

Challenges of Sound and Meaning in Machine Translation of English Reduplicative Words into Arabic

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Abstract

This study addresses the challenges of translating English reduplicative words into Arabic. These expressions are characterized by repetitive sounds and rhythmic structures. These features make reduplicative expressions difficult to translate, especially for machine translation (MT) systems aiming to preserve both the phonological form and semantic content in the target language. The study aims to explore these English reduplicative words, their types, and how MT systems render their expressive and contextual aspects in Arabic translations. The study hypothesized that these words often lack direct equivalents in Arabic because they carry unique phonological, tonal qualities, and communicative nuances. The study concludes that MT systems prioritized the semantic equivalence over the phonological features and communicative nuances. This basic meaning transfer emphasizes an evident limitation of MT systems, especially in translating these reduplicative words as English and Arabic belong to distinct typological language.

Key words: reduplicative words, translation adequacy, machine translation, semantic meaning, phonological features.

تحديات الصوت والمعنى في الترجمة الآلية للالفاظ التكرارية الإنكليزية إلى العربية

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المستخلص

تسلط هذه الدراسة الضوء على تحديات ترجمة الكلمات الإنكليزية المكررة إلى العربية. حيث تتميز هذه التعبيرات بتكرار الأصوات والبنى الإيقاعية، مما يؤدي إلى صعوبة ترجمتها، وخصوصاً بالنسبة لأنظمة الترجمة الآلية التي تهدف إلى الحفاظ على كل من الشكل الصوتي والمضمون الدلالي في اللغة الهدف. كما تهدف الدراسة إلى استكشاف هذه الكلمات الإنكليزية المكررة، وأنواعها، وكيفية نقل أنظمة الترجمة الآلية لجوانبها التعبيرية والسياقية في الترجمات العربية. تقترض الدراسة أن هذه الكلمات غالباً ما تفتقر إلى مرادفات مباشرة في العربية وذلك بسبب خصائصها الصوتية والنغمية الفريدة، بالإضافة إلى دلالات تواصلية دقيقة. وتخلص الدراسة إلى أن أنظمة الترجمة الآلية أعطت الأولوية للتكافؤ الدلالي على حساب الخصائص الصوتية والدلالات التواصلية الدقيقة. يُبرز هذا النقل الأساسي للمعنى قصوراً واضحاً لأنظمة الترجمة الآلية، لا سيما في ترجمة هذه الكلمات المكررة، نظراً لاختلاف أنماط اللغة بين الإنكليزية والعربية.

الكلمات المفتاحية: الالفاظ التكرارية، دقة الترجمة، المعنى الدلالي، السمات الصوتية.

Introduction

The phenomenon of reduplicative words includes the repetition of sounds or words. This reduplication involves not only the phonological aspects but also the transfer

of different semantic and pragmatic meaning such as intensification, diminutive, imitating of sound, etc. . Thus, these features are difficult to translate into other language, particularly Arabic because there is no clear equivalent available. In most cases, translators focus on the general meaning neglecting the phonological and pragmatic aspects of these words. In the context of machine translation systems, the challenge is more apparent as they are designed to render the general meaning of words, which might lead to a loss of these phonological, rhythmic, and pragmatic aspects. Consequently, concerns are raised about how these words are dealt with by such systems like DeepL and Reverso.

Although reduplicative words have been tackled widely in linguistic studies, little attention has been paid to its translation into Arabic, especially their phonological, stylistic, and pragmatic aspects. In addition, there is a lack in the studies on how these machine translation systems address these words.

Thus, this study aims to examine how these English words are rendered into Arabic by these systems and evaluates to what extent do they preserve both sound and meaning.

Reduplicative words

In English, reduplicative words are lexical forms created through repeating all or part of root, stem, or word, either exactly or with slight variation, to express additional meaning or emphasis (Baur, Lieber, & Plag 2013, p.155). They refer to a construction composed of two parts, either identical or different by a consonant or a vowel (Crystal, 2011, p. 414). They have several distinctive characteristics that clarify their nature as a linguistic phenomenon. First, in descriptive and typological studies, reduplicative words appear in a limited set of recognizable patterns, such as exact repetition (bye- bye), vowel alteration (flip- flop), and rhyming structures (hocus-pocus) (Haspelmath, 2002, pp. 11-13; Katamba, 1993, pp. 180-182). Another essential character is that reduplicative words are semi- productive rather than fully generated . They are conventionalized lexical items that are memorized rather than driven by a rule. This limited productivity conforms to cross- linguistic discussions of reduplication, which makes many reduplicative words lexicalized over time (Inkelas & Zoll, 2025, pp. 1-4 & SIL international, n. d.). Another character is shown by psycholinguistic researchers, reduplicative words whether conventional or newly invented tend to evoke affective impressions of familiarity, vividness, and playfulness as a result of their sound and patterned repetition (Kentner, Franz, & Menninghaus, 2022, pp. 33-361).

According to these characters, reduplicative words are defined not only by the repetition of form, but also their expression functions, patterned structural performance, and their conventional status within the language (WALS, n. d.).

Morphological-phonological aspects of reduplicatives

In English, reduplicative words can be viewed from two perspectives: morphological and phonological.

From morphological view, it focuses on the structure and function of the word itself. Therefore, it involves the repetition of a root, stem, or part of a word to create new lexical items, conveying emphasis, diminutiveness, or expressive meaning. However, this process is usually lexicalized, providing conventional expressions rather than productive grammatical forms that can be systematically to other words. For example, the repetition in flip-flop, bye-bye, and teeny-weeny, refers to semantic or expressive functions (Raimy, 2000; Baur & Lieber 2004).

In contrast, phonological aspect emphasizes the sound patterns in reduplication because English reduplicative words often follow systematic phonological constraints. Many of these items are organized around prosodic patterns such as full syllable reduplication (bye-bye) or alternating vowel sequences known as ablaut (flip-flop, zig-zag), which illustrate constraints on vowel quality and syllable shape (Bauer, Lieber, & Plag, 2013, pp. 155–156; Katamba, 2005, p. 178). Rhyming reduplication (hocus-pocus, willy-nilly) further demonstrates that reduplicants frequently mirror the coda or rime of the base, producing a recognizable rhythm and sound symbolism (Crystal, 2011, p. 414). Research within phonology also indicates that reduplicatives tend to conform to preferred English prosodic templates—typically a light, trochaic disyllable—which supports ease of articulation and perception (Inkelas, 2014). These systematic patterns suggest that phonological constraints actively shape reduplication in English, even though the process remains only marginally productive in the language. These constraints includes syllable structure, vowel alteration, and rhyming patterns, which contribute to the rhythmic and expressive quality of such forms. For example, ablaut reduplication forms such as flip-flop, and zig-zag, and rhyming reduplication such as hocus-pocus and willy-nilly (Inkelas & Zoll, 2005, pp. 360-378).

Typology of English reduplicative words

It is observed that English reduplicative words can be classified according to the degree and nature of repetition. Thus, two main types are commonly distinguished in linguistic literature, as shown in the following:

1. Full (exact) reduplication

It refers to the complete repetition of a word without any phonological changes. This type used in informal contexts to show emphasis or affective nuance (Crystal, 2011, p.414; Baur, Lieber, & Plag., 2013, p. 155; Katamba, 1993, p. 178), e.g., Bye-bye, night-night, and choo-choo.

2. Partial reduplication

It refers to forms where only part of the base is repeated usually with a phonological variation. Within partial reduplication, two subtypes are frequently identified (Katamba, 2005; Hock & Joseph, 2019), as follows:

1. Ablaut reduplication

It refers to the vowel alteration while preserving consonant structure, e.g., Flip-flop, zig-zag, pitter-patter, producing rhythmic or iconic effects.

2. Rhyming reduplication

It refers to the forms where change in the initial consonant while preserving the rhym; they often achieve a playful, or emphatic tone. For example, Hocus-pocus, nitty-gritty, and teeny-weeny.

This classification represents the common patterns existed in English word-formation and lexical use. Therefore, it provides a practical analytical framework for various types of reduplicative words to examine how repetition influences and intersects with phonology, form, and meaning in English.

Reduplication in Arabic

In Arabic, although no exact term correspondences to reduplicative words in English, the phenomenon of reduplication occurs phonologically and semantically. This reduplication is realized in certain forms, these main forms express many purposes such as emphasis, continuity, and rhetorical effects, as in the following:

1. Full repetition (التكرار التام)

It refers to the reoccurrence of the same lexical word or phrase to emphasize meaning. It is significant in Arabic Rhetoric since it conveys additional semantic and pragmatic effect (Al-Jurjani, 2004, pp. 231-233).

{كَلَّا سَوَّفَ تَعْلَمُونَ، ثُمَّ كَلَّا سَوَّفَ تَعْلَمُونَ} (التكاثر 3-5)

3. Nay! You shall come to know4. Again nay! You shall come to know! (Al-Hilali & Khan 1996)

Here, the repetition of the same clause emphasizes both the meaning and warning.

2. Partial or morphological-phonological repetition (التكرار الصرفي)

It exists in the quadrilateral verb patterns such as زل+زل=زلزل

Here, it is observed that the intensive meaning is reflected in the phonological segments repetition (Ibu Jinni, 1987, vol.2, pp. 157-158).

3. Paired expressions (التراكيب المزدوجة)

In Arabic, these expressions depend on phonetic similarity with slight alterations, rather than precise repetition or morphological pattern. They show generalized or non-specific meanings through sound pattering (Abdu Al-Tawab, 1999, pp. 312-313), as in following example

شذر مذر (scattered) consists of two similar elements phonologically (Ibn Mandhoor, 2009, vol. 4, p. 428).

Machines translation (MT)

Machine translation (MT) refers to the use of software systems to automatically translate text from one language to another. Its main objective is to enhance efficiency, reduce time, , and produce consistent output across large volume of text (Hutchins & Somers, 1992). Over decades, MT has developed through several

paradigms, each reflecting various computational linguistic strategies, as explained in the following:

1.Rule-based MT (RBMT)

This approach depends on hand-crafted linguistic rules and bilingual lexicons to map syntactic and morphological structure between languages. It is regarded effective for formal and predictable language. As a result of its rigid rule, it struggles with idiomatic expressions and unstandardized lexis (Wang et al., 2021).

2.Statistical MT

It refers to the emerging with the availability of large parallel corpora, so SMT uses statistical models to calculate the most probable translation based on frequency and co-occurrence pattern. It is more flexible than RBMT. Thus, SMT quality depends on the size and quality of the corpora, and performance degrees when data is sparse or when handling rare constructions (Koehn, 2009, p. 27).

3.Neural MT (NMT)

It is a modern paradigm depends on deep neural networks to produce fluent and contextually appropriate translations. NMT generally outperforms earlier paradigms because of its naturalness and grammaticality, particularly with idiomatic expressions and syntax.

MT paradigms with DeepL and Reverso

As previously discussed, MT has shown progress through several paradigms, including RBMT, which relies on linguistic rules and dictionaries, SMT uses statistical patterns learned from bilingual corpora, and NMT employs deep neural networks to generate fluent and context-aware translations (Stahlberg, 2020). In applied translation studies, these paradigms are exemplified through commercial MT systems. Therefore, DeepL Translator and Reverso Context represent modern NMT.

DeepL Translator is a prominent NMT service designed to produce highly fluent translations by using large neural networks trained on extensive bilingual data. Its architecture allows it to handle complex syntactic structures and provide translations that are closer to human output (DeepL, n. d.).

On the other hand, Reverso Context provides translations by connecting bilingual corpora, contextual examples, and machine-learning techniques. This hybrid system, which connects corpora-based and rule-based methods with AI-enhanced translations, allows users to have multiple contextualized translation options (Context Reverso, n. d.).

Data collection and discussion

For analytical purposes, reduplicative words are treated as three types in this study, while they are classified into two main types and one of these is subdivided into two subtypes in the theoretical part. Therefore, three words were selected for each type. They were taken from the Cambridge Dictionary Online. This selection is

based on the clarity and frequency of these words as represented in the dictionary examples.

Two machine translation tools, namely DeepL and Reverso, were used to translate the selected reduplicative words. The translations were analyzed systematically according to their ability in transferring both the semantic and phonological aspects of the source language expressions.

Translation analysis is conducted within the framework of Vinay & Darbelnet (1995). This model classifies translation procedures into two main types:

Direct procedure is used when the source and target languages are similar structurally. It contains borrowing, calque, and literal.

Oblique procedure is used when direct translation is not possible. It contains transposition, modulation, equivalence, and adaptation.

This model was chosen for its clear classifications, which allows to analyze both the semantic and phonological aspects of reduplicative expressions. Due to the nature of these reduplicatives, not all these proposed procedures were observed in the data analysis.

ST(1)

He had been a government lawyer and a Congressional staffer, focusing on rail road issues; the ringtone on his phone was the choo-choo.

DeepL translation

كان يعمل محاميا حكوميا و موظفا في الكونغرس، حيث كان يركز على قضايا السكك الحديدية، وكانت نغمة رنين هاتفه هو صوت القطار.

Reverso translation

كان محاميا حكوميا و موظفا في الكونغرس، وركز على قضايا السكك الحديدية، وكانت نغمة الرنين على هاتفه تشبه نغمة القطار.

Table (1) Analysis of ST (1) & TTs

Reduplicative word	Type	TTs	Translation Strategy	Meaning & sound
Choo -choo	Full	1. صوت القطار	Modulation	+ -
		2. نغمة القطار	Modulation	- -

ST & TTs analysis

The English reduplicative ‘choo-choo’ shows full reduplication. It expresses an onomatopoeiac as it imitates the sound of train in a real world.

In DeepL, it is rendered into صوت القطار (the train sound), which shifts the phonological imitation focus to the semantic representation. This modulation

strategy changes the onomatopoeiac form to a descriptive expression. Although, the referential meaning is preserved, the sound imitation is reduced by using this modulation since Arabic lacks a conventionalized equivalent sound representation.

Whereas, in Reverso, it is rendered less effectively as نغمة القطار (the train tone), changing the focus from sound imitation to rhythmic by using modulation strategy. This modulation weakens both the onomatopoeiac iconicity and the expressive meaning of choo-choo as it shifts the conceptual perspective from sound imitation to a musical interpretation of the train's noise.

ST (2)

The best managers aren't interested in having buddy-buddy relationships with footballers.

DeepL

افضل المديرين ليسوا مهتمين بإقامة علاقات صداقة مع لاعبي كرة القدم.

Reverso

افضل المديرين لا يهتمون بإقامة صداقة مع لاعبي كرة القدم.

Table (2) Analysis of ST (2) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Meaning & sound
Buddy-buddy	Full	1. صداقة	Adaptation	- -
		2. صداقة	Adaptation	- -

ST & TTs analysis

The full reduplicative word 'buddy-buddy' expresses an exaggerated degree of friendliness by employing repetition to create an intensified meaning.

Semantically, both DeepL and Reverso rendered it as 'صداقة', conveying the literal meaning only (neutral friendship) without referring to the connotation of over-familiarity and informality of buddy -buddy in English. It is classified as inappropriate adaptation because it shifts the expressive force meaning to a neutral one.

Phonologically, rendering 'buddy -buddy' as صداقة removes the reduplicative pattern, leading to the elimination of the sound iconic effect of the ST item.

Thus, this adaptation strategy, which employs صداقة, is inappropriate because the intensified meaning and sound pattern symbolism are lost in the TL.

ST (3)

I 've just come up to say night-night, sweetheart.

DeepL

لقد جئت فقط لاقول لك تصبحين على خير يا حبيبتي.

Reverso

لقد جئت للتو لاقول ليلية سعيدة عزيزتي.

Table (3) Analysis of ST (3) & TTs

Reduplicative word	Type	TTs	Translation Strategy	Sound & Meaning
Night -night	Full	1. تصبحين على خير	Equivalence	- -
		2. ليلية سعيدة	Equivalence	- -

ST & TTs analysis

The expression night -night is a full reduplicative type. This repetition conveys a soft rhythmic impact, which distinguishes child-directed speech.

Although DeepL and Reverso rendered night -night as 'تصبحين على خير' and 'ليلة سعيدة' (good night), conveying the farewell general meaning, they fail to preserve the impact of intended affectionate diminutive meaning of the source expression in the TL. These translations are categorized as equivalence strategy because the cultural specific of 'night-night' is replaced with an expressive phrases of bedtime in Arabic.

Concerning the reduplication and sound symbolic function, these translations reduced the affective phonological iconic aspect, lacking the smoothing, child - directed tone.

To convey both the semantic and affectionate tone, it could be suggested to use نام نام يا صغيري .

ST(4)

So much of what politicians said is hocus-pocus.

DeepL

الكثير مما يقوله السياسيون هو مجرد خداع.

Reverso

الكثير مما يقوله السياسيون هو مجرد خدع.

Table (4) Analysis of ST (4) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
Hocus-	Rhyming	1. خداع	Adaptation	+ -

pocus		خدع.2	Adaptation	+ -
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ST & TTs analysis

This reduplicative ‘hocus -pocus’ is a rhyming type, where repetition and rhyme produce a pragmatic impact on deception rather than imitating sound.

Although both DeepL and Reverso translations rendered the core meaning of ‘hocus -pocus’ successfully as خداع and خدع ,they fail to reflect its expressive playful iconicity of rhyme and repetition (phonological pattern) of this expression. As long as this reduplicative is replaced with a a linguistic natural expression with partial loss of its playful and phonological aspects, the employed strategy is considered adaptation.

ST(5)

They think I’m an old fuddy-duddy because I don't approve of tattoos.

DeepL

يعتقدون إنني عجوز متحجر لأنني لا أوافق على الوشم.

Reverso

يعتقدون إنني رجل عجوز متهاك لأنني لا أوافق على الوشم.

Table (5) Analysis of ST (5) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
Fuddy-duddy	Rhyming	1.متحجر	Adaptation	+ -
		2.متهاك	Adaptation	- -

ST & TTs analysis

The expression ‘fuddy-duddy’ is an informal rhyming word, which describes a person with old-fashioned opinions with mocking tone.

From semantic aspect, DeepL translation effectively rendered fuddy- duddy as متحجر, which refers to a rigid minded person in Arabic. However, the playful sound and reduplication are lost in this translation. This translation is a closer adaptation strategy as the expressive meaning is preserved.

In contrast, Reverso translation of ‘fuddy-duddy’ as متهاك (decrepit) is inaccurate adaptation strategy because it changes the intended meaning of ‘fuddy-duddy’ from intellectual conservatism (rigid person) to physical deterioration (very weak person). Phonologically, it also failed to preserve the iconicity of sound and repetition.

ST (6)

Both sides were drawn, willy -nilly, into the conflict.

DeepL

إنجرف الطرفان رغما عنهما إلى الصراع.

Reverso

لقد إنجرف كلا الجانبين ، كيفما اتفق ، إلى الصراع.

Table (6) Analysis of ST (6) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
willy-nilly	Rhyming	1. رغما عنهما	Modulation	+ -
		2. كيفما اتفق	Adaptation	- -

ST & TTs analysis

This term willy -nilly is a rhyming reduplicative expression with expressive iconicity, which refers to an action occurs involuntarily with a playful tone.

In DeepL translation, willy -nilly is conveyed accurately as رغما عن (despite of), because this translation preserves the same meaning of obligation. This translation represents modulation strategy, shifting the meaning from indirect reduplicative to direct expression in the TL. Whereas, reduplication or rhyme pattern of willy -nilly is not preserved.

Concerning Reverso translation, the term ‘willy nilly’ is rendered inaccurately as كيفما اتفق (randomly) since it fails to render the intended meaning of the lack of choice into Arabic. Thus, this translation reflects an adaptation strategy, capturing a different contextual meaning of randomness. It also fails to keep the reduplication or rhyme iconicity of the ST.

While DeepL translation conveys the ‘willy-nilly’ as رغما عنه, emphasizing only its involuntary aspect, a more accurate rendition could be suggested as طوعا او كرها (voluntary or involuntary) as it conveys the dual nature of willy-nilly in the TL (i.e. both voluntary and involuntary aspects and its expressive playful tone).

ST (7)

“What did you talk about?” “Oh, it was just chit-chat”

DeepL

”ماذا تحدثتما عنه؟“ ”أوه، كانت مجرد احاديث عامة“

Reverso

”عن ماذا تحدثت؟“ ”أوه، كانت مجرد دردشة“

Table (7) Analysis of ST (7) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
Chit-chat	Ablaut	1. احاديث عامة	Modulation	- -
		2. دردشة	Equivalence	+ +

ST & TTs analysis

The reduplicative word “chit-chat”, which refers to informal conversation about not important matters, is ablaut type (a vowel change).

Translating “chit-chat” as احاديث عامة is less accurate because it conveys the general meaning of talk without reflecting the informal and light features of conversation of the SL expression. Although the meaning is partially conveyed, this translation is classified as modulation strategy because it changes the meaning from informal to formal expression in the TL. It also loses the reduplicative effect and sound. Whereas in Reverso translation, rendering “chit-chat” into دردشة is more accurate because, this translation, which represents an equivalence strategy, conveys the informal, playful, and light meaning of conversation in Arabic. Moreover, there is a partial repetition in دردش (d ar- d ash), reflecting the playful and friendly tone in Arabic, despite the loss of exact reduplication.

ST (8)

The only sound was the tick-tock of the clock.

DeepL

الصوت الوحيد كان صوت دقات الساعة.

Reverso

كان الصوت الوحيد هو صوت تيك تاك الساعة.

Table (8) Analysis of ST (8) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
Tick-tock	Ablaut	1. دقات الساعة	Adaptation	+ -
		2. تيك تاك	Borrowing	+ +

ST & TTs analysis

The expression “tick-tock” is an ablaut type, where a vowel change and repetition exhibit. It refers to the mechanical movement of a clock (i.e. onomatopoeiac reduplication).

In DeepL translation, it is rendered accurately into دقات الساعة (ticking clock) through adaptation, which is a descriptive from of the onomatopoeiac expression, but it leads to the loss of the phonological iconicity of tick-tock.

Concerning Reverso translation, in contrast, “chit-chat” is rendered accurately into تيك تاك, imitating the rhythmic sound of clock. This informal rendition can be regarded as a borrowing strategy because both the meaning and sound are rendered directly in Arabic.

ST (9)

He tends to flip-flop on important decisions.

DeepL

إنه يميل إلى التقلب في القرارات المهمة.

Reverso

يميل إلى التقلب في القرارات المهمة.

Table (9) Analysis of ST (9) & TTs

Reduplicative Word	Type	TTs	Translation Strategy	Sound & Meaning
Flip-flop	Ablaut	١. التقلب	Adaptation	+ -
		٢. التقلب	Borrowing	+ -

ST & TTs analysis

This expression “flip-flop” is an ablaut type (where a vowel change). It refers to someone completely changes a plan.

The rendition of “flip-flop” as تقلب in DeepL and Reverso, respectively, exemplify an adaptation since the meaning of flip-flop is preserved accurately, capturing both the changeability and instability. Regarding the playful phonological and reduplicative aspects, they are lost in Arabic. Table.

(10) Based-Meaning Adequacy of Reduplicative Words

Reduplicative Word	Accurate Meaning Transfer	Total	Percentage
Full	1	6	% 16
Rhyming	4	6	% 67
Ablaut	5	6	% 83

(11) Based-Sound Accuracy of Reduplicative Words

Reduplicative Word	Accurate Sound Transfer	Total	Percentage
Full	0	6	%0
Rhyming	0	6	%0
Ablaut	2	6	%33

Table (12) Accuracy of Reverso & DeepL in Translating Reduplicative Words

Translation system	Accurate Meaning	Adequate Sound	Total
DeepL	6	0	10
Reverso	4	2	10

Findings

The analysis of 18 English reduplicative words translation into Arabic reveals that

1.Regarding reduplicative types:

1. All full reduplicative words but one were not preserved in sound and meaning.
2. Most rhyming reduplicative words (4 out of 6) were rendered accurately into Arabic.
3. Most ablaut reduplicative words (5 out of 6) were rendered accurately into Arabic.
4. Only 2 (10%) of 18 translations preserve reduplication or phonological repetition some way in TL.

1.Regarding DeepL and Reverso translations:

1. Concerning meaning transfer of reduplicative words, 10 (50%) out of 18 translations were rendered accurately.
2. In terms of meaning transfer, DeepL translation achieved 6 accurate translations out of 9, while Reverso translation produced only 4 accurate ones out of 9. This suggests that DeepL translation demonstrates a higher level of accuracy.
3. Only 2 (10%) of 18 translations preserve reduplication or phonological repetition some way in TL.
4. In terms of phonological features, DeepL translation fails to preserve these features in any instance, whereas Reverso translation shows a limited ability to preserve these features, transferring partially such features in 2 instances out of 9.

Conclusion

The study concludes that the contextual associated meaning with reduplicative words is not fully rendered by machine translation systems. This highlights the relative strength of machine translation in producing the communicative nuances of these words as they rely on the general mappings of the lexical meaning of words, that struggle with the context-based meaning. In addition, the loss of the sound iconicity rendition, which is not exclusive to machine translation, is attributed largely to the structural and typological differences between English and Arabic, leading to the elimination of reduplicative sound. The study suggests that the construction of reduplicative words might be modeled as a distinctive lexical category. Thus, the expressive and informal expressions are incorporated.

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