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A Comparative Study of Ideophone Diversity in Japanese and English:
Through the Analysis of Manga Translation

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1. Introduction

Japanese, a well-known language with highly developed ideophones, often employs ideophones in both spoken and written forms. In contrast, ideophones are viewed as immature in English, and their use in spoken English is uncommon compared to Japanese.

In relation to the overall number of ideophones in each language, Akita (2019) posits a theory predicated on nonlinguistic factors that claims the prevalence of ideophones in underdeveloped regions. Indeed, European languages such as German, French, Spanish, and Italian (so-called urban languages), and languages like Chinese, have fewer ideophones. Furthermore, the decline of ideophones in modernizing countries provides additional support for this theory.

Nevertheless, this theory fails to account for some exceptional languages, including Japanese and Korean. Both languages are well developed and abundant in ideophones. Akita (2019) suggests that these exceptions give rise to two alternative interpretations: 1) ideophones are strongly associated with animism cultures and 2) ideophones have developed in verb-framed languages.

As previously stated, the number of ideophones in each language and the factors contributing to this have been topics of debate. Despite this, it is generally acknowledged that the English language is among the languages with the fewest ideophones. Nonetheless, lingering concerns remain: How can an ideophone be identified, and how can it be quantified? This study aims to evaluate the precise definition and extensive scope of ideophones by closely examining Japanese manga and their corresponding English translations.

2. Previous Studies

Ideophones are words that imitate sensory experiences, such as sounds, visuals, and touch. They have been extensively studied in different areas of linguistics, including "phonotactics (e.g., vroom), morphology (e.g., reduplication), prosody (e.g., vowel lengthening, extra-high pitch, falsetto), and syntax (e.g., utterance-end realization or in quotations)" (Akita & Pardeshi, 2019, p. 1). However, the primary concern lies in the terminology used to investigate ideophones and the definition of the term itself, which can differ across languages, literature, and researchers.

2.1 Terminology

The terminology employed in the research on ideophones has caused considerable

confusion. This study investigates two languages, English and Japanese. A frequently used term in the field of Japanese linguistics is *onomatope*.

Martin (1975) proposed three semantic classifications for Japanese onomatope: phonomimes for auditory sensations, phenomimes for patterns of movement and visual and tactile experiences, and psychomimes for physical sensations, taste, olfactory perceptions, and emotions. Kindaichi (1978) further categorizes them into five distinct subcategories. The five classifications are as follows: *giseigo*, *giongo*, *gitaigo*, *giyougo*, and *gijougo*. Phonomimes are divided into two categories: giseigo and giongo. Giseigo represents sounds and voices produced by animals and humans (e.g., *wan wan* for "barking" and *gera gera* for "guffawing"), while giongo represents noises found in the natural world (e.g., *zaa zaa* for "rain pouring" and *pachi pachi* for "popping"). Phenomime is expressed as gitaigo and giyougo. Gitaigo represents the movement, state, or textual characteristics of inanimate objects (such as *kira kira* meaning "twinkling" or *saratto* meaning "smoothly"), while giyougo represents the movement or state of living beings (such as *noro noro* meaning "slowly" or *furarito* meaning "aimlessly"). Finally, gijougo refers to psychomimes that portray the personal emotions and sensations experienced by humans, such as *ira ira* for "irritation" and *waku waku* for "joy" (Kubozono, 2019).

As stated in the previous paragraph, Japanese onomatope is classified into a maximum of five categories. Conversely, the English term onomatopoeia specifically refers to phonomimes (giseigo and giongo), while retaining the original meaning of the word. The term onomatopoeia has its roots in Ancient Greek, with *onoma* meaning "name" and *poiein* meaning "make" (Akita, 2019).

Depending on the specific language being referred to, alternative terms are used. Nowadays, it is becoming common to use "mimetics" as the translation of onomatope, and "expressives" (Watson, 2001, p. 386) are mainly applied in the field of South and Southeast Asian linguistics.

Diverse terminologies are thus used in the study of ideophones. This study employs the term ideophone—encompassing all five categories of giseigo, giongo, gitaigo, giyougo, and gijougo in Japanese—predominantly employed in the fields of African linguistics and general linguistics to minimize any potential confusion.

2.2 Definition

The form and semantic functional distinctions of numerous ideophones enable native speakers to readily identify them. Nevertheless, the most challenging aspect of researching ideophones has been the process of defining and categorizing the term itself (Akita, 2013; Dingemanse, 2011; Hamano, 1998; Tamori & Schourup, 1999). Defining ideophones is a problem due to the difficulty of identifying common characteristics among all ideophones and establishing a universally applicable linguistic description.

Numerous descriptions of ideophones focus on their morphological and phonological

properties. It has been proposed, for instance, that a number of languages prefer reduplication or contain phoneme sequences used only for ideophones (Akita, 2013). The concept of "morphophonological templates" (Akita, 2009, p. 97) captures these morphological and prosodic aspects of ideophones.

Many analyses of ideophones primarily examine their morphological and phonological properties. One proposal is that certain languages prefer reduplication or include phoneme sequences that are employed only for ideophones (Akita, 2013). The concept of ideophone templates captures morphological and prosodic aspects (Akita, 2009).

Extensive research has been conducted on the patterns or structures of Japanese ideophones. Once their affixes and reduplications are eliminated, these words can be categorized into two groups according to their root structures (Hamano, 2019). The first type preserves monomoraic roots after removal, while the second type preserves bimoraic roots. Hamano (2014) classified the former ideophones as Type CV and the latter as Type CVCV, where C represents consonants and V represents vowels. The difference between these two categories has brought clarity to the long-unnoticed sound symbolic patterns and phonetic constraints of Japanese ideophones. Type CV and Type CVCV possess unique characteristics. Type CV is frequently identified in giongo and giseigo. They are also present in gitaigo and giyougo, but their usage is restricted to representing the basic movements conveyed by auditory signals. On the other hand, Type CVCV represents not just sounds and movements but also states, manners, textual properties, emotions, and sensations.

As stated before, Japanese ideophones can be classified based on their roots once their affixes and reduplications are removed. Therefore, it is reasonable to believe that Japanese ideophones acquire their linguistic structures through the derivation of their roots. The derivations from the roots can be categorized into two different groups (see Table 1).

Table 1

Derivations from Roots (Waida, 1984; Kadooka, 2003)

Group	Types of derivation
Group A	geminate consonant, syllabic nasal, prolonged sound, [ri̲], reduplication
Group B	voiced, palatalization, fricative

Since the publication of Waida's work in 1984, there has been an examination of the five categories within Group A. On the other hand, according to Kadooka (2003), the three categories of Group B are made up of phonological onomatopoeic indicators. The phonological onomatopoeic indicators in Group B have a direct effect on the phonemic qualities of a lexical item, regardless of the number of syllables or mora it contains. This is different from the five Group A onomatopoeic indicators, which always include at least one mora in each lexical item. Indicators in Group A can be classified as "morphological," while those in Group B can be described as "phonological."

Furthermore, Kadooka (2003) provided illustrations of the derivation process using specific examples. To make the demonstration more visually clear, symbols were used to replace certain suffixes in the derivations (Table 2). According to Table 2, the letter "R" was used to represent prolonged sounds, "Q" for geminate consonants, and "N" for syllabic nasals. An English translation of Kadooka's work is illustrated in Figure 1, which depicts the deviation of the root [ɸɯ] (a sound associated with breathing).

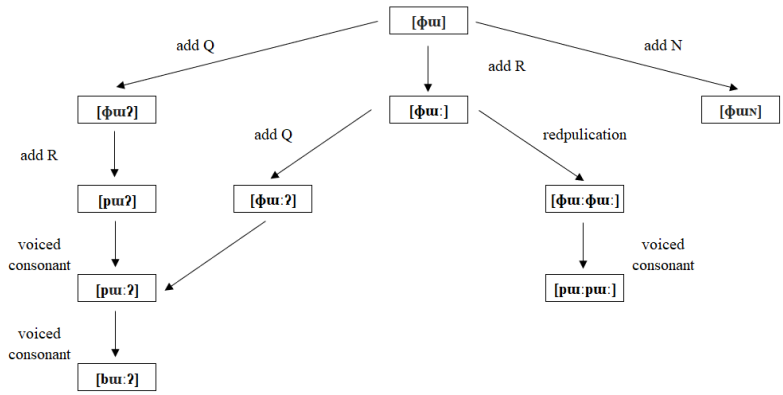
Table 2

Symbols Replacing Suffixes

Derivation	Symbol
Prolonged sound	R
Geminate consonant	Q
Syllabic nasal	N

Figure 1

Process of Deviation from [ɸɯ] (Kadooka, 2003)



As seen in the preceding paragraphs, Japanese ideophones possess templates. However, in the English language, it is particularly challenging to differentiate between ideophones and conventional words with sound symbols (such as slash and twinkle, which are not classified as ideophones). Akita (2013) suggested that this may be due to the lack of distinct ideophone templates.

3. Methodology

The investigation entailed the collection and analysis of ideophones found in manga, encompassing both the original Japanese versions and their translated English versions. To simplify matters, ideophones were restricted to those written outside speech bubbles.

3.1 Data Collection

For investigation, seven *shonen* manga were selected. These include *DRAGON BALL Z VOL. 1* (Toriyama, 2000), *Ranma 1/2 VOL. 1* (Takahashi, 2004), *FULLMETAL ALCHEMIST VOL. 1* (Arakawa, 2005), *DEATH NOTE VOL. 1* (Ohba & Obata, 2008), *Kuroko's BASKETBALL 1&2* (Fujimaki, 2016), *MY HERO ACADEMIA 1* (Horikoshi, 2016), and *SLAM DUNK Vol. 1: Sakuragi* (Inoue, 2018). Shonen manga is a genre characterized by its abundance of combat scenes. They incorporate an extensive number of sound effects, thereby offering a greater number of ideophone samples in comparison to other genres.

The manga were carefully selected to gather a diverse range of ideophone translations. For the purpose of analyzing translation changes over time, manga from various years were selected. Furthermore, the analysis was conducted solely utilizing the initial volume of each manga, as translations were typically consistent across the whole series.

Acquiring English-translated editions of shonen manga posed certain difficulties due to the nature of the manga industry. In the manga industry, "scanlation" refers to the unauthorized practice of amateur fans scanning, translating, and modifying manga from

Japanese to another language. This practice has become widespread and has led to the dissemination of several unofficially translated manga. To ensure the accountability of translations, the seven manga used for the study were specifically chosen from the publisher VIZ Media. VIZ Media is an American manga publisher established in 1986 and currently owned by the Japanese publishing conglomerate Hitotsubashi Group. All manga published by VIZ Media undergo translation by Americans and are subsequently reviewed by Japanese publishers. Consequently, manga released by this firm can be regarded as an authorized English rendition.

Table 3 provides a comprehensive breakdown of the quantities of ideophones identified in each manga. The total number of ideophones employed across all seven manga was 2,273 in the original versions and 2,247 in the English translations. The discrepancy in the number of Japanese ideophones and their English translations in certain manga can be attributed to the adoption of the translation strategy known as deletion.

Table 3

Number of Ideophones in Seven Manga

Title of Manga	Japanese Ideophones	English Translated Ideophones
DRAGON BALL Z VOL. 1	147	141
Ranma 1/2 VOL. 1	506	489
FULLMETAL ALCHEMIST VOL. 1	381	381
DEATH NOTE VOL. 1	120	120
Kuroko's BASKETBALL 1&2	592	592
MY HERO ACADEMIA 1	344	342
SLAM DUNK Vol. 1: Sakuragi	183	182

3.2 Procedure

The ideophones were initially compiled into a table using Microsoft Office Excel. Subsequently, they were categorized using the formal concept analysis (FCA) method. FCA was first introduced by mathematician Rudolf Wille in his work published in 1982. It is a mathematical framework employed for analyzing data and representing knowledge. The primary objective is to discern and depict the connections between a group of objects[1] and their attributes.[2] Within the framework of FCA, data are organized in a lattice structure comprised of concepts. Each concept encompasses a collection of objects and a corresponding set of attributes that are common to those objects. This structure facilitates

[1] Objects are entities or items that are present in the dataset under analysis.

[2] Attributes are the inherent qualities, traits, or features that objects can possess. They serve the purpose of describing and distinguishing between objects.

the identification of natural hierarchical links within data and is especially valuable in domains such as data mining, information retrieval, and knowledge discovery.

The tool utilized for the analysis was Concept Explorer. This software application was specifically created to assist users in applying FCA methodologies for data analysis and knowledge representation. It allows users to input a collection of objects and their corresponding attributes to construct a conceptual hierarchy or lattice. This tool simplifies the process of visualizing the connections between objects and their shared attributes, hence aiding in the discovery of patterns, identification of clusters, and comprehension of data structure. Upon examining the gathered ideophones, a significant number of them began with the letters “a,” “b,” or “w.” For the analysis, ideophones were randomly selected from these alphabets.

The templates Type CV and Type CVCV are widely utilized in Japanese ideophones, as evidenced by earlier research. Conversely, English does not have a specific template. The author attempted to establish her own categorization system by incorporating the Japanese one, employing the FCA framework. The subsequent round of modifications to the classification elements following the initial attempt is presented in the results and discussion section.

4. Results and Discussion

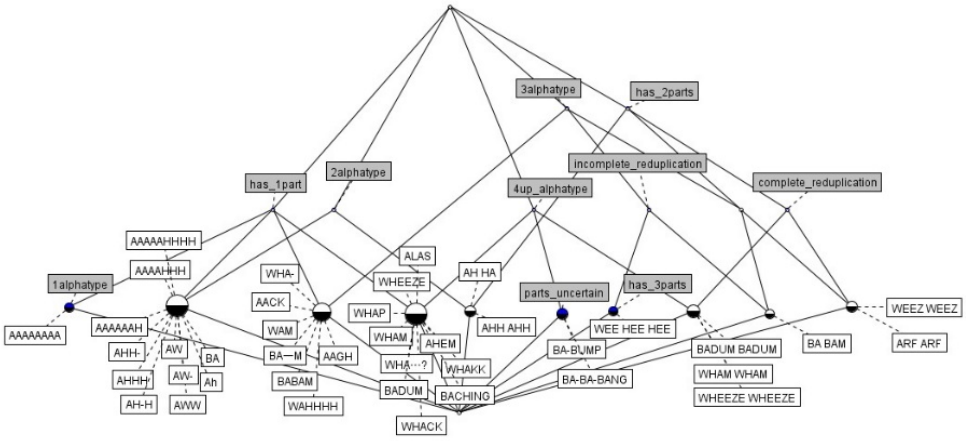
The following attributes were prepared for the initial attempt. The first attributes were the quantity of parts. The author provided a definition of parts as “elements that are separated by spaces.” This is due to the lack of sufficient distinctiveness in certain elements, which prevented them from being classified as words. Consequently, the term “parts” proved to be more appropriate. The provided attributes were “has 1 part,” “has 2 parts,” “has 3 parts,” “has 4up parts” for elements that have more than four parts, and “parts_uncertain” for elements that were difficult to distinguish, such as ones including hyphens.

As in Japanese, there were inclinations toward the reduplication of elements consisting of more than two parts. Hence, the term “complete reduplication” was coined to describe repetitions with identical letters, such as “AHH AHH,” while “semi-reduplication” was used to refer to repetitions with one or two letters altered, such as “BA-BAM.”

Within the category of elements that consisted of only one part, the most remarkable examples were those in which the same letter of the alphabet was repeated multiple times, such as “A” in “AAAAAAA” and “H” in “WAHHHH.” To facilitate their classification, extra attributes were added to indicate the number of different kinds of alphabets they contained: one, two, three, four or more. (To be exact, they were named “1 alphatype,” “2 alphatype,” “3 alphatype,” and “4 upalphatype.”) Figure 2 illustrates the results.

Figure 2

First Attempt in Concept Explorer



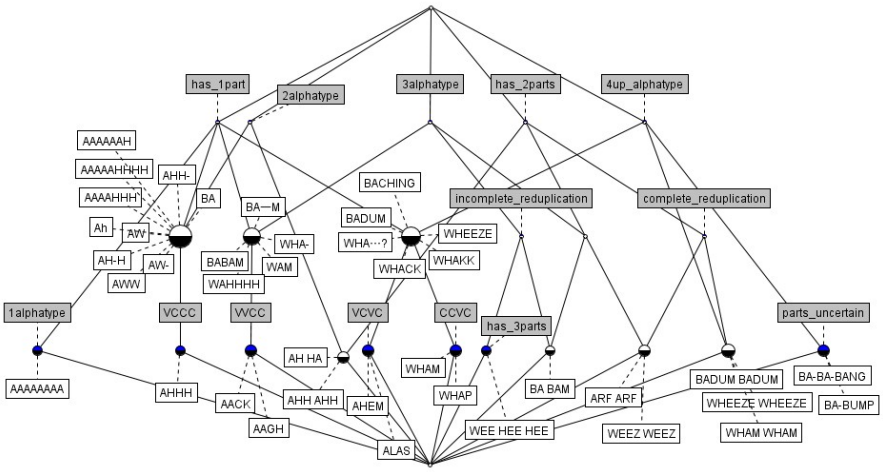
The node[3] positioned slightly to the left of the center in Figure 2 signifies that "ALAS" and "WHAM" are classified under the same category. This is disconcerting, not only for native English speakers but also for English learners. Previous research has demonstrated that consonants and vowels in Japanese adhere to a specific order, such as the Type CV and Type CVCV patterns. In English, the correlation between consonants and vowels is not as rigid as that in Japanese, allowing for more flexibility in their interchangeability.

To account for the fact that "ALAS" and "WHAM" were grouped together in the same node, it was necessary to introduce a distinct categorization for the English FCA, as the relationship between consonants and vowels was thought to be the determining factor. To showcase the combination, the four alphabetical sequences were included as classification attributes. Figure 3 displays the results.

Figure 3

[3] Within the concept lattice produced by Concept Explorer, each node corresponds to a formal concept. A node is characterized by two sets: the extent and the intent. The extent encompasses all objects that possess a common set of attributes.

Second Attempt in Concept Explorer



By examining Figure 3, phoneme combinations, including “wh” and “ah,” were identified. Both can be classified as phonaesthemes, and because of their frequent occurrence, phonaesthemes can be seen as templates in English ideophones. To identify the specific phonaesthemes included in the ideophone templates, additional classification was conducted based on their initial and ending alphabets. This process additionally illustrated the predilection of the alphabet preceding and following the final and initial alphabets. To examine the pattern across multiple alphabets, the ideophones observed were not limited to those starting with “a,” “b,” and “w,” as seen in Figures 2 and 3. Ideophones were selected based on their frequency of occurrence. The results are displayed in Figures 4 and 5.

Figure 4

Third Attempt in Concept Explorer Based on the Final Alphabet

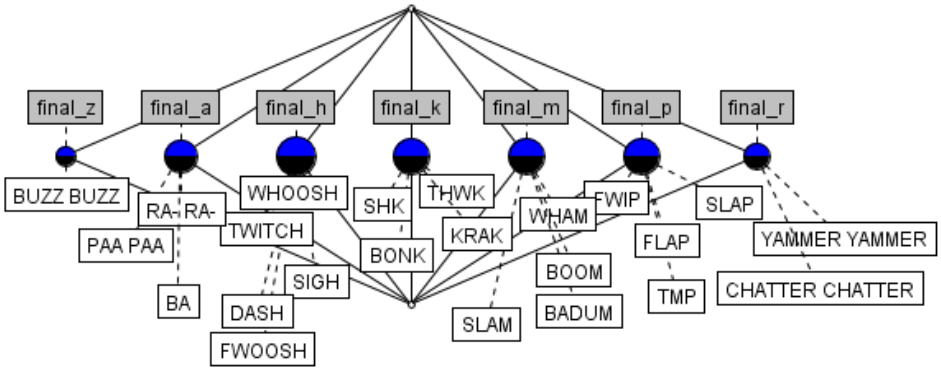
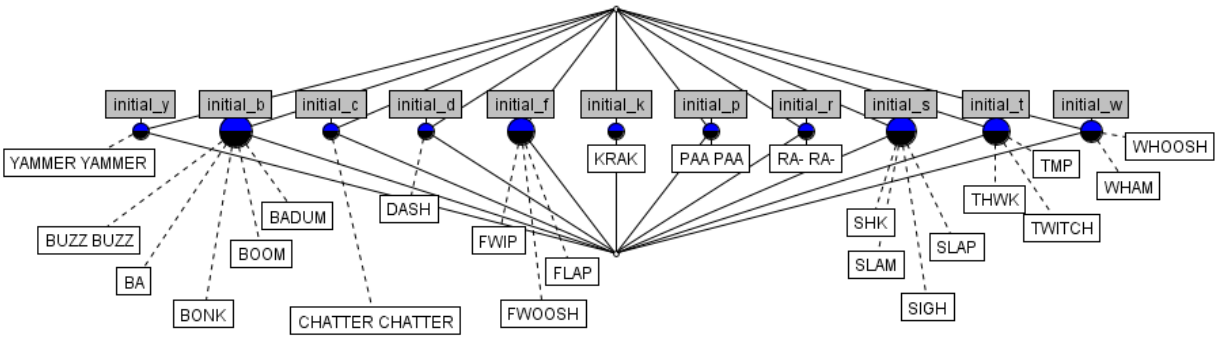


Figure 5

Fourth Attempt in Concept Explorer Based on the Initial Alphabet



FCA revealed the complicated structure of ideophone categorization, emphasizing the inherent difficulty in differentiating ideophones based on their phonetic and structural features. The preliminary efforts to categorize ideophones using FCA, as illustrated in the Concept Explorer results, unveil a complex terrain in which ideophones display intersecting phonetic characteristics in various language situations. This complexity underscores the challenge of creating a universal template for ideophones that can encompass the diversity observed within and across languages. However, a discernible pattern can be observed when focusing solely on the English language.

Ideophones are words in the English language that are formally different from regular words (but not nonce forms), such as "bow-wow (the sound of a dog barking)." Previous research has indicated that there is no precise template for ideophones that is recognized in the English language. However, it was observed that phonaesthemes were detected in the English translations of Japanese ideophones. In Figure 4, the words "whoosh" and "fwoosh" have the same phonaestheme "sh," while in Figure 5, "whoosh" and "wham" have the same phonaestheme "wh." These phonaesthemes can be seen as a recurring pattern, thus considered a "template-like feature" in English ideophones. These serve as quasi-templates for English ideophones, indicating the cultural expressiveness embedded within the language.

Another topic to address is the distinction between regular words and ideophones. When assessing certain objects, such as "dash," "yammer," "chatter," "sigh," "slap," "slam," and "twitch," they are currently classified as verbs (or nouns) and are not often defined as ideophones in the English language. Nevertheless, they were commonly utilized for the purpose of translating ideophones from Japanese. Given that native English translators commonly used these verbs as translations, it appears essential to differentiate them from other regular verbs.

An alternative suggestion for this matter is that the dichotomy between "it is an ideophone" and "it is not an ideophone" is inaccurate. When evaluating the ideophone quality of English words, it is more accurate to categorize them as either strong or weak,

rather than using a binary classification. We should at least contemplate a hierarchical arrangement of verbs (and nouns), where specific verbs have depictive characteristics like ideophones, while others do not contain such characteristics. This is anticipated to represent a substantial change in perspective, particularly for languages that are regarded as having a restricted number of ideophones. By examining ideophones and "regular" verbs from this standpoint, we may uncover novel characteristics of languages that are believed to lack ideophones.

When considering a broader perspective, one may once again ponder the question, "What are ideophones?" I would like to point out that ideophones exhibit morphological and phonological distinctiveness, not only in Japanese but also in English. Nevertheless, one must prioritize the meaning and depictive function of ideophones. In order to achieve this, it is crucial to establish the parameters for determining the classification of ideophones as "ideophones." This paper presents an alternative perspective on ideophones by introducing the concept of an "ideophonic degree" that includes regular words.

5. Conclusion

The present study undertook an investigation into the utilization of ideophones in Japanese manga and the subsequent translations into English, revealing intricate levels of linguistic representation and the difficulties encountered in the process of translation. Previous claims regarding the absence of a standardized structure for ideophones in the English language have been challenged through this research. By employing FCA, the existence of phonaesthemes in English translations was discovered, which can be considered a quasi-template for English ideophones. In addition, to examine English words in a broader context, a non-binary perspective has been proposed, along with a degree-based spectrum. This comprehension would represent a noteworthy change in perspective, particularly for languages that have traditionally been perceived as having a restricted number of ideophones.

The methodology employed in this study is innovative and has significant implications. The approach taken in this study supports a dynamic understanding of ideophones, going beyond fixed categorizations to recognize the flexibility and expressive nature of these linguistic forms. Through the examination of ideophones using the framework of FCA, valuable insights can be obtained regarding the relationship between phonetic attributes and semantic functions. This analysis contributes to a deeper understanding of ideophones as an essential element of linguistic expressiveness. The dynamic perspective presented in this observation prompts a reevaluation of conventional classifications and encourages the acceptance of the intricate and diverse nature of ideophones in the field of linguistic research.

The study utilized Japanese manga, which contains an abundance of ideophones, along with English translations. The translations were carried out by individuals who were native

English speakers, and they utilized ideophones that were commonly used by multiple translators. While acknowledging that some English renditions might have been adapted for translation, this study's findings underscore the importance of further examination of the conventionality of ideophones, including a comparative analysis with American comics and other original English works. Further investigation is necessary to gain a comprehensive understanding of the extensive range and complexities of ideophone usage and its dynamics in translation. Moreover, in future research, not only the morphological and phonological distinctiveness of ideophones should be considered, but also their meaning and depictive functions.

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