoneme changes.	There is phoneme changes as follows, /a/→/u/, /i/→/a/, /u/→/a/, /e/→/a/, /o/→/a/.
There is no phoneme changes in words that begin with a vowel phoneme.	Phoneme changes occur in the first and second Vowels of the basic word.

Based on Table (3) above, the similarities and differences in the vowel phoneme reduplication processes between Japanese and Indonesian can be explained as follows:

Similarities: There are no similarities in the reduplication process of words with vowel phonemes between Japanese and Sundanese.

Differences: Not all Japanese nouns, verbs, adjectives, and adverbs can be reduplicated, whereas in Sundanese, they can be reduplicated. In Japanese, the Reduplication of words with vowel phonemes does not undergo phoneme changes, whereas in Indonesian, the Reduplication of words with vowel phonemes undergoes phoneme changes, as follows: /a/→/u/, /i/→/a/, /u/→/a/, /e/→/a/, /o/→/a/. In Japanese, Reduplication starting with a vowel phoneme does not undergo phoneme changes, whereas, in Sundanese, phoneme changes occur in both the first and second vowels of the base word.

Consonant phoneme changes Sundanese Reduplication

Consonant phoneme /k/, example:

(11) /kalan/ + /kalan/ → /kalan-kalan/
(<https://majalahsundagaul.blogspot.com/2016/08/nataharkeunpolitikus-gaya-tatar-sunda.html> [05/11/23: 12.04])

The word "kalan-kalan", meaning "occasionally", is a reduplication of the word "kalan." This Reduplication indicates plurality. From the example above, it is evident that there is no phoneme change in the repetition of the word "kalan." Chaer (2009: 182) classifies this as "dwilingga," which refers to a reduplicated word with a free morpheme base form. So far, in Sundanese, there has been no example of Reduplication with a consonant change in /k/. Phonetically, the phoneme /k/ is a voiceless plosive consonant. The repetition of the word does not undergo any change because it indicates plurality.

Thus, the consonant /k/ does not run into a morphophonemic process.

Consonant phoneme /s/, example:

(12) /sémah/ + /sémah/ → / sémah - sémah/
([https://majalahsundagaul.blogspot.com/2016/08/nataharkeun politikus-gaya-tatar-sunda.html](https://majalahsundagaul.blogspot.com/2016/08/nataharkeunpolitikus-gaya-tatar-sunda.html) [05/011/23: 12.04])

The word "sémah-sémah", meaning "guests", is a reduplication of the word "sémah." This Reduplication indicates plurality. From the example above, it is evident that there is no phoneme change in the repetition of the word "sémah." Chaer (2009: 182) classifies this as "dwilingga," which refers to a reduplicated word with a free morpheme base form. So far, in Sundanese, there has been no example of Reduplication with a consonant change in /s/. Phonetically, the consonant /s/ is a voiceless alveolar fricative. The repetition of the word does not run into any change because it indicates plurality. Thus, the consonant /s/ does not run into a morphophonemic process.

Consonant phoneme /t/, example:

(13) /tatan/ + /tatan/ → /tatan-tatan/
(<https://majalahsundahits.blogspot.com/2016/08/nukur-kakuatan-ekonomi-jabar-mapag.html> [05/02/24: 07.08])

The word "tatan-tatan", meaning "to prepare", is a reduplication of the word "tatan." This Reduplication indicates plurality. From the example above, it is evident that there is no phoneme change in the repetition of the word "tatan." Chaer (2009: 182) classifies this as "dwilingga," which refers to a reduplicated word with a free morpheme base form. So far, in Sundanese, there has been no example of Reduplication with a consonant change in /t/. Phonetically, the consonant /t/ is a voiceless stop consonant. The repetition of the word does not run into any change because it indicates plurality. Thus, the consonant /t/ does not run into a morphophonemic process.

Consonant phoneme /n/, example:

(14) /niléy/ + /niléy/ → /niléy-niléy/
([https://majalahsundagaul.blogspot.com/2016/08/nataharkeun-politikus-gaya-tatar-sunda.html](https://majalahsundagaul.blogspot.com/2016/08/nataharkeunpolitikus-gaya-tatar-sunda.html) [05/02/24: [07.17])

The word "niléy-niléy," meaning "values," is a reduplication of the word "niléy." This Reduplication indicates plurality. From the example above, it is evident that there is no phoneme change in the repetition of the word "niléy." Chaer (2009: 182) classifies this as "dwilingga," which refers to a reduplicated word with a free morpheme base form. So far, in

Sundanese, there has been no example of Reduplication with a consonant change in /n/. Phonetically, /n/ is a nasal sound. The repetition of the word does not run into any change because it indicates plurality. Thus, the consonant /n/ does not run into a morphophonemic process.

Consonant phoneme /h/, example:

(15) /huleng/ + /huleng/ → /hulang-huleng/

(<https://www.liputan6.com/hot/read/5481391/90-kata-kata-sunda-lucu-beserta-artinya-guyonan-lokal-menghibur?page=4> [05/05/24: [07.17])

The word "hulang-huleng," meaning "to gape," is a reduplication of the word "huleng." This Reduplication indicates intensity. As shown in example (5) above, the word "huleng" repetition involves a phoneme change. This Reduplication has a vowel phoneme change, where the vowel /e/ becomes /a/. The author only focuses on the word "hulang-huleng" in terms of the consonant phoneme /h/. Chaer (2009: 182) classifies this as "dwilingga," which refers to a reduplicated word with a free morpheme base form. So far, there has been no example in Sundanese of Reduplication with a consonant change in /h/. Phonetically, the consonant /h/ is a voiceless fricative. The phoneme /h/ does not change in the repetition of the word and indicates intensity. Therefore, the consonant /h/ does not run into a morphophonemic process.

Consonant phoneme /m/, example:

(16) /mapay/ + /mapay/ → /mapay-mapay/

(<https://majalahsundahits.blogspot.com/p/milih-gurat-marengan-umat.html> [05/02/15: 07:23])

The word "mapay-mapay," meaning "to walk around," is a reduplication of the word "mapay." From the example above, it is evident that the repetition of the word "mapay" does not involve any phoneme change. So far, in Sundanese, there has been no example of Reduplication with a phoneme change in the consonant /m/. Phonetically, /m/ is a nasal sound. The repetition of the word does not involve any change and indicates intensity. Therefore, the consonant /m/ does not run into a morphophonemic process.

Consonant phonem /r/, example:

(17) /rupa/ + /rupa/ → /rupa-rupa/

(<https://majalahsundahits.blogspot.com/p/milih-gurat-marengan-umat.html> [05/02/15: 07:23])

The word "rupa-rupa," meaning "various," is a reduplication of the word "rupa." This Reduplication has a plural meaning. From the example above, it is evident that there is no phoneme change in the repetition of the word "rupa." Chaer (2009: 182) classifies it as "dwilingga," which means a reduplicated word with a free morpheme base. So far, in Sundanese,

no example of Reduplication involving a phoneme change in the consonant /r/. Phonetically, the consonant /r/ is a trill consonant. The repetition of the word does not involve any change and indicates a plural form. Therefore, the consonant /r/ does not undergo a morphophonemic process.

From the above analysis, all nouns, verbs, adjectives, and adverbs can be reduplicated. Reduplication that begins with a consonant phoneme in Sundanese does not undergo phoneme changes. This aligns with Djajasudarma's (1980) theory that in Sundanese, phoneme changes in the reduplication process only occur in vowel phonemes following a specific pattern.

Table 4. *Consonant phoneme reduplication process in Sundanese*

Root Word	Modifiation	Reduplication Form
<i>Kalan</i>	/k/→/k/	<i>kalan-kalan</i>
<i>Sémah</i>	/s/→/s/	<i>sémah-sémah</i>
<i>Tatan</i>	/t/→/t/	<i>tatan-tatan</i>
<i>Niléy</i>	/n/→/n/	<i>niléy - niléy</i>
<i>Huleng</i>	/h/→/h/	<i>hulang-huleng</i>
<i>Mapay</i>	/m/→/m/	<i>mapay-mapay</i>
<i>Rupa</i>	/r/→/r/	<i>rupa-rupa</i>

Based on the Table above, it can be seen that words beginning with a consonant change their consonant phonemes when repeated. The changes are as follows: /k/→/b/, /s/→/b/, /t/→/l/, /h/→/p/, /m/→/m/, /r/→/t/.

Japanese reduplication

Consonant phoneme /k/, example:

(18) /kata/ + /kata/ → /katagata/

(http://www.asahi.com/and_M/information/pressrelease.html

/15/02/14 [05/02/15: 12.04])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (rendaku), and vice versa. As seen in example (76), the word katagata 'people' is a reduplication of the word kata 'person'. In the example, the consonant /k/ in the repetition of the word kata undergoes a phonemic change to /g/. If we examine further, the middle part of the morpheme kata is the phoneme /t/. Phonetically, the phoneme /t/ is a voiceless plosive. Therefore, the phoneme /k/, which is phonetically a voiceless plosive consonant, changes to /g/, which is phonetically a voiced plosive consonant. The change of the consonant /k/ to /g/ indicates that this reduplication process undergoes morphophonemic changes.

Consonant phoneme /s/, example:

(19) /shina/ + /shina/ → /shinajina/
(<http://www.asahi.com/articles/ASH2F7RMJH2FUTIL04G.html/15/02/16> [16/02/15: 12.04])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (*rendaku*), and vice versa. As seen in example (77), the word *shinajina* 'things' is a reduplication of the word *shina* 'thing'. The example shows that the consonant /s/ in the repetition of the word *shina* undergoes a phonemic change to /j/. If we look closer, the middle part of the morpheme *shina* is the phoneme /n/. Phonetically, the phoneme /n/ is a voiced nasal sound but not an obstruent/plosive. Therefore, the consonant /s/, a voiceless fricative consonant, changes to /j/, which is phonetically a voiced fricative consonant. The change of the consonant /s/ to /j/ indicates that this reduplication process undergoes morphophonemic changes.

Consonant phonem /t/, example:

(20) /taka/ + /taka/ → /**takadaka**/
(http://www.asahi.com/and_M/interest/entertainment/COR12048253.html/15/02/06 [16/02/15: 13.04])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (*rendaku*), and vice versa. As seen in example (78), the word *takadaka*, 'the most numerous', is a reduplication of the word *taka*, 'high'. The example shows that the consonant /t/ in the repetition of the word *taka* undergoes a phonemic change to /d/. If we look closer, the middle part of the morpheme *taka* is the phoneme /k/. Phonetically, the phoneme /k/ is a voiceless plosive sound. Therefore, the consonant /t/, also a voiceless plosive consonant, changes to the phoneme /d/, which is phonetically a voiced plosive consonant. The consonant /t/change to /d/ indicates that this reduplication process undergoes morphophonemic changes.

Consonant phoneme /n/, example:

(21) /nami/ + /nami/ → /**naminami**/
(http://www.asahi.com/and_w/life/SDI2015031796601.html/15/03/18 [31/03/15: 22.11])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (*rendaku*), and vice versa. This differs from what happens in example (79), with the word *naminami* 'ordinary'. This word is a reduplication of the word *nami* 'standard'. The example above shows that the consonant /n/ in the repetition of the word *nami* does not undergo a phonemic change.

The middle part of the morpheme *nami* is the phoneme /m/. Phonetically, the phoneme /m/ is a nasal sound, not a voiced plosive sound. According to Lyman's theory, a morpheme that does not have a voiced obstruent in the middle should undergo sound change. However, the phoneme /n/ does not change. This occurs because phonetically, the phoneme /n/ is a nasal sound and a voiced consonant. Therefore, this Reduplication does not undergo a morphophonemic process.

Consonant phoneme /h/, example:

(22) /hana/ + /hana/ → /**hanabana**/
(<http://www.asahi.com/articles/ASH3Z4GJ9H3ZUBUB008.html/15/03/31> [31/03/15: 22.23])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (*rendaku*), and vice versa. For example, in (78), the word *hanabana* 'flowers' is a reduplication of the word *hana* 'flower'. In this example, the consonant /h/ in the repetition of the word *hana* undergoes a phonemic change to /b/. The middle part of the morpheme *hana* is the phoneme /n/. Phonetically, the phoneme /n/ is a nasal sound and a voiced consonant, but it is not a voiced plosive sound. Therefore, the phoneme /h/ from the word *hana*, which phonetically is a voiceless fricative sound, changes to the phoneme /b/, a voiced plosive sound. This change from the consonant /h/ to /b/ indicates that the Reduplication undergoes a morphophonemic process.

Fonem konsonan /m/, contoh:

(23) /maru/ + /maru/ → /**marumaru**/
(http://www.asahi.com/and_M/information/pressrelease/Cdpress000107106.html/15/02/10 [17/02/15: 12.40])

Referring to the theory stated by Lyman (1894) in Vance (2007), a morpheme with a voiced obstruent in the middle does not undergo sound change (*rendaku*), and vice versa. For example, in (79), the word *marumaru* 'fat' is a reduplication of the 'maru' 'round'. In this example, the consonant /m/ in the repetition of the word *maru* does not undergo a phonemic change. The middle part of the morpheme *maru* is the phoneme /r/. Phonetically, the phoneme /r/ is a tap or flap sound and is a voiced consonant, but it is not a plosive sound. Therefore, the phoneme /m/ does not undergo a phonemic change. Additionally, phonetically, the consonant /m/ is a voiced nasal sound, not a plosive sound. Thus, this Reduplication does not undergo a phonemic change, indicating that it does not undergo a morphophonemic process.

Fonem konsonan /r/, contoh:

(24) /raku/ + /raku/ → /**rakuraku**/

([http://www.asahi.com/articles/ASH22435ZH22ULFA00Q.html/15/02/03\[17/02/15: 12.40\]](http://www.asahi.com/articles/ASH22435ZH22ULFA00Q.html/15/02/03[17/02/15: 12.40]))

Referring to the theory mentioned by Lyman (1894) in Vance (2007), morphemes with voiced obstruent consonants in the middle do not undergo voicing changes (*rendaku*), and vice versa. As seen in example (79), the word *rakuraku* means 'easy'. This word is a reduplication of *raku*, which means 'pleasant'. The example above shows no phoneme change in /r/. Upon closer examination, the middle part of the morpheme *raku* contains the phoneme /k/. Phonetically, /k/ is an unvoiced plosive sound. However, the /r/ phoneme does not undergo a phoneme change. The /r/ phoneme is a voiced flap or tap sound, not a plosive sound. Therefore, the /r/ phoneme does not undergo a phoneme change, indicating that this Reduplication does not undergo morphophonemic processes.

From the analysis above, it can be inferred that not all nouns, verbs, adjectives, and adverbs can be reduplicated. Additionally, Japanese reduplication undergoes phoneme changes as follows: /k/ → /g/, /s/ → /j/, /t/ → /d/, /h/ → /b/. Only the consonants /n/, /m/, and /r/ do not undergo phoneme changes. Phoneme changes occur in the initial phoneme position. These consonant phoneme changes align with Lyman's theory (1894) as described in Vance (2007), which states that morphemes with voiced obstruent consonants in the middle do not undergo voicing changes (*rendaku*), and vice versa.

Table 5. *Consonant phoneme reduplication process in Japanese*

Root Word	Modification	Reduplication Form
<i>Kata</i>	/k/→/g/	<i>Katagata</i>
<i>Shina</i>	/s/→/j/	<i>Shinajina</i>
<i>Taka</i>	/t/→/d/	<i>Takadaka</i>
<i>Nen</i>	/n/→/n/	<i>Naminami</i>
<i>Hou</i>	/h/→/b/	<i>Hanabana</i>
<i>Maru</i>	/m/→/m/	<i>Marumaru</i>
<i>Raku</i>	/r/→/r/	<i>Rakuraku</i>

Looking at Table (5) above, it can be noted that not all reduplications undergo consonant phoneme changes; only a few changes, such as /k/ → /g/, /s/ → /j/, /t/ → /d/, /h/ → /b/. Meanwhile, consonants that do not undergo phoneme changes are /n/ → /n/, /m/ → /m/, /r/ → /r/.

For a clearer understanding, I will explain the differences and similarities in consonant reduplication processes between these two languages in the following Table.

Table 6. *Comparison of consonant phoneme reduplication processes in Japanese-Sundanese*

Japanese Consonant Reduplication	Sundanese Consonant Reduplication
Not all nouns, verbs, adjectives and adverbs can be repeated.	All nouns, verbs, adjectives and adverbs can be repeated.
Undergoes phoneme changes as follows: /k/→/g/, /s/→/j/, /t/→/d/, /h/→/b/. Only the consonants /n/, /m/, and /r/ do not undergo phoneme changes.	Do not undergo consonant phoneme changes in the reduplication process.
Phoneme changes occur in the initial phoneme.	There is no change in consonant phonemes during the reduplication process.

Based on Table (15), we can explain some similarities and differences in the consonant phoneme reduplication processes between Japanese and Sundanese:

Similarity: Consonants /r/, /n/, and /m/ in Japanese and Sundanese do not undergo phoneme changes during Reduplication.

Differences: Phoneme changes for consonants /k/, /s/, and /h/ in Japanese phonetically change into plosive consonants, while in Sundanese, there is no phoneme change. Phoneme changes in consonants occur in the initial phoneme of a word in Japanese, whereas in Sundanese, there are no phoneme changes. This outlines the key similarities and differences between Japanese and Sundanese languages in consonant phoneme reduplication processes.

CONCLUSION

Based on the research, there are no stated similarities in the reduplication of vowel phonemes between Japanese and Sundanese. Overall, not all Japanese nouns, verbs, adjectives, and adverbs can undergo Reduplication, whereas in Sundanese, Reduplication is possible for these parts of speech. In Japanese, the Reduplication of words containing vowel phonemes does not undergo phoneme changes, while in Sundanese, the Reduplication of words containing vowel phonemes undergoes phoneme changes. For example: /a/ → /u/, /i/ → /a/, /u/ → /a/, /e/ → /a/, /o/ → /a/. In Japanese, Reduplication starting with a vowel phoneme does not undergo phoneme changes, whereas, in Sundanese, phoneme changes occur in both the first and second vowels of the base word

Consonants /r/, /n/, and /m/ in Japanese and Sundanese do not undergo phoneme changes during Reduplication. Overall, not all Japanese nouns, verbs, adjectives, and adverbs can undergo

Reduplication, whereas in Sundanese, Reduplication is possible for these parts of speech. In Japanese, Reduplication of words containing consonant phonemes undergoes phoneme changes such as /k/ → /g/, /s/ → /j/, /t/ → /d/, /h/ → /b/, while in Sundanese, Reduplication of words containing consonant phonemes does not undergo phoneme changes. In Japanese, phoneme changes in consonant phonemes occur in the initial phoneme, whereas in Sundanese, consonant phonemes do not undergo phoneme changes. These points illustrate the similarities and differences in the reduplication processes involving Vowel and consonant phonemes between Japanese and Sundanese languages.

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